

ADMIRAL PRICES HAD THEM GASPING: Admiral's 24 new TV models, largest line of new year, start with 12½-in. plastic table at \$180 and enlarged plastic console at \$200. Thereafter, all its sets are 12½, 16 or 19-in. wood consoles, including 12½-in. TV-AM-3 speed at \$300 and TV-only rectangular 16-in. at \$300.

All sets were priced at such reduced levels from preceding numbers that they left Admiral's 600 Chicago conventioners gasping with astonishment and delight as v.p. Dick Graver unveiled them Friday. "This line is really hot," was consensus freely heard between salvos of applause.

Plastic table model measures only 16x16x18-in., whereas plastic console is again biggest single piece ever molded -- its 18x34x18½-in. dimensions offering more bulk and body than last spring's 10-in. plastic console (Vol. 5:20). Plenty of these leaders were promised the distributors.

Avowedly out for top industry position, Admiral's policy was thus summed up by its president Ross Siragusa: "To mass-produce high quality, standardized products and pass the economies of large-scale manufacture on to the customer."

Siragusa reported "final returns" for 1949 showed more than 400,000 Admiral TVs produced and sold, representing 80% of \$112,000,000 sales. This year, he forecasts \$200,000,000 sales, embracing close to 1,000,000 TVs (production is now at rate of 750,000 per year) and 300,000 appliances (refrigerators and ranges). Admiral is also making big pitch for high position in this year's appliance market. It has budgeted \$15,000,000 for 1950 advertising of all products, as against \$9,000,000 spent last year.

Here's the full TV line (all consoles save \$180 leader):

12½-in. plastic Model 12X12, TV-only, walnut-finish table, \$179.95; 22X12, TV-only, walnut-finish console, \$199.95.

12½-in. Model 22X25, TV-only, walnut \$249.95; 22X26, mahogany \$259.95; 22X27, blonde oak, \$269.95.

12½-in. modern Model 32X15, with AM-3 speed, \$299.95; 32X16, mahogany \$319.95.

12½-in. French Provincial Model 32X35, with AM-FM-3 speed, walnut \$379.95; 32X36, mahogany \$399.95.

12½-in. modern Model 32X26, with AM-FM-3 speed, mahogany \$399.95; 32X27, blonde \$419.95.

16-in. rectangular traditional Model 26X45, TV-only, walnut \$299.95; 26X46, mahogany \$309.95.

16-in. modern Model 26X35, TV-only, walnut \$349.95; 26X36, mahogany \$369.95; 26X37, blonde \$389.95.

16-in. traditional Model 36X35, AM-FM-3 speed, walnut \$499.95; 36X36, mahogany \$519.95; 36X37, blonde \$539.95.

19-in. modern Model 29X15, TV-only, walnut \$495; 29X16, mahogany \$515; 29X17, blonde \$535.

19-in. Model 39X16, AM-FM-3 speed, mahogany \$695; 39X17, blonde \$775.

Tube complements (excluding CR): All 12½-in. sets have 16 tubes, 3 rectifiers; 16 and 19-in. "round" have 20 and 3; and 16-in. rectangular, 19 and 3. Stressed, in forsaking smaller sizes of picture tubes, was "unfounded myth" that large-size rooms are necessary for large-size pictures.

Some main features and pointers, as demonstrated or emphasized to the dis-

tributors: Sets have built-in Roto-scope antennas, turret tuners for uhf when ready, drop panel hiding all controls except station selector. Also stressed is stylized furniture and trimmings. Quantity supply of 19-in. tubes is assured "because we made large scale purchases early." Essentially same discount structures as last year prevail. Deliveries are scheduled immediately after Jan. 15 open house for dealers throughout the country.

PHILCO'S 16-in. AT \$300 SCORES HIT: Philco buttoned up its 1950 line with 5 more models, 3 of them 16-in., added to series of 12½-in. announced Xmas week (Vol. 5:52). At rousing Chicago distributor convention Friday, nearly 800 saw new 16-in. table ensemble that actually brought them to their feet cheering when \$300 list price was stated. All through the TV presentation, enthusiasm ran so high that ever-popular TV sales v.p. Fred Ogilby was constrained to "raise the ante" on president Balderston's forecast of 750-800,000 TVs this year. Quoth Ogilby:

"Philco will make and sell 800,000 to 1,000,000 TV sets this year, and it's my personal opinion we're going to enjoy an industry year of 5,000,000." TV-radio division president Larry Hardy put company's goal at \$150,000,000 worth of TV-radio products this year (1949 sales of all products were \$215,000,000). Philco is also a top producer of refrigerators, freezers, air conditioners, ranges -- and also showed new and improved lines of all of these at lower prices. In refrigerator field it claims to be pushing GE now for second place to Frigidaire.

Philco has definitely foresaken 7 and 10-in. in favor of larger sizes, but 19-in. and rectangulars await another new line in June. Meanwhile, new styling, new features, accent on quality dominate current line of 13 TV sets, the 5 latest of which were shown as follows:

16-in. Model 1600, table with matching table, 8-in. speaker, mahogany \$299.95; 1632, console, TV-only, without doors, 10-in. speaker, mahogany \$349.95; 1633, same with doors, \$379.95. Latter is down \$120 from predecessor model.

All use all-glass, no-glare tubes made by company's own Lansdale plant; no metal-coned tube used. All have built-in aeriels. Chassis has basically new circuit with 20 tubes, 5 rectifiers, higher voltage (minimum 13 kv), wider band pass, smaller and more uniform scanning spot, new sync circuits.

Additional 12½-in. sets (see Vol. 5:52 for previously announced 8): Model 1476W, walnut console with AM-FM-3 speed, \$399.95; 1476M, same in mahogany \$429.95. These sets have 25 tubes, 3 rectifiers.

Deliveries are promised by mid-January, by which time present "production rate of 750,000" per year will have been stepped up considerably. In commenting on remarkably loyal distributor family, Philco executives stress that their company is only one providing year-round business, noted that even during early 1949 TV production troubles Philco didn't lose a single distributor, promised that radios won't be forsaken just because TV volume and profit are higher.

TRENDS & TOPICS OF THE TV TRADE: By next week, most leading set makers will have shown their new lines, if any, and disclosed new price schedules. At week's end, the company generally regarded as No. 4 producer, Motorola, had its line ready, but under cover and unpriced. It was waiting for Monday opening of Furniture Mart, won't divulge prices until its own distributor convention in Palmer House Jan. 10.

Meanwhile, other set makers this week announced new sets in addition to Admiral and Philco reported above: Tele-tone's new line starts with plastic 10-in. table at \$129.95; includes also 12½-in. table, \$169.95; 16-in. table (rectangular tube), \$249.95; 16-in. console, \$279.95. Tele-tone says it plans to produce 250,000 sets in 1950, will show radio line in 30-45 days...Emerson's 5 new models (Vol. 5:53) are 10-in. table with enlarger switch, \$179.95; 12½-in. table, \$229.50; same in console, \$249.50; 16-in. table, \$289.50; same in console, \$329.50...Bendix new line comprises 12½-in. table, \$199.95; same in console, \$239.95; 16-in. console, \$299.95.

Raytheon's 1950 line comprises 8 models, starting with 12½-in. leatherette-covered table at \$199.95, including also 12½-in. table in blonde, \$209.95; same in

mahogany, \$219.95 and \$229.95; same in console, \$259.95; 16-in. table, \$279.95; same in console, \$299.95 and \$329.95.

Arvin is showing 8½-in. metal table for \$129.50 at Furniture Mart, promises February deliveries; is second to have 8½-in. (first was Motorola; Vol. 5:33)... Westinghouse has new 12½-in. table at \$229.95, has cut 10-in. table from \$199.95 to \$179.95, 12½-in. table with magnifier switch from \$269.95 to \$249.95, 16-in. table from \$375 to \$299.95...Hoffman's 1950 line of 22 sets begins with 12½-in. table at \$230, ranges up to 16-in. console combination at \$550.

Sightmaster has new line of 12 sets beginning with 16-in. table, \$319; 16-in. console, \$339; 19-in. console, \$449. Sets with Sightmirror principle (remotely controlled, with face of set a mirror when not in use) include 16-in. at \$495, 19-in. at \$595. Now that Sightmaster's "Sightmirror" has had patent issued (No. 2,492,224), company plans to license other manufacturers to produce laminated-mirror, which it will also sell through distributors, etc...Telequip's new line comprises 12½-in. table, \$180; same in console, \$210; 16-in. table, \$240; same in console, \$270. More expensive line starts with 12½-in. table at \$200; same in console, \$230; 16-in. table, \$260; same in console, \$300.

* * * *

Majestic brand reappeared this week on 8 TVs shown New York distributors by Garod's Leonard Ashbach, who bought up bankrupt Illinois firm's name, trademark, patents, tools, etc. (Vol. 5:50). Companion company to Garod, operating from same Brooklyn plant, will be known as Majestic Radio & Television Corp., will shortly have full line of radios, will have same distributors as Garod. Sales v.p. Louis Silver says 75% of Garod plant production will be on Majestic line, plant turning out 500 sets a day first quarter 1950, 600 thereafter.

Majestic line will be low-end of Garod output, latter brand going on higher priced units. Majestic sets are: 12½-in. table, \$199.95; same in console, \$249.95; 16-in. table, \$269.95 (\$289.95 blonde); same in console, \$299.95 (\$325 blonde); 19-in. console, \$449.95 (\$479.95 blonde). All have 18 tubes, 2 rectifiers; will have 16 and 19-in. rectangular tubes when available.

Tube-makers' role in new receiver price level is shown in latest slashes in prices to manufacturers: Sylvania cut 12½-in. from \$23.50 to \$20.50, all-glass 16-in. from \$41 to \$34.45 (metal 16-in. remains \$33, all-glass 19-in. \$69.50). National Union dropped 12½-in. from \$23.50 to \$20.50, all-glass 16-in. from \$38 to \$33, rectangular 16-in. from \$34.95 to \$33. RCA and DuMont will also announce cuts shortly.

* * * *

Hallicrafters has leased new 71,000 sq. ft. building few blocks from present Chicago quarters, permitting increase from current 700 TVs a day to 1000 a day by end of month. TV will account for 75% of Hallicrafters' 1950 sales, president William Halligan said, predicted as \$25,000,000 (vs. \$15,558,000 in 1949)...Emerson expects \$65,000,000 sales volume in 1950, president Benjamin Abrams told national salesmen over weekend, and TV should be 80-82% (it was 75% in 1949, he said). "We [industry] are headed for a \$4-5 billion dollar volume," he said. Abrams foresaw 5,000,000 receivers turned out in 1950, envisioned some 30,000,000 in use by 1955...Sylvania president Don G. Mitchell says 1950 receiver market will be 90% or more for 12½-in. or larger sizes...Notwithstanding low inventories, retail closeouts were being run in most major TV markets. Newspapers gave big play to Boston's Jordan Marsh Co. dept. store where more than 1000 customers ganged up at Jan. 4 TV sales opening -- advertised as "\$1,000,000 worth of TV sets, at \$60 to \$200 reductions." Sets were Philharmonic models, with 2000-3000 (\$250,000) reported sold first day. Prices were \$100 for 10-in. table, \$140 for 12½-in. table, \$180 for 16-in. table, \$180 for 12½-in. console...It's official now -- RCA Victor beginning March 1 will offer its library of classical artists and orchestras on 33 1/3rpm records -- as well as on 45 and 78rpm. Announcement this week by RCA's Frank Folsom stressed company's continued adherence to 45rpm; during recent weeks he said sales of 45s were running at rate of 20,000,000 a year and sales of 45rpm players at rate of 65,000 a month. All other RCA records will continue to be made in 45 and 78rpm.

Personal notes: G. Bennett Larson new mgr., New York News' WPIX, succeeding Robert L. Coe; Larson was TV director Philadelphia Bulletin's WCAU-TV and is succeeded there by Charles Vanda, ex-CBS west coast executive radio producer, more recently a freelance producer . . . Alfred C. Viebranz named sales mgr., Sylvania electronics div., replacing George C. Connor who becomes sales mgr., photoflash div.; Viebranz was Sylvania government sales rep. in Washington . . . Joseph A. Jenkins resigned as station mgr., WNBK, Cleveland, joined Pittsburgh ad agency Ketchum, MacLeod & Grove as asst. to radio & TV director William Schroeder . . . John H. McNeil, ex-mgr., WJZ, New York and more recently with DuMont, named TV director, Birmingham, Castleman & Pierce . . . George T. C. Fry, ex-ABC national radio sales director, joins Kenyon & Eckhardt . . . N. Ray Kelly promoted from chief of NBC kinescoping dept. to TV film director, succeeding Russell Johnston, now with Jerry Fairbanks Inc. (Vol. 5:50) . . . RCA bestowed v.p. titles on 5 department heads: Henry G. Baker, home instruments; Richard T. Orth, tubes; John S. Carter, finance; Paul A. Barkmeier, records; Harold R. Maag, western manager, RCA Victor . . . Paul Alley, ex-NBC-TV films, joins William J. Ganz Co., N. Y. film firm.

Chockful of good TV reading is *Variety's* 290-p. anniversary number, dated Jan. 4. TV operators particularly will want to read J. Hugh E. Davis, executive v.p. of Foote, Cone & Belding, on possibilities of once-a-month TV shows and his forecast of coming pressure for reduction of AM rates; Mark Woods, ABC vice chairman, on why network cut its TV hours; Joseph McConnell, NBC president, on his belief TV is now ready to stand on own feet; in addition to thinking of other TV big-wigs, movie executives' attitudes toward TV, etc.

New York-Washington microwave relay (Vol. 5:53) is direct connection, doesn't drop-off at Philadelphia, and proposed extra coaxial south from Philadelphia to Washington has been eliminated from AT&T's 1950 plans, telephone company informs us. So, last week's score for additional circuits in 1950 should be revised to show New York-Washington with 2 microwave channels, one north, other south, plus 5 existing Philadelphia-Washington coaxial circuits. We also overlooked proposed tie-in of Johnstown this summer, from Pittsburgh, making another new interconnected city. Johnstown presently gets DuMont programs off air from Pittsburgh's WDTV, but other networks feed it via kines.

Favorite TV shows and personalities of nation's radio editors, according to *Billboard* poll: dramatic, *Studio One*; children's program, *Kukla, Fran & Ollie*; audience participation, *Stop the Music*; male singer, Perry Como; woman singer, Kyle McDonnell; women's program, Dione Lucas; announcer, Dennis James; educational, *Nature of Things*. Milton Berle took 3 firsts—vaudeville, outstanding star, best commercials.

Jan. 1 sets-in-use, reported since NBC Research "census" of Dec. 1 (Vol. 5:52): Washington 91,000, up 12,300 in month; Cincinnati 60,000, up 10,000; Fort Worth-Dallas 34,255, up 8055; Memphis 14,125, up 1925; Omaha 12,351, up 2051; Charlotte 10,200, up 900; Greensboro 9150, up 850.

Phonevision hearing was postponed indefinitely by FCC this week until it makes up mind on Zenith petition for reconsideration (Vol. 5:53). All signs point to change of mind by couple of commissioners, thus permitting Chicago tests to go on as Zenith planned.

ASCAP collected \$200,000 from TV stations as part payment on use of its music during 1949 until final terms are reached on per-program deal (Vol. 5:50). Negotiations to work out per-program contract continue.

WRTV, New Orleans, dropped CP at oral argument on request for extension before FCC Friday. Grant was given up by Maison Blanche dept. store after Commission refused postponement of argument. FCC had issued proposed decision denying extension (Vol. 5:35). Total CPs now number 12 (for list of CPs, see TV Addenda 9-N).

Last-minute rescue of New York's WMCA-FM had syndicate of some 10 people offering to take it off president Nathan Straus' hands day before it was due to go off air (Vol. 5:52). Important factor is said to be Storecast Corp. of America (Stanley Joseloff), offering to buy time to feed receivers in New Jersey supermarkets; it's not mentioned entering station ownership, however. Earlier, in letter published in Jan. 1 *New York Times*, Straus said: "FM has been stillborn, not because the competition of television has doomed it, but because its performance has fallen far short of its promise . . . For the ordinary listener to the ordinary program in the average location, [FM] has no advantages over AM." Among drawbacks, he found tuning difficulties and drifting particularly serious. In Jan. 3 *Wall Street Journal*, able reporter Joseph Guilfoyle rounded up opinions on causes for FM's straits. Lack of receivers, lack of appreciation for high fidelity, poor receivers, TV, are main reasons given.

Best index to picture size trend is RMA's monthly shipment figures. Total shipped in November was 463,593, with this breakdown: 7 & 8½-in., 18,127 or 4%; 10-in., 83,223 or 18%; 12 & 12½-in., 271,924 or 58.6%; 15, 16 & 19-in. (mostly 16), 88,944 or 19%; projections, 1348. The 10-in. really took drastic drop from October, when it accounted for 31% (Vol. 5:50). Total value of all November's CRs: \$12,779,575.

RCA and 20th Century-Fox continuing cooperation in theatre-TV research, with RCA agreeing to supply movie company with commercial instantaneous-type projector as well as first production model of new intermediate-film system (Vol. 5:47). Equipment will be set up in research chief Earl Sponable's laboratories.

Wall map showing TV's current status, measuring 26x40-in., has been published by RCA Victor. Colored shadings and lines show TV areas, CP areas, network interconnections, proposed extensions of intercity links. Though some of latter aren't confirmed yet by AT&T, over-all map job is best one yet done. You can get copy, without cost, by writing J. M. Toney, Home Instruments Dept., RCA Victor, Camden, N. J. Or we'll get you one, if you prefer.

Printers' Ink has published 64-p. *Guide to Television Advertising*, reprinting 22 articles and indexing others it has carried pertaining to TV advertising techniques. It's available at \$1 per copy from magazine's New York office, 205 E. 42nd St.

FCC's proposal to increase FM hours of operation (Vol. 5:52) may go to hearing; at least there's some leaning that way in Commission. Yet others say hearing isn't likely to develop anything new, in addition to comments already filed, preponderantly opposing change in rules. Current betting is FCC won't adopt proposal.

First theatre-TV showing in south took place Jan. 4 in Charlotte, N. C., when 3000 people saw WBTB telecast of North Carolina-Rice Cotton Bowl game. Game was filmed Jan. 2, telecast 2 days later. RCA instantaneous large-screen equipment was installed in Charlotte Armory for demonstration; no admission charge.

Speakers reported on tap for *Televiser Magazine's* TV Institute Feb. 6-8 at Hotel New Yorker. Drs. Allen B. DuMont, Vladimir Zworykin, Lee deForest, Alfred N. Goldsmith, Millard Faught.

BUSTLING TRADE AT CHICAGO MARTS: Out of the 110 TV receiver manufacturers listed in TV Directory No. 10, published this week, only 13 are displaying their new or old wares at Chicago Furniture Mart, only 6 at Merchandise Mart, plus scattering dozen others elsewhere in city.

Yet TV was undoubtedly biggest attraction of the marts. And since TV is so closely allied with home furnishings and appliances, since these manufacturers represent 90% or more of TV production, it looks now like big January gatherings of the merchandisers will henceforth signal TV's new year models.

June or July will very likely bring forth fall-winter season models as matter of routine, except of course for those who prefer to go it alone.

That looks like the pattern ahead, though maybe it's too early to prescribe definite seasons for so ruggedly competitive and individualistic an industry.

It's plain that TV's new prices and new styling are exerting enormous influence on all kinds of home furnishings. We didn't get around much among non-TV exhibits, but it's noteworthy that N.Y. Herald Tribune reported: "The influence of TV was strongly manifest. There are more pieces on casters, tables which convert into seating pieces and double their size, longer sofas, section units which turn corners, and collapsible units which may be stored away."

Chicago Journal of Commerce noted that prices (on the whole) averaged about 3% higher than year ago, but upward trend was somewhat offset by lower TV prices. "Were it not for TV prices, the index might be up 5 percentage points," it stated.

Orders taken at Admiral, Philco, Motorola conventions, to say nothing of other exhibitors, were reported gratifying. Everybody echoes refrain that early 1950 looks good indeed. After their conventions (Vol. 6:1), Philco reported \$80,000,000 in first-quarter orders, Admiral \$53,000,000 -- including appliances, of course. This gives both good leg up on their avowed 1950 sales goals of \$250,000,000 and \$200,000,000, respectively.

How long TV market will hold is anybody's guess, but most agree summer will be tough, radio market has been under-rated and will continue good, year as whole should do vastly better than 1949's 2,750,000-plus set sales.

Things are getting harder for the little fellows, facing big ones competing like mad even in seller's market. Tele King's Louis Pokrass, whose own company isn't one of biggest, though it's heavily in private label business, gave out statement Thursday that fewer than 20 of the 100-odd TV makers will survive 1950. He was much more pessimistic than big Philco's Fred Ogilby, who told his convention market is getting so "rough and tumble" he thinks number of manufacturers will dwindle to less than 60 within 2 years.

Exhibiting at Furniture Mart were: Admiral, Bendix, Sylvania (Colonial), GE, Hallicrafters, Motorola, Arvin (Noblitt-Sparks), Olympic, Philco, RCA, Sperton, Starrett, Westinghouse. At Merchandise Mart: Air King, Bendix, Crosley, GE, Magnavox, Sentinel. Other places in Chicago: Atwater, Brunswick, DuMont, Garod, Tele King, Jackson, Meck, Philharmonic, Pathe, Raytheon (Belmont), Templetone, Trans-Vue.

MOTOROLA & DuMONT CONVENTION NEWS: Two more conventions of leaders this week topped off that phase of Chicago TV marts -- Motorola's and DuMont's.

Motorola brought forth new line of 19 models, priced on eve of Tuesday meeting, designed to compete at substantially same trade levels with Philco, RCA and Admiral lines disclosed earlier (Vol. 5:52-53 & Vol. 6:1).

DuMont's new models won't be ready for some time. Present line and prices remain unchanged. Chicago meeting Wednesday brought all its distributors together for sales clinic which heard from sales chiefs Ernest Marx and Walter Stickel that:

(a) DuMont intends to continue as "maximum quality manufacturer" and...

"Only if there are cuts in production costs will there be reductions in DuMont prices. (b) DuMont 1949 receiver sales, in excess of \$30,000,000, will be doubled in 1950; Dr. DuMont recently stated (Vol. 5:51) that over-all sales, including tubes, would be \$45,000,000 in 1949, may reach \$80,000,000 in 1950. (c) By mid-1950, DuMont will have distributors in every major and secondary market, doubling present number, and in mid-July will hold first national dealer convention.

Motorola's v.p. Walter Stellner issued statement, during company convention, observing that 65% of U.S. families live within TV range; that only 14% of these have receivers; that market will expand for years to come "with competition increasing and prices gradually lowering." But he asserted at convention itself that present price structure will remain stable first half of year, at least.

Motorola's 1950 line omits 7-in., has all other sizes (and shapes) of tubes, starts with 8½-in. plastic table, now \$140, and leatherette portable \$150 -- but big feature is \$400 rectangular 16-in. console combination. This is full line:

8½-in. plastic table Model 9T1, TV-only, \$139.95; portable Model 9L1, leatherette \$149.95.

10-in. table Model 10T2, TV-only, mahogany \$169.95.

12½-in. table Model 12T2, TV-only, mahogany \$189.95; 12T1, same in mahogany \$219.95; 12T1B, same in blonde \$229.95.

12½-in. console Model 12K1, TV-only, mahogany \$249.95; 12K1B, same in blonde \$259.95; 12K2, same in mahogany \$260.95; 12K2B, same in blonde \$279.95.

16-in. rectangular table Model 16T1, TV-only, mahogany \$269.95; 16T1B, same in blonde \$279.95; 16K2, same in mahogany console with round 16-in. \$299.95; 16K2B, same in blonde console with round 16-in., \$309.95; 16F1, same in mahogany console, with rectangular 16-in. and AM-FM-3 speed, \$399.95; 16F1B, same in blonde console with rectangular 16-in. and AM-FM-3 speed, \$419.95.

19-in. mahogany console Model 19K1, TV-only, \$525; 19F1, same in mahogany with AM-FM-3 speed, \$825; 19F1B, same in blonde with AM-FM-3 speed, \$850.

TRENDS & TOPICS OF THE TV TRADE: Exceptional is manufacturer who hasn't adjusted prices or announced new lower-priced models in line with steps taken by top producers last few weeks. Additional to those already reported, underlining jockeying for market position and downward trend in prices, are these cullings from the trade:

Motorola thinks it has good room-to-room or summer-porch or hotel portable items in its 8½-in. models (see above) -- possibly good enough to hold up summer trade. Only one else to announce 8½-in. is Arvin (Vol. 6:1). Latter is first to use long-heralded GE metal-coned electromagnetic tube (Vol. 5:4 et seq); Motorola is buying Raytheon all-glass electrostatic tube. GE itself has never brought out 8½-in. set, and there's talk it's going to quit 10-in. field, as have so many others.

RCA bigwigs smile benignly at rival claims of Admiral and Philco to top position, simply say "no one is producing more TV sets than we are." Philco reiterates, "We are the biggest radio and TV producer in the world." Admiral says that in 1949 it did a "bigger dollar volume in TV than any other manufacturer," adopts slogan "First in 1950," even exhorts distributors to promote door-to-door selling of its lowest cost TV (12½-in. plastic table at \$180).

* * * *

Bendix spokesmen say they're now "really in TV big," showing lines at both Chicago marts. Bendix is now establishing servicing setups in every area it distributes. Its people kick themselves for not having put more promotion behind built-in aerials; Bendix actually was first to offer built-ins, but the trend didn't really gather impetus until Philco's big push (Vol. 5:30-31).

Raytheon has increased distributors to 27, expects to add 15 more forthwith, says it's now producing 1000 TVs per day, increasing to 1500... Crosley cut 10-in. plastic table from \$200 (Vol. 5:46) to \$170... Sylvania cut 10-in. table \$10 to \$190, 12½-in. table \$30 to \$230, 12½-in. console \$10 to \$290, 10-in. console-combination \$40 to \$340, 12½-in. combination \$20 to \$430... Scott now selling its 12x16-in. Protelgram projection table model for \$495, down \$200 from price 6 months ago... Magnavox adds 19-in. console at \$495 to 1950 line (Vol. 5:52).

Olympic has "XL" series with 18 tubes, 2 rectifiers, starting with 12½-in. table \$180, console, \$230; 16-in. table \$250, console \$280. Olympic "DX" series has 21 & 2, comprises: 12-in. table \$210, console \$290; 16-in. table \$270, console \$330, with doors \$370; 16-in. console with doors \$480, console-combination not yet priced...Starrett cut prices of 12½-in. walnut table to \$200 (from \$250), console with doors to \$300 (from \$398); 16-in. table to \$300 (from \$350), console to \$370 (from \$400). New Starrett sets are 16-in. console with doors \$400, console-combination \$480; 19-in. console \$480.

* * * *

Hallicrafters revised prices of 1950 line announced only 2 weeks ago (Vol. 5:53): Cut \$40 from 16-in. console-combination, now \$400; \$20 from 12-in. plastic table, now \$180; \$10 from 12½-in. console, now \$250; \$10 from 12½-in. console with doors, now \$280; \$10 from 16-in. console, now \$330; \$10 from 16-in. console with doors, now \$360. Hallicrafters also added 16-in. table with matching table at \$300...Jackson Industries' new line: 12½-in. table \$160, mahogany \$220, console \$250; 16-in. rectangular table \$200, mahogany \$270, console \$300; 19-in. console \$400; 12½-in. console-combination, \$450; 16-in. rectangular console-combination, \$500.

Sparton uses 17 tubes, 2 rectifiers in low end of line: 10-in. table, \$170; 12½-in. table \$190, console \$250. Second group of sets, with more tubes, comprises 10-in. table \$200; 12½-in. table \$230, console \$300, console-combination \$330; 16-in. console \$400...Air King has 8 sets, all with 17 tubes, 2 rectifiers: 12½-in. table \$180, mahogany \$200, console \$250; 16-in. rectangular table \$280, console \$300, console with doors \$370, console-combination \$450; 19-in. console \$450...Sentinel new line has 12½-in. walnut table \$200, mahogany \$230, console \$250; 16-in. rectangular table \$280, console \$330.

Garod supersedes last month's line (Vol. 5:49) with rectangular 16-in. table at \$280, console \$340, console with doors \$380; 19-in. console \$490. Lower end of Garod plant's output now bears Majestic label (Vol. 6:1)...Besides 8½-in. metal table at \$130, Arvin has 12½-in. table at \$230, console \$280; 16-in. console \$350.

Sonora reported back in production, with 3 TV, 7 radio models...Electronic Corp. of America, New York, in bankruptcy; \$220,000 liabilities, \$104,000 assets.

Trade and financial notes: RMA reports for first 2 weeks of December show 178,760 TV sets made, 315,548 radios of all kinds; December total should be ready shortly... Cornell-Dubilier president Octave Blake, reporting 1949 sales of \$13,678,971, profit \$450,785 (86¢ per share), up from \$11,379,543 sales and \$446,731 (84¢) earnings in 1948, observes that "by 1954 there will be approximately 25,000,000 TV sets in use [which means] a \$200,000,000 capacitor market for TV sets alone"... General Instrument Corp. reports net income of \$201,779 (41¢ per share) for quarter ended Nov. 30 vs. \$247,926 (51¢) for same 1948 period... Hytron has voted increase in capital stock from 1,000,000 to 3,000,000 shares, also will distribute one share for each share presently held to holders of record Jan. 12... ABC elects realtor Wm. Zeckendorf, president of Webb & Knapp Inc., to board.

Complaint against Sylvania and Philco by Federal Trade Commission charges Sylvania sold tubes to Philco for from 7¢ to 49½¢ less than it sold them to its own distributors, cites Philco for inducing and receiving better prices—all based on discounts, rebates, allowances which FTC alleges constitute discrimination, tend to monopoly, violate Clayton and Robinson-Patman acts. Sylvania president Don Mitchell is quoted as replying: "Sylvania's prices are and have been in accordance with its stated schedules and conform to recognized trade practices."

Notably absent from all Chicago TV gatherings this week was Zenith, but executive v.p. Hugh Robertson was quoted as saying Zenith would shortly announce some innovations—there's even talk of 22-in. picture tube from its subsidiary Rauland.

"Depth of penetration" of TV set distribution, or number of receivers in each market per 1000 families, is calculated by Milwaukee Journal (WTMJ-TV) researchers by dividing total sets by number of families within 40-mi. radius. This is how areas are ranked as of Dec. 1, though it must be noted that some of these population areas overlap (indicated by asterisk) so that calculation isn't quite fair to them—they should rank higher up. For number of stations, estimated sets, total families, see Vol. 5:52; for comparison with Oct. 1 "depth of penetration," see Vol. 5:46.

Area	Sets per 1,000 Families	Area	Sets per 1,000 Families
Philadelphia	266*	Omaha	78
New York	264	Dayton	77
Lancaster	224	Rochester	76
Los Angeles	220	Kansas City	74
Chicago	217	Pittsburgh	74*
Milwaukee	185	Memphis	69
Boston	181*	Albuquerque	67
Cleveland	171	Phoenix	61
Schenectady	171	Charlotte	54
Buffalo	165	Seattle	51
Detroit	165	Indianapolis	50
Baltimore	155*	Grand Rapids	49
Minneapolis-St. Paul	150	Tulsa	49
Richmond	143	Fort Worth-Dallas	48
St. Louis	143	Houston	46
Erie	136	New Orleans	46
San Diego	134	Jacksonville	45
Cincinnati	130	Greensboro	44
Washington	114*	Birmingham	40
Columbus	112	Johnstown	39*
Toledo	112	Utica	35
Miami	110	Davenport	29
Wilmington	106*	San Francisco	24
New Haven	105	Providence	23*
Oklahoma City	103	Huntington	20
Syracuse	96	Binghamton	18
Louisville	88	Bloomington	10
Atlanta	86	San Antonio	9
Salt Lake City	84	Norfolk	5

Emerson increased sales nearly \$10,000,000 during fiscal year ended Oct. 31, total reaching record of \$40,543,925. Earnings were also highest in company's history, amounting after taxes to \$3,035,652 (\$3.79 per common share). Sales compared with \$30,926,842, net earnings with \$2,401,769 (\$3) for 1948 fiscal year. During last fiscal year, Emerson paid \$1,040,000 in dividends, or \$1.30 on 800,000 shares of stock outstanding. As of Dec. 23, 1949, stock distribution of one share for each 10 held increased shares 879,805. President Ben Abrams predicted 1950 sales will exceed last year's.

Raytheon looks to TV and govt. contracts for expected profitable second half of its fiscal year. Semi-annual report this week shows it lost \$621,701 on net sales of \$22,988,129 during 6 months ended Nov. 30, 1949 when govt. shipments were light. This compares with net sales of \$28,332,115 and net profit of \$680,048 (39¢ per common share) for same 1948 period.

FCC budget for fiscal 1951, \$6,912,000, would allow only 12 new employes (in addition to present 1300-odd). Current year's budget is \$6,600,000; increased salaries would account for most of increase. FCC's 159-page annual report for fiscal year ending June 30, 1949 is now available from Government Printing Office at 35¢. Report is dated, of course, but it's a good summary of all Commission's activities.

Use of Empire State Bldg. as transmitting site for WJZ-TV, WABD and WPIX (in addition to NBC's WNBT, already there) is expected to get go-ahead any day now (Vol. 5:38, 42, 47). WCBS-TV, WATV and WOR-TV have also shown varying degrees of interest in project but aren't prepared to move now. Structure allows tower up to 200 ft. to be added. Engineers are considering 3 different designs to effect multiple transmissions. NBC plans to emit FM also; WJZ may.

Consultant Raymond Wilmotte's work on FM was observed Friday by members of FCC; they're greatly interested in his research aimed at putting 2 FM signals on single channel. Wilmotte says system allows reception of weak signal in spite of stronger one on same channel. He feels it could give FM stations lift by permitting mobile and other services to ride on broadcasts, reports definite interest from one commercial outfit.

NAB's radio and TV directors will act as coordinators, won't have any administrative authority over other NAB depts. That was consensus of radio, TV, broadcast advertising committees, meeting in Washington this week. What's in store for NAB's Maurice Mitchell wasn't divulged, won't be until NAB board meets next Feb. 8-10 in San Marcos Hotel, Chandler, Ariz.

Leader of independents at NAB convention last spring (Vol. 5:16), WNEW program mgr. Ted Cott stays as chairman of unaffiliated stations' committee though Bernice Judis has withdrawn big New York station from NAB to save \$7000 yearly dues.

Request that FCC throw out the proposed vhf-uhf allocations plan (Supp. 64) and move all TV to uhf, made by Communication Measurements Laboratory Inc., New York (Supp. 67), was denied by FCC this week. Commission said it will listen to company's proposals during hearing.

More sets-in-use as of Jan. 1, reported since NBC Research "census" of Dec. 1 (Vol. 5:52): Cleveland 137,300, up 18,300 in month; St. Louis 77,800, up 10,100; Kansas City 25,124, up 4724; Syracuse 24,566, up 5466; Erie 23,400, up 8900; Davenport-Moline 6344, up 1344.

San Francisco trip of FCC staff, to check Color Television Inc. progress, is definitely off (Vol. 5:52). CTI is ready, but Commission people are too busy and time for CTI Washington showing (Feb. 20) isn't far off.

Trade personals: Zenith's 6 new regional managers, and cities from which they will work: Ray L. Hoefler, New York; Irving H. Herriott, Chicago; Edgar F. Lindgren, Atlanta; Hugh H. Boyer, Cleveland; James H. McKee, Dallas; Clarence Pagel, San Francisco . . . Martin L. Scher, ex-Admiral, new gen. sales mgr. for Motorola-New York, Frank Millman sales mgr. of New Jersey div. . . . Paul W. Tanner, appliance sales mgr., and Glenn Mills, adv. dept., moved to Noblitt-Sparks (Arvin) TV-radio merchandising under v.p. Harlan Foulke and sales mgr. Ray Spellman . . . Norman L. Harvey new Colonial (Sylvania) director of engineering . . . Alfred C. Viebranz, ex-Washington representative, new gen. sales mgr. of Sylvania electronics division, George Connor moving over to photoflash div. . . . Harold W. Schaefer, ex-Westinghouse, now asst. to Philco engineering v.p. Leslie Woods . . . Dr. Dayton Ulrey retires as chief engineer of RCA tube dept., Lancaster, Pa., continuing as consultant . . . Antony Wright, Magnavox chief engineer, joining Capehart-Farnsworth as chief engineer, Consumer Products.

Station accounts: Vim Stores (radio-appliance chain) sponsors *Talent Battle of the Boroughs*, with Harry Hershfield as m.c., on WNBT, New York, starting Feb. 15, Wed. 10:30-11 . . . Teldisco Inc., International Harvester distributor, sponsored *Stock Car Derby* from Kingsbridge Armory on WNBT, Jan. 14 . . . ABC adds Eowery Savings Bank on WJZ-TV, New York, and Pilot Life Insurance Co. on WBTW, Charlotte, and WFMY-TV, Greensboro, as sponsors for second release of *Crusade in Europe* . . . Guinness Stout sponsoring sports from N.Y. Athletic Club on WOR-TV, Wed. 9-conclusion . . . Doubleday & Co. (publishers) buying 10 spots weekly, in addition to feature films, on WPIX, New York . . . Buick bought 81 spots (\$6550 worth) on ABC's 5 TV stations plus WMAL-TV, Washington, week of Jan. 2; same stations get 51 spots from Chrysler . . . Philadelphia's WCAU-TV claims *Snellenburg's TV Jamboree*, sponsored by big dept. store, is largest local sponsorship contract in TV history; remote live show starts from store auditorium Jan. 30, runs Mon. thru Fri. 2-3 . . . On WCAU-TV, also, Sinclair Oil is sponsoring *Bulletin TV News & Weather* Mon. thru Fri. 6:45-7, featuring "dealer of the day," part of National TV campaign, thru Morey, Humm & Johnstone Inc. . . . Screen Gems Inc. producing 5 films for Borden spot campaign, thru Young & Rubicam . . . Hunt Foods Inc., Los Angeles, planning TV-radio campaign in California, thru Young & Rubicam . . . Amalgamated Clothing Workers of America, to promote union label for men's clothes, signs for 7 spots weekly, 39 weeks, on ABC's WJZ-TV, WENR-TV, WXYZ-TV, plus Washington's WMAL-TV, total contract reported by ABC Spot Sales at \$138,380 . . . United Fruit, thru BBDO, testing TV with 15-min. *Stranger Than Fiction* on WNAC-TV, Boston . . . Arnold Bakers Inc. to sponsor *Faye Emerson Show* on WCBS-TV, New York, then may extend to other stations in its areas.

Studebaker reported considering national sponsorship of Capitol Record Inc.'s *Buster Keaton Show*, handled by Television Recordings Ltd. Capitol Records has *Bozo the Clown* and other shows in film production, and states it's now heavily in TV program field.

NBC has given FCC some information on Saturday night 2½-hour TV program plan which made DuMont kick to Commission (Vol. 6:1), said it has further information it wants to submit later. Inference is that change is in making.

ABC reports \$42,342,225 gross radio billings for 1949, \$1,391,991 gross TV billing; noted TV trend upward, rising from \$6273 in January to top of \$219,337 in December.

COLOR ISN'T HURTING SALES—YET: What's all this color TV publicity doing to set sales? Since Washington seems to be main proving ground, since it's scene of CBS's well-publicized current showings, preliminary survey this week by American Research Bureau for NBC tells eloquent story. Up to Wednesday of this week, only 200 calls had been completed, so findings are called "only indicative". Non-TV owners were asked: "What would you say is the chief reason you do not have a set?" Responses:

Less than 3% stated they were waiting for color; 47% gave finances as reasons for not owning sets; 28% said they weren't interested in having TV; 11% were waiting for clearer pictures; others gave various reasons. These answers compare closely with 1000-interview survey on same question last October.

Among dealers, also surveyed, it was found that "almost every prospective customer asks about color," when it will come, whether there will be converters. In main, these questions, while sales obstacles, do not stop sales. Dealers show strong undercurrent of resentment about color publicity and FCC demonstrations.

But local dealers say TV sales picture is still "excellent." Main thing hurting sales, they say, is not color but "multiplicity of new models" and "advertising of old models at giveaway prices." So -- "people wait for new models and better sets at lower prices."

WHAT THEY OFFER AT CUT-RATE SALES: Those cut-rate sales of TV sets, on inquiry, usually turn out to be: (a) floor models of discontinued numbers, (b) trade-ins and repossessions, (c) 10 & 7-in. models no longer being made. That's how we size up situation, after rash of ads in New York and Washington seemed to give lie to manufacturers' reports that inventories of brand-name sets were nil.

There's nothing like distress clearances of this time last year. Yet surprising amount of stock seems to be available for \$99 sales for 10-in. and \$77 for 7-in. And trade-ins are becoming more and more significant, retailers telling us they expect volume of such sets to grow as 7 & 10-in. owners turn them in on 12½ & 16-in. They're usually checked, put on floors with original list price indicated, marked down as specials for sales.

As for cut-rates on non-brand, private-label or discontinued items, these were some advertised this week: Vim-New York offered \$50 china dinner set with purchase of 16-in. console at \$200, identified only as "nationally famous...formerly \$399.95." Earlier, Vim offered to throw in radio-phono console with every purchase of 16-in. table at \$170, make unidentified. Lacy's-Washington offered 12½-in. table at \$140, which turned out to have "Troubadour" label on it -- unknown to us. Hecht-Washington Wednesday advertised new Beverly 12½-in. at \$160 (made by Olympic); also Philco 12½-in. at \$160 (originally \$260), consolette \$200 (was \$330); 16-in. consolette \$250 (was \$500).

TOPICS & TRENDS OF THE TV TRADE: They're still cracking the price line -- and this week there were more changes to add to the plethora we've reported last few weeks:

Crosley not only revised some prices of 1950 line (Vol. 5:46,49), but also upped dealer discounts 2-5%. Price of 12½-in. table is now \$240, down from \$280; console \$290, down from \$340; console with doors \$330, down from \$370; 16-in. console \$380, down from \$400. Suggested dealer discount for 12½-in. table is 30-31%, for 12½-in. console 31-32%. Sales v.p. W. A. Bles says "pro-dealer philosophy" has added 400 major outlets in last 5 months, with anti-price-cutting campaign resulting in cancellations of 25% of West Coast franchises.

Entire GE 12½-in. line is being reduced as follows: mahogany table 12T3, from \$240 to \$230; 12T4, same in blonde, from \$260 to \$240; console 12C7, from \$290 to \$280; 12C108, same in blonde, from \$310 to \$290; 12C109, console with doors, from

\$320 to \$300. GE's 10-in. plastic table continues at \$180, and rectangular 16-in. will shortly be announced.

Sylvania revised prices second time in week (Vol. 6:2) -- now offers 10-in. table at \$170, down from \$190; 12½-in. table \$200 (from \$230); 12½-in. console \$250 (from \$290); same in console in better cabinet, due end of Feb., \$270 (from \$290); same with doors, also due end of Feb., \$300 (from \$330); 16-in. console \$380 (from \$400); same in better cabinet, due end of Feb., \$350 (no change); 10-in. console combination \$340 (no change). Sylvania says it now has 35 distributors signed, all it can handle until July 1, will turn out 200,000-250,000 TVs this year.

Zenith reduced prices of 8 models, renumbering and renaming some of them: 12½-in. table Claridge (now Garfield), in luggage-type finish, was cut from \$250 to \$220; 12½-in. Saratoga console, from \$290 to \$270; 12½-in. Biltmore (same in blonde), from \$310 to \$290; 12½-in. Graemere, same with doors, from \$330 to \$310; 16-in. Lexington console (now Lincoln), from \$400 to \$360; 16-in. Warwick, same with doors, from \$430 to \$400; 16-in. Waldorf, same in blonde, from \$450 to \$440; 16-in. Mayfair, same with full-length doors, from \$450 to \$430. Prices of all combinations remain same (see TV Directory No. 10).

Trans-Vue has new 12½-in. console at \$270, has cut 16-in. console from \$350 to \$340, and 16-in. commercial model with remote control from \$600 to \$400.

Other price reductions and more new models are in the mill, but await verification. We'll report them as they're announced officially. Meanwhile, these are other major topics and trends noted this week:

* * * *

DuMont's line and prices are unchanged, and it reports first 3 weeks of January were unaffected by others' price breaks. Even its lowest-priced 12½-in. table, at \$325, is selling as fast as produced. Company says it will hold to "quality" appeal, regardless what others do. This week, it switched ad agency -- will henceforth place through Campbell-Ewald instead of Buchanan. Change was made, it was stated, because of Campbell-Ewald's experience in durable goods field and its activity in telecast advertising. Account executive Douglas Day moves to Campbell-Ewald, where senior v.p. Winslow H. Case will supervise policy and plans.

New Muntz line in February will emphasize 12½-in. and 16-in. rectangular, will omit 10-in. entirely. Along with appointment of Edward C. Bonia as sales manager (ex-Bendix; Vol. 5:48), Muntz this week announced \$30 cut in present 12½-in. table to \$170 and entry into Dayton and Columbus markets. It's now in 17 cities, and Bonia is on road checking others. Muntz says it will go only into cities with more than one station and network service. February output schedule is 7500 sets.

Fact that Chicago Furniture and Merchandise Mart displays of radio manufacturers (Vol. 6:2) featured TVs but relatively few radios, didn't pass unnoticed -- particularly by buyers from non-TVs areas. Some exhibits were exclusively TV, and some of rest had rather few radios, particularly consoles. Showing table radios only were Admiral, Arvin, Bendix, Crosley, Jewel, Meck, Sentinel, Westinghouse. Showing consoles also were GE, Motorola, Magnavox, Philco, RCA, Sparton.

Philco reports radio sales holding firm, even in TV markets, and sales v.p. John Otter stated: "We shall continue in full production our complete radio and radio-phonograph line, with an anticipated sales volume of 20 to 25% of the entire industry." And radio-TV division president Larry Hardy declared: "Philco again manufactured and sold [in 1949] more TV and radio units combined than any other manufacturer. That is a statement we would like someone to challenge."

RCA v.p. Joseph B. Elliott foresaw sharp increase in demand for TVs with radio and phono, as compared with TV-only sets, in Tuesday speech before National Appliance & Radio Dealers Assn. Other TV trends, as he saw them: increased popularity of larger screen sizes, particularly 16-in.; new emphasis on cabinet styling -- "handsome furniture"; better sound and reduced interference; stabilizing prices. As for radio: "Radio was buried too soon by too many TV enthusiasts. Last year it kicked off its coffin and showed there's plenty of life in the old service yet."

National Assn of Electrical Distributors, at Chicago convention this week, applauded January introduction of new lines at Furniture Mart, suggested new fall

models be introduced mid-July or earlier; its 1950 convention will be in Atlantic City, June 12-16...North American Philips reduced retail list of its 3NP4 CR tube from \$29.50 to \$19.50 as of Jan. 3, calling this "lowest initial equipment and replacement cost on the market"; it's heart of Protelgram projection system...Emerson ad budget for 1950 reported as \$5,000,000, Tele King's as \$1,000,000...Stromberg-Carlson began new newspaper ad series Jan. 18, 1200 lines, stressing large-screen.

New TV manufacturer: Mars Electronics, 3000 N. San Fernando, Burbank, Cal. making Martel brand 12-in. table at \$250, also 16-in. table and consolette not yet priced; will sell mainly for private label. Ted Ulmer is president, Edward R. Goodrum sales mgr...Federal Television Corp., 139 Duane St., New York, in full production on electronic magnifier for closeups, remote-controlled, now selling for \$25...RCA Victor on Wednesday showed TV line to 300 Norfolk civic leaders, dealers, etc., as prelude to sales drive before opening of WTAR-TV (about April 1).

Trade personals: Gordon C. Knight, management engineer recently with George Fry & Associates, formerly personnel director of RCA Service Co., Camden, has joined Capehart-Farnsworth as administrative asst. to president F. D. Wilson . . . R. A. Hackbusch, president of Stromberg-Carlson Ltd., Toronto, elected president of Canadian Radio Technical Planning Board; Gordon Olive, CBC, v.p.; S. D. Brownlee, secy, RMA of Canada, secy-treas. . . Louis Chatten resigns as director, v.p. and gen. commercial mgr. of North American Philips Co., New York . . . A. George Rogers, recently with Wilder Mfg. Corp., succeeds Harold W. Schaefer, now Philco, as asst. mgr. of Westinghouse Home Radio Division, Sunbury, Pa. . . Maurice L. Levy, ex-consultant to Philco TV design section, now director of special engineering div., Tele-tone . . . John C. Price joins Gates Radio as sales engineer working out of Washington, so consulting engineering firm that succeeded late John Barron is now known as Gautney & Ray . . . Stanley Glaser's Sea Coast Appliance Distributors Inc., Miami, named RCA distributor for area; he's ex-Crosley.

Financial and trade notes: Television Fund Inc. pays 12¢ dividend Jan. 30 to shareholders of record Jan. 23; during 1949 paid 10¢ Feb. 15, 7¢ May 16, 6¢ Aug. 15, 16¢ Oct. 27 . . . Proxy notice for Emerson meeting Feb. 1, to vote on increasing directors from 7 to 9, discloses these salaries for fiscal year ended Oct. 31: Benjamin Abrams, president, \$60,238; Max Abrams, secy, \$40,089; Dorman Israel, executive v.p., \$32,748 (plus \$7995). Benj. Abrams owns 99,350 shares of capital stock (out of total 879,805); Max Abrams, 35,686 shares; Louis Abrams, 22,006; Dorman Israel, 2320.

In paying 75¢ dividend this week (making \$1.50 for 1949), Motorola tells stockholders its unaudited figures place year's sales at approximately \$79,000,000, profits in excess of \$5.75 per share; that TV Division accounts for more than 50% of sales; that Auto Radio, Communications and Home Radio Divisions are also "making fine progress"; that it expects to increase present TV production of more than 50,000 sets per month.

Muzak will petition FCC, through attorney Paul A. Porter (ex-FCC chairman), for change in FM rules to permit its service to ride on stations' signals. Though Muzak speaks of "special multiplex," it's very interested in Raymond Wilmotte's system (not multiplex) which permits 2 signals on one channel (Vol. 6:2). Muzak asserts that FM stations feeding functional music, to offices, factories, etc., with commercials amputated by supersonic signal, are violating FCC regulations. Company wants FCC to "legitimize" practice and permit it to get into act. Stations have been offering service considerably under Muzak's rates.

Local dealer advertisers of TV sets in 34 TV markets placed 30,314,906 lines of retail dealer TV advertising in newspapers during 1949, or 3 times more than for radio sets, according to *Media Records*. Newspapers in New York, Washington, Baltimore, Boston and Los Angeles accounted for 48.7% of TV set linage, 31.1% of radio set linage—New York alone accounting for 4,952,548 and 1,053,731, respectively. In such one-station cities as Houston, New Orleans, Memphis and (until latter 1949) Dallas, advertising of radio sets exceeded or closely matched that for TVs.

International TV standards committee (CCIR study group 11) is due to confer in U. S. and observe demonstrations March 27-April 7. Exact itinerary hasn't been laid out yet. In London, meanwhile, meeting on standards was held by representatives of Britain, France, Belgium, Holland and Luxembourg. They didn't agree, will meet again in Paris next month. Jan. 23 *Time Magazine* reports that Russia has TV stations in Moscow and Leningrad, is working on coaxial to link them with Kiev and Sverdlovsk.

British TV is booming as much as it can in that tight economy, now that country's second station (first is in London) has opened up in Birmingham. Over 200,000 sets are reported in use, 35,000 produced in November. Industry has goal of 400,000 output this year. BBC has plans to build 3 more stations in 3 years, expects to cover 70% of population by then. Within 5 years, 10 stations on air is objective, with 80% of population covered. London and Birmingham will be linked by cable, now being laid, containing two .975-in. and four .375-in. coaxials. With repeaters every 3 miles, larger has ultimate capability of handling 30-mc bandwidth. Present U. S. coaxial carries only 2.7 mc.

"Theatre Goes All-Free-TV," reports Los Angeles Chamber of Commerce TV committee's Jan. 12 bulletin, which says local Mission Theater, 4258 S. Broadway, is eliminating films, installing big-screen TV, plans free admission—manager Harold Gimbel counting on "snack pop" sales to make up for lack of boxoffice.

TV's impact on movies—with a twist: Movie theatre owner Meyer Phillips is reported, in Jan. 16 *New York Herald Tribune*, as telling E. Rutherford (N.J.) borough council that TV's competition is forcing him either to close doors or switch to burlesque. He wants to switch to burlesque.

Milton Berle booked as luncheon speaker for Feb. 8 TBA Television Clinic in New York's Waldorf-Astoria. He's also going to m.c. Radio Correspondents Assn dinner in Washington, Feb. 4, President Truman honor guest.

NBC's famous identifying chimes are now "official," Patent Office granting first audible trade-mark in history.

Though NBC and CBS don't release time-sales figures, this seems to be best information yet on how the 4 major networks fared in gross billings during 1949: NBC, \$64,013,296, according to Publishers Information Bureau; CBS, \$63,403,583, also from PIB; ABC, \$42,342,225, officially released; MBS, \$18,071,695, officially released. Unofficially, it's understood NBC did better than \$75,000,000, of which TV accounted for something over \$10,000,000.

Against NAB's estimate that 1949 radio time sales (AM only, excluding TV & FM) were \$435,279,000, up 4.5% from FCC's official total for 1948 (Vol. 5:53), *Broadcasting Magazine's* 1950 Yearbook estimates radio time sales at \$429,000,000, up 3%; TV time sales \$24,750,000, compared with \$8,700,000 in 1948; FM time sales, between \$6,000,000 & \$7,500,000.

First 15 ad agencies in network TV billings in 1949, according to Jan. 18 *Today's Advertising*: J. Walter Thompson, \$1,795,000; Young & Rubicam, \$1,192,400; Kudner, \$1,032,600; Wm. Esty, \$943,000; Newell-Emmett, \$692,500; Benton & Bowles, \$443,000; Campbell-Ewald, \$399,800; Lennen & Mitchell, \$396,900; Hutchins, \$395,000; Kenyon & Eckhardt, \$355,000; McCann-Erickson, \$332,000; George R. Nelson, \$325,000; N. W. Ayer, \$303,700; Biow, \$241,000; Stanton B. Fisher, \$188,000. Their aggregate time charges of nearly \$9,000,000, trade paper avers, would be doubled if talent costs were added.

A 6-week study of radio-TV by House subcommittee on communications, beginning in about a month, is anticipated by Rep. George G. Sadowski (D-Mich.), acting chairman. In about 3 weeks, he plans to introduce his own bill ("my own, not FCC's or anybody else's") far broader in scope than McFarland bill passed by Senate (Vol. 5:34). Investigation is to cover: (1) TV, with emphasis on color and possibility of getting govt. frequencies for TV. (2) Use of frequencies by govt. agencies. (3) FCC's "punishment" powers, with eye to finding less drastic action the license revocation. (4) Broadcasters' liability for slander by political speakers using their facilities. (5) Fraud perpetrated through radio. (6) Sheppard bill to tighten up on networks, forbid station ownership by radio manufacturers.

Telecasting notes: Don Lee's Charles Glett has contracted with film director Wm. Dieterle to make series of half-hour TV films based on Capt. Don Wilke's *Secrets of Secret Service*, plus other films, to be syndicated thru Blair TV Inc. Associated with Glett and Dieterle are other ex-Selznick aides: Cecil Barker, now Don Lee executive producer; Lee Garmes, cameraman; McMilland Johnson, designer . . . More baseball TV contracts signed: Cleveland Indians, with Standard Brewing Co., probably on WEWS; Cincinnati Reds, Burger Brewing Co., WLWT & WCPO-TV; New York Giants, Chesterfield, WPIX; Washington Senators, Chesterfield, WTTG . . . Sarkes Tarzian, who owns WTTV & WTTS (AM) in Bloomington, Ind., has bought out local WSUA & WSUA-FM for reported \$83,750; AM outlet purchased is 1-kw daytimer on 1010 kc . . . KDYL-TV, Salt Lake City, adds Mon., Wed., Fri. 3-5 p.m. to daily commercial schedule; already had Sun. 3-5, plans further afternoon expansion . . . CBS Radio Sales adds TV to AM network sales duties of Joseph R. Spadea, Detroit mgr. . . Published reports (*Cleveland Press, Variety*) Cleveland's WXEL may be sold in whole or part to *Cleveland Plain Dealer* (WHK-AM) in connection with latter's new TV Center, are unqualifiedly denied by owner Herbert Mayer.

Will of late Thomas S. Lee (Vol. 6:2) leaves his \$9,500,000 estate (Don Lee radio and auto agency business) to 80-year-old uncle, R. D. Merrill, wealthy Seattle lumberman. Will was written 16 years ago.

Personal notes: Ed Borroff resigning from Taylor-Borroff, station reps, to join KPHO-TV, Phoenix, in which he owns part interest; Ted Taylor taking over his interest in rep firm . . . Alexander Stronach Jr. promoted to ABC national director of TV program operations under Charles C. Barry, radio-TV program v.p. . . . Joseph A. McDonald, ABC v.p.-gen. attorney, elected to TBA board, succeeding ABC president Robert Kintner, resigned . . . John W. Collins, ex-*Southern Agriculturalist*, new sales mgr. of WAGA-TV, Atlanta . . . M. L. McElroy, ex-Cluett, Peabody & Co., becomes ANA media-research v.p. Feb. 1 . . . H. L. McClinton, ex-Ayer v.p., is president of new ad agency opening May 1 to be known as Carlock, McClinton & Smith Inc.; Paul Smith, Paul Smith Adv. Inc., is v.p. and chairman of plans board; M. E. Carlock, ex-Benton & Bowles v.p., is v.p. and secy. . . . Herbert Gruber quits Biow to become radio timebuyer with Cecil & Presbrey . . . Thomas G. Slater elected Ruthrauff & Ryan v.p. in charge of network relations, programs and talent development . . . Norman Lindquist quits Malcolm-Howard Adv. Agency, Chicago, to be TV director of Atlas Film Corp., Oak Park, Ill.

Network accounts: NBC-TV moving *Who Said That?* Jan. 30 to Mon. 10:30-11, offering it for local sponsorship to all affiliates; it's NBC's first cooperative . . . Ford Motor Co. starts Feb. 1 to sponsor Wed. 7-7:30 segment of *Kukla, Fran & Ollie* on NBC-TV, RCA continuing Mon. & Fri., National Dairy Tue. & Thu. . . . Joe Lowe Corp. (Popsicles) buys CBS-TV for *Popsicle Parade of Stars* for 10 weeks, time and hour not yet decided . . . Packard Motor Car Co. buys weekly half hour on ABC-TV, time and programs not decided but Thu. 9:30-10 asked for . . . Pontiac bought CBS-TV Jan. 18, 9-9:30, with Arthur Godfrey touring General Motors' Waldorf-Astoria exhibits . . . Emerson Radio reported rejoining network TV sponsors shortly . . . Lehn & Fink (Hinds products) starting participations in DuMont's *Cavalcade of Stars* and *Cavalcade of Bands*.

Program and sponsorship notes: On heels of Vim Stores-RCA combined sponsorship of *Talent Battle of the Boroughs* on New York's WNBT (Vol. 6:2), contestants being picked up from neighborhood RKO theatres, WOR-TV announces *Talent Parade* from stages of Skouras theatres in N. Y., starting Feb. 1, Wed. 8-9; Tiny Ruffner will m.c. 11 acts weekly until May 3 selection of winner by ballot . . . CBS-TV preparing *Stage Door* dramatic series, based on Ferber novel and stage play . . . Among new TV spot users or prospective users currently reported: DeSoto, thru BBDO; California Packing Co., Hood Rubber Co., Ohio Bell, thru McCann-Erickson; Gruen Watch, thru Grey Adv.; Newport Soap Co. (White Magic Soap) and Dennison's Food Co. (on KTSL), thru Brisacher, Wheeler & Staff; Popping Package Popcorn (also KTSL).

TBA is sending sample rate card to stations, covering base rate, announcements, participations, time discounts, rehearsal, film and remote facilities charges, etc. Card is recommended by TBA as pattern. BAB also has standardized TV rate card, which it's mulling with AAAA representatives before sending to stations.

Add profit-making TV stations: NBC's New York WNBT was \$500,000 in black during 1949, including depreciation and all other charges, according to official sources. Its Washington WNBW "just about broke even" and its other 3 TV stations were "substantial losers."

FCC staff goes to Bridgeport Jan. 24 to inspect RCA-NBC's uhf installation (Vol. 5:53). Station is on regular schedule, sets are still being installed.

NAB 1950 convention in Chicago's Stevens Hotel has engineering sessions April 12-15, management April 17-19.

PRICE CUTS AND DEALER COMPLAINTS: All is not beer and skittles in TV trade -- though receiver market continues good -- as manifested in dealer complaints about recent price cuts. Wall Street Journal, for example, cites "typical situation" of New York customer who bought 1949 model in December, stormed into store after reading that 1950 sets were 20% cheaper, demanded and got refund of differential. It added:

"Other merchants, though, hold on to their profits and turn down rebate requests -- as well as a lot of goodwill." An irate Burbank, Cal. dealer is quoted:

"Distributors of some slower-selling models loaded us up before Christmas. We were stuck with inventories when the price-cut 1950 sets were announced." Chicago dealers said, too, they had to take losses or sacrifice their markups to clear out 1949 receivers.

Yet the bigger manufacturers, who account for most production, insist post-Xmas inventories were miniscule, blame off-brand sets -- and some are insisting to their distributors that they reduce dealerships.

Retailing Daily, reporting "price squeeze" on smaller TV manufacturers in Jan. 27 issue, states consensus among minor makers is that only way they can stay in business is to concentrate on 16 and 19-in. sets "where comfortable margin exists." Theme is that brand makers have squeezed margin to limit on leaders, so that smaller companies must either double production to make same profit as in 1949 or go out of business. Also mentioned is new 12-tube chassis for which great things are hoped.

SIZES & PRICES AT LOW END OF LINES: Trend is obviously to larger pictures, but we count 16 manufacturers still making 10-in., two making 7-in., two out with 8½-in.

Dominating output now are 12½ & 16-in. Making 12½-in. sets are 54 manufacturers, making 16-in. are 64. Because of price factor, more 12½-in. are probably being sold, though biggest tubemaker RCA says its 16-in. tube production now exceeds all other sizes combined.

Making the relatively new 19-in. are 25 set makers, which may account for the fewer projections. Only 10 report making projections.

Recapitulating listings in our TV Directory No. 10, plus supplemental data obtained since its publication, and considering only lowest priced models in each size, we find:

7-in. sets made by National at \$120, Emerson \$130; 8½-in. by Arvin \$130, Motorola \$140. And the following 10-in., all table models:

\$130, Tele-tone; \$140, Meck; \$170, Crosley, Motorola, Muntz, RCA, Sparton, Sylvania; \$180, Emerson, GE, Tele King, Westinghouse; \$200, DeWald, Regal; \$230, National, Nielsen. Some are obviously holdovers. Tele-tone, Crosley, RCA, GE sets are in plastic cabinets; RCA's in metal; Emerson's offered with enlarger.

Just about everybody's making 12½-in. models, so we won't list them all here. Suffice to note these tables at low ends of lines -- at \$200 or under: \$160, Jackson; \$170, Muntz, Tele-tone; \$180, Admiral, Air King, Brunswick, Hallicrafters, Olympic, Telequip; \$190, Motorola, Sparton; \$200, Bendix, Majestic, Philco, Raytheon, Sentinel, Starrett, Sylvania, Vidcraft. Admiral and Hallicrafters tables (latter really 12-in.) are plastic, Vidcraft includes FM.

Among the 64 makers of 16-in. sets, these are low ends of lines -- at \$300 or under: \$200, Jackson; \$240, Telequip; \$250, Olympic, Symphony, Tele-tone; \$260, Brunswick; \$270, Majestic, Motorola, Televista, Templetone, Video Corp.; \$280, Air King, Federal, Garod, Hallicrafters, Meck, Raytheon, Sentinel, Vidcraft; \$290, Emerson; \$300, Admiral, Bendix, Magnavox, Muntz, Philco, RCA, Regal, Sightmaster, Star-

rett, Trav-Ler, Westinghouse. All are table models save Admiral, Bendix, Muntz, which are consoles; Philco price is with table. Rectangular tubes are in Jackson, Tele-tone, Motorola, Air King, Garod, Hallicrafters, Sentinel, Admiral sets.

The 25 who make 19-in. sets, all consoles or consolettes, and their lowest prices: \$400, Jackson; \$440, Manufacturers; \$445, Video Corp.; \$450, Air King, At-water, Majestic, Sightmaster; \$480, Starrett; \$490, Garod; \$495, Admiral, Magnavox, Mars; \$500, UST; \$525, Motorola; \$540, Stromberg-Carlson; \$545, Hallicrafters, Wilcox-Gay; \$550, Hoffman; \$575, GE; \$595, Bace, Remington; \$600, Bell; \$645, DuMont; \$795, Cascade; unpriced, DeWald.

Still making projections, and their lowest-priced units: Emerson, \$400; Scott, \$495; Ansley, \$585; Fada, \$700; RCA, \$795; Stewart-Warner (combination), \$795; Manufacturers TV (108 sq. ft.), \$1495; Trad (6¼ sq. ft., with FM), \$1495; Cascade (12 sq. ft.), \$1595; UST, \$1595. Latter 4, of course, are commercial models.

Note: Prices are latest quoted to us, all subject to revisions.

TOPICS & TRENDS OF THE TV TRADE: Financial columns and dopesters are asking whether price cuts -- average 20% seems about right -- will affect future profits of set makers. For most part, they reply: No, increased volume will compensate. Some quotations and notations:

"Profit margins, percentagewise and even on a dollar basis, haven't been hurt by the lower prices for sets," declared Magnavox president Richard O'Connor. Admiral TV-radio v.p. Richard Graver anticipates "continuation of [our] profit margin because of greater volume." Dr. Allen DuMont sees market stabilizing, no more major price cutbacks like those of last few years, but gradual decline over 4-5 years. "But," he adds, "TV sets can never be sold in the price range of radios."

Wide open market that still exists is manifest from fact that less than 4,000,000 of country's 37,280,000 families as yet have TVs, and Dr. DuMont predicted in Pittsburgh this week that 75% of all will have sets within 5 or 6 years.

As for the set makers at large, their optimism is discernible in these items -- some previously chronicled in these pages:

Admiral and Philco aim for million sets each this year, former expecting by end of May to exceed the 400,000 it turned out in all 1949...Emerson this year is doubling TV output...Motorola hit 50,000-per-month rate at end of year, expects to sell 150,000 by end of March, reports first quarter orders are 3½ times dollar volume of same 1949 period when over-all sales were \$15,200,000 (half TV)...Tele-tone reports orders for more than \$11,000,000 worth of TV sets, new sales record for company...Zenith is booked through first quarter, hasn't slackened radio output, should be even bigger factor in trade when new line is out...Westinghouse 1950 production will be 75% greater than last year...Smaller producers like Sentinel (60,000 last year), Olympic (51,718 last year), Wells-Gardner (private brands) are talking in terms of doubling 1949 output...Starrett plans to triple production in 1950, has taken more factory space in New York's Starrett-Lehigh Bldg.

* * * *

Transvision Inc., New Rochelle, N.Y., maker of kits and parts, heralded entry into TV set market when Wanamaker-New York last Sunday advertised this 16-in. Transvision line: Skyliner consolette, \$239; Regency No. 3 console, \$299; Regency No. 4 console with FM-3 speed, \$399; latter 2 in blonde, \$15 extra. Prices included installation with outdoor antenna, 90-day service...Freed cut 16-in. Hepplewhite console from \$480 to \$430, Modern from \$495 to \$450, Sheraton from \$525 to \$480...Brunswick has new 12½-in. table at \$180, consolette \$220; 16-in. console, \$290; will have 16-in. table in April.

Stromberg-Carlson cut 12½-in. Hampton console from \$340 to \$300, Monterey from \$350 to \$320, Salem from \$390 to \$350...Fada 1950 line will be announced within month...Starrett breaking full-page ad on 1950 line in New York Times Jan. 29, also going into Chicago Tribune, Christian Science Monitor, selected slick magazines...Motorola says more than half its first quarter production will be sets with 16 &

19-in. picture tubes...In addition to price cuts last week (Vol. 6:3), Sylvania has also cut 12½-in. console-combination from \$430 to \$400...Atwater has cut price of 12½-in. table with FM \$20 to \$200, has new 16-in. console with FM at \$300, raised price of 19-in. console with FM \$20 to \$470...Vidcraft promotes Michael J. Kingsley from executive v.p. to president, succeeding Leopold Godowski, now chairman.

Snell TV Inc., 939 Broad St., Newark, N.J. (ex-Muntz sales mgr. Charles Snell, president; radio-columnist Nick Kenny, v.p.) is new firm that buys chassis and cabinets, assembles sets, sells door-to-door in Newark, Brooklyn, hopes to open in Philadelphia and Boston soon. Line comprises 12½-in. table, \$140; same in console, \$160; 16-in. table with FM, \$200; same in console, \$250; same in console-combination, \$300; 19-in. console with FM, \$350.

Zenith this week announced dropping of auto radio business, said to have run as high as \$20,000,000 a year and to have represented up to 25% of company's sales. Company has made auto radios for Ford, Lincoln, Mercury, Nash, Hudson. High costs, greater profits in TVs and home radios were stated as reasons.

Western Furniture Mart opens in San Francisco Feb. 6, will have some of TV-radio displays from Chicago marts...1950 Parts Distributor Show in Chicago is May 22-25, registration forms now available from headquarters, 33 No. LaSalle St.

BIGGER TUBES THAN 19-in. ON WAY? If a 21 or 22-in. or bigger picture tube is in anybody's works, it's one of the industry's best kept secrets. It isn't likely to be all-glass, for the bulb makers all tell us they haven't even had orders to blow laboratory models. Nor will RCA admit any present plans for anything bigger than metal-coned 16-in., which it says is outstripping all its other sizes combined.

That's best dope we can get in probing published reports that RCA and Rauland (latter is Zenith subsidiary) were about to introduce 21 & 22-in., respectively. RCA and GE admit experimenting with tubes larger than 19-in., but say they have no commercial plans whatsoever. Rauland admits doing experimental work on 22-in. metal tube, but it says has no commercial production plans either.

All the glass and tubemakers are watching one another closely, and studying trend to larger sizes paced by DuMont, which refuses to verify rumors of something bigger even than 22-in. DuMont led way in 12-in. when others went into mass production of 7 & 10-in., produced 15 & 20-in. long before industry at large accepted 16s, is now leader in production of 19-in., still makes some 15 & 20 for replacements.

Dr. Allen DuMont says there's scarcely any limit to size of picture tubes, beyond their practicability for particular size rooms. If anything bigger than 19-in. emerges this year (there's talk of 30-in.!), it's reasonable to expect he will make them -- but he isn't saying anything.

Meanwhile, projections seem to be cutting no ice in today's flourishing market, with only handful of present makers (see p. 1) though those who have them swear by them. RMA no longer reports projection output figures, but from best available sources we learn only 15,610 were made first 11 months of 1949, which means probably less than 20,000 for whole year.

And RCA alone among top set makers is sticking by 10-in. as price leader on theory there's good market not only price-wise (its table is \$170) but also as second set for dens or bedrooms; also, that size of home viewing audiences is reducing (neighbors now have their own sets), so that small families with small rooms find 10-in. adequate.

* * * *

Corning Glass Works, already making 16-in. rectangulars, announced this week it will begin production early February of new 14-in. rectangular capable of 97 sq. in. picture area. Deflection angle is 70 degrees, it's shorter than 12½-in. round bulb, weighs less, takes up less space. Glass face-plate is sealed to funnel by welding process said to increase thermal resistance and mechanical strength.

Zenith Optical Co., bulb blower of Huntington, W.Va., reports its new mechanized plant will increase production to 100,000 per month from Feb. 15; that present output is mainly 10 & 12½-in.; that substantial orders have come recently for 8½-in.; that in 30 days it will begin producing 14 & 16-in. rectangulars.

PRESIDENT & CONGRESS EYEING SPECTRUM: Scarcity of radio frequencies, national and international, has brought action on several fronts:

(1) President Truman has begun formation of high-level, non-govt. advisory commission on communications (like recent Finletter Commission for aviation) to cover whole front. It's understood two of men asked to serve are Dr. Wm. Everitt, head of Illinois U's electrical engineering dept. (also on Condon Committee), and Dr. Irvin Stewart, former FCC member (1934-37), now president of West Virginia U.

(2) Sen. McFarland will soon devote himself to communications study, which includes govt. use of frequencies (Vol. 5:7,16). He has queried govt. agencies, particularly military, has number of responses.

(3) A Frequency Control Board, above FCC, to parcel spectrum between govt. and non-govt. services, is contemplated by Sadowski bill, HR 6949 (Vol. 6:3), introduced Tuesday.

(4) FCC Comr. Webster, long-familiar with problem of frequency scarcity, exhorted govt. and industry to cooperate in conserving spectrum, in talk before Armed Forces Communications Assn in New York Wednesday.

What this all means to TV is sheer guess at this time. But number of people, in and out of government, claim government could well give TV some channels immediately above Channel 13 (216 mc).

LATEST ON UPCOMING NEW STATIONS: San Antonio's KEYL, due to start next week (Vol. 6:3), has postponed formal debut to Feb. 15 on account of construction delays -- but it will still be first new station of year, No. 99 on rolls. And Iowa State College WOI-TV, Ames, which began tests Jan. 23, now reports Feb. 21 or 22 as starting date. Thereafter, you can expect tests starting March 1 by WTAR-TV, Norfolk (commercial operation April 2); probably March 1 by WJIM-TV, Lansing (Vol. 6:3). Rock Island's WHBF-TV still aiming for April 1 tests, but isn't sure it can make date.

First educational TV station, which will carry network kine commercials (Vol. 6:3), reports its signals are providing "clear and bright" reception in Des Moines, 27 air miles. It has had reports of very good reception under 55 miles, reasonably good reception 65-80 miles, some reception with inside antennas 15-20 miles. Test patterns are on air Mon. thru Sat. 3:30-5:30, Mon. thru Fri. 6-7.

Radio manufacturers paid \$40,638,870 in Federal excise taxes on radios and TVs in 1949, RMA estimates. This is about \$8,700,000 less than paid in 1948. TV is very insignificant amount of total, since TV as such isn't taxed; in TVs tax is only on radio components of sound system. RMA midwinter meeting in Chicago's Hotel Stevens, Feb. 15-17, will discuss repeal or reduction of radio excises.

Magnavox earned \$775,700 (\$1.17 per share) on sales of \$13,776,892 during second half of 1949, its December quarter accounting for \$727,016 earnings (\$1.10) on sales of \$9,451,994. No comparisons are available for last year's periods since company recently changed fiscal year to start July 1. During fiscal year ended Feb. 28, 1949, profit was \$1,323,598 (\$2.01), but for 4 months ended June 30, 1949, net loss was \$893,057. President Richard O'Connor reports company has delivered 100,000 shares of "A" stock from sale of which it derived \$1,300,000.

Hytron stockholders have authorized increase from 1,000,000 shares of \$1 par common to 3,000,000 and have approved 100% stock distribution as of Jan. 25. They were informed that consolidated sales of Hytron and its subsidiary Air King in 1949 amounted to \$16,500,000, compared with \$7,938,000 in 1948; that current backlog of orders is \$12,000,000; that 1950 sales are estimated at \$30,000,000.

Sparks-Withington reports net profit of \$183,186 (19¢ per share) for 6 mo. ended Dec. 31 vs. \$339,467 (36¢) for same 1948 period and \$457,416 (49¢) for same 1948 period.

RMA president Ray Cosgrove says 1949 TV set sales had factory value of \$560,000,000, accounting for more than 65% of industry's gross income. With 4,000,000 sets produced since war, public's TV investment is more than \$1¼ billion, he stated. Nearly 10,500,000 radio units accounted for factory value of \$290,000,000 last year, auto radios doing particularly well (new high of 3,500,000 units). The 1949 factory volume of \$850,000,000 from TV-radio sets compares with \$750,000,000 in 1948, he estimates.

Armenian-born Sarkes Tarzian, onetime Atwater Kent design engineer, now an electronics parts manufacturer and TV-radio station owner (WTTV & WTTS) of Bloomington, Ill., is described as "The Man with the Midas touch" in feature article in Jan. 22 *Indianapolis Times*, which recounts how at 49 he has parlayed \$40,000 in life savings into a "multi-million dollar corporation," employing 600 persons in factories in Bloomington, Hawthorne, N. J. and Philadelphia.

Packard-Bell reports sales for quarter ended Dec. 31 were \$2,921,380, profit \$221,318—and paid 25¢ dividend to stockholders of record Jan. 16. At same time, it released annual report for 1949 fiscal year ended Sept. 30, showing \$5,437,871 sales, \$183,630 profit (76¢ per share) compared with \$4,400,119 sales, \$50,509 (21¢) profit for year ended Sept. 30, 1948.

Westinghouse's Walter C. Evans reviews the history of "Electronics, Prodigy of Electrical Science" in January issue of *Westinghouse Engineer*.

NO CHINKS IN TV'S ARMOR YET: A sort of quiet, calm optimism seems to have settled over the TV trade, reflected by slow but steady rise of certain TV-radio shares (some to new highs) on the stock markets. As far as we can figure it, rises are attributable not only to good reports from the companies and to glamour of TV but also to fact there are no signs yet of declining demand. Quite the contrary: Even in Washington, D.C., center of the color controversy and current promotion of CBS color system (Vol. 6:1-5), some 10,000 sets were sold during January, or about 500 every weekday.

Annual reports for 1949 thus far show output, sales and profits even better than forecast. Top-dog RCA's annual report isn't due until Feb. 27, but it's expected to show an enormous upsurge in RCA Victor business -- largely TVs, radios, phonos and records -- whatever else it may reveal about other subsidiaries.

Checking with key sources, asking whether news is all to good, whether there are any chinks in industry's armor, we adduce:

(a) That January and early February production are accelerating from first January week's RMA figure of about 60,000. Week's figure is regarded very good, however, considering there were only 4 workdays after New Year's Day and some factories were still revamping assembly lines for new 1950 models.

(b) That name brands are still largely on allocation, and the leaders see no letup in demand through April.

(c) That even the smaller companies are doing well, by and large, despite squeeze on prices by top brand makers.

(d) That prices have stabilized to point of prudent profit, and no one expects any such distress market this spring as occurred last spring and summer.

All this is not to say that selling will be easy. The top brand makers are engaged in a contest for position that spells the keenest sort of competition. Watch the big advertising splurges that will break next few months. As for what some of the manufacturers were doing and saying this week, read Topics & Trends items below:

TOPICS & TRENDS OF THE TV TRADE: RCA never discloses its unit sales, but says first month of 1950 really held up -- and notes particularly gratifying sales of radios. Admiral says it's about 3 days off schedule, due to time needed to tool up for new line, but this week was packing 3000 TV sets per day, will hike this to 3200-3300 this month, breaks big 2-week advertising campaign Feb. 6. Admiral will ship 180,000 TVs first quarter 1950, and spokesman says it's certain of over-all volume of \$50,-000,000 for that period. During first quarter, it also reports shipping 80,000 refrigerators vs. 64,000 all last year, promises to ship 100,000 second quarter.

Philco, Motorola, DuMont, among other leaders, are holding steady to course of gradually accelerating production -- latter particularly confident that its 19-in. will take hold eventually as firmly as 16-in. already has done.

* * * *

How a relatively minor entity in the business is coming up, is reflected in report quoting president Adolphe Juvilier of Olympic that by fall his firm will be "geared to do \$40,000,000 volume." Present 600 sets per day will be boosted to 1000. Wall Street Journal reports Olympic's expected earnings at around \$500,000 for 1949 on sales of about \$9,600,000, which would triple its earnings peak of \$167,090 in 1944. In 1945 it earned \$116,550, but in 3 subsequent years it ran deficits of \$35,776, \$137,499 & \$46,771, respectively.

Stromberg-Carlson's second discontinuance of radio set manufacture in Decem-

ber isn't symptomatic -- indeed, looks like isolated instance. It stopped making them in March, resumed in September, stopped again after Xmas market was satisfied, may resume next summer. Its first quarter TV business is reported about 25% ahead of combined TV-radio sales in same 1949 period.

It's true, though, that some makers have cut back their radio lines.

Admiral, for example, is now making only 3 table models, all under \$19, and plastic radio-phono table at \$70. All are AM-only. Admiral has abandoned FM in radios.

Among majors still making FM sets are Emerson, with FM-only table at \$30 (due out with new radio line next week); Zenith, FM-only table \$40, AM-FM table \$80; and these others with AM-FM tables: RCA & GE, \$50; Philco & Motorola, \$60; Westinghouse, \$80. Most console-combinations, whether TV or radio-only, include FM.

* * * *

Sylvania subsidiary Colonial Radio Corp., as of Feb. 1, became Colonial Radio & Television Division, Sylvania Electric Products Inc. Former Colonial president E. E. Lewis is now on Sylvania board as v.p. in charge of division. Personnel and policies remain unchanged; Colonial makes Sylvania-brand TVs and private-label TVs (including Sears Roebuck Silvertone brand) at Buffalo plant.

Templeton's return to TV production (Vol. 5:53) was short-lived; it has pulled out again, after offering 16-in. model...Capehart has new 16-in. console with AM-FM-3 speed at \$795...Pilot has cut 12½-in. table with FM from \$270 to \$240, cutting price also of matching table and console base...Macy's advertised new 16-in. rectangular Artone table at \$229, 12½-in. Hyde Park table at \$169...Video Corp. has cut 16-in. table from \$270 to \$250...Magnavox has new 12½-in. combination (Avenue) at \$440...Vidcraft cut 12½-in. table from \$200 to \$170, 16-in. console with FM from \$310 to \$260, 16-in. console-combination from \$400 to \$350; has new 19-in. console at \$350.

* * * *

Though proposing excise taxes on retail goods be reduced from present 20% to 10%, including tax on radios, Secretary of Treasury Snyder advocated TV sets be made taxable, testifying Feb. 3 before House Ways & Means Committee. At present, only radio (audio) portion of TVs is taxed...What TV means in dollar volume locally is indicated by current report from Los Angeles that \$80,000,000 was spent for 270,036 TV sets in 1949 (according to Chamber of Commerce); also, Philadelphians spent \$73,274,529 for 220,366 sets last year (according to Electric Assn).

Western Furniture Mart in San Francisco, Feb. 6-10, actually has more TV makers scheduled to exhibit than did Merchandise Mart last month (Vol. 6:2). Listed are these 22: Air King, Bendix, Capehart-Farnsworth, Crosley, DuMont, Emerson, GE, Hallicrafters, Hoffman, Magnavox, Motorola, Olympic, Packard-Bell, Philco, Philharmonic, RCA, Sparton, Stromberg-Carlson, Tele-tone, Vidcraft, Westinghouse, Zenith.

EMERSON'S \$330 PROJECTION, NEW 10-in.: Emerson's answer to 19-in. direct-view is new Model 649, Protelgram projection console at \$330 -- lowest price yet on any projection-type set. It supersedes Emerson's \$400 projection set, throws 235-sq. in. picture (vs. Protelgram's normal 192). Price is same as its 16-in. console. Emerson and RCA alone among top dozen TV set makers continue to turn out projections (Vol. 6:4), RCA lowest priced being \$795. Next lowest-priced to Emerson's new model is Scott table unit at \$495.

Emerson also has new plastic 10-in. table set at \$160, with 19 tubes, 2 rectifiers; 10-in. table at \$180, with enlarger switch, continues in line. (For comparative prices of other 10-in. tables, see Vol. 6:4).

President Benj. Abrams told stockholders Wednesday that new projections will be made at rate of 200-250 per day. He said first quarter of current fiscal year ended Jan. 31 was 100% ahead of same period last year, when earnings were \$808,845 (\$1.01 per share). He said company is shooting for \$65,000,000 sales this year, as against \$40,543,000 last year, adding 450,000 sq. ft. of space in separate building.

While new projection and 10-in. sets will be featured, emphasis continues on 12½-in. & 16-in. models. Projection is already on delivery, but new 10-in. won't be delivered until Feb. 15.

Newly formed to succeed Western Electric as Graybar's supplier of radio transmitting equipment, with tieup with Hazeltine for preparation of "complete TV package," is Standard Electronics Corp., 4175 Elmwood Ave., Providence. Company will manufacture all kinds of broadcast equipment, including TV, microwave and radio communications apparatus—fields from which Western Electric withdrew last year. Announcement of its formation was made by George F. Hessler, Graybar v.p. Officers are Edward M. Martin, former chairman of American Bosch and formerly with Farnsworth, president; Robert F. Moyer, president of Standard Machinery Co., Providence, v.p. & treas. Directors include David G. Baird and Daniel Schaffer, financiers; Sylvester Muldowney, president, Security Bank Note Co.; Wesley Peoples, president, U. S. Radiator Corp.

RMA members shipped 3,305,673 picture tubes in 1949, compared with 1,225,419 in 1948. It was definitely the year of the 12-12½-in., which accounted for 1,420,122 or 43%, compared with 6% in 1948. Other sizes: 7 & 8½-in., 236,472 or 7%; 10-in., 1,121,917 or 34%; 15, 16 & 19-in. (mostly 16), 516,893 or 15%; projections, 9020. December total was 418,491, down from 463,593 in November (Vol. 6:1). Factory value of last year's CRs was \$92,402,520.

First major test between left-wing United Electrical Workers and new CIO International Union of Electrical Workers (Vol. 5:46, 49, 50) takes place within month when 27,500 General Motors electrical workers ballot for representation. Election was ordered by NLRB Feb. 3. IUE estimates its membership at 261,000 out of country's 600,000 electrical workers. NLRB hearings on whether to hold elections among GE's 125,000 union members and Westinghouse's 75,000 aren't expected to be finished before end of month.

Magnavox has obtained 5-year unsecured standby loan of \$1,600,000 from group of 4 banks at 3% per year, currently has drawn on it to amount of \$800,000. Letter to stockholders this week reported improved balance sheet position (Vol. 6:4).

Trade personals: George L. McKenna, mgr. of Industrial Products Section, promoted to asst. to W. W. Watts, RCA engineering products v.p. . . . Kenneth C. Meinken Jr. appointed by his father, president of National Union Radio Corp., to Midwest tube sales mgr., Chicago . . . Antony Wright, who recently left Magnavox to join Capehart-Farnsworth, elected Feb. 2 v.p. in charge of engineering, Consumer Products Div.

TOA theatre-TV planning committee has United Paramount Theatres' Robert H. O'Brien and Fabian Theatres' TV consultant Nathan L. Halpern as co-chairmen, with Washington attorney Marcus Cohn as counsel. Committee will coordinate exhibitors' cases before FCC at still undated theatre-TV hearing, will also try to get other members of industry (MPA, et al) to join in single overall industry committee (Vol. 6:2).

Feb. 1 sets-in-use, reported since NBC Research "census" of Jan. 1 (Vol. 6:3): Washington 101,100, up 10,100 in month; Dallas 21,370, up 2470; Fort Worth 17,085, up 1685; Memphis 15,922, up 1822; Greensboro 8774, up 574.

"How Much Bunk in Color Television?" in February *Coronet*, by John L. Springer, asserts that: Color is years off, CBS system has basic defects, all-electronic systems still have bugs, color is expensive in production and reception, systems haven't been adequately tested.

Decision to permit Phonevision tests by Zenith in Chicago (Vol. 6:4) is due out of FCC next week, with strong minority dissents. Meanwhile, one Thomas E. Corbett, Cherry Tree, Pa., and Skiatron Corp., New York, have asked to be heard on their systems of "metered TV" involving use of unscrambler device at set but not requiring phone lines. Zenith tests may use British film "Hamlet," according to trade gossip, and it's also reported Zenith has commissioned James A. Fitzpatrick, travelog producer, to turn out series of 12 two-reelers in Europe this summer.

Lots of guessing who's going to buy Paramount's DuMont stock (Vol. 6:4), but best prospect is still that DuMont will be buyer. There's no confirmation of reports GE, Crosley or Emerson are bidding. President Benj. Abrams says there's "no foundation" for report Emerson is buying.

Besides U of Illinois' Dr. William Everitt and U of West Virginia's Dr. Irvin Stewart, others invited to be members of President Truman's proposed advisory commission on communications (Vol. 6:4) are understood to be Maj. Gen. Frank Stoner, U. S. Signal Corps, retired; T. A. M. Craven, ex-FCC, now Washington consulting engineer; E. K. Jett, ex-FCC, now v.p. in charge of Baltimore Sun's WMAR-TV & WMAR-FM.

Washington football fans will see Redskins next season—but on film. That's owner George Marshall's answer to TV ban voted by new National-American Football League at recent Philadelphia meeting of owners. Marshall plans to run hour film of Redskin games every Wednesday not only in Washington but also in Baltimore, possibly Richmond. League ban is on telecast of games where 2 teams are within 75 miles of each other, involves also requirement that home team has to have visiting team's permission to telecast. Ban applies to New York and Chicago, each of which has 2 teams, as well as to Washington-Baltimore.

Hearing date for motion picture aspirants' oral argument on FCC's attitude on anti-trust violations (Vol. 6:4) has been postponed from Feb. 13 to April 24; date for filing appearances and briefs from Feb. 6 to April 10. FCC took action after requests for postponement from NAB, Loew's Inc. (MGM), 20th Century-Fox.

Nominees for election as TV member of NAB board are Eugene Thomas, WOIC, Washington, and Robert D. Swezey, WDSU-TV, New Orleans. Ballots will be mailed about Feb. 10. Because by-laws require minimum of 4 nominees for each directorship, NAB board will name 2 additional TV candidates at Feb. 8-10 meeting in Chandler, Ariz.

NAB membership down 182 as of Jan. 1, 1950 from year ago, but most of loss has been FM adjuncts of AM stations. AM membership is 1154, down 86; FM 501, down 133; TV 37, up 33; networks 4, same; others 72, up 4; total 1786.

FCC chairman Coy saw President Truman Feb. 2, told him about international telegraph regulations due to be submitted soon for Senate ratification. Coy said he had not spoken to President about color TV, resignation, or anything other than telegraph matter.

George O. Milne, 47, ABC director of technical operations, veteran broadcast engineer who started in 1923 with old WEAf, died Jan. 28 in Miami of heart ailment. He will be succeeded by William H. Trebarthen, New York engineering operations supervisor, whose place is taken by George F. Fisher Jr.

New 1950 *Personnel Directory of the FCC*, embracing changes at Commission during last year, is sent herewith to full-service subscribers as our Supplement No. 56-B. Most changes were in legal and engineering departments. Soon to be published, also, are revised directories of consulting engineers and of attorneys specializing in radio.

Telecasting notes: Unconfirmed trade reports are that ABC-TV will resume Mon. & Tue. night schedules again soon . . . More stations reported on good authority to be at or near profit point: KFI-TV & KTTV, Los Angeles; WTVJ, Miami . . . "Closed Circuit Convention" is new service offered by DuMont Network, permitting business firms to hold intercity conferences via TV; hookups of 21 cities offered . . . Scripps-Howard WCPO & WCPO-TV sign Burger Brewing Co. for all Cincinnati Reds home games, TV to be piped also to Dayton's WHIO-TV and Columbus' WTVN and AM to 27 stations . . . Dorothy (Thackrey) Schiff's KYA, San Francisco, sold for \$155,000 plus quick net assets to J. Elroy McCaw, but her Los Angeles KLAC-TV is off market, says broker Smith Davis.

Personal notes: Ralph Rockafellow promoted by Paramount to director of commercial TV operations and sales mgr. of "Paramount TV Network" . . . William Crampton quits as publicity mgr. of RCA Exhibition Hall, New York, to become executive producer at WSyr-TV, Syracuse . . . Arthur Duram upped from CBS-TV sales promotion mgr. to TV market research counsel; Edward Shurick, ex-Free & Peters, holds same job for radio . . . James Andrews, ex-Paramount producer-director, joins Maxon Inc. as asst. to president Lou R. Maxon, who has charge of TV-radio . . . Harry W. Witt leaves CBS-Hollywood to go into real estate business in Beverly Hills . . . Lee Hart, BAB retailing specialist, has taken leave of absence, will do studies on radio-TV advertising; BAB will fill vacancy immediately . . . Richard von Albrecht new program director, F. C. Lambert (ex-DuMont) new TV operations chief of WKRC-TV, Cincinnati . . . John C. Warren, sales mgr. of WNBC-WNBT, New York, resigns to head own company, J. C. Warren Corp. (magnetic recordings).

Strike threat of radio and TV directors apparently dissolved this week as Radio & Television Directors Guild retreated from demands that TV directors be jumped from present \$130 week to \$300, radio directors from \$120 to \$200. Union began negotiating with NBC Friday for \$15 week increase for both radio and TV directors, \$5 a week raise (to \$100) for associate directors, and beginners' scale of \$85. ABC, CBS, MBS are awaiting outcome of NBC discussions before making terms.

Albert Zugsmith's suit for \$2,640,000 against Smith Davis Corp., newspaper-radio brokers, in New York Federal court, will be met by countersuit asking accounting of funds spent by ex-partner. Zugsmith invokes triple damage clause in demanding commissions allegedly due. Corporate structure of Smith Davis Corp. has been dissolved, though firm is still functioning with Messrs. Davis, Stark and Manno as associates.

TV showing in BMB Study No. 2 of AM listening, which went into mails this week to 630 subscribing stations, showed enough mentions of TV station-viewing in cities like New York, Chicago, Philadelphia, Los Angeles to rate 10% penetration required to put it among stations listed. Acting BMB president Kenneth H. Baker called it "a very good showing," said he intends getting out special TV and FM study in month or so.

Rorabaugh Report on TV Advertising for December discloses 2316 sponsors using medium, as compared with 680 same month of 1948. Of these, 1800 were local-retail, 427 national-regional spot, 89 network. Reporting stations totaled 89 in 53 markets. Among networks, *Rorabaugh Report* credits 28 sponsored hours per week to CBS (including Ford UN shows), 20 NBC, 8 ABC, 5 DuMont. Besides listing the reporting stations and their accounts, *Rorabaugh Report* also tabulates 54 agencies that bought network time during December, with clients, of which 38 are in New York, 9 in Chicago.

Sponsorship notes: Doubleday & Co., publisher, moves from NBC-TV to CBS-TV Feb. 6 with John Gnagy in *You Are an Artist*, Mon. 11-11:15 . . . Speidel Jewelry, which recently dropped *Ed Wynn Show*, casting about for new TV show, thru Cecil & Presbrey . . . Flagstaff Foods starts Feb. 11 to sponsor *John Reed King Show* locally on WCBS-TV, New York, Sat. 7:30-8 . . . Graybar, as distributor of Raytheon TVs, started Feb. 4 to sponsor wrestling, with audience in studio of WLWD, Columbus piped also to WLWT, Cincinnati, and WLWC, Columbus . . . Among accounts reported readying for TV spots: Ward Products Corp. (antennas), thru Burton Browne Adv., Chicago; Guitare Co. (non-smear lipstick), thru The Bogerts, Los Angeles; Cott Beverages, thru John C. Dowd Inc., Boston; Atlantis Sales Co. (French's Instant Potatoes), thru J. Walter Thompson; Anchor Post Products (fences), thru Van Sant, Dugdale & Co. Add network accounts: Griffin Shoe Polish sponsors half of *Paul Whiteman's TV Teen Club* on 11 ABC-TV stations starting March 4, Sat. 8:30-9; Esso Standard Oil Co. to sponsor new *Alan Young Show* via kine on CBS-TV starting mid-March originating at KTTV, Hollywood.

DuMont still objects to NBC's Saturday night 2½-hour proposals (Vol. 6:1, 4), reasserts in Feb. 1 letter to FCC that bulk time order by network is monopolistic, constitutes unfair competition. It still wants FCC to take action. FCC hasn't dropped case yet, is studying NBC's new plan.

Striking factor in latest calculations of "depth of penetration" of TV set distribution, as compiled by Milwaukee's WTMJ-TV for Jan. 1, 1950 by dividing total sets by number of families within 40-mi. radius, is high standing of one-station cities. For example, Lancaster, Pa. ranks first, Milwaukee sixth, Schenectady eighth, Buffalo tenth, etc. Figures can't be accepted as exact since there are overlaps in many areas (noted by asterisks), but they're best index yet available; for number of stations, sets and families by areas as of Jan. 1, see Vol. 6:3.

Area	Sets per 1,000 Families	Area	Sets per 1,000 Families
Lancaster	297*	Rochester	102
Philadelphia	295*	Albuquerque	99
New York	282	Atlanta	96
Los Angeles	244	Omaha	94
Chicago	234	Kansas City	91
Milwaukee	220	Pittsburgh	86*
Boston	211*	Tulsa	84
Schenectady	202	Memphis	80
Cleveland	197	Indianapolis	64
Buffalo	192	Seattle	64
Minneapolis-St. Paul	186	New Orleans	64
San Diego	178	Jacksonville	64
Cincinnati	174	Fort Worth-Dallas	63
Detroit	173	Phoenix	61
Baltimore	170*	Charlotte	60
St. Louis	164	Houston	60
Richmond	161	Birmingham	53
Columbus	151	Grand Rapids	52
Toledo	137	Greensboro	50
Erle	134	Johnstown	46*
Wilmington	132*	Utica	44
Washington	132*	Davenport	41
Miami	131	San Francisco	41
Syracuse	124	Huntington	32
New Haven	119	Binghamton	30
Oklahoma City	116	Providence	29*
Louisville	110	San Antonio	17
Dayton	108	Bloomington	19
Salt Lake City	107	Norfolk	6

1950 Personnel Directory of

THE FEDERAL COMMUNICATIONS COMMISSION

Major Bureau Heads and Staff

New Post Office Building, Washington 25, D. C. Telephone: EXecutive 3620.

Commissioners

- ¹ **WAYNE COY**, *Chairman* (Dem., 1947—1951)
Assistant to the Chairman: Earl Minderman; *Confidential Assistant:* Farrell McGonigal; *Secretaries:* Johanna Oswald, Helen Wisner; *Clerk:* Grace Miner.
- ² **PAUL A. WALKER**, (Dem., 1934—1953)
Confidential Assistant: Phyllis Hancock; *Secretary:* Josephine L. Curren.
- ³ **ROSEL H. HYDE**, (Rep., 1946—1952)
Confidential Assistant: Minnie Sparks; *Secretary:* Vera F. Nordness.
- ⁴ **EDWARD M. WEBSTER**, (Ind., 1947—1956)
Confidential Assistant: Arnold A. Ulin; *Secretary:* Ruth Koppalky.
- ROBERT F. JONES**, (Rep., 1947—1954)
Legal Assistant: Paul Dobin; *Confidential Assistant:* Elizabeth L. Dannelly; *Secretary:* Mary R. Moose.
- ⁵ **GEORGE E. STERLING**, (Rep., 1948—1950)
Confidential Assistant: Neva Bell Perry; *Secretaries:* Catherine Lane, Ethel Herriman.
- FRIEDA B. IENNOCK** (Dem., 1948—1955)
Legal Assistant: Sol Schildhouse; *Confidential Assistant:* Stanley S. Neustadt; *Secretary:* Rita Lanier.

SPECIAL LEGAL & TECHNICAL GROUP

Parker D. Hancock, Sylvia D. Kessler, Charles Boram, Frederick W. Ford, Horace Slone, Harold Anderson.

Bureau of Law

- BENEDICT P. COTTONE**, *General Counsel.*
Secretary: Fausta M. Puffenberger; *Assistant to General Counsel:* Joseph M. Kittner; *Secretary:* Florence I. Stretch; *Chief, Technical Branch:* William H. Bauer.
- HARRY M. PLOTKIN**, *Asst. General Counsel* (Broadcast Div.).
Secretary: Margaret L. Cureton.
- HAROLD J. COHEN**, *Asst. General Counsel* (Common Carrier Div.).
Secretary: L. Grace Klein.
- LESTER W. SPILLANE**, *Asst. General Counsel* (Safety & Special Services Div.).
Secretary: Bernice Hase.
- MAX GOLDMAN**, *Asst. General Counsel* (Litigation & Administration Div.).
Secretary: Elizabeth Kaplan.

BROADCAST DIVISION

- Office of the Chief of Broadcast Division—David H. Deibler.
- AM Branch—Dwight D. Doty, *chief*; Albert A. Dorskind, L. P. B. Emerson, Robert M. Koteen, Forest L. McClenning, Robert J. Rawson, David S. Stevens, Howard Schellenberg, Earl R. Stanley.
- FM Branch—Hilda D. Shea, *chief*; E. Theodore Mallyck, Max D. Paglin, Tyler Berry, Henry Geller.
- TV Branch—John E. McCoy, *chief*; Joseph N. Nelson, Herbert M. Schulkind.
- Transfer Branch—Walter R. Powell, *chief*; C. Lamont Griffith, Robert H. Alford, H. Gifford Irion, James O. Juntilla.
- Renewals & Revocations Branch—Walter B. Emery, *chief*; Max H. Aronson, Arthur Scheiner, Thomas H. Donahue.

COMMON CARRIER DIVISION

- Office of the Chief of Common Carrier Division—Jack Werner, *Asst. Chief of Division.*
- Rate Branch—Bernard Strassburg, *chief*; Herbert Sharfman, Edwin S. Smith, Jr., Martin I. Levy.
- International Service Branch—Asher E. Ende, Donald J. Berke-meyer.
- Domestic Wire Branch—Mrs. Annie Neal Huntting, *chief*; Pasquale W. Valicenti, Willis S. Ryza.
- Domestic Radio Branch—Arthur A. Gladstone, *chief*; J. Russell Smith.

SAFETY & SPECIAL SERVICES DIVISION

- Emergency, Experimental & Miscellaneous Branch—Benito Ga-guine, *chief*; Julian P. Freret, Mrs. Violet L. Haley.
- Marine, Operator & Amateur Branch—George MacClain, *chief*; Robert M. Fenton, David S. Landis, John E. Wicker, Irving Brownstein.
- Aviation & General Mobile Branch—Marshall S. Orr, *chief*; Doug-las A. Anello, John H. McAllister, Margaret M. Connolly.

LITIGATION & ADMINISTRATION DIVISION

- Litigation Branch—Richard A. Solomon, *chief*; Mary Jane Morris, Robert D. Greenburg, Daniel R. Ohlbaum, Thomas H. Wall.
- Administration Branch—A. Harry Becker, *chief*; John D. Edgerton, Dee W. Pincock, Erich Saxl, Maurice W. Wihnton.

LAW FIELD OFFICES

New York City—Charles Hubert, Federal Bldg.; San Francisco—Joseph Brenner, U. S. Customhouse.

Bureau of Engineering

- JOHN A. WILLOUGHBY**, *Acting Chief Engineer.*
Secretary: Estelle Bunn.
- WILLIAM N. KREBS**, *Asst. Chief Engineer* (Marine Radio & Safety Div.).
Secretary: Willie C. Herbert.
- MARION H. WOODWARD**, *Asst. Chief Engineer* (Common Car-rier Div.).
Secretary: Annie Belle Bischoff.
- GEORGE S. TURNER**, *Asst. Chief Engineer* (Field Engineering & Monitoring Div.).
Secretary: Genevieve Posnak.
- VIRGIL R. SIMPSON**, *Asst. to the Chief Engineer.*
Secretary: Mary A. Nalls.
- RALPH H. RENTON**, *U. S. Member, North American Regional Broadcasting Engineering Committee.*
Secretary: Ollie Irene Cline.
- Standard Broadcast Division—James E. Barr, *Chief*; Herbert L. Beury, Roger B. Carey, Daniel K. Child, Jack Damelin, Vernon F. Esgar, Samuel J. Ferraro, Elton Davis, Ralph H. Garrett, Kenneth G. Gillette, Underwood H. Graham, Otis T. Hanson, Harry Hayman, Louis Manning, Ernest D. Herider, Frederick S. Holliday, Daniel B. Hutton, Daniel Jacobson, Wallace E. Johnson, Donald C. Kanode, Harold L. Kassens, Albert L. Kreis, Leslie E. Kulberg, Louis Light, Robert D. Linx, Bruce Longfel-low, Edward P. Lynch, Jerome P. Padberg, George E. Shea, Henry Seibel, Robert G. Weston, Wilson Wearn.
- FM Broadcast Division—Cyril M. Braum, *Chief*; Harold C. Ander-son, Julian T. Dixon, John E. Doane, Edward H. Hackman, Harold C. Kelley, McIvor L. Parker, John Roseborough, Arnold Skrivseth.
- TV Broadcast Division—Curtis B. Plummer, *Chief*; Hart Cowperth-walt, Hideyuki Noguchi, Louis H. Rein, Ernest C. Thelemann, A. Prose Walker, Carl Jones, Kenneth Miller.
- Aviation Division—Edwin L. White, *Chief*; James D. Durkee, John R. Evans, William Hawthorne, Albert Mantwilla, John J. McCue, Donald Mitchell, Stuart Pettingill, Robert L. Stark, John S. McDonald.
- Marine Radio & Safety Division—William N. Krebs, *Chief*; Robert Brown, Alfred De La Croix, William E. Dulin, Leo C. Hajlsman, James T. Kyne, Howard C. Looney, William F. Minners, Duncan D. Peters, T. M. Stevens, Harold R. Woodyard, C. A. Higgin-botham, Lewis Meriwether, Louis Manning, Milo Pochop.
- Public Safety & Special Services Division—Glen E. Nielsen, *Chief*; Daniel H. Arnold, George R. Boardman, Frank W. Cook, Merle E. Floegel, Charles I. Fonger, John D. Fulmer, Herman Garlan, George J. Ikelman, Edward P. McDermott, A. P. Miller, Emile R. Reniere, Milburne O. Sharpe, Everett G. Henry, William H. Watkins.
- Radio Operator & Amateur Division—George K. Rollins, *Chief*; Roland Archibald, John C. Currie, Alvin C. Holmes, Ivan H. Loucks, Robert W. Percy, Leland Quaintance, Daniel P. Herlihy, William K. Brown.
- Common Carrier Division—Marion H. Woodward, *Chief*; Kosmo J. Affanasiev, Payson D. Carter, E. L. Clinkscales, John F. Corkill, George J. Dempsey, George B. Donohue, P. Howard Duckworth, Charles E. Goeking, William R. Jarmon, Carl A. Johnson, Ralph D. Jones, John J. Koopmann, Wallace McGregor, Fred H. Miller, Paul V. Overmyer, Frank Palik, John Russ.

¹ Appointed for remainder of term of Charles R. Denny, Jr.
² First appointment for 5 years; reappointed 1939, 1946.
³ Appointed for remainder of term of late William H. Hills.
⁴ Reappointed for full 7-year term in 1949.
⁵ Appointed for remainder of term of Ewell K. Jett.

Technical Information Division—Edward W. Allen, *Chief*; William C. Boese, Jules Deitz, Harry Fine, George L. Gadea, Edgar F. Vandivere, George V. Waldo, George L. Waters, Glen E. West, Frank Higgins, John M. Taft.

Frequency Allocation & Treaty Division—Albert L. McIntosh, *Chief*; Joseph Appel, William F. Bradley, Louis E. De La Fleur, William Grenfell, Charles A. Brooks, Theodore McCartney, William L. North, Marvin A. Price, George V. Stelzenmuller, Robert L. Tosch.

Laboratory Division—E. W. Chaplin, *Chief*; A. G. Craig, F. D. Craig, Lawrence C. Middlekamp, Milton Mobley, Ward J. Moore, Wilmar K. Roberts, Everett N. Shinn, Joseph Dougherty, Francis Downey, Erl D. Ball.

Field Engineering & Monitoring Division—George S. Turner, *Chief*; Willard J. Beale, Alfred H. Brodie, Ernest Blankinship, Arthur T. Caplen, Nathan Hallenstein, Clayton W. Hanson, Merrill V. Beagle, Bernard Pemberton, Thomas L. Heron, George L. Jensen, Alfred H. Kleist, Frank Kratochvil, Edwin L. Lovejoy, Everett H. Marshall, Robert K. Morrell, Stacy W. Norman, Carl Nuhn, John C. Petersen, Lloyd S. Quinn, Howard L. Randall, Harold R. Richman, Warren C. Stickler, Frank Toth, Floyd Wickenkamp, Eldridge S. Willey, Charles O. Wilson, Rex H. Wilson.

Bureau of the Secretary

THOMAS J. SLOWIE, *Secretary*; Laura L. Hollingsworth, *Secretary*; Lavelle W. Hughes, *Chief, Minute Branch*; Helen A. Clark, *Chief, Library Branch*; William P. Massing, *Chief, License Division*; Catherine Lunders, *Secretary*; Clara M. Iehl, *Chief, Broadcast Branch*; William H. Irvin, *Chief, Commercial Branch*; Paul H. Sheehy, *Chief, Service Division*; Walter S. Davis, *Chief, Records Division*; Charles W. Worthy, *Chief, Docket Section*.

Bureau of Accounting

WILLIAM J. NORFLEET, *Chief Accountant*; Lily M. Marshall, *Secretary*; Hugo Reyer, *Executive Asst. Chief Accountant*; Elizabeth S. Harris, *Secretary*; Robert E. Stromberg, *Asst. Chief Accountant*; Henry M. Long, *Chief, Accounting Regulation Div.*; LeRoy Schaaft, *Chief, Broadcast Div.*; H. H. Goldin, *Acting Chief, Economics & Statistics Div.*; William G. Butts, *Chief, Rates Div.*

ACCOUNTING FIELD OFFICES

Atlanta—Henry G. Gothard, First National Bank Bldg.; New York City—Jack E. Buckley, Federal Bldg.; St. Louis—H. Pierce Niedermeyer, Old Customhouse; San Francisco—Paul Summerhays, Customhouse.

Office of Information

GEORGE O. GILLINGHAM, *Director of Information*; Mary O'Leson, Salina M. Lindo, Eva O. Melton, *Assistants*.

Hearing Division

Jack P. Blume, J. D. Bond, James D. Cunningham, Hugh B. Hutchison, J. Fred Johnson, Jr., Fanny Litvin, Leo Resnick, Elizabeth Smith, Basil P. Cooper.

Office of Administration

W. K. HOLL, *Acting Executive Officer*; Robert W. Cox, *Budget Officer*; Gilbert H. Hatfield, *Personnel Officer*; Charles R. Weeks, *Planning Officer*.

Field Engineering and Monitoring Division

NORTH ATLANTIC REGION—Federal Bldg., New York City. Watkins 4-1000. Charles C. Kolster, *Regional Manager*.

District No. 1—Customhouse, Boston, Mass. Hubbard 2-6200. Walter Butterworth, *Engineer-in-Charge*.

District No. 2—Federal Bldg., New York City. Watkins 4-1000. Arthur Batcheller, *Engineer-in-Charge*.

District No. 3—U. S. Customhouse, Philadelphia, Pa. Market 7-6000. Roger A. Phelps, *Engineer-in-Charge*.

District No. 4—Old Town Bank Bldg., Baltimore, Md. Plaza 2662. Hyman A. Cohen, *Engineer-in-Charge*.

District No. 5—New Post Office Bldg., Norfolk, Va. Norfolk 24963. Edward Bennett, *Engineer-in-Charge*. Ship Office, Room 106, U. S. Post Office Bldg., Newport News, Va., Paul Schmidt, *Radio Engineer*.

SOUTH ATLANTIC REGION—Federal Annex, Atlanta, Ga. Walnut 3396. Paul H. Herndon Jr., *Regional Manager*.

District No. 6—Federal Annex, Atlanta, Ga. Walnut 3396, W. D. Johnson, *Engineer-in-Charge*. Suboffice, Post Office Bldg., Savannah, Ga. Savannah 7602. Andrew R. Bahlay, *Radio Engineer*.

District No. 7—Federal Bldg., Miami, Fla. Miami 9-5431. Arthur Fish, *Engineer-in-Charge*. Suboffice, Post Office Bldg., Tampa, Fla. Tampa M-1773. Chalmer H. Neeb, *Radio Engineer*.

District No. 22—Federal Bldg., San Juan, Puerto Rico. San Juan 2-4562. Arthur T. Clive Jr., *Engineer-in-Charge*.

GULF STATES REGION—U. S. Appraisers Bldg., Houston, Tex. Woodcrest 63975. Joe H. McKinney, *Regional Manager*.

District No. 8—Audubon Bldg., New Orleans, La. Canal 1739. Theodore G. Deller, *Engineer-in-Charge*. Suboffice, U. S. Courthouse & Customhouse, Mobile, Ala. Mobile 2-3341. Walter N. Hammond, *Radio Engineer*.

District No. 9—U. S. Appraisers Bldg., Houston, Tex. Woodcrest 61906. Louis L. McCabe, *Engineer-in-Charge*. Suboffice, Post Office Bldg., Beaumont, Tex. Beaumont 4010. Eric D. Coburn, *Radio Engineer*. Ship Office, 406 Post Office Bldg., Galveston, Tex., Wayne E. Hall, *Radio Engineer*.

District No. 10—U. S. Terminal Annex Bldg., Dallas, Tex. Central 5943. John H. Homsy, *Engineer-in-Charge*.

SOUTH PACIFIC REGION—Customhouse, San Francisco, Cal. Yukon 6-4141. Kenneth G. Clark, *Regional Manager*.

District No. 11—Post Office & Courthouse Bldg., Los Angeles, Cal. Madison 7411. Bernard H. Linden, *Engineer-in-Charge*.

Suboffice, U. S. Customhouse, San Diego, Cal. Franklin 9-4101. Harold D. Devoe, *Radio Engineer*. Ship Office, Room 326, U. S. Post Office & Courthouse Bldg., San Pedro, Cal., James Homsy, *Radio Engineer*.

District No. 12—Customhouse, San Francisco, Cal. Yukon 6-4141. Francis V. Sloan, *Engineer-in-Charge*.

District No. 15—Customhouse, Denver, Colo. Keystone 4151. William E. Clyne, *Engineer-in-Charge*.

NORTH PACIFIC REGION—Federal Office Bldg., Seattle, Wash. Seneca 3100. G. V. Wiltze, *Regional Manager*.

District No. 13—Fitzpatrick Bldg., Portland, Ore. Beacon 0931. James M. Chapple, *Engineer-in-Charge*.

District No. 14—Federal Office Bldg., Seattle, Wash. Seneca 3100. Herbert H. Arlowe, *Engineer-in-Charge*.

CENTRAL STATES REGION—U. S. Courthouse, Chicago, Ill. Harrison 4700. William J. McDonald, *Regional Manager*.

District No. 16—Uptown Post Office & Federal Courts Bldg., St. Paul, Minn. Cedar 8033. Donald A. Murray, *Engineer-in-Charge*.

District No. 17—Fidelity Bldg., Kansas City, Mo. Victor 3755. Harold T. Gallaher, *Engineer-in-Charge*.

District No. 18—U. S. Courthouse, Chicago, Ill. Harrison 4700. H. D. Hayes, *Engineer-in-Charge*.

GREAT LAKES REGION—New Federal Bldg., Detroit, Mich. Cherry 9330. Emery H. Lee, *Regional Manager*.

District No. 19—New Federal Bldg., Detroit, Mich. Cherry 9330. Edwin S. Helsler, *Engineer-in-Charge*.

District No. 20—U. S. Postoffice, Buffalo, N. Y. Washington 1744. Paul A. Holloway, *Engineer-in-Charge*.

HAWAIIAN REGION—P. O. Box 1142, Lanikai, Oahu, T. H. Honolulu 56401. Lee R. Dawson, *Regional Manager*.

District No. 21—Stangenwald Bldg., Honolulu, T. H. Honolulu 56879. Paul R. Fenner, *Engineer-in-Charge*.

ALASKAN REGION—Federal Bldg., Anchorage Alaska. Main 593. Charles T. Manning, *Regional Manager*.

District No. 23—Shattuck Bldg., Juneau, Alaska. Juneau 721. Sigfried F. Berge, *Engineer-in-Charge*.

PRIMARY MONITORING STATIONS

Allegan, Mich.—Box 89. Irving L. Weston, *Engineer-in-Charge*. Grand Island, Neb.—Box 788. Arthur A. Johnson, *Engineer-in-Charge*.

Kingsville, Tex.—Box 632. William R. Foley, *Engineer-in-Charge*. Millis, Mass.—P. O. Box 308 (Dover Road). Edward W. Sanders, *Engineer-in-Charge*.

Santa Ana, Cal.—Box 744. William Hoffert, *Engineer-in-Charge*. Laurel, Md.—P. O. Box 31. Adolph Anderson, *Engineer-in-Charge*.

Livermore, Cal.—Box 939. George McLeod, *Engineer-in-Charge*. Portland, Ore.—P. O. Box 5165. Robert A. Landsburg, *Engineer-in-Charge*.

Powder Springs, Ga.—P. O. Box 4. Henry B. Dunphey, *Engineer-in-Charge*.

Lanikai, Oahu, T. H.—P. O. Box 1142. Lee R. Dawson, *Engineer-in-Charge*.

SECONDARY MONITORING STATIONS

Belfast, Me.—P. O. Box 44. Vernon K. Wilson, *Engineer-in-Charge*. North Scituate, R. I.—P. O. Box 3. Thomas B. Cave, *Engineer-in-Charge*.

Spokane, Wash.—P. O. Box 37, Station A. Adelbert C. Lawrence, *Engineer-in-Charge*.

Twin Falls, Ida.—P. O. Box 499. John L. Kurdeka, *Engineer-in-Charge*.

Fort Lauderdale, Fla.—P. O. Box 137. Homer V. Thompson, *Engineer-in-Charge*.

Lexington, Ky.—P. O. Box 99. James E. Gilfof, *Engineer-in-Charge*.

Muskogee, Okla.—P. O. Box 1448. John F. DeBardleben, *Engineer-in-Charge*.

Bay St. Louis, Miss.—P. O. Box 300. H. Frank Rawls, *Engineer-in-Charge*.

Anchorage, Alaska—P. O. Box 719. Edwin G. Forsyth, *Engineer-in-Charge*.

COMMON CARRIER FIELD DIVISION

Atlanta—Grant Bldg., Joseph B. Brittingham, *Engineer-in-Charge*. New York—Federal Bldg., Noble C. Shumway, *Acting Engineer-in-Charge*.

LINING UP AGAINST 10% EXCISE TAX: Proposed 10% excise tax on TV, which has industry in state of jitters ever since suggested by Treasury Secretary Snyder last week (Vol. 6:6), is in laps of the gods -- and House Ways & Means Committee. Chairman Doughton and other members of committee we've contacted all say they have "open minds", awaiting industry's case when presented next Tuesday, Feb. 21. Meanwhile, RMA steering committee, which has been in almost continuous session in Washington, had hopes dampened by remark of one legislator that if radio is taxed 10% TV should also be. But their hopes were heightened by other developments of week:

(1) Strong support from non-industry sources for stand that infant TV should not be singled out for discriminatory taxation. This support came spontaneously in course of first week's tax hearings.

(2) Assurances that labor will back up TV industry, support promised by IUE-CIO, IBEW-AFL, Actors Equity.

(3) Formidable front of TV-radio industry spokesmen enlisted for Tuesday testimony; scheduled as RMA witnesses are R. W. Durst, Hallicrafters; Mort Farr, dealer, Upper Darby, Pa.; Jack Haffey, DuMont distributor, Cleveland; David B. Smith, Philco; Richard Jenkins, cabinet manufacturer, Thomasville, N.C.; B. T. Hines, WFMY-TV, Greensboro; Lee Wailes, Fort Industry (WAGA-TV, WSPD-TV, WJBK-TV).

Other witnesses are also probable, including Admiral's Richard Graver.

At this week's hearings, Rowland Jones Jr., American Retail Federation, told committee: "TV has been hailed as the development with the greatest potential in job, production and sales volume which has emerged from World War II, and the Government now proposes to burden it with a 10% tax before it is barely out of cradle."

Ex-top New Dealer Leon Henderson, appearing for National Committee for the Repeal of Wartime Excise Taxes, representing 27 industries (not TV), merely happened to cite TV in course of his presentation, remarked proposed tax was "an administrative and economic atrocity [which] would restrain and suppress infant industries." MPA president Eric Johnston, attacking theatre admission tax, noted that movies were medium of communication, yet TV, newsprint, etc. weren't taxed.

No one has figured out what tax might mean to TV sales, though view seems to be it would hit hardest at larger, more expensive models. Admiral's Ross Siragusa ventured opinion it would cut present sales rate 10-20%. Servel's Louis Ruthenburg testified that for every 10¢ Treasury collects, consumer pays 18¢ because of "chain" of markups; he spoke of trade generally. In New York, Dynamic Stores advertised: "Beat Proposed 10% Excise Tax on TV; Buy Now."

RMA steering committee comprises: A. M. Freeman, RCA; B. L. Graham, DuMont; Arthur Milk, Sylvania; R. E. Norem, GE; Maurice G. Paul, Philco. Committee counsel is William A. Roberts, and special counsel is ex-Rep. Joseph E. Casey.

ECONOMISTS SEE TV 'OVER THE HUMP': Salient points from analysis of TV industry released this week by National Industrial Conference Board, 247 Park Ave., New York:

TV industry "seems to be over the hump of its growth [and] big enough now to take in its stride the prospective expansion in its market over the coming year... present productive capacity generally adequate to meet next year's [1950] expectations; it is slated to expand only 10%-20% in the coming year [1950]." And from 1950 on, prospects "seem to point to continued growth but at a decelerated pace."

NICB report notes TV price range today is much closer to refrigerators than radios. There are about 30,000,000 refrigerators in use compared with 63,000,000 radios in 42,000,000 homes, and some 36,000,000 passenger cars registered. Hence potential market for TV at current prices is seen "closer to 30,000,000 sets than radio's 63,000,000."

As for consumer attitudes, high family income and TV's novelty have exerted demand, but color controversy is seen possible deterrent to continued demand; also, many prospective buyers are waiting for more and better programs.

"At start of this year over 3,500,000 homes had TV sets [actually, it was nearer 4,000,000; Vol. 6:3], or roughly a sixth of the 22,000,000 families to whom technical service is now available. However, a portion of these 22,000,000 homes are not in an income bracket that makes purchase of a TV set practicable...

"Hence, sets in use already cover over one-fifth and perhaps as much as one-fourth of the homes that can afford sets and which are served by TV programs at present. On the basis of the expected 1950 output [NICB accepts RMA estimate of 3,700,000, though other industry sources indicate 5,000,000 or more], the number of TV sets in use will double the present figure by the end of this year. This means that even with some moderate expansion in TV service areas, perhaps half of the market that is within the range of stations and that can afford sets will have been 'sold' by the end of this year."

TRENDS & TOPICS OF THE TV TRADE: On the bullish side -- continued high demand (see RMA January output figures, p. 1), good market outlook, factory expansions.

On the bearish side -- threat of 10% tax on TV sets, coal strike with its possible effect on deliveries, factory operations, and purchasing power (Vol. 6:6).

There you have current TV trade picture, perhaps oversimplified, without venturing to conjecture further why TV-radio shares were the sparkplugs of the stock markets last few weeks.

GE spokesman says prolonged coal strike will force GE to halt production of refrigerators and other major appliances, presumably including TVs. On the other hand, taking optimistic longer-range view, Admiral's Ross Siragusa told Buffalo meeting last week he foresees TV industry operating at capacity through 1951. Meanwhile, though, strike's impact is becoming real in some areas where coal supplies and power have already been curtailed.

Besides Emerson's factory expansion into Jersey City Continental Can Co. buildings it bought last week (Vol. 6:6), fast-comer John Meck Industries Inc., Plymouth, Ind., reported removal of its radio and other assembly lines to new factory in Argos, Ind., 8 mi. away, permitting expansion of TV production. And Bendix this week announced it was expanding Baltimore TV-radio plant to permit doubling present production rate, and building new warehouse which when completed will enable it to handle "average of 14 carloads of TV material per day."

Majestic (Garod) says it's doubling output next 60 days. Philco reports January production of TVs 5 times that of January, 1949. And from important parts maker F. W. Sickles Co., Chicopee, Mass., comes word it's adding 300 employes due to TV demands, bringing payroll to 2400, or more than its 1944 wartime peak of 2300.

First official inkling of GE's TV output, always hush-hush, comes from chairman Philip D. Reed, who told Boston press conference this week GE is currently turning out 10,000 sets per week, about 4 times level of year ago, soon will increase this to amount not now determinable.

* * * *

Foregoing scattered reports are brought together as straws in wind. It's apparent that TV is solidifying its position in the nation's economy for, as Dept. of Commerce furniture specialist James B. Forman reports in newly issued booklet "Furniture Industry and Its Potential Market" (Govt. Printing Office, 15¢):

"Under the influence of TV, family life is again beginning to center around the home. In consequence, a reawakened interest in the home and its furnishings may reasonably be expected to follow." His main thesis was that this year's furniture business will surpass 1949 sales.

* * * *

Westinghouse has new 16-in. table at \$280; with rectangular tube, it supersedes \$300 model. Also offered is 16-in. console with round tube at \$375; newly priced 12½-in. table with better cabinet (Model 610T12) at \$250, superseding Model 605T12 at same price; new 12½-in. console with AM-FM-3 speed and electronic magni-

fier at \$420, replacing \$475 Model 603C12. Westinghouse, too, has abandoned 10-in.

Packard-Bell's 1950 line, just released, comprises 12½-in. table at \$200, same in better wood \$250, console \$240, period console \$300; rectangular 16-in. console \$360, same with AM-FM-3 speed \$460; 19-in. console combination \$500; reports it plans to use 14 & 19-in. rectangulars when available...Majestic (Garod) has new Master Craft series of 16 and 19-in. sets at top of line: 16-in. console at \$340, with doors \$380; 19-in. console with doors \$490...Mattison is revising line (TV Directory No. 10) to offer same console with either 16 or 19-in. tube; lowest priced is Challenger at \$300 with 16-in., \$450 with 19-in.; highest priced is Quadrille at \$495 & \$575, respectively...Video Corp. of America is making private label Telecraft sets for Halle Bros. dept. store, Cleveland -- 16-in. console \$270, with doors \$300.

Tele King's new line is priced downward throughout: 10-in. table at \$160, 12½-in. table \$180, 16-in. rectangular table \$260, 16-in. console with doors \$330, 19-in. console with doors \$460, 16-in. console-combination \$500. Tele King also advertised in trade papers this week new table with 14-in. rectangular tube to be out in 2 weeks; company officials wouldn't go further in describing set except that it would be "in same class" with present 12½-in. table (\$180).

Regal has reduced line average \$30 per set from previously announced (TV Directory No. 10), now sells 12½-in. table at \$198, same with more tubes \$290, console \$230; 16-in. table \$250, same with more tubes \$330, console \$360, console with AM-FM \$415. Regal has discontinued 10-in., will have 19-in. console in 3 weeks, says production now 150 per day, due to be doubled.

Muntz is reliably reported to be readying new distribution setup, presumably along conventional exclusive pattern, to be announced shortly; new sales chief E. C. Bonia, ex-Bendix, is master-minding plan...Trav-Ler reports it signed orders for more than \$10,000,000 in new TVs (Vol. 6:6) and radios at Chicago preview this week.

Pattern of buying and interest, so far as TV was concerned, was pretty much same at last week's Western Merchandise Mart in San Francisco as it was at recent Chicago marts -- with 12½-in. models dominant, 16-in. very much in evidence, 10-in. all but disappearing. We listed the 22 TV exhibitors who showed there (Vol. 6:5). Radios, of course, are still paramount in Pacific and Mountain areas, where only Los Angeles, San Francisco, Salt Lake City, San Diego, Seattle, Phoenix, Albuquerque as yet have TV stations, none interconnected, only first 3 with more than one outlet.

Financial & Trade Notes: Hoffman Radio shareholders of record Feb. 14 will be asked to approve 3 for 2 stock split; company expects to continue 25¢ quarterly dividends, is reported aiming for \$30,000,000 sales this year vs. 1949 volume of \$11,500,000 . . . Zenith president's letter to stockholders Feb. 8 says quarter ended Jan. 31 was highest in sales volume and profit in its history; sales were approximately \$33,000,000 . . . Paramount board meeting Feb. 14 disclosed no offers to buy DuMont stockholdings so it's still assumed sale, if at all, will be to DuMont itself (Vol. 6:4) . . . Muter Co. president Leslie F. Muter plans to sell 53,000 of his 100,000 shares (33.8%) through Dempsey & Co., Chicago underwriter, according to SEC registration . . . Noblitt-Sparks (Arvin) reports 1949 sales reached new peak of \$37,128,659, net profit \$3,093,840 (\$5.21 per share) vs. \$35,447,581 sales, \$2,460,133 (\$4.14) profit in 1948 . . . Philco announces regular quarterly 50¢ dividend payable March 11 to stockholders of record Feb. 27 . . . Hazeltine declares 25¢ dividend payable March 15 to stock of record March 1 . . . Stewart-Warner 25¢ dividend payable April 8 to stock of record March 17; dividend in same amount was paid Jan. 7.

Karl G. Jansky, 44, Bell Labs radio research engineer, died Feb. 15 in Red Bank, N. J. He was son of Prof. Cyril M. Jansky, U of Wisconsin, and brother of C. M. Jansky Jr., Washington consulting engineer, and Maurice Jansky, Washington radio attorney.

Trade Personals: Paul H. Eckstein returns to Hallcrafters as TV sales mgr., resigning from Gibson Refrigerator Co. . . Ben Rice, ex-Regal, Tele King & Tele-tone, promoted from Eastern regional sales mgr. to national sales mgr. of Starrett . . . Arthur R. Rhinow, asst. sales v.p. of Federal, has resigned, will make known plans later . . . William Shea, ex-Rex Products Inc., new asst. sales mgr. of Tele King . . . John McCullough and William Eitel, Eitel-McCullough Inc., recipients of Navy's distinguished public service award.

Talk-A-Phone Co., 1519 S. Pulaski St., Chicago, has TV set equipped for 2-way video-voice communication, is suggesting apparatus be used for classroom instruction, service to shut-ins, sales conventions, etc. Although closed-circuit phone lines are envisaged at moment, company believes special frequencies might be made available for all-wireless system (a la Phonevision).

RMA statistics on TV are going to be more complete and accurate, board decided at Feb. 15-17 meeting in Chicago. TV monthly set production will be reported by tube size as well as by model type (table, console, combination), starting in March. Set distribution figures, heretofore quarterly, will be issued monthly, TV set advertising committee (Walter Stickle, DuMont, chairman) recommended code of advertising ethics on TV sets be set up, plans meeting of all TV set sales managers sometime in March.

DuMont extended its suggested vhf-uhf allocation plan (Vol. 5:35) from original 326 markets to more than 1400, submitted it to FCC this week as Vol. VI of its hearing exhibits. DuMont aims, as before, to eliminate too-close spacing of stations; minimize intermingling of vhf-uhf stations in same community; give most major markets at least 4 channels; eliminate potential local oscillator and image interference. To achieve goals, DuMont would use all of 475-890 mc band (69 channels, compared with FCC's proposed 42). Biggest hurdle of plan is that it proposes shifting 31 operating vhf stations and CPs to different channels, 25 of them to uhf. We reprinted original 326-market plan as Supp. No. 68.

Effect of sports telecasting on attendance is getting intensive study from Jerry Jordan, son of N. W. Ayer executive v.p. C. L. Jordan, who surveyed TV's impact on family habits when he was a Princeton student (Vol. 5:21). In survey of football in Philadelphia area, he noted (cautioning that results aren't final) that: (1) Colleges in TV areas didn't fare quite as well as those in non-TV areas. However, there were many in TV areas that showed increase. (2) Small colleges weren't hurt by telecasts of big college games. He found that 54% of people owning sets more than 2 years attended one or more football games—better percentage than among non-owners—whereas only 24% of 1-3 months owners attended games. National study will be concluded in April.

Los Angeles wrestling promoters turned thumbs down on TV this week, blaming drop in attendance to telecasts by 6 stations. Ban is for 30 days, during which gates will be studied. Los Angeles stations immediately turned eyes to Crosley's experiment with studio wrestling, promoted and staged in studios of WLWD, Dayton, fed to WLWT, Cincinnati, and WLWC, Columbus, with invited audience of 200. Crosley matches began Feb. 4, sponsored for 13 weeks by Graybar (for Raytheon TV sets). KTTV, only station not previously carrying wrestling, immediately asked CBS for kines of weekly St. Nicholas Arena bouts in New York City; KTSL for DuMont kines of Sunnyside Garden (N. Y.) bouts.

Ban on telecasts of basketball by U of Washington, via Seattle's KING-TV, stimulated survey by *Post-Intelligencer* with these results: 99% of 1700 respondents, mostly set owners, wanted ban rescinded; 54% were willing to pay small fee if necessary; 96.7% said telecasts wouldn't diminish their attendance at games. University officials decided to permit TV whenever games were sell-outs; expectation is that many will be.

That color system proposed to FCC by radio amateur Theodore Wetzel, of Milwaukee (Vol. 6:2), turns out to be mechanical. In description filed this week, he reveals that key to system is filter in front of tube, made up of narrow, vertical, colored strips. Motor pushes it back and forth 300 times per minute. Wetzel doesn't say whether he has tried it out. One big question is whether system will flicker, since no change in black-and-white frame rate is proposed.

More Feb. 1 sets-in-use since NBC Research's "census" of Jan. 1 (Vol. 6:3): Los Angeles 396,060, up 46,384 in month; Boston 276,980, up 28,617; Baltimore 133,248, up 9481; Kansas City 26,900 up 1800; Omaha (Feb. 10) 14,509, up 2109; Johnstown 13,600, up 2100; Davenport 7572, up 1272.

Concern about color and uhf among potential set-buyers is mighty slim, according to RCA's 3-day survey of 4089 visitors to its Exhibition Hall in Rockefeller Center. Only .1% of people asked what effect color and uhf would have on sets.

Curious, how relatively few TV sets are advertised on the national TV networks—though local manufacturer-distributor sponsorships, we're informed, are the rule rather than exception on individual telecasting stations. Table of network TV sponsorships we published last week (Vol. 6:6) shows Admiral's *Lights Out*, Philco's *Television Playhouse*, RCA Victor's *Kukla, Fran & Ollie* only ones currently on NBC-TV; Crosley's *This is Broadway*, GE's *Fred Waring Show*, Westinghouse's *Studio One* on CBS-TV; Admiral's *Stop the Music* on ABC-TV; DuMont's *Morey Amsterdam Show* on DuMont. Motorola and Emerson have sponsored network TV shows in past, presumably will return. Among the top dozen or more TV makers, only Zenith, Meck, Tele-tone, Hallicrafters haven't yet been identified with network telecasting.

Station Accounts: Chevrolet Dealers of Southern California buy Mon. 7-11 p.m. on KECA-TV, Los Angeles, for *Triple Feature Theatre*, thru Campbell-Ewald, claim it's biggest block of TV time yet purchased by one sponsor for 52-week series, first time one sponsor has bought out any station's entire night, first time one sponsor offers full evening of theatre-type programming, including "first-time-on-TV" feature films . . . Sitroux Inc. (tissues) Feb. 24 starts *Hazel Scott Show* on WABD, New York, Fri. 7:45-8 . . . NBC-TV cooperative *Leave It to the Girls*, Sun. 7-7:30, sponsored by Regent Cigarettes on WNBT, New York . . . Courtesy Motors, big Chicago Hudson dealer, starts variety show on WENR-TV March 3, with James Moran, company president, himself acting as m.c. GE Supply Co. to sponsor Mardi Gras parades on WDSU-TV, New Orleans, Feb. 21 . . . Alden's, big Chicago mail order house, March 4 starts variety show on WENR-TV, Wed. 8-8:30 . . . Wolff & Marx dept. store, San Antonio, sponsoring *Fashion in Your Living Room*, style show, on WOAI-TV, Mon. 8:30-9 . . . WAVE-TV sells 38 night games of Louisville Colonels to Falls City Brewing Co. . . . Among sponsors reported using or planning TV are hi-V Corp., new frozen foods firm backed by Arthur Godfrey, thru Franklin Bruck Adv.; O'Cedar Corp. (sponge mop), thru Young & Rubicam; Mastic Acres Inc. (Long Island realty development), thru Flint Associates; Oculine Co. (eye drops, pads, etc.), thru Ted H. Factor Agency; Schulte Stores, thru Lynn Baker Inc.; Domestic Sewing Machine Co., Cleveland subsidiary of White Sewing Machine Co., thru Fuller & Smith & Ross.

To clamp down on networks, Rep. Sheppard (D-Cal.) introduced HR 7310 this week, saying he wants to: license networks same as stations; absolve network affiliates from responsibility for network violations of FCC rules; protect affiliates from network coercion; protect sponsors and agencies from network discrimination or intimidation; permit sponsors to get their programs broadcast in addition to regular network outlets.

Names of 50,000 TV kit assemblers, who bought "knocked-down" sets from Transvision, largest of the kit-makers, were offered to FCC by the company to assist in arriving at color decision. Transvision suggested home experimenters be invited to work on receivers for various color systems and that FCC weigh their experiences before making decision.

Black-and-white adjacent-channel study by JTAC is almost in hand, will go to FCC within 2 weeks. With exhaustive research, covering models representing 2,500,000 receivers, JTAC is finding that co-channel ratios still far outweigh adjacent-channel considerations in any allocation. It's unlikely JTAC will conclude FCC's 2:1 ratio is far off.

'GUESSTIMATING' TOP 1950 PRODUCERS: This year's top TV producers -- who are they and how many sets will they turn out?

At risk of arousing a few spleens, we once again present "guesstimates" by Television Shares Management Co., Chicago (Television Fund Inc.), prepared at our request. They're "educated guesses" at best, covering estimated units, average prices and total dollar value at factory -- TV-only, no radios or other products.

They could be wrong -- probably are in several instances -- but our LaSalle Street friends, operating first open end trust in electronics field, can't afford to go too far wrong. Figures are adduced from past records, current output and prices, public and private data from principals, reasonable forecasts and conclusions.

TSMC didn't do too badly last year, when it projected somewhat similar tables (Vol. 5:45), and came nearer to guessing over-all 1949 total than did industry's own leaders. Here's how it ranks this year's first 20:

<u>Manufacturer</u>	<u>Units</u>	<u>Average Factory Price</u>	<u>Total Value (Factory Price)</u>
Admiral.....	800,000	\$145	\$116,000,000
RCA.....	700,000	155	108,500,000
Philco.....	625,000	145	90,625,000
Motorola.....	535,000	135	72,225,000
Zenith.....	330,000	165	54,450,000
Emerson.....	330,000	145	47,850,000
General Electric.....	300,000	150	45,000,000
DuMont.....	190,000	225	42,750,000
Tele-tone.....	175,000	125	21,875,000
Hallicrafters.....	170,000	140	23,800,000
Westinghouse.....	150,000	155	23,250,000
Avco (Crosley).....	150,000	150	22,500,000
Meck.....	150,000	115	17,250,000
Raytheon (Belmont)....	140,000	135	18,900,000
Sylvania.....	120,000	155	18,600,000
Magnavox.....	100,000	215	21,500,000
Capehart-Farnsworth...	100,000	160	16,000,000
Olympic.....	100,000	145	14,500,000
Garod (Majestic).....	100,000	145	14,500,000
Hytron (Air King).....	100,000	135	13,500,000
<u>TOTAL.....</u>	<u>5,365,000</u>	<u>\$149.78(av.)</u>	<u>\$803,575,000</u>

As against the surprise top-rung positions of Tele-tone and Meck (latter now big in private-label), TSMC lists 12 firms in what it styles "second echelon" of major producers -- without, however, undertaking to place them in anything but alphabetical order but acknowledging that any one of them may turn up among top 20 when final score is taken: Bendix, Fada, Hoffman, Muntz, Noblitt-Sparks (Arvin), Sentinel, Sparks-Withington (Sparton), Stewart-Warner, Stromberg-Carlson, Tele King, Trav-Ler, Wells-Gardner.

Note that unit-wise Zenith is placed in tie with Emerson for fifth place, ahead of GE; that DuMont is given sixth place, dollar-wise; that Meck is even for tenth place with Crosley and Westinghouse; that 5 companies are tied at 100,000 sets each. Note, too, how the rankings would change somewhat on dollar basis.

It will be observed these 20 companies alone would account for well over 5,000,000 sets valued at more than \$800,000,000 at factory, which means retail trade far above \$1 billion -- considerably more in units and dollars than has been forecast by most industry spokesmen. Remembering that there are some 90 other companies

in TV set manufacture (see our TV Directory No. 10), some of them quite substantial if not mass producers, it would appear forecast for year based on TSMC's figures would be nearer 6,000,000 than 5,000,000 units.

"We feel the total could go as high as 6,000,000," TSMC's Edgar N. Greenebaum Jr. writes, "but according to current indications the material shortages (some only on the horizon but others actually here today) will be so serious that the overall total could be reduced anywhere from 10 to 20%. In other words, even though the industry could probably produce and sell astronomical quantities, the very real shortages of such things as cabinets, receiving tubes, condensers and resistors will have serious 'crippling' effects."

[Editor's note: Our own recent checks with several key manufacturers indicate no serious shortages yet but, as in case of coal strike, plenty of apprehension that there "could be" -- with concomitant retarding effect on current high rate of output. But nobody we've contacted says it's an immediate problem.]

In our own book, we wouldn't hazard guess that Admiral will exceed RCA in 1950 units, or that Philco will be as far behind either as indicated. During 1949, RCA slightly exceeded Admiral's announced 400,000. Also, it's hard to believe Zenith will leap so soon to the figure given (though it has indicated even more units than TSMC forecasts) or that DuMont will be so far down the list dollar-wise.

RMA SEEKING FULLTIME PRESIDENT: RMA general manager Bond Geddes, nearing 70, has offered to retire in favor of paid fulltime president -- and board meeting last week set up reorganization committee to find man, recommend new setup. Jerome J. Kahn, Standard Transformer, heads committee ordered to expedite quest, so that action may be taken by time of June 5-8 Chicago convention. Geddes will serve until successor is named, then be paid pension and probably retained as consultant. Discussed were possible \$50,000 salary for new chief, expanded staff, house counsel, new dues structure. Only names thus far mentioned for top post are Ray Cosgrove, ex-Crosley, now RMA president, and John L. Sullivan, ex-Secretary of Navy. On Kahn's committee are Max Balcom, Sylvania; Paul Galvin, Motorola; W. R. G. Baker, GE; W. J. Barkley, Collins; Leslie Muter, Muter Co.; George Gardner, Wells-Gardner; Ray Carlson, Tung-Sol; A. D. Plamondon Jr., Indiana Steel Products; A. Liberman, Talk-A-Phone; Fred Lack, Western Electric; W. A. MacDonald, Hazeltine.

GE's 24-in. & PICTURE TUBE TRENDS: Now it can be told that GE will have 24-in. metal-coned picture tube by next summer -- very likely in receivers of own as well as for sale to tube accounts. That's all we can verify, and that fact is probably how report got around that 21-in. or larger tubes were on way (Vol. 6:4). That and FCC chairman Coy's statement before House appropriations subcommittee to effect that TV receivers with 22-in. will be marketed "within the next few months."

Besides GE, others experimenting with larger tubes -- up to 30-in. reported, unofficially -- are DuMont, Lansdale (Philco), Rauland (Zenith) and RCA. But none will say how nearly ready they are, though it won't be surprising if Zenith comes forth with something such soon, probably rectangular.

Significant thing is trend betokened -- ever-larger tubes, whether glass or metal. This year looks like big one not only for 12½-in. receivers, but also for 16 & 19-in. which the major set-makers are selling as fast as they can produce. Biggest 19-in. tubemaker DuMont is now turning out 25,000 per month for own and other manufacturers' sets, and constantly increasing rate of production.

Projections also enter again into bigger-picture trend, though only RCA and Emerson among top producers are still making them. North American Philips, denying rumor it's leaving projection field, tells us that "in 1950 we have been and shall be plugging Protelgram more aggressively and through more channels than ever." Rumor probably arose from closing down of Dobbs Ferry plant, and fact Philips is now importing 2½-in. picture tubes from Holland "because of devalued exchange."

"Revolutionary improvements" in Protelgram ("the best picture in the business") are promised, also March 1 price reduction and spring promotion campaign covering new merchandising policy: Protelgram to be available to service dealers, through distributors, for conversion of direct-view sets. Also, in 3x4-ft version, for attachment to direct-view sets.

TOPICS & TRENDS OF THE TV TRADE: Statistical sidelights on TV industry that merit a bit more detail than afforded in summary of tax hearing on p. 2 of first section.

Citing Treasury Secretary Snyder's own statement that a reduction in excise taxes "would stimulate employment and production," Hallicrafters v.p. R. W. Durst told House committee TV accounts for employment of 200,000 factory workers, plus personnel of some 1500 distributors, plus 30-40,000 dealers, 40-50,000 servicemen -- and that doesn't include staffs and talent of 101 telecasting stations. Durst cited Labor Dept. estimate that wages in TV industry last November averaged \$1.29 per hour, or \$53.40 per week, "highest record in our [radio] industry, as compared with pre-war average hourly wage of 68¢."

IBEW's Washington representative Lawson Wimberley said his union has 10,000 members in installation-servicing (about 25% of field) plus some 1500 in telecasting, added: "We are convinced that within the next year, or possibly the next 2 years, provided the questions of uhf and color are settled...there will be job opportunities for at least another 100,000 workers in all different phases of the TV industry." And Admiral's v.p. Richard Graver said his company now employs 5000 on TV, expects to add 1200 more when new Bloomington, Ind. plant opens July 4.

* * * *

Philco spokesman says not even Pittsburgh is showing any abatement of demand for TV sets, dealers there taking all allocated. So far, factories report coal strike curtailments of freight shipments haven't affected either deliveries of supplies or movements of sets. But another 2 weeks or so, and production could really feel impact, they say. From TV cabinet-making centers Jamestown, N.Y. and Grand Rapids, Mich. this week, there were reports coal outlook made their production problems "grim" -- both cities already on shortened fuel rations.

Another index to state of the industry: First week February RMA production total is 97,400, which really means (with 25% increase to account for non-RMA, etc.) just under 125,000. That indicates February output should run well ahead of January's 420,000 (Vol. 6:7).

But there's word of caution from fast-coming Hoffman Radio's H. L. Hoffman, who notes: "We, like everyone in the TV business, are very optimistic about 1950, particularly when we are taking orders at twice the rate of our production. However, I don't see how we can help but slow down during the second quarter. I am fearful that many of the set manufacturers are going to keep on pouring out their sets and we will have a terrific congestion during the second quarter that could injure the balance of the year. The retail market is showing some signs of soft spots already."

* * * *

Magnavox has new 16-in. Contemporary console at \$399.50; it has fewer tubes (21 plus 2 rectifiers) than Normandy and Contemporary consoles (23 plus 4) which have been cut from \$495 to \$449.50. Magnavox has raised prices of Wedgewood and Avenue radio-phono consoles, but prices of same consoles with TV remain at \$469.50 & \$439.50, respectively...Raytheon has cut 12½-in. Suburban table \$10 to \$220, 12½-in. console \$10 to \$250...Sightmaster has 2 new 19-in. consolettes with FM -- Staunton at \$449.50, Westchester \$479, both with Sightmirror fronts...Trav-Ler has new rectangular 16-in. console with doors at \$300...Muntz TV's executive v.p. E. C. Bonia, refuting reports of new distribution plans (Vol. 6:7), states: "There are absolutely no plans for any changes in our present setup."

John Meck Industries, Plymouth, Ind., this week reported 82% increase in orders since it hiked dealer discounts to 40% last month because "margin structure in the retail TV business was inadequate to cover the average dealer's cost of doing business and still allow him a fair profit." Meck said it would make about 250,000 TV sets this year...Emerson will be making 3,000-3,500 TVs a day by end of year, president Benjamin Abrams said Friday, in commenting on acquisition of Continental Can Co. property in Jersey City 2 weeks ago (Vol. 6:6).

RCA Victor releases first 33 1/3 rpm LP album March 15; it contains 33 classical compositions -- 22 on single records, 3 in albums. Ten-inch LP will retail at \$3.85 & \$4.45; 12-in., \$4.85 & \$5.45. Paul A. Barkmeier, record v.p., said almost 1,000,000 45 players are now in use, 45 records selling at 30,000,000 a year rate.

Television Fund Inc., reporting for quarter ended Jan. 31, lists following stockholdings in its portfolio: Primarily Television (20.5%)—5000 shares Admiral, 5500 DuMont, 5000 Emerson, 1000 Hoffman, 5000 Motorola, 5000 Philco, 1000 Zenith. TV & Electronics (34.1%)—1000 Aerovox, 3000 ABC, 1000 American Phenolic, 6000 CBS, 1000 Corning Glass, 4000 Fansteel, 4000 GE, 1300 General Instrument, 1000 P. R. Mallory, 2000 Muter, 2000 Oak Mfg., 2800 Owens-Illinois, 1000 Pittsburgh Plate Glass, 12,000 RCA, 3000 Raytheon, 1500 Sprague Electric, 3200 Sylvania, 5500 Westinghouse. Electronics Other Than TV (19.7%)—4000 American Bosch, 2000 Consolidated Engineering, 6000 Cutler-Hammer, 1000 Fairchild Camera, 3500 General Precision Instrument, 600 IBM, 4000 IT&T, 2400 Minneapolis-Honeywell, 1000 Sperry, 3000 Webster-Chicago. Miscellaneous (25.7%)—700 Bell & Howell, 1200 Burgess Battery, 3000 Capitol Records, 5000 Decca, 4000 Walt Disney, 4000 Eastman, 2000 Joslyn, 5000 Loew's, 4500 Otis Elevator, 2500 Paramount, 2000 Reliance Electric, 2000 Time Inc., 4000 Twentieth Century-Fox, 2500 United Paramount. Note: New holdings since last report (Vol. 5:50) are Raytheon, Decca, Otis, Reliance, Time, 20th Century; eliminations were 2000 Magnavox, 1000 National Union.

TV receiver business accounted for about all of RCA's nearly \$40,000,000 increase in gross sales for 1949, officials indicated in releasing annual report as of Feb. 27. Gross income from all sources was \$397,259,020 vs. \$357,617,231 in 1948; net earnings were \$25,144,279 (\$1.58 per share) vs. \$24,022,047 (\$1.50) in 1948. Of gross income last year, \$308,202,199 (77.6%) came from RCA Victor, RCA Laboratories, RCA International divisions (vs. \$270,572,505 or 75.7% in 1948); \$72,866,510 (18.3%) from NBC (vs. \$70,949,218 or 19.8% in 1948); \$19,997,079 (5%) from RCAC and Radiomarine (vs. \$21,133,728 or 5.9% in 1948); and there was loss of \$3,806,768 (.9%) on inter-company transaction. Paid out during year was \$3,152,800 in preferred dividends, \$6,928,604 on common. Earned surplus at Dec. 31 was \$94,562,354, up \$15,062,875 from earned surplus at end of 1948.

Motorola 1949 sales were \$81,803,357, profit \$5,280,196 (\$6.60 per share). No comparisons with previous years are available since reports for prior years were for parent company alone (1948 sales \$58,080,236, earnings \$3,332,739). President Paul Galvin said it's difficult to forecast sales volume for 1950 since last quarter 1949 accounted for about 45% of entire year's TV sales and sales for first quarter 1950 will be more than double \$15,200,000 volume for same period 1949. He also forecast 50% increase in car radio sales this year, noting higher percentage of new cars being delivered without radios, resulting in expanding "after market" demand.

Final 1949 earnings report on Admiral, released Feb. 21: Profit of \$8,239,582 (\$4.12 per share on 2,000,000 shares outstanding) on record sales of \$112,004,251 vs. net of \$3,639,025 (\$1.82) on sales of \$66,764,265 in 1948. Net worth increased 67%, now \$18,024,048. Last quarter 1949 net was \$3,608,008 on sales of \$34,926,100. Now producing TVs at rate of 700,000 annually, increased plant capacity now under construction assuring "space required to produce 1,000,000 sets this year."

Philadelphia's WPTZ has revised rate card to make rate for 5-days-a-week program four-fifths 5-time charge, applicable to all programs 5 minutes or longer. In addition, 5% discount is allowed for 26 consecutive weeks, 10% for 52 weeks. WPTZ expects thus to expand daytime commercial business.

Omaha-Denver microwave relay will be opened in May 1951 for telephone service, not for TV as reported last week (Vol. 6:7).

Troublesome oscillator radiation in most TV sets, which has had industry and FCC engineers worried for some time, is being overcome. GE sets now operate with IF of 40-45 mc, rather than previous 21-26 mc; these are believed first with changed IF standard to meet receiver re-radiation problem. GE also says video and audio of its TV sets aren't susceptible to 27.12-mc signals generated by industrial, medical and scientific apparatus (diathermy, heating, etc.). Problem of oscillator radiation was given prominent mention by FCC chairman Coy at House appropriations subcommittee hearing Jan. 30, when he told committee 3200 receivers in Boston-Providence area couldn't get either Boston's WNAC-TV on Channel 7, or Providence's WJAR-TV on Channel 11. Channels most susceptible to such interference where sets have 21-27 mc IF are Nos. 7 & 11, 8 & 12, 9 & 13; to lesser degrees, 2 & 5, 3 & 6. Fears were felt manufacturers were eliminating shielding to cut costs, which raised bogey of widespread inter-set interference when country is saturated with sets and stations.

Complaints of unfair and illegal practices by TV manufacturers in relation to TV retailers have been carried to Federal Trade Commission, Dept. of Justice, House Committee on Small Business, by Edwin A. Dempsey, executive secretary of recently formed National TV Dealers Assn (Vol. 5:41, 45). He claims manufacturers are enforcing tie-in sales; discriminating in discounts to large retailers as against smaller dealers; permitting wholesalers to sell retail; making different advertising allowances for different size dealers. Investigation into tie-in sales begun last December by Dept. of Justice (Vol. 5:42) has resulted in no action yet.

Temporary officers of TV Authority, combination of all performer unions except Screen Actors and Extras, elected this week: John Kennedy, Actors Equity, chairman; Virginia Payne, AFRA, 1st vice-chairman; Margaret Speaks, AGMA, 2nd vice-chairman; Jerry Baker, AGVA, 3rd vice-chairman; Paul Purnell, Chorus Equity, treas. Permanent officers will be elected in next few months. George Heller, ex-AFRA executive, is TVA executive secy. Still wide open is rift between TVA and Hollywood unions over film jurisdiction.

FCC denied application for uhf experimental TV station filed by LeRoy E. Parsons and Richard F. Denbo, Astoria, Ore., who proposed to pick up and rebroadcast Seattle's KING-TV (Vol. 5:49). Held they proposed providing TV service, not technical research.

FCC's critique of McFarland Bill to reorganize Commission, in response to request for comments from Sadowski subcommittee of House (Vol. 6:3, 4, 7), among other objections, says bill would unduly restrict its law dept.

Telecasting Notes: Army-Air Force ad budgets for recruiting for fiscal 1951, starting July 1, as proposed in testimony before House appropriations subcommittee, would total \$2,023,600 for all media, down from current \$2,488,000; of national budget, radio-TV would get \$636,640; magazines \$437,060, newspapers \$358,740, posters etc. \$159,160 . . . International Shoe Co., St. Louis, reported planning network TV, thru Henri, Hurst & McDonald . . . Standard Brewing Co. to sponsor Cleveland Indians home games on WXEL, which is also sending cameramen to Tucson training camp to film subjects for 15-min. programs thru March-April . . . KSL-TV, Salt Lake City, Feb. 14, started daytime 3:30-5 schedule Tue. & Thu.; also began night telecasting half hour earlier at 7 Mon. thru Thu. . . Bert Lahr signed by CBS-TV for weekly half hour, no starting date yet . . . Joe DiMaggio reported under NBC contract, including TV . . . NBC-TV planning new weekly Dean Martin-Jerry Lewis comedy series starting in March.

STRONG TV-LABOR OPPOSITION TO TAX: Not much new on proposed 10% TV excise tax (Vol. 6:8), except that nearly everyone concerned seems optimistic -- possibly too much so. We're told there's an apparent tendency on part of individual manufacturers, to say nothing of distributors and dealers, to "lay back and do nothing," leaving whole opposition job to RMA committee in Washington. Manufacturers especially are being urged to tell their Congressman what tax would mean to local employment.

House Ways & Means Committee ended public hearings on all phases of excise taxes Friday, and should have bill ready sometime in April. Every member has told industry representatives he's either flatly opposed (and that means nearly all GOP members) or retains an "open mind". Quite a few Democrats are lined up against -- but there's no telling what they will do if Administration really wants the tax proposed by Treasury Secretary Snyder.

Heartening factors are: (1) Secretary Snyder's statement to newsmen this week that Treasury isn't "frozen" to limited excise changes (though TV wasn't mentioned) and inference that it may listen to persuasive arguments by TV and Labor spokesmen that went into last week's record. (2) Fact that Labor people really are working at their opposition to TV excise, on grounds that all excises hit purchasing power of workers hardest and that the TV industry should be encouraged to maintain present high and potentially higher levels of employment.

TUBE PRICE CUTS AND SIZE TRENDS: If you have any doubt about upward trend in tube sizes -- quite aside from the bigger-than-19-in. picture tubes we reported last week (Vol. 6:8) -- consider these plain but eloquent facts:

(1) RCA, Sylvania and DuMont cut picture tube prices to manufacturers, as of April 1. All reduced 12½-in. from \$20.50 to \$19 and 16-in. from \$33 to \$29. In addition, despite demand greater than present productive capacity, DuMont and Sylvania cut 19-in. from \$69.50 to \$54.50. New distributor-dealer discounts will also be announced soon. GE and others presumably will follow suit, though as of press time GE would not verify.

(2) North American Philips, beginning all-out drive for projections (Vol. 6:8), cut prices of Protelgram units to manufacturers from \$74.93 to \$57.18; to distributors, from \$88.99 to \$65.33; to dealers, from \$111.05 to \$86.14. Big promotional pitch soon will be to get public to convert small-size direct-view sets to larger-size projection by using Protelgram.

(3) RMA January CR tube figures, released this week, seemed almost to sound requiem of 10-in., now being used by fewer and fewer set makers (Vol. 6:4). Of 436,252 tubes shipped, only 25,377 (5.8%) were 10-in. Biggest share was 12 & 12½-in., totaling 267,443 (61.3%); 15, 16 & 19-in. moved up to 132,898 (30.4%); 7 & 8½-in., only 10,402 (2.4%); projections, mere 130. (For 1949 pattern, see Vol. 6:5.)

RCA is booked to continue 10-in. set deliveries into second quarter, but it won't be surprising to see it abandon that size altogether -- concentrating on 16-in. even more than 12½. Its 16-in. metal-coned tubes are now going into more than half RCA's sets, and the great store placed on them was manifest at formal dedication of big Marion, Ind. plant by RCA brass March 1. That plant is entirely devoted to 16-in. (which are also made at Lancaster); it employs 600, has 2 units now operating, is now laying down 2 more, plans 4 more later.

It's evident that 16-in. rectangulars (all-glass) are doing well, too. President Stanley McGiveran of American Structural Products Co. (Owens-Illinois) has written to set makers to say that demand is greater than expected, that needed new equipment won't arrive until March 15, that ASPC was placing tubemakers on weekly allocations from Feb. 20 to April 1; 14-in. rectangulars will also be allocated.

TOPICS & TRENDS OF THE TV TRADE: Except for threat to all industry, and to buying power in general, there seemed to be little evidence that coal strike had hit TV set and parts industries directly on any appreciable scale. But until Friday night's accord, with prospect of mining resuming Monday, it was noteworthy that steel mills were slowing down, local power uses being curtailed. Components deliveries were on day-to-day basis anyhow, with cabinet shortages most evident.

Anything might have happened -- at very time TV industry was taking advantage of market capable of absorbing its highest productive rate ever (Vol. 6:8). Everybody expects normal seasonal letdown in spring -- starting either April or May.

Curtailed railroad service hasn't been as much of a factor as seemed likely at first. But motor freight schedules have been hiked. Lifschutz Fast Freight, Chicago trucking concern, this week announced new special service for TV-radio -- promises third day delivery of carload lots to New York, Boston, Philadelphia.

Meanwhile, sets are selling and name-brand makers say they are still allocating. As if to prove this, there are outspoken complaints from telecasters in cities like Syracuse (which added second station last month; Vol. 6:6) and Memphis (which has just gone on coaxial) that their communities simply aren't getting receivers in quantities demanded.

* * * *

Coming up fast, proving that quantity market isn't occupied by big fellows alone, is Philharmonic Radio Corp., 119 W. 57th St., New York, which in last 8 weeks has made big promotional splashes leading to quick sellouts in some of country's big dept. stores -- notably Jordan Marsh, Boston (Vol. 6:1), Wanamakers, Philadelphia; Bon Marche, Seattle; Gertz, Jamaica, L.I.; Shartenberg, New Haven. Idea evolved by president Bernard Lippin is special promotion by established stores, offered quantities of sets at good prices. Next big promotions will be March 6 by Gimbels, Pittsburgh, then Schusters, Milwaukee.

Lippin reports Philharmonic production now at rate of 200,000 per year. Line leads with 10-in. table at \$99.50; 12½-in. table, \$139.50 to \$149.50; 16-in. table, \$190; then variously priced consoles.

New set maker is Hi-Par Products Co., 347 Lunenburg St., Fitchburg, Mass., antenna manufacturer, out with 3x4-ft Protelgram chairside home model at \$675; with remote control for commercial use, \$795. It also has conversion unit, price unstated, for making all 630-TS type direct-view TV sets into projection models.

* * * *

Hallicrafters reports it's averaging 800 TVs daily since Feb. 1, increase of 100 per day from 1949 peak; it's aiming for 1500 daily by September...Hoffman has added 20,000 sq. ft. of factory space by purchasing structure adjacent to its Plant No. 3...Colonial Radio (Sylvania) gets Ford, Hudson auto radio business recently relinquished by Zenith (Vol. 6:4), former also supplied by Motorola and Bendix.

New models are notable for their paucity, though several new major lines are due late this month or early next -- data not yet revealable. Pilot reports new 12½-in. table with FM at \$240; this is not reduction in price of previous model (Vol. 6:5) which remains \$270...Capehart has new 16-in. console called Oxford, \$490...Trans-Vue's new 16-in. console is \$300...DeWald has new 12½-in. table at \$240, 16-in. table \$300 and console \$340, has priced previously unmarked 19-in. console \$400.

RMA TV set advertising committee, under DuMont's W. L. Stickel, meets March 23 in Drake Hotel, Chicago. Job is to clean up extravagant and confusing claims (Vol. 6:7)...Bruno-New York, biggest RCA distributor, declares 30-day "moratorium" on all dealer cooperative advertising because dealers can't promise deliveries due to limited allocations of receivers...Western Summer Market in San Francisco has been set for July 24-28, with TV-radio expected to be highlighted again.

RMA is out with last-quarter 1949 shipment figures, listing total sets shipped by its members to each of 49 areas -- with cumulative for year and cumulative since Jan. 1, 1947. Table is available from RMA, 1317 F St. NW, Washington. It's last of quarterly reports; henceforth they're to be issued monthly, providing an additional index to where the sets are going.

Financial & Trade Notes: Admiral upped quarterly dividend from 20¢ to 25¢, next payable March 31 to shareholders of record March 15 . . . Magnavox Jan.-Feb. sales reported in *Wall Street Journal* as 37½% ahead of same months last year, with March running even better . . . Tung-Sol 1949 sales were \$15,530,969, net income \$867,469 (\$2.26 per common share) vs. \$14,274,028 sales and \$571,701 profit (\$1.37) in 1948 . . . Aerovox 1949 profit \$675,189 vs. \$357,047 in 1948.

Sylvania sales reached record total of \$102,539,866 in 1949, but profits declined to \$3,052,840 or \$1.82 per share on 1,456,550 outstanding. This compares with \$99,347,751 sales, record profit of \$3,823,382 or \$2.84 per share on 1,206,550 shares outstanding as of Dec. 31, 1948. Lower net resulted from expenses in starting up 2 new TV picture tube plants, cost of getting into TV set business, disposal of subsidiary Wabash Co., etc.

Avco sales dropped to \$137,398,554, profit to \$4,150,466 (54¢ per share) during fiscal year ended Nov. 30, 1949, according to annual report Feb. 28. This compares with \$140,515,462 sales, \$7,913,736 earnings (\$1.11) during preceding year. Drop is attributed to "slump in television and appliance sales during summer months, curtailment of production by early model changeovers of certain household appliances, and competitive price reductions." Breakdowns by divisions aren't shown, but 57% of Avco's business is represented by its Crosley Division (radio-TV-appliance mfg.) and in 1948 its broadcasting division (WLW, etc.) accounted for \$4,660,809 income, \$1,489,043 profit (Vol. 5:10). Its TV outlet WLWT, which began in 1948, is reputed to be a slight earner, but its Columbus WLWC and Dayton WLWD, which began in spring of 1949, are losers.

"Disappointing year" for Stromberg-Carlson is reported in Feb. 24 letter to stockholders by president R. C. Tait, reporting 1949 consolidated net loss of \$478,000 (\$57,000 loss by Canadian subsidiary); inventories at \$6,100,000 as compared with \$9,100,000 at end of June; consolidated earned surplus up from \$5,353,000 to \$5,540,000. Losses were incurred 6 consecutive months through September, and "reasonable profits from that point on" were not enough to offset prior cumulative losses. However, "operations are currently satisfactory and look good for at least the first 6 months of this year." Contributing to losses during summer was WHAM-TV, which began June 11, but combined AM-FM-TV operations "got into the black in October and have remained there since."

Westinghouse doesn't disclose TV-radio contributions to annual sales, but in 1949 annual report president Gwilym Price notes that consumer products (including TVs and radios) accounted for 26% of year's net sales of \$945,699,382. Profit of \$67,268,555 (\$4.95 per common share) was largest in 64-year history. They compare with \$970,673,847 sales, \$55,656,351 profit in 1948. TVs accounted for 69% of TV-radio division's sales vs. 16% in 1948. Mr. Price foresaw "creeping increase in cost of raw materials . . . As a consequence, prices of our products are apt to be firm to higher through 1950."

McGraw-Hill's *Business Week* for Feb. 18, in authoritative roundup titled "Where Is Television? Right Here Now," figures 28,000,000 families (out of U. S.'s 43,000,000) now within reach of TV signals, and 32,000,000 by end of 1950. It also estimates set prices will drop 5-10% a year for next 5 years.

Informal poll of 44 executives at recent Chicago RMA meeting brought forth average guess that 1950 TV production would be 4,500,000 TV sets. Highest guess was 6,750,000, lowest 3,200,000.

Trade Personals: Edward E. Lewis, onetime RCA, recently president of Sylvania's Colonial Radio Corp., then v.p. of Sylvania, has resigned to become business consultant; A. L. Chapman transferred from Warren, Pa. plant to take charge of Colonial plant in Buffalo . . . Harry R. Seelen promoted to manager of RCA Tube Dept.'s Lancaster engineering section, succeeding Dr. Dayton Ulrey, retired . . . L. G. Haggerty, ex-RCA Victor, recently asst. gen. mgr. of F. L. Jacobs Co. (automotive parts), new director of manufacturing for Capehart-Farnsworth; Robert M. Hoey, new Capehart traffic mgr. . . . Curtis R. Hammond promoted to equipment sales mgr., Raytheon receiving tube div. . . . Walter S. Bopp newly appointed radio-appliance sales mgr. for RCA International . . . John F. Herbst, ex-W. & J. Sloane, new western regional manager for DuMont receiver sales, headquartering in Beverly Hills, Cal.

IRE awards to be made at 1950 convention in New York's Hotel Commodore, March 6-9, announced as follows: Medal of Honor, to Dean Frederick E. Terman, Leland Stanford; Morris Liebman Memorial Prize, to Otto H. Schade, RCA Victor, for work on TV and related optics; Browder J. Thompson Memorial Prize, to Joseph F. Hull and Arthur W. Randalls, civilian engineers, Army Signal Corps; Editor's Award, to E. J. Barlow, Sperry, for paper on "Doppler Radar"; Harry Diamond Memorial Award, to Andrew V. Haefl, consultant, Naval Research Lab. Among the 30 new fellowship are several mainly for TV work: Alda V. Bedford, RCA Labs; Frank J. Bingley, Philco; Harry B. Marvin, GE; Garrard Mountjoy, Stromberg-Carlson; Jack Poppele, WOR-TV.

After getting U. S. sales talk on our TV standards, March 27-April 7, international committee (CCIR Study Group 11) goes to Paris and Eindhoven for French and Dutch pitches April 20-25, then to London for British showing April 27-May 4. U. S. demonstration committee, under aegis of State Dept., and chaired by Commerce Dept.'s Donald Parris, includes men from transmitter makers DuMont, GE, RCA. U. S. itinerary will cover: New York's factories, stations, networks; RCA's plants in Harrison, Princeton, Camden; Philco's production and research; Washington color demonstrations.

Types of TV interference, in descending order of nuisance value, as listed in *Electrical World* article by F. L. Greene, of Ohio Power Co., Canton, O: (1) auto ignition, (2) old diathermy, (3) old-type tungsten filament lamps, (4) certain germicidal lamps, (5) radio transmitting gear, (6) some electronic garage-door openers, (7) dielectric heating, (8) some household appliances, (9) power lines.

Noblitt-Sparks didn't begin making TVs until third quarter 1949, yet TV was big factor in year's business which totaled \$37,128,658 sales and \$3,093,840 (\$5.21 per share) net profit vs. \$35,447,580 sales and \$2,460,133 (\$4.14) net profit in 1948. Company now makes 8 TV models, 26 radios, including many "for a large Chicago mail order house." Other products include electric appliances, metal furniture, car heaters.

Eastman has issued booklet on *The Use of Motion Picture Films in TV* that explains best methods of making movies for telecasting, includes chapter on kinescoping. Manual can be secured without cost from Motion Picture Film Dept., Eastman Kodak Co., 343 State St., Rochester. National TV Film Council has TV-film manual due soon.

Harper's Magazine, reporting on 3010 responses to September questionnaire sent subscribers, says 77.3% of its circulation is in TV areas, 57.5% of its readers plan to buy TVs within a year.

Movie exhibitors and TV stores were at one another's figurative throats in New York this week, when Dynamic and Frost chains carried ads with this theme: "Why go to the movies when you can stay at home and see movies in your own living room on TV." There also were spots on WOR-TV and WINS to effect that TV sets purchased on time-payment plan "cost less than price of 2 movie admission tickets and give much more entertainment." Threats of advertising withdrawals by exhibitors and complaints to stations caused dropping of that kind of copy. WMGM (Loew's) and WNEW refused to carry it.

Final day for theatre-TV hearing appearances, last Monday, saw 44 in FCC hopper—Allied States alone filing for 21 members. Among non-movie interests filing were AT&T, CBS, DuMont, TBA, NAB, National Bus Communications Inc., American Trucking Associations Inc., and meter-plan advocate Thomas E. Corbett (see Supp. 67). All appearances were formalities to indicate they would be represented at hearing, date not yet set.

Paramount's Paul Raibourn in interviews with trade papers states Paramount has been surveying TV's impact on movies for last 3 years, finds TV cuts attendance of TV-owning families 20-30%—not 74% as found by Charles Alldredge in recent Washington survey (Vol. 6:5). Raibourn called Alldredge figures injurious to industry whose top companies are trying to sell theatres in compliance with anti-trust decisions.

"Theatre TV is the cure for boxoffice doldrums," said A. A. Hovell, president of Century Circuit, in announcing purchase of two 20x15-ft. units from RCA. Century operates 34 houses in Brooklyn, Queens, Nassau and Suffolk counties. Units go into Meadows Theatre, Fresh Meadows, L. I., and Albemarle Theatre, Brooklyn.

Report that ABC intends to set up own film-producing unit in Hollywood, to make TV films and bypass kines entirely, was branded "balderdash" by ABC press chief Earl Mullen. Mullen said all ABC is doing is trying to make a few deals with independent producers in Hollywood (particularly those making TV films) to use ABC's huge TV facilities (old Vitagraph Studios). There's absolutely no intention of giving up on kines.

TV didn't hurt Indiana sectional basketball tourney in Indianapolis which began last weekend—games were sellout. High School Athletic Assn commissioner L. V. Phillips told *Indianapolis News* he didn't think TV was going to hurt any other tournaments. "The more publicity . . . the more people want to see the game in person," Phillips said. "Any real basketball fan doesn't think there's a substitute for the actual excitement of being there. You can't get that atmosphere even with a TV picture as big as the side of a house."

TV's drawing power in restaurants was checked in 2 Santa Rosa, Cal., taverns by Elliott, Daly & Schnitzer agency, San Francisco, in study for California Trans-Vue distributor, Tele-Visco Inc. In one tavern, traffic increased 25%, receipts 12%; in other, traffic went up 18%, receipts 11%. Average TV watcher stayed longer, but spent same money as non-watcher. Attendance was stimulated with newspaper ads, table cards, etc.

Personal Notes: NBC president Joseph McConnell, Davidson College '27 (his father taught there) returns to home area March 9 to address Greensboro Chamber of Commerce . . . James V. Melick, ex-executive asst. to CBS stations v.p. J. Kelly Smith, new executive asst. to CBS-Hollywood management . . . Jack Rayel, ex-DuMont, joins NBC-TV as program procurement supervisor . . . Ralph W. Hardy, ex-chief of Radio Division, reassigned by NAB to be director of Dept. of Govt. Relations.

After finding much that's good in TV (that it might reestablish home as family meeting place, help lower juvenile delinquency and divorce), but quoting incredibly erroneous statistics about TV as "big business," economist Roger Babson in article titled "The Age of 'Vidiots'" in recent *Commercial & Financial Chronicle* observes: "On the other hand, TV can develop a race of idiots. It's already on its merry way toward this goal. . . . What kind of future race of mankind do we want? The answer lies with parents, schools and churches. We can't afford to let unprincipled 'entertainers' ruin America. Television is dynamite."

Authoritative-sounding study of TV "eyestrain" by Philip Lewis, assistant principal of Chicago's South Shore High School, affirms previously reported opinions of eye doctors (Vol. 5:2, 32, 43). He reports that 6 weeks of tests with 556 teen-agers found nothing in TV harmful to eyes. He, too, noted that TV is a good instrument for bringing eye defects to light and getting them corrected. He also found that there's no fixed "optimum" viewing distance, that it varies for individuals.

Add viewers of TV with alarm: Dr. George Shuster, president of Hunter College, saying New York children don't read books anymore but spent half to three-quarters of their leisure time watching TV. "Unless something is done about raising the level of TV, our culture will become more and more immature and silly."

Campaign to improve children's study habits by strict rationing of TV (Vol. 5:52) is proving successful, reports principal Charles Sheehan of Public School 5, Clifton, N. J. Latest report cards show 30% fewer pupil failures, but he says 20% still failed and 5% is the normal figure.

Stephens College, Columbia, Mo., woman's junior college, is incorporating TV into curriculum next fall. Course will be given by radio dept. head Dr. Hale Aarnes, using 2-camera chain, closed circuit, with receivers around campus. Kines will be made of programs produced.

Among forecasts for next 10 years, in January *Changing Times*, the *Kiplinger Magazine*: "Television will continue to boom, of course. Twenty million sets will be operating in the latter Fifties. Quality of programs will improve, and by mid-decade there will be a coast-to-coast TV network. New stations, bringing TV to new areas, will come slowly at first, pick up speed around 1952-53. Color won't come into general use until a year or so later. Sets will trend to larger screens, lower prices; 16-in. pictures will become the 'standard.' But despite it all you will still listen to the radio, and radio homes will outnumber TV homes by at least 2 to 1, even late in the decade."

Couple of TV programs ran afoul Federal laws recently, had G-men appealing to networks and FCC. Seems detective show showed private eye posing as postal inspector in one chapter, as census taker in another. Both Post Office Dept. and Census Bureau cited applicable Federal laws to show actions couldn't have taken place, asked industry to avoid aspersions on public servants.

Most powerful tube in the world, with 500-kw output, was announced by RCA. Called "super-power beam triode," its immediate applications are non-TV—high-power CW and international broadcast.

Wrestling match gates jumped when TV was banned from Los Angeles matches (Vol. 6:7), so it looks as if 30-day test blackout will be extended indefinitely.

SMPTE semi-annual convention April 24-28 in Chicago's Drake Hotel will include "comprehensive symposium" on film techniques for TV.

Directory of

Attorneys Practicing Before the Federal Communications Commission

These listings are compiled from the FCC bar register, from the membership roster of the FCC Bar Assn., and from other sources. Only those counsel are included who handle broadcasting and related cases frequently and regularly. All data herein has been checked with principals for accuracy as of this date.

ALBERTSON, FRED W.

Dow, Lohnes & Albertson, Munsey Bldg., Washington 4, D. C. Sterling 1000.

Fayette B. Dow, Horace L. Lohnes, Meredith M. Daubin Dwight E. Rorer, Robert L. Irwin, Joseph E. Keller, Clair L. Stout, Thomas W. Wilson, Paul A. O'Bryan, John P. Carr, Francis X. McDonough, William P. Sims Jr., Temple W. Seay.

BAKER, PHILIP M.

Baker & Thompson, Occidental Bldg., Washington 4, D. C. Executive 8068.

Charles E. Thompson.

BARLOW, JOEL

Covington, Burling, Rublee, O'Brian & Shorb, Union Trust Bldg., Washington, D. C. Republic 5900. (Counsel for Admiral Corp).

BARNES, MAURICE R.

Munsey Bldg., Washington 4, D. C. Sterling 7670.

BARON, THEODORE

National Press Bldg., Washington 4, D. C. Sterling 4115.
Arthur W. Scharfeld, Carl Shipley.

BEELAR, DONALD C.

Kirkland, Fleming, Green, Martin & Ellis, National Press Bldg., Washington 4, D. C. Metropolitan 1464.

Louis G. Caldwell, Hammond Chaffetz, Reed T. Rollo, Percy H. Russell Jr., E. D. Johnston, Kelley E. Griffith, Chauncey P. Carter Jr., R. Russell Eagan, Perry S. Patterson, Charles R. Cutler, Herbert J. Miller Jr., E. Ladd Thurston Jr.

BENNETT, ANDREW W.

International Bldg., Washington 5, D. C. Republic 3607. Frank A. Flanagan.

BERGSON, PHILIP

Woodward Bldg., Washington 5, D. C. Republic 8040.
Morton H. Wilner, John James Bernard.

BINGHAM, HERBERT M.

Bingham, Collins, Porter & Kistler, Tower Bldg., Washington 5, D. C. District 2141.

Linton M. Collins, William A. Porter, H. Donald Kistler, Robert M. Booth Jr., Roger Robb.

BOHANNON, ROSS

Johanson, Bohannon & Prescott, M & W Tower Bldg., Dallas, Tex. Riverside 3128.

Ross K. Prescott.

BOOTH, ROBERT M. Jr.

Bingham, Collins, Porter & Kistler, Tower Bldg., Washington 5, D. C. District 2141.

Herbert M. Bingham, Linton M. Collins, William A. Porter, H. Donald Kistler, Roger Robb.

BRAUNER, JULIUS

General Attorney, Columbia Broadcasting System, 485 Madison Ave., New York City 22. Plaza 5-2000.

Lounsbury D. Bates, Henry Howard Jr., W. Spencer Harrison, James H. Neu, George Norris.

BROWN, THAD H.

Roberts & McInnis, Mayflower Office Bldg., Washington 6, D. C. National 0032.

William A. Roberts, Charles B. McInnis, Warren Woods.

BRUNN, H. T.

Counsel, RCA International Division, Radio Corp. of America, 30 Rockefeller Plaza, New York 20, N. Y. Columbus 5-5900.

BURKE, EUGENE L.

Hayes & Hayes, Munsey Bldg., Washington 4, D. C. District 5376.

John C. Hayes.

CAHILL, JOHN T.

Cahill, Gordon, Zachry & Reindel (Counsel for RCA-NBC), 63 Wall St., New York City 5. Whitehall 4-7400.

Charles F. Detmar Jr., John F. Nields (New York); James E. Greeley, Robert G. Zeller (Washington).

CAIDWELL, LOUIS G.

Kirkland, Fleming, Green, Martin & Ellis, National Press Bldg., Washington 4, D. C. Metropolitan 1464. (Address after July 1: World Center Bldg.)

Hammond Chaffetz, Reed T. Rollo, Donald C. Beelar, Percy H. Russell Jr., E. D. Johnston, Kelley E. Griffith, Chauncey P. Carter Jr., R. Russell Eagan, Perry S. Patterson, Charles R. Cutler, Herbert J. Miller Jr., E. Ladd Thurston Jr.

CARR, JOHN P.

Dow, Lohnes & Albertson, Munsey, Bldg., Washington 4, D. C. Sterling 1000.

Fayette B. Dow, Horace L. Lohnes, Fred W. Albertson, Meredith M. Daubin, Dwight E. Rorer, Robert L. Irwin, Joseph E. Keller, Clair L. Stout, Thomas W. Wilson, Paul A. O'Bryan, Francis X. McDonough, William P. Sims Jr., Temple W. Seay.

CARTER, CHAUNCEY P. Jr.

Kirkland, Fleming, Green, Martin & Ellis, National Press Bldg., Washington 4, D. C. Metropolitan 1464. (Address after July 1: World Center Bldg.)

Louis G. Caldwell, Hammond Chaffetz, Reed T. Rollo, Donald C. Beelar, Percy H. Russell Jr., E. D. Johnston, Kelley E. Griffith, R. Russell Eagan, Perry S. Patterson, Charles R. Cutler, Herbert J. Miller Jr., E. Ladd Thurston Jr.

CASE, NORMAN S.

Southern Bldg., Washington 5, D. C. National 1841.

CLAGETT, JOHN F.

Claggett & Schilz, 1424 K St., N.W., Washington 5, D. C. National 1774.

Harold L. Schilz.

COHEN, LESTER

Hogan & Hartson, Colorado Bldg., Washington 5, D. C. National 2006.

Nelson T. Hartson, Duke M. Patrick, Karl A. Smith, Corwin Lockwood.

COHN, MARCUS

Cohn & Marks, 1420 New York Ave. N.W., Washington 5, D. C. District 6160.

Leonard H. Marks, Samuel Miller, Bernard Koteen.

COLIN, RALPH F.

Rosenman, Goldmark, Colin & Kaye, 165 Broadway, New York City, Cortland 7-8780. (Counsel for CBS).

Samuel I. Rosenman, Godfrey Goldmark, Sydney M. Kaye, Walter J. Petschek, Max Freund, Richard S. Salant.

COURTNEY, JEREMIAH

1707 H St. NW, Washington 6, D. C. Executive 1635.

COWGILL, HAROLD G.

Segal, Smith & Hennessey, 816 Connecticut Ave., Washington 6, D. C. Republic 2701.

Paul M. Segal, George S. Smith, Philip J. Hennessey Jr., David E. Tolman, Harry P. Warner, Quayle B. Smith.

DALY, HARRY J.

Metropolitan Bank Bldg, Washington 5, D. C. National 3260.

Robert A. Gingell, O. J. Mitchell.

DAVID, NATHAN H.

1625 K St. NW, Washington 6, D. C. Republic 2413.

DAVIS, JOHN F.

Schoene, Freehill, Kramer & Davis, Commonwealth Bldg., Washington 6, D. C. National 6926.

Joseph Freehill, Milton Kramer.

DEMPSEY, WILLIAM J.

Dempsey & Kopolovitz, Bowen Bldg., Washington 5, D. C. Republic 6363.

William C. Kopolovitz, Harry J. Ockershausen, Frederick H. Walton Jr.

DENSLOW, L. ALTON

LeRoy & Denslow, Washington Bldg., Washington 5, D. C. Republic 0727.

DETMAR, CHARLES F. Jr.

Cahill, Gordon, Zachry & Reindel (Counsel for RCA-NBC), 63 Wall St., New York City 5. Whitehall 4-7400.

John T. Cahill, John F. Nields (New York); James E. Greeley, Robert G. Zeller (Washington).

DIRECTIONS FOR FILING: File under Attorneys and Engineers. Discard Supplement No. 11-B, which this brings up to date and supersedes.

DOWD, THOMAS N.
Pierson & Ball, Ring Bldg., Washington 6, D. C. Republic 2566.
W. Theodore Pierson, Ralph L. Walker, Harrison T. Slaughter,
Vernon C. Kohlihaas, F. Cleveland Hedrick, Frederic J. Ball,
Robert E. Hodson, Lowell J. Radford.

DURR, CLIFFORD J.
Commonwealth Bldg., Washington 6, D. C. Republic 2413.

DUVALL, CHARLES F.
Fisher, Wayland, Duvall & Southmayd, Warner Bldg., Wash-
ington 4, D. C. Republic 8607.
Ben S. Fisher, Charles V. Wayland, John P. Southmayd.

EAGAN, R. RUSSELL
Kirkland, Fleming, Green, Martin & Ellis, National Press Bldg.,
Washington 4, D. C. Metropolitan 1464. (Address after July
1: World Center Bldg.)
Louis G. Caldwell, Reed T. Rollo, Hammond Chaffetz, Donald
C. Beelar, Percy H. Russell Jr., E. D. Johnston, Kelley E.
Griffith, Chauncey P. Carter Jr., Perry S. Patterson, Charles R.
Cutler, Herbert J. Miller Jr., E. Ladd Thurston Jr.

JAMES, W. ERVIN
17 Molton St., Montgomery, Ala. Telephone: 3-0511.

EWING, SAMUEL E. Jr.
General Attorney, RCA Victor Division, Radio Corp. of America,
Camden, N. J. Camden 4-8000.

FALK, E. A.
40 Wall St., New York City. Whitehill 4-1771. (Counsel for
DuMont.)

FISHER, BEN S.
Fisher, Wayland, Duvall & Southmayd, Warner Bldg., Wash-
ington 4, D. C. Republic 8607.
Charles V. Wayland, John P. Southmayd, Charles F. Duvall.

FISHER, HENRY G.
DuPont Circle Bldg., Washington, D. C. Adams 3400.

FITTS, WILLIAM C. Jr.
Fly, Fitts & Shuebruk, 30 Rockefeller Plaza, New York City 20.
Circle 7-3040.
James Lawrence Fly, Peter Shuebruk, William J. Durka.

FLETCHER, FRANK U.
Munsey Bldg., Washington 4, D. C. National 5308.

FLY, JAMES LAWRENCE
Fly, Fitts & Shuebruk, 30 Rockefeller Plaza, New York City 20.
Circle 7-3040.
William C. Fitts Jr., Peter Shuebruk, William J. Durka.

GREELEY, JAMES E.
Cahill, Gordon, Zachry & Reindel, New York City (Counsel for
RCA-NBC). Washington Office: 1000 Vermont Ave. NW. Dis-
trict 7480.
John T. Cahill, Charles F. Detmar Jr., John F. Nields (New
York); Robert G. Zeller (Washington).

GRIFFITH, KELLEY E.
Kirkland, Fleming, Green, Martin & Ellis, National Press Bldg.,
Washington 4, D. C. Metropolitan 1464. (Address after July
1: World Center Bldg.)
Louis G. Caldwell, Hammond Chaffetz, Reed T. Rollo, Donald C.
Beelar, Percy H. Russell Jr., E. D. Johnston, Chauncey P.
Carter Jr., R. Russell Eagan, Perry S. Patterson, Charles R.
Cutler, Herbert J. Miller Jr., E. Ladd Thurston Jr.

HALEY, ANDREW G.
Haley, McKenna & Wilkinson, 1101 Connecticut Ave. (Duryea
Bldg.), Washington 6, D. C. District 2724.
James A. McKenna Jr., Vernon L. Wilkinson.

HAWKINS, HOWARD R.
General Attorney, RCA Communications Inc., RCA, 66 Broad
St., New York City. Hanover 2-1811.

HAYES, JOHN C.
Hayes & Hayes, Munsey Bldg., Washington 4, D. C. District
5376.
Eugene L. Burke.

HEALD, ROBERT L.
Welch, Mott & Morgan, 710 Fourteenth St. NW (Ericson Bldg.),
Washington 5, D. C. Executive 4600.
Vincent B. Welch, Harold E. Mott, Edward P. Morgan, Edward
E. Kenehan, Lyon L. Tyler Jr.

HEARNE, JOHN P.
302 Central Tower Bldg., San Francisco 3, Cal. Yukon 6-1365.

HEFFERNAN, JOSEPH V.
V.P. and General Attorney, Radio Corp. of America, 30 Rocke-
teller Plaza, New York 20, N. Y. Columbus 5-5900.
Robert L. Kerner, counsel; Samuel E. Ewing Jr., general attor-
ney, RCA Victor Division, Camden, N. J.; Gustav B. Margraf,
V.P. and general attorney, National Broadcasting Co.; Carlyle
E. Yates, counsel, RCA Laboratories Division; H. T. Brunn,
counsel, RCA International Division; Howard R. Hawkins,
general attorney, RCA Communications Inc.; Ray B. Houston,
counsel, Radiomarine Corp. of America.

HENNESSEY, PHILIP J. Jr.
Segal, Smith & Hennessey, 816 Connecticut Ave., Washington 6,
D. C. Republic 2701.
Paul M. Segal, George S. Smith, Harold G. Cowgill, David E.
Tolman, Harry P. Warner, Quayle E. Smith.

HILMER, LUCIEN
Commonwealth Bldg., Washington 6, D. C. National 6926.

HODSON, ROBERT E.
Pierson & Ball, Ring Bldg., Washington 6, D. C. Republic 2566.
W. Theodore Pierson, Ralph L. Walker, Harrison T. Slaughter,
Thomas N. Dowd, Vernon C. Kohlihaas, F. Cleveland Hedrick,
Frederic J. Ball, Robert E. Hodson, Lowell J. Radford.

HOUSTON, RAY B.
Counsel, Radiomarine Corp. of America, RCA, 75 Varick St.
New York 13, N. Y. Walker 5-3716.

IRWIN, ROBERT L.
Dow, Lohnes & Albertson, Munsey Bldg., Washington 4, D. C.
Sterling 1000.
Fayette B. Dow, Horace L. Lohnes, Fred W. Albertson, Meredith
M. Daubin, Dwight E. Rorer, Joseph E. Keller, Clair L. Stout,
Thomas W. Wilson, Paul A. O'Bryan, John P. Carr, Francis X.
McDonough, William P. Sims Jr., Temple W. Seay.

JAMESON, GUILFORD
Continental Bldg., Washington 5, D. C. National 6232.

JANSKY, MAURICE M.
Loucks, Zias, Young & Jansky, 1317 F St. NW, Washington 1,
D. C. Sterling 4004.
Phillip G. Loucks, Joseph F. Zias, Verne R. Young.

JOHNSTON, E. D.
Kirkland, Fleming, Green, Martin & Ellis, National Press Bldg.,
Washington 4, D. C. Metropolitan 1464. (Address after July
1: World Center Bldg.)
Louis G. Caldwell, Hammond Chaffetz, Reed T. Rollo, Donald
C. Beelar, Percy H. Russell Jr., Kelley E. Griffith, Chauncey
P. Carter Jr., R. Russell Eagan, Perry S. Patterson, Charles R.
Cutler, Herbert J. Miller Jr., E. Ladd Thurston Jr.

JORGENSEN, NORMAN E.
Krieger & Jorgensen, 1707 H St. NW, Washington 6, D. C.
Executive 1635.
Seymour Krieger.

KAYE, SYDNEY M.
Rosenman, Goldmark, Colin & Kaye, 165 Broadway, New York
City. Courtland 7-8780.
Samuel I. Rosenman, Ralph F. Colin, Godfrey Goldmark, Walter
J. Petschek, Max Freund, Richard S. Salant.

KELLER, JOSEPH E.
Dow, Lohnes & Albertson, Munsey Bldg., Washington 4, D. C.
Sterling 1000.
Fayette B. Dow, Horace L. Lohnes, Fred W. Albertson, Meredith
M. Daubin, Dwight E. Rorer, Robert L. Irwin, Clair L. Stout,
Thomas W. Wilson, Paul A. O'Bryan, John P. Carr, Francis X.
McDonough, William P. Sims Jr., Temple W. Seay.

KENDALL, JOHN W.
Black & Kendall, Cascade Bldg., Portland 4, Ore.
John C. Kendall, George Black Jr.

KENEHAN, EDWARD F.
Welch, Mott & Morgan, 710 Fourteenth St. NW (Ericson Bldg.),
Washington 5, D. C. Executive 4600.
Vincent B. Welch, Harold E. Mott, Edward P. Morgan, Robert
L. Heald, Lyon L. Tyler Jr.

KIBLER, MILTON J.
Bond Bldg., Washington 5, D. C. Sterling 2342.

KOPLOVITZ, WILLIAM C.
Dempsey & Kopolovitz, Bowen Bldg., Washington 5, D. C. Re-
public 6363.
William J. Dempsey, Harry J. Ockershausen, Frederick H. Wal-
ton Jr.

KOTEEN, BERNARD
Cohn & Marks, 1420 New York Ave. NW, Washington 5, D. C.
District 6160.
Marcus Cohn, Leonard H. Marks, Samuel Miller.

KRAMER, MILTON
Schoene, Freehill, Kramer & Davis, Commonwealth Bldg., Wash-
ington 6, D. C. National 6926.
Joseph Freehill, John F. Davis.

KRIEGER, SEYMOUR
Krieger & Jorgenson, 1707 H St. NW, Washington 6, D. C.
Executive 1635.
Norman E. Jorgensen.

LANDON, S. WHITNEY
General Attorney, Long Lines Dept., American Telephone &
Telegraph Co., 32 Avenue of the Americas, New York 13,
N. Y. Exchange 3-9700.
Ernest D. North.

LEVY, IRVING J.
Rauh & Levy, 1631 K St. NW, Washington 6, D. C. Republic
7795.
Joseph L. Rauh Jr., Mitchell J. Cooper.

LITTELL, NORMAN M.
1422 F St. NW, Washington 4, D. C. District 1895.
Rufus G. King.

LITTLEPAGE, JAMES H.
Littlepage & Littlepage, Continental Bldg., Washington 5, D. C.
District 3723.
Thomas P. Littlepage Jr., John M. Littlepage.

LITTLEPAGE, JOHN M.
Littlepage & Littlepage, Continental Bldg., Washington 5, D. C.
District 3723.
Thomas P. Littlepage Jr., James H. Littlepage.

LITTLEPAGE, THOMAS P. Jr.
Littlepage & Littlepage, Continental Bldg., Washington 5, D. C.
District 3723.
John M. Littlepage, James H. Littlepage.

LOCKWOOD, CORWIN
Hogan & Hartson, Colorado Bldg., Washington 5, D. C. Na-
tional 2006.
Nelson T. Hartson, Duke M. Patrick, Karl A. Smith, Lester
Cohen.

LOHNES, HORACE L.
Dow, Lohnes & Albertson, Munsey Bldg., Washington 4, D. C.
Sterling 1000.
Fayette B. Dow, Fred W. Albertson, Meredith M. Daubin, Dwight
E. Rorer, Robert L. Irwin, Joseph E. Keller, Clair L. Stout,
Thomas W. Wilson, Paul A. O'Bryan, John P. Carr, Francis
X. McDonough, William P. Sims Jr., Temple W. Seay.

- LOUCKS, PHILIP G.**
Loucks, Zias, Young & Jansky, 1317 F St. NW, Washington 1, D. C. Sterling 4004.
Verne R. Young, Joseph F. Zias, Maurice M. Jansky.
- LOVETT, ELIOT C.**
Hanson, Lovett & Dale, 729 Fifteenth St. NW, Washington 5, D. C. Metropolitan 5263.
Elisha Hanson, William K. Van Allen.
- MARGRAF, GUSTAV B.**
V.P. and General Attorney, National Broadcasting Co. (RCA), 30 Rockefeller Plaza, New York 20, N.Y. Circle 7-8300.
Thomas Ervin, asst. general attorney; Robert Myers, asst. general attorney; George Halvert, John Shute, Paul Lynch, attorneys.
- MARKS, LEONARD H.**
Cohn & Marks, 1420 New York Ave. NW, Washington 5, D. C. District 6160.
Marcus Cohn, Samuel Miller, Bernard Koteen.
- MAYER, J. GERALD**
Mayer, Rigby & Ryan, 1010 Vermont Ave. NW, Washington 5, D. C. Executive 2280.
Scott G. Rigby, John T. Ryan.
- MCDONALD, J. A.**
V.P. and General Attorney, American Broadcasting Co., 30 Rockefeller Plaza, New York City 20. Circle 7-5700.
Geraldine B. Zorbaugh, William Phillipson, Omar F. Elder, Jr., David S. Smith; Walter L. Emerson (Chicago).
- MCDONOUGH, FRANCIS X.**
Dow, Lohnes & Albertson, Munsey Bldg., Washington 4, D. C. Sterling 1000.
Fayette B. Dow, Horace L. Lohnes, Fred W. Albertson, Meredith M. Daubin, Dwight E. Rorer, Robert L. Irwin, Joseph E. Keller, Clair L. Stout, Thomas W. Wilson, Paul A. O'Bryan, John P. Carr, William P. Sims Jr., Temple W. Seay.
- McKENNA, JAMES A. Jr.**
Haley, McKenna & Wilkinson, 1101 Connecticut Ave. (Duryea Bldg.), Washington 6, D. C. District 2724.
Andrew G. Haley, Vernon L. Wilkinson.
- MIDLEN, JOHN H.**
922 Munsey Bldg., Washington 4, D. C. Sterling 5973.
- MILLER, NEVILLE**
Miller & Schroeder, Munsey Bldg., Washington 4, D. C. Metropolitan 2193.
Arthur H. Schroeder.
- MILLER, SAMUEL**
Cohn & Marks, 1420 New York Ave. NW, Washington 5, D. C. District 6160.
Marcus Cohn, Leonard H. Marks, Bernard Koteen.
- MORGAN, EDWARD P.**
Welch, Mott & Morgan, 710 Fourteenth St. NW (Ericson Bldg.), Washington 5, D. C. Executive 4600.
Vincent B. Welch, Harold E. Mott, Robert L. Heald, Edward F. Kenehan, Lyon L. Tyler Jr.
- MOTT, HAROLD E.**
Welch, Mott & Morgan, 710 Fourteenth St. NW (Ericson Bldg.), Washington 5, D. C. Executive 4600.
Vincent B. Welch, Edward P. Morgan, Robert L. Heald, Edward F. Kenehan, Lyon L. Tyler Jr.
- NIELDS, JOHN F.**
Cahill, Gordon, Zachry & Reindel (Counsel for RCA-NBC), 63 Wall St., New York City 5. Whitehall 4-7400.
John T. Cahill, Charles F. Detmar Jr.; James E. Greeley, Robert G. Zeller (Washington).
- O'BRYAN, PAUL A.**
Dow, Lohnes & Albertson, Munsey Bldg., Washington 4, D. C. Sterling 1000.
Fayette B. Dow, Horace L. Lohnes, Fred W. Albertson, Meredith M. Daubin, Dwight E. Rorer, Robert L. Irwin, Joseph E. Keller, Clair L. Stout, Thomas W. Wilson, John P. Carr, Francis X. McDonough, William P. Sims Jr., Temple W. Seay.
- OCKERSHAUSEN, HARRY J.**
Dempsey & Koplovitz, Bowen Bldg., Washington 5, D. C. Republic 6363.
William J. Dempsey, William C. Koplovitz, Frederick H. Waiton Jr.
- OPPENHEIMER, MONROE**
Miller, Sher & Oppenheimer, Woodward Bldg., Washington 5, D. C. Republic 3028.
Robert E. Sher, William P. Bernton.
- PATRICK, DUKE M.**
Hogan & Hartson, Colorado Bldg., Washington 5, D. C. National 2006.
Nelson T. Hartson, Karl A. Smlth, Lester Cohen, Corwin Lockwood.
- PETTY, DON E.**
General Counsel, National Association of Broadcasters, 1771 N St. NW, Washington 6, D. C. Decatur 9300.
Vincent Wasilewski, Sidney Farr.
- PIERSON, W. THEODORE**
Pierson & Ball, Ring Bldg., Washington 6, D. C. Republic 2566.
Raiph L. Walker, Harrison T. Slaughter, Thomas N. Dowd, Vernon C. Kohlhaas, F. Cleveland Hedrick, Frederic J. Ball, Robert E. Hodson, Lowell J. Radford.
- PISCHKE, VAIL W.**
Victor Bldg., 724 Ninth St. NW, Washington 1, D. C. Executive 2234.
- PORTER, PAUL A.**
Arnold, Fortas & Porter, 1200 Eighteenth St. NW (Ring Bldg.), Washington 6, D. C. Executive 7300.
Thurman Arnold, Abe Fortas, Reed Miller.
- PORTER, WILLIAM A.**
Bingham, Collins, Porter & Kistler, Tower Bldg., Washington 5, D. C. District 2141.
Herbert M. Bingham, Linton M. Collins, H. Donald Kistler, Robert M. Booth Jr., Roger Robb.
- PRATT, ELMER W.**
1603 K St. NW, Washington 6, D. C. National 3206.
- PRICE, T. BROOKE**
General Attorney, American Telephone & Telegraph Co., 195 Broadway, New York City 7. Exchange 3-9800.
John H. Ray, V.P. and General Counsel; Wayne E. Babler, Edmund S. Hawley, Elihu H. Joyner.
- PRINCE, D. F.**
Prince & Taylor, Bowen Bldg., Washington 5, D. C. Republic 8154.
Dwight D. Taylor.
- RAUH, JOSEPH L. Jr.**
Rauh & Levy, 1631 K St. NW, Washington 6, D. C. Republic 7795.
Irving J. Levy, Mitchell J. Cooper.
- RAY, JOHN H.**
V.P. and General Counsel, American Telephone & Telegraph Co., 195 Broadway, New York City 7. Exchange 3-9800.
T. Brooke Price, General Attorney; Wayne E. Babler, Edmund S. Hawley, Elihu H. Joyner.
- RIGBY, SCOTT G.**
Mayer, Rigby & Ryan, 1010 Vermont Ave. NW, Washington 5, D. C. Executive 2280.
J. Gerald Mayer, John T. Ryan.
- ROBERSON, FRANK**
Spearman & Roberson, Munsey Bldg., Washington 4, D. C. Metropolitan 0023.
Paul D. P. Spearman, John C. Spearman, Russell Rowell.
- ROBERTS, WILLIAM A.**
Roberts & McInnis, Mayflower Office Bldg., Washington 6, D. C. National 0032.
Charles B. McInnis, Thad H. Brown, Warren Woods.
- ROLLO, REED T.**
Kirkland, Fleming, Green, Martin & Ellis, National Press Bldg., Washington 4, D. C. Metropolitan 1464. (Address after July 1: World Center Bldg.)
Louis G. Caldwell, Hammond Chaffetz, Donald C. Beelar, Percy H. Russell Jr., E. D. Johnston, Kelley E. Griffith, Chauncey P. Carter Jr., R. Russell Eagan, Perry S. Patterson, Charles R. Cutler, Herbert J. Miller Jr., E. Ladd Thurston Jr.
- RORER, DWIGHT E.**
Dow, Lohnes & Albertson, Munsey Bldg., Washington 4, D. C. Sterling 1000.
Fayette B. Dow, Horace L. Lohnes, Fred W. Albertson, Meredith M. Daubin, Robert L. Irwin, Joseph E. Keller, Clair L. Stout, Thomas W. Wilson, Paul A. O'Bryan, John P. Carr, Francis X. McDonough, William P. Sims Jr., Temple W. Seay.
- ROSENMAN, SAMUEL I.**
Rosenman, Goldmark, Collin & Kaye, 165 Broadway, New York City. Courtland 7-8780.
Raiph F. Collin, Godfrey Goldmark, Sydney M. Kaye, Walter J. Petschek, Max Freund, Richard S. Salant.
- ROWELL, RUSSELL**
Spearman & Roberson, Munsey Bldg., Washington 4, D. C. Metropolitan 0023.
Paul D. P. Spearman, Frank Roberson, John C. Spearman.
- RUSSELL, PERCY H. Jr.**
Kirkland, Fleming, Green, Martin & Ellis, National Press Bldg., Washington 4, D. C. National 1464. (Address after July 1: World Center Bldg.)
Louis G. Caldwell, Hammond Chaffetz, Reed T. Rollo, Donald C. Beelar, E. D. Johnston, Kelley E. Griffith, Chauncey P. Carter Jr., R. Russell Eagan, Perry S. Patterson, Charles R. Cutler, Herbert J. Miller Jr., E. Ladd Thurston Jr.
- SALANT, RICHARD S.**
Rosenman, Goldmark, Collin & Kaye, 165 Broadway, New York City. Courtland 7-8780.
Samuel I. Rosenman, Raiph F. Collin, Godfrey Goldmark, Sydney M. Kaye, Walter J. Petschek, Max Freund.
- SALISBURY, FRANKLIN C.**
Munsey Bldg., Washington 4, D. C. Sterling 9072.
- SCHARFELD, ARTHUR W.**
National Press Bldg., Washington 4, D. C. Sterling 4115.
Theodore Baron, Carl Shipley.
- SCHILZ, HAROLD L.**
Clagett & Schilz, 1424 K St. NW, Washington 5, D. C. National 1774.
John F. Clagett.
- SCHROEDER, ARTHUR H.**
Miller & Schroeder, Munsey Bldg., Washington 4, D. C. Metropolitan 2193.
Neville Miller.
- SEGAL, PAUL M.**
Segal, Smith & Hennessey, 816 Connecticut Ave., Washington 6, D. C. Republic 2701.
George S. Smith, Philip J. Hennessey Jr., Harold G. Cowgill, David E. Tolman, Harry P. Warner, Quayle B. Smith.
- SEWARD, P. W.**
Warner Bldg., Washington 4, D. C. District 4743.
- SHER, ROBERT E.**
Miller, Sher & Oppenheimer, Woodward Bldg., Washington 5, D. C. Republic 3028.
Monroe Oppenheimer, William P. Bernton.
- SHIPLEY, CARL**
National Press Bldg., Washington 4, D. C. Sterling 4115.
Arthur W. Scharfeld, Theodore Baron.

SHUEBRUK, PETER
Fly, Fitts & Schuebruk, 30 Rockefeller Plaza, New York City 20.
Circle 7-3040.
James Lawrence Fly, William C. Fitts Jr., William J. Durka.

SIMS, WILLIAM P., Jr.
Dow, Lohnes & Albertson, Munsey Bldg., Washington 4, D. C.
Sterling 1000.
Fayette B. Dow, Horace L. Lohnes, Fred W. Albertson, Meredith
M. Daubin, Dwight E. Rorer, Robert L. Irwin, Joseph E. Keller,
Clair L. Stout, Thomas W. Wilson, Paul A. O'Bryan, John P. Carr,
Francis X. McDonough, Temple W. Seay.

SLAUGHTER, HARRISON
Pierson & Ball, Ring Bldg., Washington 6, D. C. Republic 2566.
W. Theodore Pierson, Ralph L. Walker, Thomas N. Dowd, Vernon
C. Kohlhaas, F. Cleveland Hedrick, Frederic J. Ball, Robert E.
Hodson, Lowell J. Radford.

SMITH, BERNARD B.
511 Fifth Ave., New York City 17. Vanderbilt 6-0116.

SMITH, GEORGE S.
Segal, Smith & Hennessey, 816 Connecticut Ave., Washington
6, D. C. Republic 2701.
Paul M. Segal, Philip J. Hennessey Jr., Harold G. Cowgill, David
E. Tolman, Harry P. Warner, Quayle B. Smith.

SMITH, KARL A.
Hogan & Hartson, Colorado Bldg., Washington 5, D. C. National
2006.
Nelson T. Hartson, Duke M. Patrick, Lester Cohen, Corwin
Lockwood.

SMITH, QUAYLE B.
Segal, Smith & Hennessey, 816 Connecticut Ave., Washington 6,
D. C. Republic 2701.
Paul M. Segal, George S. Smith, Philip J. Hennessey Jr., Harold
G. Cowgill, David E. Tolman, Harry P. Warner.

SMITH, SAMUEL B.
Lippincott & Smith, 24 California St., San Francisco, Cal. Yukon
6-4058. (*Counsel for Color Television Inc.*)

SMITH, SIDNEY V.
Mechlin, Marshall & Smith, Tower Bldg., Washington 5, D. C.
Republic 0797.
Ernest F. Mechlin, Richard C. Marshall III.

SOUTHMAYD, JOHN P.
Fisher, Wayland, Duvall & Southmayd, Warner Bldg., Washing-
ton 4, D. C. Republic 8607.
Ben S. Fisher, Charles V. Wayland, Charles F. Duvall.

SPEARMAN, JOHN C.
Spearman & Roberson, Munsey Bldg., Washington 4, D. C.
Metropolitan 0023.
Paul D. P. Spearman, Frank Roberson, Russell Rowell.

SPEARMAN, PAUL D. P.
Spearman & Roberson, Munsey Bldg., Washington 4, D. C.
Metropolitan 0023.
Frank Roberson, John C. Spearman, Russell Rowell.

STEIN, A. L.
Warner Bldg., Washington 4, D. C. Republic 7944.

STOLLENWERCK, FRANK
National Press Bldg., Washington 4, D. C. National 7846.

STOUT, CLAIR L.
Dow, Lohnes & Albertson, Munsey Bldg., Washington 4, D. C.
Sterling 1000.
Fayette B. Dow, Horace L. Lohnes, Fred W. Albertson, Meredith
M. Daubin, Dwight E. Rorer, Robert L. Irwin, Joseph E. Keller,
Clair L. Stout, Thomas W. Wilson, Paul A. O'Bryan, John P. Carr, Fran-
cis X. McDonough, William P. Sims Jr., Temple W. Seay.

STRONG, GEORGE E.
Shinn, Grimes, Harlan, Strong & Carson, Shoreham Bldg.,
Washington 5, D. C. District 1830.

SUTTON, GEORGE O.
National Press Bldg., Washington 4, D. C. National 7949.
William Thomson.

TAYLOR, DWIGHT D.
Prince & Taylor, Bowen Bldg., Washington 5, D. C. Republic
8154.
D. F. Prince.

TAYLOR, SUTHERLAND G.
Dupont Circle Bldg., Washington 6, D. C. Columbia 7641.

THOMPSON, CHARLES E.
Baker & Thompson, Occidental Bldg., Washington 4, D. C.
Executive 8068.
Philip M. Baker.

THOMSON, WILLIAM
National Press Bldg., Washington 4, D. C. National 7949.
George O. Sutton.

TOLMAN, DAVID E.
Segal, Smith & Hennessey, 816 Connecticut Ave., Washington
6, D. C. Republic 2701.
Paul M. Segal, George S. Smith, Philip J. Hennessey Jr., Harold
G. Cowgill, Harry P. Warner, Quayle B. Smith.

TUHY, STEPHEN Jr.
406 Albee Bldg., Washington 5, D. C. Metropolitan 2004.

TYLER, LYON L. Jr.
Welch, Mott & Morgan, 710 Fourteenth St. NW (Ericson Bldg.),
Washington 5, D. C. Executive 4600.
Vincent B. Welch, Harold E. Mott, Edward P. Morgan, Robert
L. Heald, Edward F. Kenehan.

WALKER, RALPH L.
Pierson & Ball, Ring Bldg., Washington 6, D. C. Republic 2566.
W. Theodore Pierson, Harrison T. Slaughter, Thomas N. Dowd,
Vernon C. Kohlhaas, F. Cleveland Hedrick, Frederic J. Ball,
Robert E. Hodson, Lowell J. Radford.

WALTON, FREDERICK H. Jr.
Dempsey & Koplovitz, Bowen Bldg., Washington 5, D. C. Re-
public 6363.
William J. Dempsey, William C. Koplovitz, Harry J. Ockershou-
sen.

WARNER, HARRY P.
Segal, Smith & Hennessey, 816 Connecticut Ave., Washington 6,
D. C. Republic 2701.
Paul M. Segal, George S. Smith, Philip J. Hennessey Jr., Harold
G. Cowgill, David E. Tolman, Quayle B. Smith.

WAYLAND, CHARLES V.
Fisher, Wayland, Duvall & Southmayd, Warner Bldg., Washing-
ton 4, D. C. Republic 8607.
Ben S. Fisher, John P. Southmayd, Charles F. Duvall.

WEAVER, HENRY B. Jr.
Weaver & Glassie, Tower Bldg., Washington 5, D. C. Sterling
4355.
Henry H. Glassie, Thomas M. Cooley.

WELCH, VINCENT B.
Welch, Mott & Morgan, 710 Fourteenth St. NW (Ericson Bldg.),
Washington 5, D. C. Executive 4600.
Harold E. Mott, Edward P. Morgan, Robert L. Heald, Edward
F. Kenehan, Lyon L. Tyler Jr.

WHEAT, CARL I.
Wheat, May & Shannon, Shoreham Bldg., Washington 5, D. C.
Republic 4123.
Robert E. May, Charles V. Shannon, Stanley M. Morley, Omar
L. Crook.

WHEELER, BURTON K.
Wheeler & Wheeler, Southern Bldg., Washington 5, D. C. Dis-
trict 7117.
Edward K. Wheeler, George F. Hirmon, Robert G. Seaks.

WHEELER, EDWARD K.
Wheeler & Wheeler, Southern Bldg., Washington 5, D. C. Dis-
trict 7117.
Burton K. Wheeler, George F. Hirmon, Robert G. Seaks.

WILKINSON, GLEN A.
744 Jackson Pl. NW, Washington 6, D. C. National 1114.
Ernest L. Wilkinson, Francis M. Goodwin, Woodruff Deem,
Robert W. Barker.

WILKINSON, ERNEST L.
744 Jackson Pl. NW, Washington 6, D. C. National 1114.
Glen A. Wilkinson, Francis M. Goodwin, Woodruff Deem, Robert
W. Barker.

WILKINSON, VERNON L.
Haley, McKenna & Wilkinson, 1101 Connecticut Ave. (Duryea
Bldg.), Washington 6, D. C. District 2724.
Andrew G. Haley, James A. McKenna Jr.

WILNER, MORTON H.
Woodward Bldg., Washington 5, D. C. Republic 8040.
Philip Bergson, John James Bernard.

WILSON, THOMAS W.
Dow, Lohnes & Albertson, Munsey Bldg., Washington 4, D. C.
Sterling 1000.
Fayette B. Dow, Horace L. Lohnes, Fred W. Albertson, Meredith
M. Daubin, Dwight E. Rorer, Robert L. Irwin, Joseph E. Keller,
Clair L. Stout, Paul A. O'Bryan, John P. Carr, Francis X.
McDonough, William P. Sims Jr., Temple W. Seay.

WOZENCRAFT, FRANK W.
Southern Bldg., Washington 5, D. C. Executive 5360.

YATES, CARLYLE E.
Counsel, RCA Laboratories Division, Radio Corp. of America,
30 Rockefeller Plaza, New York City 20. Columbus 5-5900.

YOUNG, VERNE R.
Loucks, Zias, Young & Jansky, 1317 F St. NW, Washington 1,
D. C. Sterling 4004.
Philip G. Loucks, Joseph F. Zias, Maurice M. Jansky.

ZELLER, ROBERT G.
Cahill, Gordon, Zachry & Reindel, New York City (*Counsel for
RCA-NBC*). Washington Office: 1000 Vermont Ave. NW, Dis-
trict 7480.
John T. Cahill, Charles F. Detmar Jr., John F. Nields (New
York); James E. Greeley (Washington).

ZIAS, JOSEPH F.
Loucks, Zias, Young & Jansky, 1317 F St. NW, Washington 1,
D. C. Sterling 4004.
Philip G. Loucks, Verne R. Young, Maurice M. Jansky.

NAB LIBRARY

COLOR PROBLEM — AND THE FREEZE

Text of Address by Martin Codel, Publisher of Television Digest

Before National Television Conference, Chicago, March 7, 1950

THERE's a common misconception about color television, just as there is about the freeze. A surprising number of people, including many in the industry who ought to know better, think all the FCC needs to do is issue an order tomorrow—and, *presto*, not only color but a flock of new TV stations will spring into being overnight.

Actually, except for the 8 more stations that were authorized pre-freeze and are still under construction, it will take a good 18 months to 3 years to get any appreciable number of new stations on the air. For the rest of this year, I can assure you there won't be any more than those 8, making exactly 109 stations.

(And what a stir this mere scattering of TV stations—as compared with very nearly 2800 AM & FM stations—are creating in the national economy in general and among our radio, film and advertising folk in particular!)

Next year, assuming completion of the allocation hearings, which are yet to begin and which alone can bring about the end of the freeze, maybe there will be a few more TV outlets in new and non-competitive areas. But there won't be very many more, for the preferred channels are few and the applicants will be many, at least in the larger markets.

Color likewise will be slow to get under way, regardless how the FCC decides the current proceedings in Washington.

Why? First, for the reason that almost no one in the deficit-ridden telecasting industry, can really afford to broadcast *any* color system now on any substantial scale—though those who are plumping for color are making an awful lot of noise about it and confusing an awful lot of people about its immediacy.

Secondly, even if it were perfected and ready and acceptable, color would come slowly because new sets would have to be purchased, or gadgets attached to existing sets, in order to receive it—quite aside from the new apparatus and new techniques required at the transmitting end.

Consider the CBS system, for example. The people who make television—the telecasters and the manufacturers—are afraid of it. Why? Basically, because it's incompatible. The 5,000,000 sets now in the hands of the public would immediately go blind every time CBS color is transmitted. And at the present rate of production and sale, there should be 10,000,000 such sets in use by the end of this year.

Sure, you can attach a gadget to your set and extract an inferior black-and-white picture from a CBS color

transmission. Or you might be able to attach or rig up a whirling disc and motor and get a small color picture. Or, if anybody will make them, you might buy a brand new set to receive color—a set that must inevitably cost more than today's mass-produced receivers.

The public, though, simply doesn't go for adapters or converters, as our past experience with shortwave and FM has proved. And the manufacturers have made it abundantly clear they don't want to make television sets with mechanical adapters.

Look at it this way, too: Assuming the CBS system were adopted and adapters and converters and new sets did come along. Would the telecasters be willing to sacrifice their monochrome audiences every time they put an incompatible color show on the air? We've sounded them out, in a recent survey of our own [See *Television Digest*, Vol. 6:7]. The answer was a virtually unanimous "No!" But could the FCC force them to broadcast CBS color? Conceivably—but I doubt very much whether it would, not while a *compatible* system is in the works.

Investments in colorcasting and commercial benefits from color will come only when there are enough color sets, in proportion to the whole, to make color programs worth the advertisers' while. Any way you look at it, that seems to be a long way off.

* * * *

THIS whole color business is premature, based on an exaggerated ideal in the minds of a very few people. It has resulted in a needless and wasteful prolongation of the freeze. Had the color-now issue not been raised, the even more vital and intricate problems of vhf and uhf channel allocations, and their concomitant problems of new receiver design and rearranged telecast structure, might be well on the way to solution by now. The FCC by now might be authorizing the new stations so badly needed and eagerly awaited.

We don't think anybody's color is ready, or even in early prospect—though it must be conceded that the pressures from Washington may be hastening it out of the laboratories. After watching all the demonstrations, and hearing or reading all the testimony, and scanning all the publicity (some of it really terrific), it is my conviction and that of my staff that to promise color television anytime soon might very well stymie the magnificent progress now being made in black-and-white TV.

Maybe, though, it's a sign of the inherent vigor of today's monochrome that all the ballyhoo, all the speech-making, all the publicity, hasn't really affected the TV receiver

market as yet; in Washington, scene of the color demonstrations, and source of all wisdom, more TV sets were sold in November-December-January than in the previous 9 months combined.

* * * *

COMPATABILITY is the key. The telecaster is the critical man. He can't afford to start again building a critical man. He can't afford to start again building a new audience from scratch. He's having tough enough going now, financially, to add to that burden. Colorcasts must be receivable on today's receivers—in *black-and-white* if the householder doesn't want or can't afford to buy an adapter, converter or new-type receiver.

That's the problem of compatibility in its simplest terms. The telecaster and his "circulation department," who are the manufacturers and sellers and servicemen, now represent something like a \$2 billion annual factor in the national economy. They can't be expected to start all over again.

CBS's pictures are very pleasing, some subjects superb—and they represent a brilliant achievement. But they're incompatible, and their limitations are clearly visible and serious. Aside from requiring conversion of existing sets just to get its colorcasts in black-and-white, the CBS system represents a retrogression from today's excellent monochrome in these respects:

(1) They limit picture sizes and, when magnified with lenses, render wide-angle viewing impossible. TV's manifest destiny is larger pictures; witness the current upsurge of 16-in. and 19-in., which to my mind are merely steps on way to home-movie sizes. (Watch the 19-in. and the promised 22 and 24-in., and perhaps even 30-in. picture tubes this year!)

(2) Definition of the CBS picture, or ability to show detail, is far under today's standards for black-and-white—albeit many of the pictures, viewed subjectively, are quite satisfying.

As for RCA, Color Television Inc. and others claiming compatible systems, they're obviously unready. RCA's pictures are gradually improving, but they're still not as satisfying as CBS's. RCA's color in its present stage requires mechanism much too complex for commercial production yet, even if RCA were minded to produce it. RCA promises soon a single tri-color tube, which should make for a simpler and cheaper receiver—one the public will buy.

If we wait for RCA and the others, assuming they're on the right developmental track, they at least offer the promises and virtues of *compatibility, good definition* and *no limitation upon picture size*.

* * * *

YOU'LL hear a lot about "double standards" or "multiple standards" in coming weeks. (Curious how these expressions develop. The FCC hearings sometimes sound like divorce proceedings.) What is meant by such terms is a decision allowing either CBS or RCA color systems, possibly others, to be broadcast commercially at the option of the telecaster. Both kinds of sets could be sold, though I suspect neither would be—in any numbers, at least, and for quite a while to come.

This would be a peculiar compromise on standards, of a sort the FCC has never in its history authorized. But

maybe that's the way to do it. On the other hand, it might throw the public into such confusion that it would refuse to buy anything—black-and-white or color. You're welcome to speculate about it. Your guess is as good as, perhaps better than the FCC's or Senator Johnson's.

* * * *

BUT, then, what's so urgent about color that it must be hastened, even if it requires separate tracks and separate standards of its own? Who's demanding it? Who would pay for it, if it requires special reception apparatus capable of only limited picture size? Would you go to the movies to see Technicolor on reduced screens? Should the movies have waited for Technicolor, which even now is said to represent only about 10% of all production?

Here's another pertinent question: Suppose one system of color gets going and, after a few years, some bright engineer comes up with a new development much more attractive. Should we then scrap our color system and start from scratch again? A few more such false starts and you might very well drive even the hardest pioneers out of the business in disillusionment.

Is it more important to hasten costly color than to build basic audience with the now available, mass-produced, reasonably-priced receivers that are constantly being improved—and *that are constantly giving us bigger screens?*

Actually, only a handful of people are really "sold" on the immediacy of color—and I sometimes wonder whether most of them really are. The record, and preponderant industry opinion, all argue for a natural and gradual evolution toward color—compatible color—and not its adoption in a hurry or in an indeterminate state on mere fiat from Washington.

Let's get on with the allocation, which is really a tough problem and not at all a synthetic one. Let's resolve the problems that properly brought on the freeze a year and a half ago—the problems of co-channel and adjacent channel interference and hence station service ranges. Let's have more stations in more communities—and hence more competition, better programs, wider networks and a chance at making the business pay.

* * * *

BY way of reassurance, I must say that there are no villains in this piece—neither FCC nor Comr. Jones nor Senator Johnson nor CBS nor RCA. Each may have his own honest beliefs and own particular motivation, and you and a lot of other people may be confused. But I'm convinced the basic problem is in good hands, and must inevitably resolve itself naturally and rightly in spite of political and promotional pressures.

The FCC majority, the Joint Technical Advisory Committee (JTAC), the Condon Committee—yes, the telecasters and manufacturers—are men of stature and common sense. There's no "plot" to stifle color, and I can only guess that there's only one entity in the whole radio field which might begrudge CBS and its brilliant Dr. Peter Goldmark their rightful rewards if *they* can come up with a practical system that can be fitted less painfully into the television structure.

Do you suppose the 110-odd television manufacturers, in their competitive zeal, would overlook any such alluring new merchandising wrinkle as color if they really believed it was ready now—and *compatible?*

NEW FACTS ABOUT 1949 TV OUTPUT: It appears now that all of us, notably RMA and even RCA's own president Frank Folsom, were far too conservative in estimating 1949 TV set output. Best guide of them all, though its figures aren't made public monthly and though they omit big producers DuMont and Zenith, who are not licensees, is RCA's own license report for the year. It shows:

2,883,672 TV sets shipped, with factory value of \$546,606,941 (average of \$189.55 per set). RMA's count was 2,413,397, but because some major producers aren't members it estimated "more than 2,800,000" at year's end. Folsom guessed 2,500,000 in his annual statement (Vol. 5:53). Our own figure was 2,837,500, projected from RMA's (Vol. 6:3). True figure doubtless was somewhat in excess of 3,000,000.

9,875,429 other radios shipped, with factory value of \$264,320,957 (average \$26.76 per set). RMA's figure was 9,680,773, including TVs. True figure, adding in Zenith to RCA count, was very likely good 10,000,000.

Total TVs-radios on which royalties were paid last year to RCA: 12,759,101 at factory value of \$810,927,898. TV represented only 21.8% of unit output, but 66.4% of dollar volume.

Note: Reasonable factor in estimating retail value is 40%.

SHORTAGES OF TUBES, CABINETS, ETC.: Present high rate of TV set production, plus continuing demand for radios, have led to shortages of receiving tubes, cabinets and to some extent electrolytic parts. Result is scramble now for materials in short supply -- so intense already that one big tube manufacturer, forced to allocate, remarked that he actually welcomes summer slump so he can stockpile for fall-winter.

Yet there aren't any signs yet of letdowns in TV receiver demand, seasonal or otherwise, and some are even predicting it will continue well into May. A few say summer won't bring "slump" at all, merely slight seasonal reductions in demand.

After contacting key set, tube, bulb and component makers, we get this composite picture of supply problem:

(1) Picture tubes plentiful now -- all except 19-in. and rectangulars.

(2) Circuit tube situation aggravated by ordinary radio demand (average 6-plus tubes per set) and extraordinary TV requirements (average 20 tubes per set), plus considerable uses for industrial and defense needs. These are taxing capacity of 5 principal makers: GE, Raytheon, RCA, Sylvania, Tung-Sol.

Not merely one type of tube but, in case of one company, 20 types are in short supply -- list keeps constantly changing. Even round-the-clock assembly lines can't keep up with orders, and this company forecasts condition through rest of the year. One set-maker said BG6G deflection tube seems most critical at moment; all say miniatures are the big problem.

There's no bottleneck at glass blowers; Corning, biggest, says it can turn out all the little or big bulbs ordered.

(3) Cabinet shortages stem mainly from TV requirements, plus fact that wood furniture business is so good that, as one major set-maker put it: "There aren't enough fringe manufacturers to cope with a demand rising from last year's 3,000,000 to this year's 5,000,000 or 6,000,000 TV sets, even discounting large number of plastic and metal table cabinets." There's also shortage of lumber, including walnut and mahogany.

Bigger set makers like Admiral, GE, RCA, Philco have cabinet plants of own, but it's said they're not supplying enough. Wood situation is so serious that Red Lion Cabinet Co., Red Lion, Pa., prime Philco supplier, has its president James

Sechrest now in Africa seeking new sources -- but situation there has been aggravated by strikes!

(4) As for other components, it depends on who you talk to; big companies making own or having well-established lines of supply don't seem particularly worried. But some manufacturers have to beg for supplies. We're told resistors are being imported from England, selling at premium of \$5 per thousand.

* * * *

Do these factors spell fewer or more than 5,000,000 TVs and 10,000,000 radios this year? Sylvania's Max Balcom, RMA tube chairman, thinks tube suppliers can support that many -- "might do a little better." He doesn't think anybody at moment is actually being held up by tube shortages, though supply admittedly isn't abundant and could become critical overnight. If current production rate of nearly 500,000 TVs per month should continue through summer, he said, then there "really will be trouble."

Spokesman for one of biggest set-makers, though admitting worry about cabinets and tubes, made this observation:

"Shortages always seem to have a way of rectifying themselves. Somehow, shortages always vanish -- remember how we were crying about shortage of picture tubes not so long ago? Shortages are vexatious, they're insurmountable, they're godawful, but the ingenuity of American enterprise and competition always supplies the need. I'd bet that, with the flying start we're getting these first 4 or 5 months, even discounting summer, our industry will turn out well over 5,000,000 TV sets this year."

TOPICS & TRENDS OF THE TV TRADE: DuMont, GE and Zenith should be breaking very soon with news about new TV receivers. No details have leaked yet, no dope whether new lines or merely new items are in prospect. Zenith particularly is supposed to have some kind of "surprise" ready to spring.

Other than actual and looming shortages (see above), biggest industry news seems to be fact American Structural Products Co. (Owens-Illinois) is now shipping 14-in. rectangular bulbs which will soon be delivered by tube-makers to manufacturers. ASPC also says it's now shipping more rectangular 16-in. than rounds, and in May will have 19-in. rectangulars for sampling.

Corning Glass advises that by latter half of year 50% of its bulb production will be 16-in. rectangulars. Its 14-in. will be ready in 6-8 weeks.

Both Corning and ASPC say they're absolutely convinced rectangulars will eventually replace rounds -- but RCA, biggest 16-in. round producer, doesn't seem concerned, is now geared for increasing mass production (Vol. 6:9). Corning and ASPC are still shipping plenty of 12½ & 16-in. all-glass rounds, too. GE and Sylvania are now turning out 16-in. glass rectangulars, and 19-in. metal-coned rounds.

* * * *

New group is acquiring substantial interest in Sentinel Radio Corp., Evans-ton, Ill. They're not named yet, but move presages new management. Ernest Alschuler due to remain as president or chairman of board, with new executive v.p. Sentinel is supposed to have produced more than 50,000 TVs last year, claims it will do 100,000 this year. It's important maker for Montgomery Ward label.

Magnavox's president R. A. O'Connor expects price cuts in 16-in. next few months, though cabinet price increases could offset this -- so he told N.Y. Society of Security Analysts, probably adducing this from 16-in. picture tube price cuts due April 1 (Vol. 6:9)...Philco's Jimmy Carmine discloses 30% of company's TV volume now 16-in. (rounds), rest being 12½-in.; no rectangulars planned as yet...RCA expanding cabinet production at own factory in Monticello, Ind.

Stromberg-Carlson has added two 16-in. sets, first such in 1950 line. Table has rectangular tube, sells for \$295; console has round tube, sells for \$370. Next month, company will have 16-in. console-combination, still unpriced...Hallicrafters has added 12½-in. table at \$190 to line; set is covered with leatherette, is \$10 more than plastic 12-in. table Model 715.

Admiral regional managers meet in Chicago March 14, and week later new line of radios (AM & FM) will be announced...Westinghouse's Southern Pacific area manager

O. F. Achtenhagen quoted in trade press assaying Sunbury (Pa.) plant now running 5 assembly lines, plans production of 250,000 TV sets this year...Packard-Bell, in petition to get into FCC color hearing, said 1949 gross was about \$5,500,000 (80% from TV), sales now running at \$12,000,000 rate...Sightmaster has new 19-in. consolette at \$299; new 16-in. rectangular table at \$300, with FM and Sightmirror \$340, in same cabinet used for 12½; 16-in. consolette with FM \$319, with Sightmirror \$339.

Latest prices and specs of 607 TV receivers made by 80 manufacturers are listed in March issue of Radio & Television Retailing (Caldwell-Clements)...Queens (L.I.) Electrical Appliance Merchants Assn says it's in market for surplus, bankrupt or overstocked TV deals as part of members' promotional campaign; recently, QUEAMA sold Tele-tone 7-in. table for \$66 and 10-in. for \$75; also Bendix 10-in. table for \$95, consolette \$120, and 12½-in. table for \$153...How far from grace 7-in. has fallen indicated in Oklahoma City sale (by Robertson Appliance Co.) of 7-in. Admirals at one cent with every purchase of Admiral 16-in. consolette at \$370.

* * * *

Letter from Frank J. Moch, president of TV Installation and Service Assn, Chicago, informs us servicemen don't bear "grudge" against TV manufacturers, as implied in his recent speech (Vol. 6:6). Their attitude, he says, is one of "sincere conciliation," though he notes practices of setting service rates and policies have engendered some "ill will." He complains everyone has ignored TISMA recommendation that an intra-industry council be set up to iron out differences among manufacturers, distributors, parts jobbers, telecasters, servicemen, and even advertisers.

TV chairman of National Appliance & Radio Dealers Assn Mort Farr, Upper Darby, Pa., told House tax committee recently that TV retailers are working on lowest profit margin in history of major appliances, citing NARDA survey showing average overhead of 26% of sales or "more than the gross profit on TV price leaders and best sellers." He said many retailers already have closed up, and some larger dept. stores, music retailers, etc. discontinuing TV lines because overhead won't permit. He also noted that 60% of TV buying is on installment.

'DOPING' THE TV-RADIO SWEEPSTAKES: Merry scramble for top positions in TV unit output, subject of recent provocative prognostications in this space by Television Shares Management Corp. (Vol. 6:8), had Wall Street Journal's Joseph M. Guilfoyle likening 1950 to horse race -- and in able analysis March 9 he notes:

"Champion RCA is being challenged by Philco, now traveling the comeback trail...and by Admiral, a young upstart." Placing them 1, 3, 2 in 1949, he goes on to pick Motorola 4th [but it] "will have to beat off such challengers as GE and Emerson if it hopes to retain that spot this year." He then picks "dark horse" Zenith and then DuMont, Crosley, Westinghouse in that order to make up top 10.

In radio Guilfoyle calls Philco "the undisputed champ...one of the few companies which has not de-emphasized radio since TV entered." Last year they ranked thus after Philco: RCA, Admiral, Motorola, GE, Emerson, Zenith, Crosley.

Admiral is reported turning out 3000-3500 TVs daily now, spending 75% more in newspapers and magazines (out of 1950 ad budget of \$15,000,000); also planning from June thru Labor Day to lay down "continuous barrage" of plugs over radio stations in TV areas, plus billboard campaign, possible new homemakers' magazine, even county fair demonstrations.

Philco's prediction of upwards of 800,000 TVs this year is cited, and it's quoted: "We think we're outproducing everybody in the industry now. We'll average better than 19,000 sets per week this month...doubt anyone will be ahead of us."

Two factors are given for RCA's "lead in the TV sweepstakes": (a) top-notch merchandising job, and (b) high consumer acceptance of its receivers. RCA isn't telling, but last month's announcement of 1,000,000th TV set leads to guess it made 500,000 last year (vs. 400,000 by Admiral).

Motorola is accredited 285,000 last year, unpredicted this year; Emerson 65,000 last year, now 7500 per week, goal 400,000 this year; GE, current weekly average 10,000, to be increased. Top 7 TV producers are "conservatively estimated" by Guilfoyle as accounting for 3,800,000 receivers this year out of his predicted 4,500,000 industry total.

Trade Personals: Fred J. Neidig, ex-North American Philips, named commercial TV dept. mgr. of National-Simplex-Bludworth Inc., new maker of large-screen TVs (Vol. 6:6) and subsidiary of General Precision Laboratory Inc. . . . W. A. Blees, Crosley sales v.p., is subject of "worth knowing" sketch in March *Changing Times*, *The Kiplinger Magazine*, paying tribute to him as "a natural-born salesman" . . . Joshua Sieger, research chief, elected engineering v.p. of Freed Radio . . . Lloyd L. Spencer, ex-sales v.p. of Stromberg-Carlson, heads new Cleveland firm called Lindsay-Spencer Co., 7016 Euclid Ave., dealing in phone supplies . . . Lewis Winner, editor of *Television Engineering* (formerly *Communications Magazine*), heads new broadcast engineering-transmission group of IRE . . . Joseph C. Ferguson, onetime RCA, elected Capehart-Farnsworth asst. v.p. in charge of research and advanced development . . . Harry S. Gould, ex-Magnavox, new merchandising director of John Meck Industries . . . E. Jonny Graff, program director of WBKB, Chicago, becomes radio-TV director of Kaufman & Associates, Chicago agency, March 20.

Zenith reports sales for 9 months of its fiscal year ended Jan. 31, 1950 amounted to \$65,196,527, of which nearly half (\$32,506,411) were accounted for in third quarter (Nov., Dec., Jan.). Consolidated net profit for 9-mo. period was \$3,138,938, reflecting deduction of \$754,127 amortization incident to acquiring subsidiary (presumably Rauland). Net profit for third quarter was \$2,072,412. Profits were highest in company's history, comparing respectively with \$2,025,781 and \$1,041,246 for comparable 9-mo. and third-quarter periods year ago. Sales likewise were highest in history, comparing with \$56,951,492 and \$23,620,900, respectively. Says March 9 statement by president McDonald: "Sales for February were slightly lower (than Jan.) due to the smaller number of working days. Despite capacity operation and notwithstanding an expected seasonal decline in demand, which so far has not materialized, the company is continuing to allocate its production of radio and TV receivers and is scheduling operations in all of its plants at full capacity for the next several months."

March Industrial Bulletin of New York State Dept. of Labor, 80 Centre St., New York, is devoted largely to "survey" of TV industry in New York—though nearly all attention in receiver manufacture section is paid to Emerson, in tubes to Sylvania's plant at Seneca Falls and Lectrovision's at New Rochelle (big Corning Glass production overlooked). There are sections also on TV labor, training, stations, networks. Conclusion: "As a member of the nation's industrial squad, television seems definitely assured of a place in the first string lineup. It has proved itself a multiple-threat performer from the first whistle."

RCA's Vidicon, tiny camera tube (6-in. long, 1-in. diameter), is currently intended for industrial use, said company's Drs. Zworykin, Rose, et al, at IRE convention. But fact tubes are being put into field camera for RCA color system had conventioners expecting it to be available for broadcast units before long. Whole industrial camera is no larger than big cracker-box—one-tenth size of present cameras. Entire Vidicon chain sells for \$6500, compared with \$23,275 for present image orth chain.

Uhf is virtually here, fast-emerging from mystery stage. That's net effect of report on RCA-NBC Bridgeport TV satellite experiment (Vol. 6:5), by NBC's Ray Guy and Fred Smith at IRE convention. But definitive measurements to back up their feelings won't be in for while yet. Plans are to test at least through 1950.

Financial & Trade Notes: GE reports 1949 earnings of \$125,639,051 (\$4.36 per common share) were largest in its history, comparing with \$123,835,000 (\$4.29) in 1948; 1949 sales were \$1,613,564,000 . . . Philco president William Balderston says first quarter 1950 sales will set record for period, will be highest since first 1948 quarter's more than \$80,000,000; 1949 total was about \$215,000,000 . . . Emerson reports profit for 13-week period ended Feb. 4 of \$1,225,912 (\$1.39 per common share) vs. \$808,845 (\$1.01) for comparable period ended Jan. 29, 1949 . . . Crosley reports February dollar volume greater than any 1949 month; TV 93% and radio 175% above same month last year . . . Avco notice of annual meeting in Wilmington April 13 discloses these salaries: Victor Emanuel, chairman, \$128,316 plus \$20,000 extra compensation; Raymond C. Cosgrove, executive v.p. (resigned), \$100,299; James D. Shouse, chairman, Crosley Broadcasting Corp., \$60,000 plus \$20,000 extra . . . General Instrument directors took no action on common dividend usually paid in April; it declared 15¢ in 4 previous quarters.

Notes from IRE convention: Appearance of depth in TV pictures is possibility, using velocity TV reproduction system described by Georgia Tech scientists (M. A. Honnell, M. D. Prince) . . . Cheaper, easier method of carrying TV signals from city to city is seen in Army Signal Corps' "G-String" development (named after Dr. Georg Goubau, Ft. Monmouth); it employs single strand of wire instead of coaxial or bulky wave-guides, utilizing principle of surface-wave transmission . . . RCA showed smallest pocket radio, accomplished by using lid to form loudspeaker, making it one-third size, half weight of receivers now available; miniature tubes, lower power permit reduction in size.

DuMont's industrial color equipment (Vol. 6:9), 18-mc field-sequential system, got off to only fair start in IRE convention demonstrations. Consensus of engineer-observers was that resolution was good, brightness satisfactory (capable of 100 ft-lamberts), but colors weren't true. Also, Diesel engine supplying power was blamed for interference. CBS's Dr. Peter Goldmark was quoted saying he didn't "mind DuMont using CBS system . . . but I feel hurt that they didn't do a better job with it." DuMont plans to have 19-in. tube in 30-60 days (this was 12½-in.), reported 7 units to be sold at \$19,985 each in 3 months.

Hope for improving reception of weak TV signals in fringe areas is seen in 2 developments revealed at IRE receiver meeting this week. RCA Laboratories told of getting greater amplification from tube using electron beam deflection in addition to normal grid control. Although tube won't be commercially available for 2 years, it may make possible TV sets with fewer tubes (hence less expensive), or sets with greater sensitivity. DuMont told of work done in developing receiver circuit with improved noise-reduction qualities. It's a "suicide" circuit that opens wide for sync pulse, immediately closes up to bar noise from getting into circuit.

Finally describing his color work, Rensselaer Polytechnic Institute's Dr. Victor A. Babits (Vol. 5:50) told IRE session it is a method of transmitting light through transparent crystal, changing light's colors by applying electronic or magnetic impulses to crystal. Up to now, Dr. Babits said, he and associates have had certain amount of success with crystal 2-in. square. Listeners were still generally skeptical.

RMA is paying former Democratic Rep. Joseph E. Casey (Mass.) \$5000 retainer, and \$1000 a month, to help industry fight TV excise tax, according to report filed by Casey when he registered with Congress as lobbyist.

COLOR ISSUES — AS DEFINED BY COY

Excerpts from Address by Wayne Coy, Chairman, Federal Communications Commission

Before University of Oklahoma Radio Conference March 14, 1950

* * * *

THE SYSTEM proposed by the Columbia Broadcasting System has been in development longer than any of the other two systems and has progressed farther than any of the other two systems. The system has worked well and produces pleasing color pictures of good quality and good color fidelity. At the present stage of development the system must necessarily use a mechanical rotating filter as the means of producing color. Since the mechanical filter must be more than twice the size of the tube, it is obvious that direct view tubes under the CBS system as a practical matter can be no larger than 10 to 12 inches—the larger 16 to 20-inch tubes cannot be used with the color wheel.

In addition, the CBS system involves a change of transmission standards in two important respects. First, the number of lines are reduced from 525 to 405. Secondly, the number of fields are changed from the 60 of black-and-white television to 144 for color. CBS urges that the additional intelligence which results from color more than compensates for the loss in geometric resolution which results. However, when a station is broadcasting color programs in accordance with CBS standards, an ordinary black-and-white receiver will not be able to receive the programs in black and white unless either a manual or automatic adapter is incorporated into the black-and-white sets. But that is not color television . . .

The RCA and CTI Systems

The RCA system was first disclosed in late August of 1949. Its first demonstration was unsatisfactory even to its proponents. In subsequent demonstrations improvements have been noted. However, at the present time the system relies on three tubes to produce the color image. This is a costly and cumbersome procedure and involves fundamental problems of registration. If the system works out, present black-and-white receivers will be able to receive RCA color broadcasts in black and white with no change in the receiver. But that is not color television either.

Getting black-and-white reception on present receivers from color television broadcasts deals only with an economic aspect of the problem; namely, obsolescence of present-day receivers; or lack of obsolescence; or the cost of preventing such obsolescence as occurs when television programs, which one wants to see, are broadcast in color.

One additional fact about the RCA system is that at the present time a color signal under the RCA system will not pass through the coaxial cable presently available. The cable width used at present is about 2.7 mc. The RCA system requires about 4 mc. An RCA color signal pass-

ing through the 2.7 coaxial emerges as a black-and-white signal.

The CTI system [Color Television Inc.] has been demonstrated twice to the Commission and both of those demonstrations have been in recent weeks. CTI was not satisfied with the demonstrations and they are expecting to be able to show considerable improvement within the next few weeks. I do not believe I should comment further with respect to their system until I have seen a demonstration with which the proponents are satisfied.

Promise of the 3-Color Tube

I should like to point out that there is considerable discussion about the possibilities of a single 3-color tube which would replace the three tubes used in the RCA system or the color wheel and tube that is now in the CBS system. RCA says such a tube would simplify their set and converter problem and reduce both size and cost. CBS says such a tube would relieve the handicap of a tube limited in size by the color wheel.

Such a tube is still in the laboratory and has not yet been demonstrated to the Commission. I hope with all my heart it develops and that when it is shown it will be perfect. However, in the case of this tube, as in the case of other much-heralded color television marvels, neither the Commission nor the rest of the industry can afford to count such eggs before they are hatched. In the past few months I have seen too many press releases describing perfect color television badly mutilated by bad performance.

Certainly a 6-mc color television system that would allow black-and-white reception on present-day receivers from color transmissions would be most desirable. At the present time we do not have such a fully developed system. On the other hand, we do have a workable color system with good picture quality but which is handicapped by limitations on tube size and which cannot be received by present black-and-white receivers without change.

Questions Posed By Color TV

Must we choose an undeveloped system because its color transmission can be received in black and white on existing receivers?

Or must we choose a workable system whose color transmissions cannot be received on existing receivers in black and white?

Or must we permit all of the systems to have more time for experimentation and development?

If more time were to be allowed for experimentation and development of all color television systems, could the freeze be lifted and permit black-and-white television to

go ahead? Or should the freeze be kept on until it is possible to write engineering standards for color television?

If there were to be time for further experimental and developmental work, is there any action which, taken now, would protect the public presently buying television receivers in a manner which would reduce the obsolescence factor in the event the Commission decision favored a color system incompatible with present black-and-white standards?

Some More Alternatives

Given the assumptions I have just stated, could it be expected that the television manufacturing industry would immediately build manual or automatic adapters in all television receivers? Would the relative small cost for such an addition to a set be worth it in terms of giving the widest possible latitude for decision after further experimentation extending perhaps a year or more?

Or must we write multiple standards and let the public decide in the market place which is the better system? Is there any way to assure the future use of all color sets if such a proposal is followed? Is it a proposal in which the public will willingly accept the risks and costs involved?

Or must we reject all of the systems and say that we will proceed immediately with black-and-white television in both bands and let color wait until another generation or two, and in another, and now unexplored, portion of the spectrum?

These are the very difficult questions which the Commission has to face and resolve before it can decide the

color television issue. Needless to say, I am not prepared to answer these questions today.

You and I will agree that color is a delightful quality in our every-day life. But let me assure you, with deep feeling, that it is a hydra-headed animal when it is considered in relation to television today.

Color television is a matter of wheels within wheels—or as Winston Churchill said on Russian foreign policy—“a riddle wrapped in a mystery inside an enigma.”

Hearings will continue on this problem beginning in Washington tomorrow morning. We have already heard 33 volumes or 4500 pages of testimony. I would not be surprised to see the number of volumes exceed 50. I make no prediction when the hearing will end or when a decision will be made. I wish the decision could be made tomorrow but it won't be. I hope (I do not predict) that the Commission will be able to resume the processing of applications before this year is out.

The country is far richer in technological information today as a result of our present hearings. There is no question in my mind but what the Commission's actions with respect to color have moved forward the development of color television by months and years. As a member of the Commission I take pride in the fact that we have been so diligent in looking after the public interest. I am sure that the result will be a far better, far sounder and far more enduring system of television than if we rejected the considerations of color television at the present time and left it to chance to be developed at some unknown place in the spectrum and at some unknown date in the future.

THEY WANT MORE RADIOS, TOO: Prudent TV manufacturers, all save handful also makers of radios, are turning thoughts more and more to radio production and promotion -- goaded by dealers crying discrimination in favor of TV. So, despite fact merchants are bemoaning allocations and slow deliveries of brand-name TVs, there's perceptible increase in output of radios. Approaching summer, always good for portables, and fact that industry made and sold more than 10,000,000 radios last year at average factory value of more than \$26, mean radio business "ain't hay" by any means.

Fact is, distributors and dealers are crying for radios in TV areas no less than in non-TV areas -- but latter are most vocal in charging set makers with favoring TV for their limited cabinets as against much-demanded radio combinations under \$200. Actually, what with quick turnover, replacement business, ease of handling, slight service demands, radio business is still bread-and-butter even for many dealers enjoying the lush TV pickings.

New radios have been announced in recent weeks by Admiral, Arvin, Emerson, Motorola, RCA, among others, mostly table models and portables. RCA and Philco plan heavy promotions of portables soon. Arvin line includes \$50 AM-FM table. Emerson has \$17 table and \$90 table with 3-speed phono. Motorola has 4 new tables at \$25 to \$40. RCA has 2 new portables at \$30 & \$50, new console combination at \$160.

Indiana manufacturer John Meck has added AM to some new TV table models, thinks extra cost won't faze customers wanting single set for both. Here's his whole line now: Model XNA, 10-in. table, \$140; XOA, 12½-in. table \$180; XQA, 12½-in. table \$220; XQR, same as XQA with AM \$240; XTA, 16-in. table \$250; XTR, same as XTA with AM \$270; XRA, 12½-in. console \$260; XRPT, 12½-in. console with AM-3 speed, \$320; XSA, 16-in. console \$300; XSPT, 16-in. console with AM-3 speed \$360.

Note: RMA statistics committee chairman Frank Mansfield (Sylvania) projects RMA's 1949 count of 9,680,773 radios (Vol. 6:3) and RCA License Bureau's 9,875,429 (Vol. 6:10) to a more realistic total of 11,400,000 -- thus taking into account non-reporting producers. For TV, he fixes figure at 3,029,000, bearing out our belief (Vol. 6:10) it was "in excess of 3,000,000."

TRENDS & TOPICS OF THE TV TRADE: Watch for big splash before end of April by substantial TV manufacturer, offering 10-in. table model at \$99, table with 12½-in. at \$119, and 12½-in. console at \$149!

Further details aren't available, nor are we at liberty to disclose identity of this set maker beyond noting that he's one of top group recently listed (Vol. 6:8). He insists the prices are "coldly calculated" and will earn profit for himself and dealers. He plans to back campaign with national advertising, is confident startling prices will serve as antidote to summer slump everybody else expects, has dropped all radio production to clear the decks for big TV output.

* * * *

General Electric's new line abandons 10-in., includes one 12½-in. and one 19-in. model, concentrates on rectangular 16-in. It's GE's first line of 16-in., although it made \$430 console last fall and has been making the tubes for other customers. New line (all mahogany except blondes) comprises:

Model 12T7, 12½-in. table, \$200; 16T1, 16-in. table, \$270 (16T2, blonde, \$280); 16C110, 16-in. console, \$300 (16C111, blonde, \$310); 16C115, 16-in. console with half-doors, \$330; 19C101, 19-in. console, \$550. All have 16 tubes plus 3 rectifiers save 12½-in., which has 15 & 3. Deliveries have begun, though 19-in. will not move until later this month.

Another major out with new models -- and claiming its 1950 production will place it among top 20 (Vol. 6:8) -- is Stewart-Warner. It will feature 14 & 16-in.

rectangulars, retaining 12½-in. console-combination at \$350 from old line. Now being delivered is 16-in. rectangular table at \$280; due last week in March is same in console with AM-FM at \$350. Next month it promises 14-in. rectangular table and console-combination, as yet unpriced; also, late in April, 16-in. console and combination, unpriced. There may be changes in time for Chicago Summer Furniture Mart.

Bendix has new rectangular 16-in. console-combination, to be priced around \$450, for delivery in May. Company's blanket cancellation of existing dealer franchises occasioned all sorts of rumors; actually it's only to revise franchise form. Bendix is now producing 2500 TVs a week, limited by shortage of cabinets, etc.

Noblitt-Sparks (Arvin) will have new 12½-in. mahogany table at \$190 in April, console at \$229 or \$239 in May, full new line at Furniture Mart in June; company says it will make more than 100,000 TVs this year, this week broke ground for new factory in Columbus, Ind., expected to be in TV-radio production by Aug. 1.

Reported new Zenith sets aren't changes from present line, but include 2 improvements to cut down glare from outside lighting: (1) Glass covering plate is slanted downward, so that ambient light is reflected down instead of into viewer's eyes -- similar to Philco innovation. (2) Face of "black" tube is coated to dissipate outside light.

* * * *

Packard-Bell v.p. Robert S. Bell claims it's largest radio producer in West, with greater facilities than any other manufacturer west of Chicago (meaning, primarily, Hoffman); he reports production now 8000 TVs per month, expects to turn out 106,000 this year at average factory price of \$145 -- therefore, ought to have been included in "guesstimate" list of top 20 (Vol. 6:8)...Yet latest from Hoffman Radio is that it's producing now at rate of 180,000 TV sets, may hit 200,000 this year.

Pathe Television Corp., Brooklyn, same address as Air King (it's a subsidiary, Air King in turn being subsidiary of Hytron), reports new line comprising 12½-in. table at \$200, rectangular 16-in. consoles at prices varying from \$300 to \$360; all have 16 tubes, 2 rectifiers, except \$300 console with 17 & 3...Magnavox has new rectangular 16-in. mahogany console at \$300, in blonde \$320...Tele-tone has new 19-in. walnut console at \$370, in mahogany \$390...Fada advertises new line comprising 12½-in. table at \$200, same in mahogany \$210, same in console \$240; also, 12½-in. table for fringe area reception, \$270; also, 16-in. table at \$330, console \$365...Regal adds 19-in. console at \$497.50, with AM-FM \$527.50.

Macy's-New York advertised private label Supre-Macy line this week as follows (maker undisclosed): 16-in. Classic console \$329, Queen Anne console \$329, 18th Century console \$399; also 19-in. Queen Anne at \$399 and 18th Century at \$459...Sightmaster reports moving into new plant at 111 Cedar St., New Rochelle, N.Y.

Berkey & Gay Furniture Co., Grand Rapids, has authorized use of its name on custom-built TVs; Edgar S. Reidel, ex-Raytheon, now with Chicago investment firm of Shillinglaw, Bolger & Co. looking for manufacturer interested in using B&G quality name on royalty basis.

* * * *

Though local dealers are reported up in arms, big new potential market for TV sets is seen in Admiral's successful bid to furnish 4000 chassis (with 12½-in., at reported price of about \$100 per unit) in big Levittown, Long Island, housing project for Levitt & Sons -- sets to be built into living room walls, included in \$7990 price of 4-room house along with GE refrigerator, GE range, Bendix washer. There were 15 bidders, including RCA.

Washington Electric Assn reports 41,875 TVs sold in 1949 at \$13,818,750 retail -- or average \$330 per set. TV thus was highest income local dealers enjoyed, refrigerators running second with 31,118 units at \$9,335,400; radios most units (55,876) for retail trade of \$5,587,600. Philadelphia Electric Assn recently reported 220,366 sets sold during 1949 for \$73,274,529 (average \$332).

Marathon Radio & Television Inc., 495 Kent Ave., Brooklyn 11, N.Y. (Benjamin Willig, pres.) is new manufacturer. Line has three 16-in. consolettes at \$495, \$525 & \$545; 19-in. consolettes at \$565, \$495 & \$615. All have 27 tubes, 4 rectifiers... New radio-phono manufacturer is Steelman Phonograph & Radio Co. Inc., 742 E. Tremont Ave., Bronx, N.Y. (Morris J. Steelman, president).

460,000 TV SETS MADE IN FEBRUARY: Short February month, which for statistical purposes closed Feb. 24 and means March will be 5-week month, saw TV output of approximately 460,000 units -- second only to 5-week November's 497,000 (Vol. 5:52). RMA members report 367,065 sets, to which we're adding usual 25% and rounding out total. February total compares with 420,000 during January (Vol. 6:7), means total of 880,000 thus far this year to add to post-war cumulative of just about 4,000,000 as 1950 began (Vol. 6:3).

Weekly RMA output figures in February show: first week 97,394, second 91,663, third 92,905, fourth 85,103. RMA's February breakdown: table models, 164,-206 (3440 with AM and/or FM); TV-only consoles, 162,570; combination consoles, 40,-289 (28,595 with phonos). TV sets with FM totaled 42,940. FM sets totaled 86,455.

February radios of all kinds totaled 1,117,458, including the 367,065 TVs; this compares with 995,783 in January, 998,993 in December, 1,324,359 in November.

WHAT IS 'PROPER' VIEWING DISTANCE? Actual viewing distances, one of TV's most argued and least studied facets, finally has a few facts to go on. Dr. John W. Riley, Rutgers sociology professor, appeared as CBS witness during color hearing this week, presented study showing that people's habits apparently just don't follow expert opinion. He covered 102 families (287 individuals) in New Brunswick, N.J., found:

(1) Median distance from 10-in. tube (picture 6¼-in. high) was 8 ft. 4-in., or 15 times picture height. For 12½-in. tube (8½-in. high), median was 9 ft. 10-in., or 14:1 ratio. For 16-in. (10½-in. high), median was 9 ft. 8-in., or 12:1.

Those distances are surprising, since engineers argue that optimum is 4:1 or 6:1 or 8:1 or 10:1 -- but we've heard no talk about greater ratios. It's peculiar that median for 16-in. is about same as for 12½-in. Perhaps small sample accounts for it. Perhaps people are "pushed to the wall" by 12½-in., can't get any farther for 16-in.; but Dr. Riley says "size of room does not appear to control seating distance, although in the largest rooms people tend to spread out somewhat more."

(2) As for viewing angle, about half sit virtually in front of screen (within 20 degrees of perpendicular). Balance is about equally divided among those sitting 21-30 degrees and those over 30.

(3) "Custom and comfort" is basis for seating choice of most people. But a third of the 14% who sit closer than 6 ft. and a third of the 26% who sit farther than 12 ft. apparently find those distances easier on eyes.

(4) Children under 10 sit quite close, people over 40 towards back.

(5) Wearing of glasses has no bearing on choice of viewing distances.

Dr. Riley's study is titled "Study of Television Viewing Under Normal Home Conditions" (CBS Exhibit No. 346); write CBS Information Dept. for copy.

MORE ABOUT RECEIVING TUBE SHORTAGE: Maybe that circuit tube shortage won't be as serious as we indicated last week (Vol. 6:10), for we have these reassurances from these prime suppliers:

Ray C. Ellis, v.p. Raytheon: "We feel that the standard receiving type tubes as used in TV sets will be a short item this year, but do not feel that it will be a limiting factor in the production of TV sets. We among others are expanding production facilities so that when the peak demand hits the industry this coming fall we do not feel there will be any material shortages of tubes."

R. C. Carlson, v.p. Tung-Sol: "There is at present an apparent shortage of some types of tubes, but with some increased production, and proper planning on the part of set manufacturers as to requirements, there should be sufficient tubes available over the year to take care of contemplated set production as we know it."

Reports on picture tubes: Corning Glass spending \$5,000,000 on new plant in Albion, Mich., 300,000 sq. ft. on 31-acre site, for making blanks; will be in production by fall, employing 600...Sylvania March 20 makes effective 1-year guarantee on all its picture tubes, replacing without charge for manufacturers and distributors; each tube will have code date stamped on it...General Electronics Co., Paterson, N.J., reports it's adding new equipment in new building, now turning out 14 & 16-in. rectangulars.

Financial & Trade Reports: To finance expansion, Hytron (subsidiaries are Air King and Pathe) has registered with SEC plans for sale of 200,000 shares of \$8 par 6% convertible preferred and 440,000 shares of \$1 par common, all but 40,000 of common to be offered for sale by company itself; the 40,000 by Bruce A. Coffin, president; Lloyd H. Coffin, chairman; Edgar M. Batchelder, executive v.p.; David H. Cogan, v.p. Underwriters are Barrett Herrick & Co., New York, and Sills, Fairman & Harris, Chicago . . . Hytron reports 1949 net of \$565,171 (45¢ per common share) on sales of \$16,226,143 vs \$86,121 (8¢) profit on \$7,937,423 in 1948 . . . Hoffman Radio is not only splitting 1½-for-1 (common thus totaling 382,525 at 66⅔¢ par), but has advised SEC that wife and daughter of president H. L. Hoffman (who owns 23.6% of outstanding common) are selling 50,000 shares thru William R. Staats Co., Los Angeles, and Paul H. Davis & Co., Chicago.

SEC's latest summary of security transactions (during Jan.) include: Emerson's Dorman D. Israel sold 1700 shares, retained 620; General Instrument's C. Russell Feldman, resigned chairman, sold 9500, retained 500; GI's president Richard E. Laux sold 1800, retained 100; Kenneth C. Meinken sold 5500, retained 210 . . . In National Union Radio, president Meinken sold 2300 shares, retained 32,600; Clarke & White Inc., Boston bankers, sold 10,000, retained 5000 . . . Globe-Union Inc., whose Centralab division is major components maker, had sales of \$29,495,444 in 1949; is reported earning at rate of \$3.50 to \$4 this year (vs. \$2.54 per share in 1949), but chairman C. O. Wanvig tells *Wall Street Journal* that's probably "steep" though profit outlook is "very favorable"; company is part owned by Sears Roebuck.

RCA proxy notice for May 2 stockholders' meeting in New York discloses these 1949 directors' salaries: David Sarnoff, chairman, \$200,000; Frank M. Folsom, president, \$140,000; Niles Trammell, NBC chairman, \$100,000; John G. Wilson, executive v.p. RCA Victor, \$90,000 (plus \$25,000 incentive payments); C. B. Jolliffe, v.p., \$50,000 (plus \$17,500); Harry C. Ingles, president RCAC, \$35,000 (plus \$4000); Edward F. McGrady, v.p., \$30,000; Gano Dunn, consulting engineer, \$28,050; John T. Cahill, director, \$2250 (his law firm was paid \$365,000 legal fees for year).

Hazeltine reports 1949 profits were \$985,072 (\$2.81 per share on 350,000 shares outstanding) on gross income of \$2,848,213 vs. \$700,728 (\$2) in 1948; \$547,572 earnings retained in business after \$1.25 dividend left net worth at \$6,155,971. Proxy notice for April 11 stockholders meeting discloses these salaries; Jack Binns, president, \$35,775 (plus \$15,000 bonuses and profit-sharing); W. A. MacDonald, v.p., \$34,685 (plus \$15,000); L. B. Dodds, v.p., \$23,737 (plus \$6000); Jennings B. Dow, v.p., \$19,100 (plus \$6000); F. Robinson, v.p., \$18,150 (plus \$7500).

Packard-Bell declared quarterly dividend of 50¢, payable April 25 to holders of record April 15; raises rate to \$2 per share vs. \$1 last year . . . Motorola declared regular quarterly dividend of 37½¢ per share payable April 17 to holders of record March 31, reports sales and earnings first quarter 1950 promise "to exceed by a wide margin the record of any other quarter" in company's history.

Celomat Corp.'s CBS color converter (Vol. 6:10) turns out to be device giving 5-in. picture blown up to 7-in. Vice president Myron Greenwald testified, during FCC color hearing, that retail cost of unit, without adapter for changing existing receivers to 405 lines, would be about \$40; for 10 or 12-in. picture, it would be \$55-\$60. He couldn't estimate cost of adaptation. He reported his company's business, magnifying lenses, had dropped considerably in last 6 months.

Trade Personals: Austin C. Lescaboura, veteran electronics publicist, awarded French Legion of Honor for technical assistance to industrial missions; he was twice decorated previously by French govt. . . . George H. Lochman, ex-DuMont, appointed RCA Victor field sales representative for Michigan, northern Ohio, western Pennsylvania, working out of Cleveland . . . James W. Murray, ex-RCA record division v.p., elected v.p. of Capitol Records Inc., Los Angeles . . . Ernest Kohler, ex-Raytheon, has joined Oak Mfg. Co. . . . RCA Victor Distribution's v.p. Robert A. Seidel announces appointments of R. C. Dove as his operating asst., H. V. Somerville as technical asst. . . . F. P. Rice promoted to executive asst. to Irving G. Rosenberg, DuMont Tube Div. mgr.; J. L. Fisher named production control mgr., succeeding Chester Burwell, resigned.

Packard-Bell's request to get into color hearing (Vol. 6:10) was denied by FCC on same grounds Emerson, Wells-Gardner, et al, were rejected—it would offer no scientific color data. Color experimenter Theodore Wetzell, of Milwaukee (Vol. 6:2, 7, 8) is persisting in request for hearing, though FCC denied him once. He claims his system out of theoretical stage, says he has set up equipment to demonstrate.

Industry advisor to U. S. delegation to CCIR meetings in Paris and Eindhoven April 20-25 will be *Electronics Magazine's* Don Fink, who sails April 14 on *Queen Elizabeth*. After seeing French and Dutch TV, committee goes to London April 27-May 4 to look over British system. Foreign members of CCIR group begin 10-day tour of U. S. cities viewing stations and factories March 27 (Vol. 6:9). Object is to set up international TV standards.

More March 1 sets-in-use figures reported since NBC Research "census" of Feb. 1 (Vol. 6:8): Los Angeles 448,737, up 72,737 in month; Philadelphia 407,000, up 37,000; Boston 305,793, up 28,793; Baltimore 146,191, up 13,191; Milwaukee 89,419, up 8619; Buffalo 75,693, up 7493; Providence 40,950, up 8950; Syracuse 33,758, up 5258; Johnstown 16,560, up 2960.

Federal Television Corp., New York, retains right to use its name in decision by U.S. Court of Appeals this week, upholding lower court decision denying Federal Telephone & Radio (IT&T) request for injunction to stop it from using word "Federal" in name (Vol. 5:19,22).

NAB convention speakers trend to academic side—and plenty of them. Other than FCC chairman Coy, name speakers booked for April 16-19 convention in Chicago's Stevens Hotel have no radio identity. They're Gen. Carlos Romulo, president, UN general assembly; Herman Steinkraus, president, U. S. Chamber of Commerce; Paul H. Hoffman, ECA administrator; H. E. Babcock, agricultural author. AFM's Jimmy Petrillo has also been invited.

Telecasting Notes: DuMont Network centralizing production, rather than depending on local studio executives at Wanamaker, 515 Madison, Adelphi Theatre origination points (150 shows weekly); now, Alvin Hollander is mgr. of program facilities, Don Russell chief announcer, Miss Duncan McDonald new training supervisor . . . Pittsburgh's WDTV, hitherto network and films only, to get local studios, signs for 7500 sq. ft. in Chamber of Commerce Bldg., main studio 58x48, occupying May 1 . . . NBC offering TV advertisers 35% discount on gross for 8 weeks during July-August to encourage staying on thru summer; ad chief George Frey reports "encouraging response" . . . First TV awards in annual duPont citations went to ABC-TV for *Crusade in Europe*, to New York's WPIX for handling news and events . . . WTTG, Washington, appoints Harrington, Righter & Parsons rep firm on "trial basis" but other DuMont-owned outlets (WABD & WDTV) continue to be represented by DuMont Spot Sales.

CLOUDY PROSPECT OF SMALLER SIZES: Everybody's trying to learn identity of manufacturer who told us he intends producing 10-in. table to sell at \$99, 12½-in. table at \$119 and 12½-in. console at \$149 -- but we cannot as yet disclose anything more than published last week (Vol. 6:11). Whether this substantial manufacturer's big summer promotion will affect market as whole, your guess is as good as anyone else's.

Mere fact of \$100 TV receiver, regarded not so long ago as dream even with 10-in., actually was accomplished recently by Philharmonic, which listed 10-in. table at \$99.95 (Vol. 6:9) as well as surprisingly low prices on larger models. Situation led us to do bit of probing into 10-in., and we find record showing these manufacturers still offering them: Emerson, Crosley, DeWald, Meck, Motorola, National, Nielsen, Regal, RCA, Sparton, Sylvania, Tele King, Tele-tone.

Since last published list of 10-in. set makers (Vol. 6:4), GE, Muntz and Westinghouse have dropped them. RCA is expected to do so by summer. What the private-label folk will do, is problematical. Nobody even mentions 10-in. rectangles -- 14-in. diagonal is smallest suggested as replacement of 12½-in. round -- but there's some talk that 10-in. may stage comeback in portables. Ten-inch tubes continue as substantial factor in replacement market.

As for 7-in., only producer still making them for own brand name seems to be National. Emerson has ceased making them, is now cleaning out last model. In 8½-in. field, there are only Arvin and Motorola. Former reports \$130 model doing well and calls 8½ "very important part of our entire TV production and sales program." Motorola reports it has no present plans to make any more 8½-in. models (\$140).

PHILCO'S JUNE 'SUPER-COLOSSAL': Look-see at Philco's bustling big TV, radio and tube plants in Philadelphia area tends to confirm glowing reports by its ebullient executive officer Jimmy Carmine that its TV output is currently around 18,000 units per week and that there's no letup in high rate of radio production. Then, too, there's 1949 annual report issued this week to bolster claim that Philco has really pulled out of slough into which it fell about this time last year. It reports largest orders on hand in company's history, reveals capacity soon will be 25,000 TV sets per week. But week's biggest bit of trade news from Philco is this:

In mid-June, at Atlantic City, it will play host to largest convention ever staged by any single American company (so they say) -- bringing together 6200 company men, distributors and dealers "to hear our story first hand." Ever one to do things on big scale, in line with hard-driving merchandising tradition it began when it took over Atwater Kent's dominant radio position in '30s, Philco has hired giant Convention Hall, reserved 20-odd hotels, budgeted \$1,000,000 for big event.

Plan is to hold distributor convention and meetings June 16-18, about 1200 attending, when it will introduce new TVs, radios, appliances. Combined meetings with 5000 dealers from all over country will be held June 19-22. Dealers will be guests of company and its distributors, their transportation and accommodations all paid -- but they're being urged to come without families inasmuch as business schedule will be crowded and additional hotel accommodations next to impossible to get.

Philco 1949 annual report released March 25 shows sales of \$214,884,000, earnings \$5,691,796 (\$3.17 per share) vs. 1948 sales of \$275,424,340, earnings \$10,531,914. But most significant is fact that, in wake of its bad TV breaks at start of last year, aggravated by spring-summer TV-radio "inventory recession," fourth quarter accounted for nearly third of year's sales (or \$64,841,000) and about half of year's earnings (\$2,777,000) -- and president Balderston informed stockholders:

"Sales and earnings are running well ahead of the last quarter of 1949, and operating results for the first quarter of 1950 are expected to be the highest for any initial quarter in the company's history."

TRENDS & TOPICS OF THE TV TRADE: DuMont is one of few who see present demand holding up through end of May, most others looking to April as falling-off time --and hoping ardently that baseball will prove hypo to spring-summer trade. Hoping, too, that program momentum now being gained will carry through spring and summer. Everybody's merely hoping and guessing, though, for TV trade is still too young, too beset with variables to follow radio precedents. Actually, it's now setting own precedents.

Signs of healthy and vigorous market: RCA dealers almost invariably putting customers on waiting lists for main models. DuMont still on allocation despite fact sets are higher-priced than most, haven't been changed or reduced since last general breaks in new lines and prices. Some manufacturers even saying allocations must continue through second quarter. And February sales of receiving tubes (for both TVs and radios) revealed by RMA as 24,865,546, just about double same month of 1949 -- hence talk of shortages (Vol. 6:10-11).

Sporadic reports of "soft spots" aren't substantiated yet by top manufacturers, who point to factories working at capacity, products moving onto boxcars and trucks as fast as turned out, wholesalers and retailers still clamoring for more.

* * * *

GE having announced its new line (Vol. 6:11), DuMont is apparently only major producer due out with new line before late spring or early summer when models for fall-winter will be introduced variously at company meetings and conventions, at Chicago Summer Furniture Mart starting June 19 and Music Industry Trade Show (NAMM) July 10-13 in Chicago's Palmer House.

Week of May 22, the 1950 Parts Distributors Conference & Show is scheduled in Chicago's Stevens Hotel -- separate this year from RMA convention, June 5-8. West Coast Electronics Manufacturers Assn stages 6th annual Pacific Electronics Exhibit Sept. 13-15 in Long Beach, Cal. Canadian Assn. of Radio & Appliance Dealers meets in Toronto's Royal York April 3-5, but TV will be only incidental.

* * * *

TV sales managers are going to do something about exaggerated advertising claims, so their business won't be subject of such sharp satirical jibe as appeared in March 18 New Yorker cartoon showing man in retail store asking, "Just what do you mean by giant, life-size 10-in. tube?" Sales chiefs of major set makers agreed, at Chicago meeting this week, that there were abuses -- claims for "big" screens, picture sizes in square inches, performance claims being among most flagrant. Overall committee chose Stromberg-Carlson's Clifford Hunt as chairman, named this subcommittee to draw up code of advertising practices: William L. Dunn, Belmont; V. C. Haven, Crosley; E. G. May, Sentinel; John Gilligan, Philco; James M. Toney, RCA.

Formerly known as Federal Video Corp., Shaw Television Corp., 200 Kosciusko St., Brooklyn, has line of 16 & 19-in. consoles in custom furniture, all with 26 tubes, 4 rectifiers. Prices range from \$495 to \$610 for 16-in., from \$595 to \$795 for 19-in., with one 19-in. combination at \$1295. Company moves April 15 to 195 Front St., Brooklyn.

* * * *

More new models: Trad adds line of home receivers to its commercial projections (TV Directory No. 10); home line comprises 16-in. console, \$395; 19-in. console with doors, \$495; new 18x24 projection, \$795...Magnavox has new rectangular 16-in. console combination at \$499...Hoffman has new rectangular 16-in. mahogany table at \$290, in blonde \$300...International Television Corp. advertising 16-in. console at \$280, 19-in. at \$500...Andrea will show new TV line in May.

Spring-summer catalog of Aldens Inc., Chicago mail order house, lists own-label 10-in. table at \$140; 12½-in. table, \$160; rectangular 16-in. table, \$220; 12½-in. console, \$200; 16-in. console, \$240; 16-in. console with doors, \$330; 19-in. console, \$370; 16-in. combination, \$400...Gimbels and Davega this week advertised Raytheon 7-in. model DX21 at \$90 (original list \$200).

Newsweek reports West Coast dealer buying radio time to describe to listeners what they're missing on TV at that very moment...We erred last week in reporting Motorola's 4 new radios as table models; actually they're portables, each in 2 dif-

ferent colors, prices ranging from \$25 to \$40...Philco releasing new portable at \$35, new AM-FM table at \$60...GE out with 3 new portable radios, priced \$20, \$30 & \$40, breaks big trade and consumer ad campaign in April and May...Sylvania March 25 announced new 19-in. metal (round) tube called 19AP4.

Another built-in receiver contract: Industrial Television Inc. has sold 60 chassis to go into living room walls of 5-room houses now being built by Orchard View Terrace Homes, Paramus, N.J. Later, 120 more "TV homes" will be built. Admiral this week replied to Long Island dealers, complaining about its 4000-set contract in Levittown (Vol. 6:11), that publicity would more than make up any of their losses.

FABLE IN FACT—DuMONT TUBE STORY: Allen B. DuMont didn't unveil that much-talked-about 30-in. TV picture tube this week -- rather, he simply disclosed his company was working on it. But he did say that it will probably be ready in the fall; will offer 600 sq. in. of picture area; will be usable primarily in public places. It was described as capable of high light levels and clean-cut definition, and called forerunner of 4x5-ft. "or even larger" picture tubes which may one day be usable in theatres. As for projections, either in home or theatre, the blunt-spoken Dr. DuMont doesn't give them a look-in.

[Also working on larger tubes are RCA (21-in.), GE & Lansdale (24-in.), probably Rauland and others (Vol. 6:8) -- though they're not talking about it.]

Some fabulous facts and interesting opinions about TV tubes were unfolded by Dr. DuMont and staff this week as they showed newsmen around their new Allwood plant at Clifton, N.J., called largest in world devoted exclusively to TV picture tubes. It embraces 170,000 sq. ft. of factory space on 27-acre tract, cost \$2,500,000, is given over entirely to CR production. It's eloquent monument to Dr. DuMont's conviction, held since he began making tubes with \$1000 capital (\$500 borrowed) in his basement in 1931, that "the way to develop TV is to develop the CR tube."

From what he and plant manager Irving G. Rosenberg stated, these seem to be most pertinent points insofar as they indicate trends:

Of more than 6,000,000 tubes to be produced this year (replacement market already accounting for 15% of total output and rapidly gaining), Allwood's 550 employees working 3 shifts a day 6 days a week expect to account for \$20-25,000,000 worth. DuMont doesn't disclose unit output, but did say plant by end of year should be producing at rate of 1,000,000 a year. Old plant at Passaic continues on 12½-in.

Allwood plant is producing all sizes save 7 & 10-in., which Rosenberg said will "definitely die." At moment, 16-in. is ascendant but it "must soon be eclipsed by the 17-in. DuMont rectangular [offering] over 150 sq. in. and a much more compact cabinet." The 19-in. metal-coned tube now accounts for about half DuMont output.

Rectangulares will replace rounds, in Dr. DuMont's opinion. Within year or so, he thinks all TV tubes will be rectangular. "We're gradually moving over now," said he. "We'd make more if we could get the blanks. They produce more pleasing picture than the present 'potbelly' tubes."

As for all-glass vs. metal-coned, Dr. DuMont said cost and picture results and life expectancy are about same for both, the metal having virtue chiefly of lighter weight. Glass may prove most economical for smaller sizes (meaning 12½) but larger sizes will be metal-coned, he said. (Doing big business now in spinning the metal cones to which glass is annealed are Spincraft Inc., Milwaukee; I-T-E Circuit Breaker Co., Philadelphia; DeLaval Separator Co., New York.)

Tube prices are gradually lowering with mechanization and mass production, but Dr. DuMont thinks 12½-in. which now costs manufacturer \$19 (as against \$43.50 last year) has probably reached rock bottom. Another example is \$54.50 cost to set maker for 19-in. tube vs. \$189 for 20-in. just year ago.

Dr. DuMont takes dim view, literally, of filter-glass faces, variously called black, grey, no-glare, etc. "We think they're merely a stunt," he said. "We make them, of course, for our tube customers because that's what they demand. But in our own sets, we use the clear tube and I think when people get wise they'll go back to that." Presently, 40% of DuMont's tube output goes into own receivers.

Financial & Trade Reports: American Broadcasting Co. has made standby loan agreement with New York Trust Co. for \$2,500,000; in report on agreement, president Robert Kintner said ABC has invested \$8,000,000 in TV thus far. ABC gross income for 1949 was \$40,267,488, up from \$37,110,726 in 1948; but substantial program costs and TV depreciation charges resulted in net loss of \$519,085 for 1949 vs. profit of \$468,676 (28¢) in 1948 . . . Last year's sharp drop in phonograph record sales reflected in 1949 report of Capitol Records Inc., showing sales of \$11,496,400 vs. \$16,862,450 in 1948; net income of \$60,477, compared with \$1,315,847 (\$2.60 per share) preceding year.

Corning Glass sales went to \$73,197,782 in 1949 vs. \$67,866,101 in 1948, says annual report, and its in TV (plans centering largely on rectangular tubes) up to hilt; net earnings were \$7,078,384 (\$2.56 per share) vs. \$3,648,253 (\$1.25) in 1948 . . . Collins Radio reports sales for 6 mo. ending Jan. 31 were \$5,551,794, net profit \$145,243 (39¢); same period last year sales were \$4,444,663, profit \$246,543 (71¢).

Olympic Radio reports 1949 output of 51,718 TV sets, lifting net sales (including radios) to \$9,609,672, nearly triple 1948's \$3,518,533; 1949 profit was \$578,163 (\$2.24) as against net loss of \$45,771 in 1948; indicated billings first 4 mo. this year should approximate 60% of last year's record sales, according to president A. A. Juvilier.

Hoffman Radio report March 22 shows sales of \$11,987,650 in 1949, up 134% from 1948 volume of \$5,112,889, gain due primarily to TV demand; earnings were \$1,276,036 (\$5) vs. \$223,619 (86¢) in 1948 . . . Stromberg-Carlson president Robert C. Tait reported to March 23 annual meeting of stockholders that "reasonable profit" will be earned first quarter 1950, first 2 months having been profitable; last year's first quarter showed loss of \$478,000.

Wilcox-Gay Corp., now heavily in TV (Vol. 6:6), reports 1949 net loss of \$755,762 on sales of \$1,943,994, vs. 1948 loss of \$368,892 (after tax refund of \$114,716) on sales of \$4,006,312 . . . Oak Mfg. Co., components maker, reports net earnings of 71¢ per share on 450,000 shares outstanding for quarter ended Feb. 28 vs. 37¢ per share for like 1948 period; earnings for first 9 mo. of current fiscal year were \$1.70 vs. \$1.07 . . . Emerson declared quarterly dividend of 30¢ on 879,805 shares, payable April 15 to holders of record April 5.

Sylvania proxy statement for annual meeting April 27 in Parker House, Boston, discloses these 1949 salaries: Walter E. Poor, chairman, \$60,000 (plus \$5443 profit-sharing); Don G. Mitchell, president, \$75,000 (plus \$6804); H. Ward Zimmer, v.p., \$39,000 (plus \$3538); Max F. Balcom, v.p.-treas., \$31,200 (plus \$2830).

Trade Personals: George W. Smith, ex-TV & radio mgr. for Affiliated Retailers Inc., buyer for Macy's, et al (Artone TV brand), named merchandising rep for TV-radio-phono for Associated Merchandise Corp., buyer for Abraham & Straus, Bloomingdale, Filene, et al; he's succeeded at Affiliated by William Helfrecht, ex-Bamberger . . . Harry S. Gould, ex-Magnavox, new merchandising director of Meek Industries . . . Charles H. Bernstein, ex-Philco divisional sales, recently Air King, now New York sales mgr. for Tele-tone . . . Francis L. Monette, Lowell, Mass., named chairman of new TV standardization committee of National Appliance & Radio Dealers Assn.

To speed up "in the home" repairs, Howard W. Sams organization, Indianapolis, has issued *Television Tube Location Guide* (\$1.50), 219-diagram booklet showing position of each tube in virtually all makes of sets.

Sylvania has 128-p. manual on *Servicing TV Receivers*, containing 53 pictures illustrating faulty circuit operation. Book is sold by Sylvania distributors for \$2.

Soviet agent Gubitchev gave newsmen cute angle as he sailed for Russia. He took 12-in. set (Motorola) with him. When asked whether Soviet had TV stations, he replied: "Why, the Russians invented television! That's why I'm taking it back with me." On basis of past experience, it would seem he got orders to bring back an American TV model; Soviets are notorious for duplicating our electronics equipment. As for Russians "inventing" TV, veteran editor O. H. Caldwell observes that 2 of American TV's great men, Sarnoff and Zworykin, were indeed Russian-born!

Uhf information to be submitted by RCA when color hearing resumes: Work on Bridgeport transmitter (Vol. 6:5) should soon produce 1-kw output at 890 mc, compared with present 600-mc limit. Other work has produced 3 kw at 750 mc. In near future, 5 kw at 890 mc should be realized. Present goal is 10 kw, with single tube, at 890 mc. Present Bridgeport transmitter could be duplicated 6-12 months after order is placed; 1 kw at 890 mc could also be delivered in 6-12 months; 5 kw at 890 mc would be available in 18-24 months.

Now comes Editor O. H. Caldwell of *Tele-Tech* and *Radio & Television Retailing* magazines, with these statistics to show U. S. investment of TV is already more than \$2.5 billion: 5,000,000 receivers with installation costs, etc. at average \$400 each, \$2 billion; dealer and distributor investments and inventories, \$300,000,000; TV repairmen, \$100,000,000; TV manufacturing plants and equipment, \$130,000,000; 100 TV stations on air, \$50,000,000; coaxial cables, \$50,000,000; costs of FCC hearings, legal controversies, etc., \$50,000,000. Foregoing add up to \$2,680,000,000—and by end of 1950 Dr. Caldwell thinks this will have increased to \$4.5 billions.

FCC is being cited example of source of govt. revenue from service fees. Subject is being studied by staff of Senate Expenditures Committee, which will lay findings before Senators for decision whether formally to draw up plans. Although point hasn't been reached where charges have been formulated, some proponents foresee \$1,500,000 income from such FCC fees as \$2 for applications; \$2 for amateur, citizens radio, other public licenses; \$10 for ship, mobile, other semi-public licenses; \$100 for broadcast licenses, etc.

Bureau of Standards' big radio center, proposed for Boulder, Colo., was approved in House Appropriations Committee report this week. As soon as finally authorized, construction of \$4,475,000 building will start, to be in use by summer of 1952 and house virtually all Bureau's radio work, according to director Edward Condon. FCC looks to project for much scientific data it has been unable to collect itself or had to get from industry.

DuMont's "closed circuit convention" service (Vol. 6:5) would cost \$11,000 for the first hour on 21-city network, Norman W. Drescher, head of convention dept. told National Conference of Business Paper Editors in New York. Kines and extensions to hotels or convention halls (base cost figured on use of DuMont studios) would be extra.

NAB Research, in joint compilation prepared with RMA statistics committee, comes forth with these counts: 3,029,000 TV sets produced during 1949, of which 2,594,000 were sold, remainder in distributor-dealer pipelines; 70,436,000 radios in use at end of 1949, of which 5,000,000 were in public places; 14,764,000 auto radios in use.

Add TV's growing pains: 15-year-old boy was caught cutting TV lead-ins atop apartment in New Rochelle, N. Y. He said he was trying to learn if receivers really need antennas. He made mistake of experimenting 3 times on wires leading into a policeman's apartment.

Additional Digests of Comments

APPEARANCES FOR HEARING ON PROPOSED TV ALLOCATIONS

(To Be Conducted Before FCC en banc; Docket No. 8736)

For text of proposed rules and allocations, see TV Directory No. 10

Note: These comments are in addition to those reported in Supplements 67 & 67-A.

- Badger Broadcasting Co., Madison, Wis. (WIBA) -- Requests assignment of Channel 12 to Madison; or Channel 10 to Madison, 12 to Milwaukee in lieu of 10, 10 to Grand Rapids in lieu of 12. (Dow, Lohnes & Albertson).
- Baltimore Radio Show Inc., Baltimore, Md. (WFBR) -- Requests assignment of an additional vhf channel to Baltimore. (Caldwell-Rollo).
- A. H. Belo Corp., Dallas, Tex. (WFAA & KBTW) -- Revises previous comments to favor FCC proposals for Dallas. (Loucks, Zias, Young & Jansky).
- Central Vermont Broadcasting Corp., Rutland, Vt. (WHWB) -- Requests assignment of Channel 3 in lieu of 37 to Rutland instead to Montpelier.
- Community Broadcasting Co., Baton Rouge, La. (WIBR) -- Requests assignment of Channel 13 to Baton Rouge. (P. W. Seward).
- Allen B. DuMont Laboratories Inc., Passaic, N. J. (WABD, New York; WDTV, Pittsburgh; WTTG, Washington) -- Revises previous allocation plan (Supplement 68) to extend proposals to 1300 cities, make changes, etc. (Roberts & McInnis).
- Eastern Radio Corp., Reading, Pa. (WHUM) -- Revises previous comment to request Channel 8 with 100 kw at 500 ft at site 15 miles W. of Reading (Fly, Fitts & Shuebruk).
- Elm City Bcstg. Corp., New Haven, Conn. (WNHC & WNHC-TV) -- Revises previous comments to further substantiate FCC proposal to change Channel 6 from community to metropolitan. (Fisher, Wayland, Duvall & Southmayd).
- Evening News Assn., Detroit, Mich. (WWJ & WWJ-TV) -- Revises previous comment to request move of WNBK, Cleveland, from Channel 4 to 8. Or move of WWJ-TV, Detroit, from 4 to 6; WJIM-TV, Lansing, from 6 to 5. Or move of WDTV, Pittsburgh, from 3 to 4; WLWC, Columbus, from 3 to 2; WNBK, from 4 to 3. Or move of WDTV from 3 to 2; WLWD, Dayton, from 5 to 2; WNBK from 4 to 3; WSAZ-TV, Huntington, from 5 to 3; WAVE-TV, Louisville, from 5 to 3; WLWC from 3 to 4; WLWT, Cincinnati, from 4 to 5. (Barnes & Nielson).
- Greenville News-Piedmont Co., Greenville, S. C. (WFBC) -- Requests assignment of Channel 7 to Greenville from Columbia, S. C. (Dow, Lohnes & Albertson).
- Hildreth & Rogers, Lawrence, Mass. (WLAW) -- Revises previous comment to request assignment of Channel 7 to Lawrence-Lowell-Haverhill instead of Channel 9 if Channel 9 is assigned to Boston as requested by Yankee Network.
- Hirsch Broadcasting Co., Cape Girardeau, Mo. (KFVS) -- Requests assignment of Channel 2 to Cape Girardeau from DeSoto. (George O. Sutton).
- Lamar Life Insurance Co., Jackson, Miss. (WJDX) -- Requests proposed assignment of Channel 3 to Shreveport be limited to directional antenna or low power.
- McClatchy Bdcstg. Co., Sacramento, Cal. (KFBK) -- Revises previous comments to request assignment of Channels 2, 6, 8, 10 to Sacramento and 8, 10, 12 to Fresno -- affecting San Francisco, Bakersfield, Reno, Chico, Los Angeles, Yreka, Redding, San Luis Obispo, Medford, Ore. (Dow, Lohnes & Albertson).
- National Broadcasting Co., Cleveland, O. (WTAM & WNBK-TV) -- Requests WWJ-TV, Detroit, be moved from Channel 4 to 6; WJIM-TV, Lansing, from 6 to 5.

(over)

Piedmont Bdstg. Corp., Danville, Va. (WBTV) -- Requests assignment of Channel 7 to Danville, affecting proposed assignments to Montgomery, Ala.; Jacksonville, Fla.; Atlanta, Augusta, Cordele, Savannah, Ga.; Charlotte, Durham, Greenville, Raleigh, Wilmington, Winston-Salem, N. C.; Zanesville, O.; Charleston, Columbia, Greenville, S. C.; Chattanooga, Johnson City, Kingsport, Knoxville, Nashville, Tenn.; Charlottesville, Norfolk-Newport News-Portsmouth, Roanoke, Winchester, Va.; Charleston, W. Va.

Pittsburg Broadcasting Co., Inc., Pittsburg, Kan. (KOAM) -- Requests assignment of Channel 7 to Pittsburg in lieu of 30. (George O. Sutton).

Radio Cincinnati Inc., Cincinnati, O. (WKRC & WKRC-TV) -- Requests assignment of Channel 2 from Hamilton-Middletown, O. to Cincinnati; 11 from Cincinnati to Hamilton-Middletown. (Cohn & Marks).

Radio Corp. of America, New York, N. Y. -- Requests use of entire uhf band; at least 4 stations in each area; uhf grouped geographically for ease in set manufacture; avoidance of vhf-uhf assignments to same city.

Rockford Broadcasters Inc., Rockford, Ill. (WRCK) -- Requests assignment of Channel 12 to Rockford from Peoria, 8 to Peoria. (Dow, Lohnes & Albertson).

Southwestern Sales Corp., Tulsa, Okla. (KVOO) -- Requests assignment of Channel 13 to Tulsa, 19 to Enid in lieu of 13; or 8 to Tulsa from Muskogee, 26 from Harrison, Ark. to Muskogee, 29 to Harrison; or 8 and 13 to Tulsa from Muskogee and Enid respectively, 19 to Enid, 29 to Harrison, 26 to Muskogee. (Dow, Lohnes & Albertson).

Summit Radio Corp., Akron, O. (WAKR) -- Requests assignment of vhf channel to Akron.

Taylor Radio & Television Corp., Wichita, Kan. (KANS) -- Favore FCC proposal for Wichita; requests assignment of Channel 5 to Weslaco, Tex. from Brownsville.

Trinidad Broadcasting Corp., Trinidad, Colo. (KSFT) -- Requests assignment of Channel 8 to Trinidad from Pueblo. (P. W. Seward).

WARC Inc., Rochester, N. Y. (WARC) -- Favors DuMont plan. (Pierson & Ball).

WCAE Inc., Pittsburgh, Pa. (WCAE) -- Requests assignment of Channel 6 to Pittsburgh from Johnstown, uhf to Johnstown; 7 to Pittsburgh from Wheeling, uhf to Wheeling; 11 to Pittsburgh with directional antenna; 11 to Cleveland, as proposed by FCC, be limited to directional antenna. (Dempsey & Koplovitz).

Westinghouse Electric Corp., Pittsburgh, Pa. (KDKA) -- Requests assignment of Channel 7 to Pittsburgh from Wheeling, 13 to Pittsburgh from Johnstown, 11 to Pittsburgh, 6 to Johnstown.

WHB Bdstg. Co., Kansas City, Mo. (WHB) -- Requests Channel 7 for Kansas City, 12 for Omaha in lieu of 7, 24 and 26 for Lincoln in lieu of 12. (Spearman & Roberson).

WICA Inc., Ashtabula, O. (WICA) -- Requests assignment of Channel 8 to Ashtabula from Cleveland. (Hanson, Lovett & Dale).

Wyoming Valley Bdstg. Co., Wilkes-Barre, Pa. (WILK) -- Revises previous comments to request vhf channel to Wilkes-Barre with directional antenna (Miller & Schroeder).

Yankee Network Inc., Boston, Mass. (WNAC & WNAC-TV) -- Requests modification of CP to change WNAC-TV from Channel 7 to 2. Also assignment of 9 to Boston in lieu of 7, from Manchester, N. H.; 7 or 12 to Manchester. Or 12 to Manchester, 7 to Lawrence-Lowell-Haverhill. (Pierson & Ball).

NOTE: Following commented in favor of proposals for their cities: WIBC, Indianapolis; KTOK, Oklahoma City; WGAN, Portland, Me; WJBK & WJBK-TV, Detroit; KWBU, Corpus Christi. KMBC, Kansas City, withdrew opposition to comments of KFEQ, St. Joseph.

THE TRI-COLOR TUBE — AND RCA POLICY

Remarks of Brig. Gen. David Sarnoff, Chairman of Board,
Radio Corporation of America

Before Press Conference in Washington, March 29, 1950

We believe Gen. Sarnoff's extemporaneous statements to newsmen at Wednesday's showing of tri-color tube so clearly analyzes RCA viewpoint of color TV situation that his remarks are here published for the benefit of those who want more details than those carried in sometimes confusing and contradictory press reports of the interview.

GENERAL SARNOFF: Ladies and gentlemen, I find it difficult to follow Dr. Engstrom [v.p. in charge of research, RCA Laboratories] as a speaker—after the lucid explanation he has made. I feel that, however great the stimulus may have been from other sources, the actual result is the product of the brains and the toil and sweat of the research men and development engineers, and the other technicians who have brought this wonderful tube to its present stage.

In a sense, I feel that we are witnessing here today what the first group witnessed in New Mexico when the atom bomb was exploded for the first time, with this distinction: that here we witness a development for beneficent purposes that can bring us enjoyment and happiness, and can make for a larger industry and more employment, whereas the atom bomb unhappily produces opposite results.

Beginning of Practical Color TV for Home

To my mind, practical color television begins with the single tube. Of course, systems had to be developed before this and many principles had to be explored and proven. But not until you have a single color tube, such as you have seen today, have you got the basic outlines of the practical color television system for the home. I share the optimism of Dr. Engstrom, and I congratulate most heartily every man in our organization who has had a part in this great development.

I might say to you that I have watched the development of radio and electronics for more than 40 years, but never before have I witnessed compressed into a single device so much ingenuity, so much brain power, so much development, and such phenomenal results, as are represented in this color tube.

It has taken electronics a long way and what the significance of this color tube may be to the future, I believe it would be difficult to over-estimate today. I think that the most fertile imagination would fall short in predictions compared to the realities which will follow.

'Facts of Life' About Color TV

When I came here this morning, I wondered whether I should tell you the facts of life about color television, as I see them. I have decided to do it, and in doing it, I shall be glad to submit myself to your questions and to answer them if I can.

It is almost impossible to touch the subject of color television without raising a fuss and starting a controversy. But I do not know anything that you ladies and gentlemen of the press like more than controversy. So, you have a fine target before you this morning. I leave myself to your tender mercies. Nothing I say is confidential. All I ask is that you use the abundant intelligence

which you have, so that when you quote me, please do not make me say things that I have not said. I will probably say plenty as it is.

The first point I would like to make is this: I want to dispel any suspicion or suggestion or doubt as to where RCA stands in this field of color television; as to whether we welcome it, whether we want it, whether we like it, or what we are going to do about it, and so on.

RCA 100% for Color TV

My answer to those and similar questions is that we in the RCA are 100% for color television. We believe in it. We have done all that we knew how to do up to this morning to advance it. We are going to continue to use our brain power and our resources and our facilities to keep on advancing it. So it does not strike us as something unpleasant, but rather as something we believe offers the greatest opportunity for enhancing and enlarging the service of television, both in black and white and in color, to the home and to industry in general.

And from a purely practical standpoint, who has more to gain from the development of color television than the RCA? After all, we are in business not only to broadcast programs and to sell advertising over the broadcast systems. We are also in the business of manufacturing and selling receiving sets, transmitters and tubes. So it is to our interest more than it is to any other single interest to advance the day when color television may be translated into a practical service. It will increase our business, it will increase our income, and it will increase our profits.

If anybody knows any reason why the RCA should not welcome color, I do not know that reason. It has never influenced our thinking.

The second point I would like to make is this: I am not as pessimistic as Dr. DuMont, who says that color television is anywhere from 10 to 20 years off. I do not believe that. It will be a much shorter period. I think you are able to judge that for yourselves, after what you have seen this morning. But I am not as unrealistic as the Columbia Broadcasting System spokesmen who say that color television is here today. I do not wish to associate myself with either extreme position.

Which System Is More Nearly Ready?

My third point is this: In point of readiness, which system is more nearly ready for commercial service?

You have certainly had plenty of claims and counter-claims and statements and mis-statements on that point. My conviction is that RCA is ahead of any other system even in its present form. But if we are talking about a single tube, all-electronic color system, more development

work needs to be done even with our system before mass production can be undertaken and sets sold to the public.

As to the proposed modified electronic system of the Columbia Broadcasting System, so far as I know it has neither been demonstrated nor field-tested as yet. But that does not mean, to my mind, that there is any reason why the FCC cannot set broad standards right now. The translation from the present position into the ultimate product will go faster from the day that the Commission establishes such standards.

When we talk about Commission standards, we have not the slightest wish to have the Commission approve our system and outlaw somebody else's system; nor to get into that kind of an argument. What we are interested in is to have the Commission set standards. This, it seems to me, can be done.

Already the Commission has spoken on the width of the channel—6 megacycles. We accept that. There are only two other broad standards that the Commission really has to set in order to clear the road. One is a requirement that color pictures, by whatever system transmitted or received, shall not be inferior in quality to present black-and-white pictures. The other is that whatever system is employed it *must be compatible*. You have seen the reason for that today, and you have known of that reason before.

The Three Basic Standards

If these three broad, basic standards are set by the FCC—6 mc, quality, compatibility—any system should be free to go forward and develop and try to meet those standards. I think those are the minimum requirements for standards that the FCC should be reasonably expected to set. Such standards would protect the public interest, and avoid making obsolete the 5,000,000 or so television sets already in the hands of the public. This number probably will reach 10,000,000 by the end of this year.

After such broad standards are set by the FCC, let the good American system of competition express itself to the full. Let there be competition in design, in appearance, in performance, in price and in service. . . .

It is my purpose to speak frankly. Let us, therefore, take a look at the situation as between the two principal contenders—RCA and CBS. In referring to these two, I do not intend to minimize any other system that is being offered or demonstrated. I merely refer to the two major contenders here, one of whom has been more aggressive than the other in publicity exploitation.

What About the CBS System?

CBS says, as I understand it, that its system of color is ready now; that all the Commission has to do is to approve that system and that, this done, the public would have color right away. What system are they talking about? They are talking about the mechanical disc, field-sequential system. However, in the testimony recently given by the experts for CBS they said that if the RCA color tube is made available, they could use the tube in their set, too, and that this would remove objections to their mechanical system with its limited picture size.

That is the same thing as saying we are both interested in transportation: one is building an automobile and the other a horse and buggy. The argument seems to run that when the automobile is ready the horse and buggy could be abandoned. But this would be adopting the other party's method of transportation.

Of course, that does not mean that we would not make our tubes available to anybody that built CBS sets. We would make them generally available. But the basic principle of the mechanical system then goes by the board, as it should.

I cannot imagine that, between now and whatever time it may take to produce these tubes commercially and to make them available to the public, anyone would be interested in buying a mechanical-disc set, with its limitations, for home use. I do not believe they would be interested in making such a purchase any more than they would be interested in buying a mechanical black-and-white set when they can get an all-electronic black-and-white set.

CBS has stated, also, that it will adopt the sampling method which is an important element of the RCA system. Likewise CBS has said that it will adopt the dot-interlaced scanning method. Thus, they claim, they can improve their picture. I hope they will do all this. But, if they adopt dot-interlaced scanning, and sampling, and the single tri-color tube, if they throw away their mechanical disc, what is left of their so-called system that justifies them calling the modified system the CBS system?

What About Compatibility?

I will tell you what is left—the field-sequential method. Although they are not the inventors of the field-sequential method (for it was known years before), nevertheless their use of it would be the only distinguishing feature between the so-called CBS system and the RCA all-electronic system which employs the dot-sequential method.

I ask you, is that a virtue or a vice? As you know, the dot-sequential system provides compatibility, while the field system does not. If anyone knows why the field-sequential system should still be employed, I wish he would tell me. I do not know the answer and our engineers don't know the answer, although they know many reasons why it should be abandoned.

Now, all the CBS has to do is to move over a little bit and adopt the dot-sequential system. This would end the needless argument. The Commission could set standards and all the engineers could go back to their laboratories and workshops instead of hanging around in Washington.

Our friends in CBS say that their system is all ready, and that ours still needs further development. Well, *what* system is ready? We have already discussed the mechanical system as it stands today in the light of the color tube. But when they begin to modify their mechanical system, and adopt dot-interlaced-scanning and sampling, to throw away the mechanical disc, and to substitute the RCA color tube, then they, too, will have an all-electronic system.

CBS Needs to Field Test

But has anybody seen that modified CBS system? Has the CBS itself seen that system? Do they know what a color tube would do in their present set with their present field-sequential circuits? They have admitted, only two weeks ago, that they would have to submit their modified system to field testing. You will recall that at the beginning, they said that their system required no field testing; that they had already had all the field testing necessary.

So, if CBS now has to submit an all-electronic set to field testing, which they admit they have to do, and which we agree they have to do, how can it be claimed in advance of any knowledge of what the field tests would show, that such a modified, unproven and untested system is ahead of what you have already seen here today? Our system has been field-tested, up to the color tube, for months and months.

So the opposite of what is claimed by CBS happens to be the case. The RCA is further ahead in the development of an all-electronic system than anyone else in the world. I submit that statement for challenge by anyone. CBS is not quite as ready as their press reports and their testimony before the FCC imply.

Ladies and gentlemen, those are the essential facts I wished to place before you today.

Having listened to me patiently, so far, I assume that what you want to know now is how soon will this color set, equipped with the RCA color tube, be ready for the public.

There is no simple answer to that question. Our next step is to make an official demonstration to the FCC. The date is set for April 6. Tomorrow we are going to demonstrate this tube and set to licensees and to other people who are interested in television, so that they can see what you have seen today.

As Dr. Engstrom has stated, we are moving forward to translate these laboratory and hand-made models into production models. That is not a matter of years; it is a matter of months. After we get good production models, we have to tool up, and gear our lines for mass-production.

No matter which system is approved by the FCC, it will require a reasonable period of time before one can produce commercially designed instruments. I hesitate to say one year, two years, or three years, because I don't know the exact amount of time all this will take. But I do know that from the minute the FCC sets standards, and if they set standards along the lines that I have just discussed, we would be able to go forward with our system. From the moment when the green light is given, we will be working day and night to take these remaining steps in our laboratories, in our set factories and in our tube plants, in order to get these instruments to the trade and to the public as quickly as possible.

Black-and-White Buyers Safe

In such a program, we see no problem either for the broadcasters or for the manufacturers of black-and-white sets. With a compatible system, there is no reason whatever why anybody should not continue to own or to buy, if they do not own one now, a black-and-white television receiver. The programs will be received in monochrome with present-day black-and-white sets, and without any modification whatsoever. You have seen here, today, better black-and-white than you have seen before. When the color tube is available, either a new color set can be purchased or present sets can be converted to receive in color as well as in black-and-white.

We have not yet fully gone into the problem of simplification of these circuits so that they could be adapted to present sets. That is the next step. We have no doubt that the color tube with its accompanying additional circuits can be made to apply to existing television receivers. That is an engineering development now under way.

What you have seen here are our standard black-and-white sets to which the color tube and its circuits have been adapted. We see no reason why, under the program I suggest, there should be any problem for the industry or why there should be any hesitation on the part of anyone to buy black-and-white sets now on the market.

It is quite a different story with an incompatible system. It is a different story for the broadcaster, too. You have seen or heard the statement made by the president of NBC before the FCC last week. He said that NBC would be prepared, when the FCC sets standards, to equip its broadcast transmitters for color transmission and to send out color programs on a regular schedule.

Finally, I would like to leave this thought with you. There is nothing in the development of our system, whether it be at the transmitting end or at the receiving end or at the tube end, which we seek to preserve exclusively for ourselves. There is no monopoly element, no monopoly question involved in this whole situation. We would make all of the things that we would use ourselves, available to anyone else who wanted to buy it and use it.

That is the story of color television, as I see it, as of this morning. I thank you most sincerely for your patience and for your attention.

Questions and Answers

QUESTION: Would you tell us what the projected cost would be of a set?

GENERAL SARNOFF: At this moment we have not yet moved into commercial design and mass production. My guess would be that when these sets are made and sold in similar quantities to black-and-white sets, the cost would be approximately 25% more, perhaps 20 to 25% more than an ordinary black-and-white set. But, as I say, this is guessing in advance of detailed knowledge of the specific design and actual production costs.

QUESTION: I notice that during the talk this morning that more emphasis seemed to be put on the three-gun tube. Do you think that is more likely to be the answer than the one-gun tube?

GENERAL SARNOFF: I don't think so. I think that there will be both, but I think the one-gun tube is likely to be the ultimate answer. These are purely matters of economical manufacture. There is no basic reason I know of why the one-gun tube should not be the ultimate answer. Nor do I think it is going to make any great difference whether it is three guns or one gun. It is still one tube.

QUESTION: When you talked about authorization of any particular system, did you feel that the Commission might practically authorize all of the competing systems and leave it up to competition to decide which is the best?

GENERAL SARNOFF: I don't visualize the necessity for the FCC to approve or disapprove systems as such. I think what it needs to do is to set standards. If FCC sets broad standards, any system that can meet those standards can go ahead. Competition can be along many lines, as for example, design, color tube type, price, service and so on.

QUESTION: That would mean that no system would be outlawed, then; all companies could go ahead on whatever system they might be working on?

GENERAL SARNOFF: No, no system would be outlawed, but none would be licensed that did not conform to the standards.

QUESTION: How far is the color system away from equality in quality with that of the best black-and-white?

GENERAL SARNOFF: Well, so far as reception on black-and-white, which you saw today, the color camera produces a black-and-white picture on the standard receiver somewhat better, I think, than the standard black-and-white. So far as color is concerned I would say that we are already pretty close to that same quality.

You must remember also that when you see these demonstrations, they are under forced draft, they are using temporary equipment. Also lighting has much to do with the net result that you see on the receiver. But when color operations are standardized as they are for black-and-white, I would expect that the definition of a color picture will be as good as black-and-white.

QUESTION: What kind of lighting was used in the studios?

GENERAL SARNOFF: So far as I know, it is standard lighting. Is that so, Dr. Engstrom?

DR. ENGSTROM: Incandescent lighting. The light level was 150-foot candles. This is the same or a little less than we use for black-and-white.

QUESTION: Ordinary street type makeup?

DR. ENGSTROM: The makeup tends to go a little bit in the direction of make-up for color movies.

QUESTION: How many dots do you hope to get? How many elements do you hope to get?

DR. ENGSTROM: Twice the present number.

QUESTION: The General has indicated when the color tube set is in production it will cost about 25% more. What about the problem of the cost of conversion? Can you tell us something about that?

GENERAL SARNOFF: I don't know the price of conversion yet. We haven't worked out the precise design for conversion. But there will be continued efforts in the direction of simplification and this will bring down the cost.

QUESTION: How close are you to mechanization of the tube, where is it built?

DR. ENGSTROM: Lancaster, Pennsylvania. We have quite completely visualized the mechanized processes, and the next step now is to put them into operation.

QUESTION: There is one point that I think was left unanswered by both you and Dr. Engstrom, and that is the matter of size of the picture. This is a 16-inch tube that was reduced to 14. I suppose that is because of the mask inside. That does not mean that this color tube will limit the size of the picture?

DR. ENGSTROM: No. It will not be limited in size. In fact it is easier for us to make a large tube than a small one.

QUESTION: Will you use 24 and the 30 inch tubes, when they come along?

DR. ENGSTROM: I think we will start with the 16-inch size and go up in size for color.

GENERAL SARNOFF: There is no limit in picture size with a tube as there is with the mechanical disc. More than that, the viewing angle is exactly the same as it is with present black-and-white receivers. This is because the color tube is the direct-view type and does not require a lens to enlarge the picture.

QUESTION: You said that the FCC ought to set just general standards?

GENERAL SARNOFF: Broad standards.

QUESTION: And one of those standards was compatibility. What about the question of compatibility of color system? Would there be one receiver that would receive your system, modified CBS system and the CTI system?

GENERAL SARNOFF: If there is such a universal receiver, I know nothing about it. I never saw one. Such a universal receiver has not yet been demonstrated. Obviously, it would be more expensive than a receiver for one system.

QUESTION: Then you would have a set that would accept the RCA system only, but if the CBS system were authorized and some broadcaster were to broadcast the CBS modified system, single system receivers would not be able to receive all transmissions.

GENERAL SARNOFF: If CBS or anyone else can comply with the broad standards that I discussed, then there would not be a CBS system or an RCA system or any other specified system. It would be a compatible color television system.

QUESTION: What about the CTI?

GENERAL SARNOFF: Well, the CTI has a line sequential system. CTI claims that their system is compatible.

QUESTION: There is no question of compatibility of color, that is, if the standards you suggested were to be authorized?

GENERAL SARNOFF: I want to clarify your question. What I am saying is that under multiple standards where each system is authorized to go ahead, you will need three

separate receivers, or a universal receiver that can receive all three systems. The latter would certainly be more complicated and more expensive than a receiver built for a single system. Competition should not be between field-sequential or line-sequential or dot-sequential systems. Competition should be based on the quality, price, design, service, etc. of the product and on programs.

Now, the Commission has no choice, as I see it, either to set broad standards, as I have suggested, or to set multiple standards. We see no useful purpose to be served by multiple standards. However, if the Commission decides on multiple standards we will go along and cooperate. No one knows what the future may bring. Therefore any standards that are set must be such as to permit further development and further growth. The field-sequential system using the mechanical disc has demonstrated that it cannot improve unless it adopts the important features of the all-electronic compatible system.

We have demonstrated from the beginning the continued improvement possible with our system. You have seen these improvements during our successive demonstrations and we are confident of further improvements.

QUESTION: Do you foresee the day when RCA will not turn out black-and-white television sets?

GENERAL SARNOFF: No, I don't. A compatible set will receive both black-and-white and color transmissions. And black-and-white sets will always be cheaper than a combination black-and-white and color set. I see no reason why we should abandon black-and-white receivers.

QUESTION: You mean the single tube will tune in the black-and-white program?

GENERAL SARNOFF: Yes, it will.

QUESTION: Do you think it is worth trying for more than 6-megacycles bandwidth for color?

GENERAL SARNOFF: I think 6-megacycle channels have become so fixed because of practical considerations that I doubt whether there is any way to alter it now. Certainly for the VHF 6-megacycle channels are indicated. We can also start UHF with 6 megacycles. There is no doubt that with more channel width you can pass more information. The better the definition the better picture you would have. But there is a limit to the use to which the spectrum can be put which has to be considered by the Commission. I have great sympathy with the problem of the FCC in this difficult problem of allocation. It is not an easy job.

QUESTION: What assurance does the FCC have that, if they would authorize standards for your system, the coaxial would be modified to carry them?

GENERAL SARNOFF: Such assurance as they can get from the Telephone Company. The Telephone Company has stated that it would adjust its cables for the required band-width to carry the color programs. Also, most of the interconnection will be by radio relays, where that problem does not exist at all. I think that the first transcontinental television will be by radio relay rather than by coaxial cable. It will carry our color. It does not seem to me to be proper to compress color and reduce its quality in order to meet the narrow band of existing cables. It is better to increase the bandwidth of the cable, by whatever means needed and those means are known—and thus let the full color signal go through.

Also, I believe that the present cable problem will not continue for long. I would not be surprised to have our experts find how to get our color through, even with present limited bandwidth of the coaxial cable.

In any event, the Telephone Company is on record that it would make proper facilities available for color transmissions. I think that by the time color television will be ready for the home, the cable problem will be solved.

MECK-PILHARMONIC GET WILCOX-GAY: Mainly to obtain added TV production facilities, John S. Meck and Bernard H. Lippin have entered into agreement with board and officers of Wilcox-Gay Corp., Charlotte, Mich., whose Recordio players and discs are well-known in trade, whereby they "personally" will acquire control of that company subject to stockholders' approval April 11. Details aren't announced yet, but it's understood considerable cash outlays are involved; also, that Wilcox-Gay plants are already turning out TVs and furniture for John Meck Industries Inc., Plymouth, Ind., and for Mr. Lippin's Philharmonic Radio Corp., New York. They will have equal holdings, with Leslie Evan Roberts acquiring some stock and running the company. Mr. Roberts is identified as a Long Island banker, New York office 745 Fifth Ave.

Wilcox-Gay products and brand names will be continued, according to plans, including its recently begun TV line (Vol. 6:6), of which only about 5000 units have thus far been turned out; it also makes radios, public address systems, etc., has been in business 30 years but in last few years has suffered heavy deficits (Vol. 6:12). Meck has made considerable record in TV in recent months, distributing through 59 wholesalers, manufacturing for Brunswick and Philharmonic as well as own brand, making much ado about his policy of dealer markups up to 40%.

Philharmonic has made big splash in recent months selling Meck-made TVs with Philharmonic label through big dept. stores (Vol. 6:1) offering 10-in. table at \$99.50, 12½-in. table at \$139.50-\$149.50, 16-in. table at \$190, and various other quantity-sold TV models (Vol. 6:9). It's probable Meck will move headquarters to Chicago, if deal goes through, administering own plants in Plymouth and Peru, Ind. as well as one in Charlotte. He has said he'll turn out 250,000 TV sets this year.

* * * *

News release from John Meck, March 30: "I don't know why the press is calling me regarding the supposed leak that a TV manufacturer is planning [to] feature a 10-in. table model at \$99.50. However, my answer to the press, the trade in general and the manufacturers in particular is: It doesn't surprise me a bit.

"We could do it. Any manufacturer who can't reduce his costs to meet such a price should refigure his entire engineering and production program. The \$99.50 price is going to be placed on a 10-in. set by someone before long. It is inevitable -- just like the \$99.50 washing machine, \$99.50 radio-phonograph, \$99.50 electric range and \$99.50 refrigerator."

1950 'GUESSTIMATES' CALLED TOO LOW: Remember those "guesstimates" of top 1950 TV producers and their unit and dollar volumes published here a few weeks ago (Vol. 6:8), as compiled by Television Shares Management Co. (Television Fund Inc.)?

There was so much reaction to this tabulation -- so many principals complained their unit figures were too low -- that we asked for comments from each of the top 20, as well as the 12 placed in non-ranking order in what TSMC called "second echelon". All but 4 of the 20 responded; also, 7 of the 12:

Their own estimates upheld TSMC's rankings, by and large, except for Big Three (Admiral, Philco, RCA) -- each claiming first. But whereas TSMC's total forecast was 5,365,000 for those 20 companies alone, our replies added up to well over 6,000,000 for them plus at least another 1,000,000 for second group.

Bear in mind these are only 32, albeit the leaders (plus one added starter), out of more than 100 TV receiver manufacturers -- yet, if we accept their word for it, they alone will turn out more than 7,000,000 units this year!

Can the industry really do it? Most key observers think not, considering expected seasonal declines in demand, known plant capacity, looming material shortages. "In the neighborhood of 5,000,000," is forecast you hear most.

But it makes for good, clean sport to listen to the favorites dope them-

selves--so here's their own 1950 dopesheet, using own words where possible. Underlined figure is one we've tallied as best available, either company's own or TSMC's:

Admiral -- TSMC estimate: 800,000. Wrote v.p. Richard Graver, "You are low on your estimate."

RCA -- Estimate: 700,000. Said spokesman, "No one will out-produce us this year." So let's guess 800,000.

Philco -- Estimate: 625,000. According to executive v.p. James Carmine, "We should do more than 800,000 for the year."

Motorola -- Estimate: 535,000. Writes Robert W. Galvin, executive v.p., "You will not have to worry about Motorola meeting [that] figure."

Zenith -- Estimate: 330,000. No statement, but informal trade reports are that it considers figure too low.

Emerson -- Estimate: 330,000. Says president Ben Abrams, "Emerson expects to produce about 400,000."

General Electric -- Estimate: 300,000. No other information.

DuMont -- Estimate: 190,000. Does not give out unit figures, but Dr. DuMont states, "We expect to do better than \$65,000,000 in sales of receivers this year." If TSMC average of \$225 factory price per set holds, that would mean 240,000.

Tele-tone -- Estimate: 175,000. Says President Gross: "At least 250,000."

Hallicrafters -- Estimate: 170,000. Says executive v.p. Ray Durst, "We think they have pegged us slightly lower than what we will actually accomplish. But all in all it is not a bad forecast."

Westinghouse -- Estimate: 150,000. "Quite low," says manager Todd Sloan.

Avco (Crosley) -- Estimate: 150,000. According to W. A. Brees, sales v.p., "Probably 40% right. You can guess which way -- up or down!" 250,000.

Meck -- Estimate: 150,000. John Meck states, "We are opening new facilities which, by the end of the year, should give us a total of 250,000 sets."

Raytheon (Belmont) -- Estimate: 140,000. W. L. Dunn, v.p., says figure is "most conservative."

Sylvania -- Estimate: 120,000. No further information.

Magnavox -- Estimate: 120,000. No further information.

Capehart-Farnsworth -- Estimate: 100,000. President Fred D. Wilson writes, "We believe that Capehart will produce approximately 140,000 units this year, and that the average factory price will be about \$175."

Olympic -- Estimate: 100,000. P. L. Schoenen, executive v.p., states, "Our total production for 1950 should reach 150,000 units having a value of approximately \$24,000,000."

Garod (Majestic) -- Estimate: 100,000. No further information.

Hytron (Air King) -- Estimate: 100,000. R. D. Payne, sales manager, says at least that, now producing at rate of 200,000 per year.

* * * *

So much for the first 20, as picked by TSMC; they alone would add up to minimum of 6,145,000 units. Of other 12, this is gist of replies from 7 responding:

Bendix, reports in excess of 120,000; Fada, says it's geared to capacity of 250,000, but doesn't claim that many -- guess would be under 50,000; Hoffman, says planning on 180,000, may do 200,000; Noblitt-Sparks (Arvin), "more than 100,000"; Stewart-Warner, won't say more than that it's aiming for figure that would include it among first 20; Stromberg-Carlson, no figure but expects to do 40% better than 1949; Tele King, says it plans "200,000 with estimated volume of \$25,000,000".

Not replying were: Muntz, Sentinel, Sparton, Trav-Ler, Wells-Gardner. Credit each with, say, 50,000--and consider, too, complaint from non-listed Packard-Bell's v.p. Robert S. Bell for being overlooked, stating: "We are presently producing 8000 receivers per month and estimate [in 1950] 106,000 units with average factory price of \$145." Thus another 1,000,000 or more must be added -- without even taking into account the 70-odd lesser companies also listed in our TV Directory No. 10.

Topics & Trends of TV Trade: Joseph B. Elliott, RCA consumer products v.p., tells National Installment Credit Conference of American Bankers Assn March 29:

(1) That TV demand will hold up for rest of year, subject only to seasonal variations. Market is still wide open, with more than 80% of families in TV areas still without TVs. In New York area, top market, 70% of families are potential customers.

(2) That TV price cuts comparable with those of early 1950 are "extremely unlikely." For one thing, there are minimum components necessary to each set—for example 15 tubes, at very least, in 10-in. Then there's trend to larger (and more costly) picture tubes, which mean more components and larger cabinets.

(3) That retail value of TVs sold this year will be \$800,000,000. If only half of purchases are on installment basis, a conservative estimate, bankers who charge 6% can count on \$24,000,000 business.

* * * *

Big rival of RCA as drum-beater for TV, Philco gave out with this astonishing bit of news at banquet March 29 honoring 500 production, engineering and sales employees for "quality and production achievement": That it is now producing TVs at rate of more than 20,000 weekly, which president Wm. Balderston said "we believe to be the highest in the TV industry" and is "a forerunner of 25,000 TV receivers a week." Philco's first quarter sales (all products) will achieve record of about \$78,000,000, he added. TV-radio division president Larry Hardy said Philco distributor-dealer sales by end of first quarter will exceed 200,000 TV sets.

Third of the Big Three, Admiral, announced huge promotion plan this week—publication 6 times yearly of 24-page home magazine called *America's Smart Set*, covering Admiral product messages in its ads. Dealers will supply mailing lists for about 1,000,000 circulation, will pay about 10¢ per copy and will get choice of one out of 16 prepared pages for own ads on back cover. First issue is due May 1. Ad manager Seymour Mintz is directing project; Drake Publishing Co., Chicago, is publisher.

Philco breaks April 2 with national advertising offering "special TV lamp" with every Philco TV set (except 12½-in. table leader at \$200) and with all radio consoles. In cooperative promotion with dealers, it also has had 1,000,000 rotogravure folders sent to consumers telling of offer. Lamp has reversible shade which can direct light upward when TV set is in use, retails for \$11.95. Special "what-not" shelf worth \$3.80 is also being given away with 900-series table radios.

Sylvania TV's spectacular new promotion will be Douglas Leigh creation of 40-foot-high Ali Baba flying through air, consisting of 12,000 light bulbs strung on sides of dirigible.

* * * *

North American Philips moves into consumer field this week, offering mahogany or walnut console housing its Protelgram unit for attachment to existing direct-view TV sets. It's called Duo-Vue and lists for \$199.50. Attachment permits set owner to switch from direct view to projection up to 3x4-ft onto home movie screen. Attachment is serviceman's job, should take less than hour, say officials. Table TV could rest on console. Selling will be through 35-50 distributors now being enfranchised. The 2½-in. Protelgram tube now sells for \$19.50 to consumer. Some 20,000 dealers have been circularized by mail.

Admiral has new line of rectangular 16-in. modern consoles with doors: 26R35, walnut, \$300; 26R36, ma-

hogany, \$320; 26R37, blonde, \$340. They're companions to rectangular 16-in. open-face period consoles 26X45 at \$300 and 26X46 at \$310. Remaining in line are round 16-in. Models 26X35-36-37, also modern consoles with doors, at \$50 higher than 26R series. Admiral feels rectangulars will be in such short supply for awhile that they won't cut much into sale of rounds . . . Admiral has purchased Midwest Mfg. Co. (kitchen equipment) in Galesburg, Ill., now has 9 plants. Galesburg plant's 265,000 sq. ft. will be enlarged to 365,000.

Magnavox's 2 new models this week—12½-in. table at \$200 and 16-in. rectangular table at \$280—round out its line (Vol. 6:8, 11, 12) as follows: Tables—Wilshire, 12½-in., \$200; Metropolitan, same with more sensitivity, \$240, blond \$250; Metropolitan, rectangular 16-in., \$280, blonde \$295. TV-only 16-in. consoles—Playhouse, rectangular, \$300; same in blonde, \$320; Shoreham, round, \$340; Contemporary, round, \$400; same with more sensitivity, \$450; Normandy, round, \$450. TV-only 19-in. console—Shoreham "200" at \$495. 16-in. console combinations—Avenue, rectangular, \$450, blonde \$470; Wedgewood, rectangular, \$499; American Traditional, round, \$595; American Modern & French Provincial, round, \$795; Embassy, round, \$995.

Motorola has new 12½-in. table at \$190; it replaces 2 previous models, one at same price, other at \$220, only change is cabinet . . . Pilot has new rectangular 16-in. table with FM at \$300 . . . Muntz has new line, dropping 10-in. as hinted earlier this year (Vol. 6:3). Sets are 12½-in. table, \$170; 16-in. table, \$220; 16-in. console, \$250; 19-in. console, unpriced . . . Air King has new 16-in. rectangular table, unpriced; same in console-combination, \$400, or \$50 under one with round 16-in.

"You save \$500," said full-page local ad March 31 by Lubar-Washington, offering Brunswick 10-in. console with AM-FM-phono for \$99. Closer study revealed set was 1948 "Kensington" model originally offered at \$795, cut to \$599 in Jan. 1949.

* * * *

New TV manufacturer: Mitchell Mfg. Co., 2525 No. Clybourn St., Chicago, maker of lighting fixtures and air conditioner room units. Initial Mitchell set, due June 1, is rectangular 16-in. console at \$290, chassis made by Sonora. President Bernard A. Mitchell, et al, have financial interest in Sonora. Plan is to make 3000 per month, selling through company's regular distributors. It has made radio-lamp novelties many years, sells through 5000 dealers. Heading Mitchell TV dept. is E. H. Tracey, ex-Majestic.

Reeves Soundcraft Co., recording blank maker and TV producer through subsidiary Tele-Video Corp., Upper Darby, Pa., has 3x4-ft projection set for public places at \$1995, expandable in theatre-dark auditorium to 6x8-ft. Set uses 5-in. tube in barrel, projects from front or behind screen, is similar in design to RCA theatre-TV unit.

Emerson celebrated 11 millionth radio-TV unit off its line this week by presenting president Ben Abrams with the portable; 5,000,000 units are postwar . . . CBS won judgment after trial before Supreme Court Justice Gavan against use of name "Columbia" by Bronx TV retail store, court finding defendant sought to take advantage of network's good will to sell receiving sets . . . Four parts manufacturers fined March 28 in Federal court in Trenton for anti-trust violations in conspiring to fix condenser prices arranging patent pool, instituting harassing infringement suits: General Instrument Corp. and Radio Condenser Co., \$10,000 fines; Condenser Development Corp., \$6000; Variable Condenser Corp., \$2000. Officers of first 2 companies also fined \$5000 each.

Financial & Trade Notes: CBS earned net income of \$4,184,079 (\$2.44 per share) on gross of \$105,397,580 during 1949, according to March 24 annual report. This compares with \$98,377,258 gross and \$5,041,682 (\$2.94) in 1948; \$101,045,647 gross and \$5,920,104 (\$3.45) in 1947 (53 weeks). Earned surplus at end of 1949 was \$27,214,656. Showing was surprisingly good in view of TV costs, which have cut deeply into ABC and NBC earnings, but CBS is understood to have done well in phono record as well as radio time sales (separate breakdown not reported).

Notice of annual meeting April 19 discloses to CBS stockholders following 1949 salaries: William S. Paley, chairman, \$100,000; Frank Stanton, president, \$100,000 (plus \$34,740 bonus and shares in profits); Joseph H. Ream, executive v.p., \$50,000 (plus \$11,977); Edward Wallerstein, president, Columbia Records, \$60,000 (plus \$3208); Edward R. Murrow, director, \$121,944. Stockholdings of directors include: William S. Paley, 88,510 Class A, 223,500 B; Isaac D. Levy, 31,826 A, 20,755 B; Leon Levy, 14,000 A, 40,900 B; Frank Stanton 810 A, 3025 B; Ralph Colin, 1028 A; Samuel Paley, 7000 A, 16,000 B; J. A. W. Iglehart, 3400 A, 900 B; Joseph H. Ream, 100 A, 100 B.

Proxy statement for ABC stockholders meeting in New York April 11 discloses these officer salaries: Mark Woods, vice chairman, \$75,000; Robert E. Kintner, president, \$50,000; C. Nicholas Priaulx, v.p.-treas., \$27,500; Charles C. Barry, v.p., \$36,666. Also these directors' stockholdings as of March 1: Edward J. Noble, chairman, 901,667 shares of common; Owen D. Young, honorary chairman, 10,000; Earl E. Anderson, v.p., 15,000; Robert E. Kintner, 10,600; Mark Woods, 6500; Franklin S. Wood, attorney, 6000; William Zeckendorf, 2000; C. Nicholas Priaulx, 1000.

Admiral Corp. annual meeting is in Chicago April 13, and notice discloses president Ross D. Siragusa, wife and children owners as of March 15 of 764,992 out of 2,000,000 shares of stock outstanding, or 39.74%. Officers' 1949 salaries and stockholdings: Mr. Siragusa, \$82,765; John B. Huarisa, executive v.p., \$55,432 (plus \$65,848 bonuses), 95,442 shares; Wallace C. Johnson, v.p., \$20,000 (plus \$28,800); Kenneth D. Turner, v.p., \$14,550 (plus \$17,255), 67,262 shares; Richard F. Dooley, v.p., \$14,600 (plus \$17,255), 57,294 shares; Lynn C. Park, treas., \$16,766 (plus \$19,833), 25,820 shares.

Stewart-Warner's president James S. Knowlson, in 1949 annual report, says TV is apparently entering stage of "cut-throat competition," yet its growth seems unquestioned. Report doesn't indicate what part TV-radio play in its sales, but 1949 total sales were \$54,609,713, profit \$2,163,106 (\$1.67), considerably down from 1948 sales of \$72,534,085, profit \$3,154,316 (\$2.44).

P. R. Mallory Co. reports 1949 net income of \$1,124,090 (\$2.79 per share) on sales of \$24,647,429 vs. 1948 net of \$1,154,091 (\$2.86) on sales of \$23,622,144 . . . Sprague Electric Co. earned \$1,206,054 (\$2.48) in 1949 vs. \$831,649 in 1948 . . . General Precision Equipment Corp. 1949 sales were \$26,711,826, profit \$456,485 (76¢) vs. 1948 sales of \$27,008,450, profit \$936,679 (\$1.56).

Avco and consolidated subsidiaries (Crosley radio-broadcasting reported doing more than half) reports sales of \$37,919,344, profit of \$1,137,581 (15¢ per share) for quarter ended Feb. 28 vs. \$35,825,613 and 14¢ for same 1948 quarter . . . Sentinel reports net income of \$27,137 on sales of \$5,224,694 for 8 months ended Nov. 30, 1949, or 8¢ per share on 320,000 shares; no comparison available . . . Hytron (Air King) earned \$565,171 (90¢) on record sales of \$16,226,143 in 1949 vs. \$75,669 (13¢) on \$7,937,422 in 1948 . . . Olympic directors have approved

6-for-5 common stock split, subject to stockholders' approval April 24 . . . Trad Television Corp. has filed with SEC for issue of additional 600,000 shares of common stock for expansion; Tellier & Co. is underwriter . . . Stromberg-Carlson's loss for whole of 1949 was \$478,000, not for first quarter as inadvertently reported (Vol. 6:12).

* * * *

Footnote on current stock market activity in TV-radio stocks, quoted from Oliver J. Gingold's column in March 31 *Wall Street Journal*: "The rather wild advance in the television group, largely on public buying, has been regarded by some technicians as an excess. Obviously the TV industry has done well and may do better but the sort of buying which doubles the prices of stocks in a few months is regarded by conservatives as not too healthy. In the meanwhile, the short interest, which is the largest in close to 18 years, includes a large bear position in TV issues."

Trade Personal: G. Edward DeNike, ex-National Union, joins DuMont Tube Div. April 1 as sales mgr. . . . C. J. Hassard, asst. to gen. sales mgr., promoted to merchandising mgr. of Bendix Radio-TV . . . Edward C. Bonia has withdrawn as executive v.p. of Muntz TV . . . Lynn C. Holmes promoted to associate director of research, Stromberg-Carlson . . . Paul W. Nief, ex-McMurdo Silver Co., succeeds late Leonard Welling as sales mgr. of Jewel.

Heavy newspaper promotion of TV receivers is reflected in Media Records reports covering 34 markets: Cooperative manufacturer-dealer advertising in February ran 3,831,423 lines vs. 2,412,816 in January; same 1949 months were 1,261,456 and 1,122,215, respectively—total increase thus being 162%. General advertising ran 714,222 in February, 605,357 in January—up about 11% over same 1949 months.

February RMA tube shipments show 10-in. and smaller all but discontinued. Breakdown of 427,189 total: 7 & 8½-in., 2,985 units (.7%); 10-in., 14,488 (3.4%); 12 & 12½-in., 259,642 (60.8%); 14-in. and up, 150,022 (35.1%); projections, 52. Trend to larger sizes is still accelerating; see Vol. 6:1, 5, 9.

Phonograph and record makers get together April 11 in Chicago's Stevens Hotel to plan campaign to sell public on advantages of getting record player with TV sets. They hope to enlist aid of radio-TV manufacturers as well as dealers and distributors. Committee is headed by J. A. Berman, Shure Bros., Chicago. Present thinking is to sell all elements of TV industry on using "complete home entertainment unit" idea in all promotion.

How big are rectangular tubes, in terms one can understand? Confusion existing ever since rectangulars came out should largely be dispelled by handsomely printed 12-page booklet now available from by American Structural Products Co., Box 1035, Toledo. It has diagrams showing exact measurement of all dimensions of 14, 16, 19-in. rectangulars and 12½, 16, 19-in. rounds.

Underwater TV, with which observers on ship's deck can watch activity below, was demonstrated by Navy this week. Navy foresees great assistance offered by TV in salvage operations, etc. Kine recordings of underwater telecasts were also made, by Lieut. Comdr. W. R. Fraser, who recently testified before FCC about his recordings of CBS color (Vol. 6:12).

Metal parts of kinescope guns are being turned out at rate of 30,000 sets weekly by John Volkert Metal Stampings Inc., Queens Village, Queens, N. Y., according to manager Jack Kleinoder. He claims company makes 35% of all such parts, will shortly step production up to 50,000 weekly.

JOHN MECK PROMISES THE \$100 TV: Now it can be told, if you haven't already deduced it from frenzied denials and conjectures in the trade press, that John Meck Industries Inc. is the manufacturer intending to turn out 10-in. table TVs at \$99.50 list this summer (Vol. 6:11,13). But in authorizing this disclosure, Mr. Meck emphasizes he isn't going to hurry, doesn't want to disturb present market in which he can sell every set he turns out, figures the "under \$100" set mainly as a promotion for mid-summer dog days -- "and then only if the market gets sluggish and needs artificial stimulation." He's convinced it will.

As for 12½-in. at \$119 and console at \$149, those prices aren't as fixed in Mr. Meck's mind as the \$100 idea. His present 10-in. table sells for \$140, though he made Philharmonic sets that were job-lotted to dept. stores as \$99.50 leaders. He owns his plants (now entirely on TV) in little Indiana towns of Plymouth and Peru, and his line (Vol. 6:11) is constantly undergoing revisions -- for he can operate flexibly with what he describes as plentiful and highly efficient labor supply. He also states he will manufacture 250,000 or more TVs this year regardless of Wilcox-Gay factory deal (Vol. 6:13) -- which easily puts him among top 20 producers.

SQUALLS AHEAD OR BRIGHT HORIZONS? First warnings of summer storm clouds for TV trade came from DuMont sales chiefs Ernest Marx and Walter Stickel, meeting last week with their regional managers. Others also see "softening" markets -- one of them Emerson's president Ben Abrams, who looks for repetition on smaller scale of last year's piled-up inventories and consequent price-cutting. But it would be erroneous to report that's the consensus; quite the contrary, April 6 roundup by Retailing Daily sums up beliefs of New York area manufacturers that summer slump won't be so bad, will enable them and distributors to stock inventories so that they will have sets to sell for expected big fall market (as against last fall-winter when brand merchandise was in short supply).

Fact is, production continues extremely high. Five-week March output may well approach 600,000 receivers (vs. 460,000 in February, 420,000 in January; Vol. 6:7,11) -- for RMA already reports 90,500 for first week, 95,200 second week. And we've established fact that 25% added to account for non-RMA is quite conservative. Nor have there been signs yet that April output has slackened, though we won't get figures on this month until mid-May.

DuMont thesis is that huge production will leave everybody loaded up with inventories which they can't carry, so they will start cutting prices. More than that, they believe new models due in summer for fall market will be priced 10% below today's equivalents -- adding further to urge to get rid of old stock. But they foresee fall-winter market better than last year's. New DuMont sets are due soon.

Retailing Daily's Martin Rosenblum affirms most new lines are expected in June-July, with price drops estimated from 10-17%. But he reports shortages of cabinets and some receiving tubes (Vol. 6:10) will serve as brake on overproduction.

* * * *

Emerson's Ben Abrams adds pertinent footnote to those much-talked-about "guesstimates" of 1950 production (Vol. 6:8,13): "My own personal reaction is that industry-wise it [5,365,000 total forecast for top 20 producers alone] is very much over-estimated. If you are to add the production of about 90 other manufacturers not listed, you would arrive at an approximate industry production of 8 or 9 million TV receivers. My own feeling is that the total [will be] in the neighborhood of 5,000,000. Emerson expects to produce about 400,000...There are many factors involved which would make it impossible for some of the manufacturers mentioned to realize the production figures listed."

RECTANGULARS—TRENDS AND SIZES: Next, it's metal-coned rectangular tubes. DuMont is first actually planning production, though many have long experimented with idea. Due first is 16 or 17-in., promised sometime this summer, then 21-in. month or so later. Presumably, reasons for metal rectangulars are same as for metal rounds -- less weight, etc.

In meantime, DuMont will push 17-in. glass rectangulars (Vol. 6:11), is now getting samples from Corning. DuMont also has plans for 21-in. glass rectangular, blanks also to come from Corning during "latter half of year."

These sizes confuse rectangular situation and nomenclature more than ever. To get them straight:

(1) All rectangulars to date are glass, come from either Corning or American Structural Products Co. (Owens-Illinois).

(2) Until recently, only 14-in. and 16-in. have been made, both glassmakers' output giving same screen dimensions.

(3) Corning added 17-in. because tube-makers want same screen area offered by expanded 16-in. round.

(4) ASPC will have 19-in. samples in May, production in July. Corning's version, planned for same time, will be 20 or 21-in., to give about same area as 19-in. expanded round.

Neither has plans beyond those, so that all larger sizes (22, 24, 30) are likely to be metal, whether rectangular or round.

Measurements of rectangulars refer to length of diagonal across face of whole tube, to nearest inch. For example, 14-in. actually has 13.688-in. diagonal. But diagonal of actual usable picture is 12.875-in. And picture is 11.665x8.749-in., with rounded corners. The 16-in. gives 13.788x10.341-in. picture; 19-in. yields 16.047x12.035-in. Dimensions aren't available on the larger sizes to come.

That rectangulars will eventually replace rounds, few have doubts -- but there's no urgency while market absorbs everything the bulb and tube makers can turn out. Though RCA has produced no rectangulars as yet, it's known to be experimenting with metal-coned, as well as glass, rectangulars. ASPC says that 75% of its production now is rectangular and that trend is unquestionably to virtually 100%. Corning offers no percentages, but agrees on trend.

RADIATION PROBLEM BECOMING CRUCIAL: Acute, and getting worse, is problem of oscillator interference. You can be sure matter is serious when an established TV station asks for immediate channel shift to escape loss of audience -- as did Yankee's WNAC-TV, Boston, in requesting move from Channel 7 to 2.

Question of FCC jurisdiction over receiver manufacture "may well come up if the manufacturing industry does not do something" to solve problem, Chairman Coy warned during color hearing this week. Portions of industry (RMA committee, American Standards Assn., individual companies) have been active in matter -- but great mass of electronics industry hasn't bestirred itself as much as trouble warrants.

There's nothing new about problem, nor is it confined to TV. But fast-growing number of TV sets and their great susceptibility to such interference are bringing matter to a focus as much as anything. FM sets are also bad radiators.

Ruined TV reception as far as 1-2 miles, because of single bad receiver, has been reported to FCC. Sets have even been known to foul up aircraft communications.

Simply put, here's the trouble: Great many devices, including TV receivers, radiate signals strong enough to interfere with other TV sets or other services. Until recent years, it has been common practice to design equipment so that interference fell into unused or little-used portions of spectrum. As FCC engineer put it, they were "dumping their garbage into vacant lots or somebody else's backyard."

Now, however, "vacant lots" are almost non-existent. Only solution is to restrict radiation as much as possible. But it costs money to do proper job. Thus, for competitive reasons, particularly in AM-FM-TV receivers, manufacturers are re-

luctant to incur extra expense unless everyone does. And very few want FCC to set standards; many feel it would be opening wedge to general regulation of set manufacture -- emphatically unwanted.

FCC came out with proposal April 13, 1949, looking toward reduction of such radiation. It has had industry-wide meetings since, and there's been considerable activity at committee level.

But definite FCC move to set standards, meaning type-approval of TV sets since they radiate signals, can be expected unless whole industry cleans up situation to Commission's satisfaction. If taken to court, some within FCC feel: "It's better to try and fail than not to try at all." Quite a few believe they could win.

Next committee action comes April 25 at meeting of American Standards Assn Committee on Radio-Electrical Coordination at NEMA headquarters, 155 E. 44th St., New York. It will consider how to measure interference, just what to measure, and susceptibility of various services to interference.

All FCC proposals and documents to date may be obtained from its Technical Information Division, or we'll get them for you.

Topics & Trends of TV Trade: Almost any appliance or furniture dealer within reach of a TV signal will tell you his hottest items are TV receivers. But you may not be aware that the home furnishings industry, also enjoying boom, attributes part of that boom to TV. It wound up first 1950 quarter nearly 12% ahead of same 3 months of last year, according to Lawrence H. Whiting, president, American Furniture Mart.

Echoing Mr. Whiting's report was that of Associated Furniture Dealers of New York. This week, showing March dollar volume up 15.1% over same month last year and referring to "phenomenal" gains in major appliances and TV--latter up as much as 150%.

TV demand is strong in itself, said Mr. Whiting, but is also bringing traffic into other departments. Furniture, of course, is also profiting from the building boom, veterans insurance, lowered prices. Dept. of Commerce recently noted that furniture industry may face new era as TV centers family life more around home (Vol. 6:7).

* * * *

New TV production venture, with Hollywood overtones: Richmond Television Corp., 515 E. Ninth St., Los Angeles, offering 75 different models with "Natalie Kalmus" brand name, all 16 & 19-in. at prices ranging from \$395 to \$985. Major stockholder is J. A. Richmond, (12½%) who owns Richmond Show Case Co., with outlets in Los Angeles, San Francisco, Portland, Seattle, Salt Lake City. Chassis are purchased from Stolle Engineering & Mfg. Co. (see *TV Directory No. 10*), then put into Richmond cabinets.

Mr. Richmond tells us he's geared to turn out 1000 sets per month, with 2000 capacity, plans national distribution, 40% discounts; he says he's getting tubes from DuMont, RCA, Sylvania—all rounds. Associated in venture is Mrs. Natalie Kalmus, of Technicolor Inc., who he said is due to communicate with FCC regarding new TV color development. He wouldn't go into details, said it wasn't Geer tube (Vol. 6:10).

Crosley has new line, superseding all previous sets except 10-in. at \$170. Line now comprises 12½-in. table, \$240; same in console, \$290; and console with AM-phono, \$390; rectangular 16-in. table, \$300; round 16-in. console, \$380. This is said to be line for remainder of 1950. Company is increasing production capacity 50% . . . Stromberg-Carlson has 16-in. rectangular console combination at \$625, has practically ceased production of all 12½-in. . . . Stewart-Warner has new 12½-in. console with AM-FM at \$300 . . . Capehart-Farnsworth has new rectangular

16-in. table at \$270, console \$300; round 16-in. console in period cabinet, \$470 . . . Philco is giving away table base with its 12½-in. table set (\$230); in Philadelphia, Emerson distributor is doing same, with same-priced 12½-in. table model.

Motorola has begun shipping rectangular 14-in. table model in wood cabinet at \$230; set is replacement for 12½-in. tables at \$220 and \$230 deleted last week (Vol. 6:13). Production of 8½-in. and 10-in. has ceased.

Emerson will have first production line operating May 1 in its big new plant in Jersey City, recently acquired from Continental Can Co. (Vol. 6:6); it will duplicate its New York 16-in. line, on which local Jersey personnel is now being trained . . . Additional intelligence from Magnavox to implement Television Shares Management Co.'s "guesstimates" (Vol. 6:8, 13): "We will probably exceed a volume of \$35,000,000 for the calendar year 1950," writes executive v.p. Frank Freimann . . . In addition to recently reported new line (Vol. 6:11), Fada has rectangular 16-in. table model at \$270, same in console \$300; president J. M. Marks says production is geared to 150,000 annually . . . Pilot has round 16-in. console with FM at \$350.

Pye Ltd., British TV producer, responding to our inquiry whether it really intends selling receivers in U. S. market, radiograms: "Cannot provide further information." Prospect seen slim for any foreign set maker competing with price-cut American merchandise; it hasn't happened in radio, at any rate.

* * * *

Webster-Chicago launches big promotion campaign April 17 to sell 3-speed phonos as replacements for single 78rpm players, sees market for 15,000,000 replacements or plug-in attachments at retail potential of \$900,000,000; replacement model will cost \$46.50, plug-in \$51, with latter promotion aimed especially at TV owners. Six 20-second TV film spots will be placed cooperatively . . . Columbia Records plans \$2,500,000 promotion, including use of own TV network . . . In Jersey City, Rex Television Store used 12 full pages in one edition of *Jersey Journal* to sell TVs.

Dealer education is next on RMA Town Meeting Committee agenda, with plans for 4 slide-films on sales, advertising, merchandising, business practices to be shown cooperatively to all dealers in 60 TV markets. These 15 manufacturers are bearing cost: Crosley, DuMont, Emerson, GE, Hoffman, ITI, Motorola, Noblitt-Sparks, Packard-Bell, Philco, RCA Victor, Raytheon, Stromberg-Carlson, Westinghouse, Zenith.

Financial & Trade Notes: DuMont disclosed to SEC this week, in report filed with registration statement for 250,000 shares of Class A common to be marketed through Kuhn, Loeb and Van Alstyne Noel Corp., that its 1949 net income was \$3,269,880 (\$1.49 per share on 2,101,597 shares) vs. \$2,701,767 (\$1.20 per share on 2,043,652) in 1948. Reports immediately gained currency that new funds will be used to help acquire Paramount's 560,000 Class B shares (Vol. 6:4-7), representing 29.5% interest in company. DuMont wants divestment from film company, so that it can acquire 2 more TV stations and reach limit of 5, now halted by FCC because of Paramount's interest in 2.

DuMont net sales of manufactured products rose to \$42,406,121 in 1949 (\$33,469,234 in receivers, more than \$6,000,000 in tubes) from \$25,658,461 in 1948 and \$11,077,097 in 1947. Income from TV network and stations totaled \$2,435,966, but costs ran \$5,000,457, representing loss of \$2,564,491, compared with 1948 telecast operations income of \$1,011,336, costs \$2,435,966, loss \$1,424,630. TV Receiver Division was charged with \$535,597 for sponsored time on DuMont Network.

Jan. 1, 1950 DuMont balance sheet showed current assets of \$15,438,458 with cash of \$7,203,750 and inventories of \$5,478,374; current liabilities \$6,859,443.

* * * *

Zenith declared \$2 dividend, payable April 29 to holders of record April 14, directors stating increase was "justified by the excellent earnings of the company during the current fiscal year and the favorable prospects"; dividends in 1949 and 1948 were \$1.50. Estimated net profits for 9 months to Jan. 31, 1950 were \$3,138,938 (\$6.37) compared with \$2,025,781 (\$4.11) for same previous period—sales jumping from \$56,951,492 to \$65,196,527.

Wells-Gardner & Co. reports sales of \$7,662,068, net income of \$182,289 (44¢ per share) during 1949. Sales in 1948 were \$14,214,491, profit \$717,836 (\$1.80) . . . Canadian Admiral Corp. Ltd. has registered with SEC 28,458 shares of \$1 par common stock, part of offering of 95,925 shares made to stockholders of record April 5 on basis of half share for each share held and at \$5 a share in U. S. currency . . . Television Fund Inc. declares dividend of 12¢ a share, payable April 29 to holders of record April 17; same amount was paid Jan. 30 . . . RCA declares first extra dividend in its history—25¢ a share on common, payable May 29 to holders of record April 21.

Raytheon sales for quarter ended Feb. 28 were \$16,516,699, net profit \$752,863 (48¢ per common share) vs. \$14,099,361 sales, \$419,666 (25¢) profit in same 1948 period; for 9 mo. ended Feb. 28, sales were \$39,504,828, net profit \$131,162 vs. \$42,431,476 and \$1,099,714 for comparable 1949 period . . . Hoffman reports first quarter sales will run about 50% of total for all 1949 (which was \$11,987,649; Vol. 6:12).

Quote from Eastman, Dillon & Co. March 24 report: "Majority of industry opinion attributes the current boom in (TV) sales to the recent GI insurance refund, as well as to steadily improving program quality, lower prices effected shortly before Christmas, larger screens and better cabinet styling."

Having reduced kinescope prices to manufacturers (12½-in. from \$20.50 to \$19, 16-in. from \$33 to \$29; Vol. 6:9), RCA Victor April 4 posted these additional suggested new prices: Distributors net on 12½-in., reduced from \$22.55 to \$21, on 16-in. from \$36 to \$32; dealer price on 12½ from \$28.20 to \$26.25, on 16 from \$45 to \$40; list on 12½ from \$37.50 to \$35, on 16 from \$60 to \$53.50. New distributor and dealer prices are effective April 1, new list May 1.

Telecasting Notes: Denver dealers reported seeking 150,000 signatures on petition to Sen. Johnson, urging freeze be lifted for city, which is one of few top markets not yet TV-served, has 7 "frozen" applications . . . MPA code administrator Joseph I. Breen to discuss TV code of good taste before American Television Society in New York's Hotel Roosevelt, April 20 . . . *ABC-TV Film Catalogue* has been issued by network's Film Dept., listing more than 1000 available films by title, type, running time, distributor . . . This week's upsurge of ABC stock, despite recent annual report (Vol. 6:13) and TV losses, roused speculation that Howard Hughes was dickering to buy—but "no comment" was only statement from network . . . Reports persist CBS is buying old Warner studio on Sunset Blvd. as Hollywood TV headquarters . . . *Variety* front-paged report that offer of \$350,000 for single TV performance of *South Pacific*, to be sponsored by National Lead, was turned down . . . ABC Stations Planning & Advisory Committee meets with network topkicks in Chicago's Ambassador East, April 16 . . . KPIX, San Francisco, signs Katz Agency as national rep.

Trade Personals: David B. Smith, Philco v.p., and Kenneth A. Norton, Bureau of Standards, sail with Donald Fink April 13 on *Queen Elizabeth* to attend CCIR demonstrations on international TV standards; wives of all 3 accompany them . . . M. Charles Banca, mgr. of scientific instrument group, named mgr. of newly created industrial TV products group, RCA Engineering Products Dept.; RCA has resumed own merchandising-selling of industrial electronics equipment, terminating distribution arrangement with Allis-Chalmers . . . Leonard C. Truesdell elected Zenith v.p. in charge of household radio and TV sales . . . C. K. (Larry) Baggs quits as sales mgr. of Colonial (Sylvania); no successor yet . . . Henry Goldsmith new national sales mgr. of Jackson Industries Inc. . . G. Pryor Molloy named head of field engineering, industrial electronics, American Structural Products Co., headquartering at Columbus plant . . . J. Benton Minnick named Motorola TV merchandising mgr., Howard Handweg assigned as merchandising mgr. of auto radio div. . . Norman Woodford appointed sales mgr., TV division of North American Philips, will have charge of building distributor-dealer organization for new Duo-Vue unit (Vol. 6:13).

FM's tough sailing was attributed directly to "sex appeal" of TV by FCC Chairman Coy during April 4 MBS *Meet the Press* broadcast. To recapitulate trend, the statistics show, since Jan. 1, following deletions: 16 licenses, 19 CPs, 1 application. In same period, 10 CPs were granted and, rather surprisingly, 7 applications were filed. Meanwhile, another FM pioneer, 8-year-old WMIT, Winston-Salem, N. C. (WJSJ), is turning in its license April 13—*Milwaukee Journal's* WTMJ-FM having recently done so (Vol. 6:13). Writing to FCC, publisher-broadcaster Gordon Gray, retiring Secretary of the Army, now special asst. to President Truman, said: "I still feel that the frequency modulation system of broadcasting is the superior form of sound broadcasting and sincerely hope that some day this feeling, which is shared by quite a few other broadcasters, will prove to be right from a financial as well as a technical standpoint."

April 1 sets-in-use, reported since NBC Research "census" of March 1 (Vol. 6:12): Memphis 29,775, up 5575 in month; Dallas 26,865, up 2365; Fort Worth 22,260, up 2960; Tulsa 20,800, up 4400; Omaha 20,361, up 4561; Utica 11,500, up 2200; Greensboro 10,400, up 800; Norfolk 9315 (as of April 4), up 5715.

Walter E. Poor, 64, Sylvania chairman, died in New York April 4.

Additional Digests of Oppositions to Comments

APPEARANCES FOR HEARING ON PROPOSED TV ALLOCATIONS

(To Be Conducted Before FCC en banc; Docket No. 8736)

For text of proposed rules and allocations, see TV Directory No. 10

Note: These oppositions are in addition to those reported in Supplements 67-B through 67-E. They are in answer to comments filed March 25, 1950 (Supplement No. 67-F).

American Broadcasting Co., New York, N. Y. (WJZ-TV, WENR-TV, KECA-TV, KGO-TV, WXYZ-TV) --

Opposes proposals of Eastern Radio Corp., DuMont, Wyoming Valley Broadcasting Co., McClatchy Broadcasting Co. (Haley, McKenna & Wilkinson).

Badger Broadcasting Co., Madison, Wis. (WIBA) -- Opposes proposals of Rockford Broadcasters Inc., DuMont (Miller & Schroeder).

Baltimore Radio Show Inc., Baltimore, Md. (WFBR) -- Opposes proposals of DuMont, Communications Measurements Laboratory Inc., U. S. Office of Education, National Education Assn. (Caldwell-Rollo).

Crosley Broadcasting Corp., Cincinnati, O. (WLW, WLWT, WLWC, WLWD) -- Opposes proposals of Evening News Assn. as they affect Cincinnati, Columbus and Dayton (Hogan & Hartson).

Daily News Television Co., Philadelphia, Pa. (WIBG) -- Opposes proposal of Eastern Radio Corp. (Roberts & McInnis).

Empire Coil Co., Cleveland, O. (WXEL-TV) -- Opposes proposals of Radio Cincinnati Inc., Westinghouse Electric Corp., WCAE Inc. (Wilner & Bergson).

Evening News Association, Detroit, Mich. (WWJ & WWJ-TV) -- Opposes proposals of Radio Cincinnati Inc., WICA Inc. (Barnes & Neilson).

Fort Industry Co., Wheeling, W. Va. (WWVA) -- Opposes proposals of Westinghouse Radio Stations Inc., WCAE Inc., DuMont to assign Channel 7 to Pittsburgh. (Dow, Lohnes & Albertson).

Grandview Inc., Manchester, N. H. -- Opposes proposal of Yankee Network Inc. (Sutherland G. Taylor).

Hearst Radio Inc., Milwaukee, Wis. (WISN) -- Opposes proposals of Rockford Broadcasters Inc. to assign Channel 8 to Peoria as it affects Milwaukee; Badger Broadcasting Co. to assign No. 12 to Milwaukee in lieu of No. 10 (Dempsey & Koplovitz).

KFEQ Inc., St. Joseph, Mo. (KFEQ) -- Opposes proposals of DuMont, Pittsburg Bestg. Co. Inc., WHB Bestg. Co. (Pierson & Ball).

Kingsport Broadcasting Co. Inc., Kingsport, Tenn. (WKPT) -- Opposes proposals of DuMont, News Piedmont Co.; favors proposals of Piedmont Broadcasting Co. (Fisher, Wayland, Duvall & Southmayd).

Lufkin Amusement Co., Beaumont, Tex. -- Opposes proposal of Galveston Television Co. (Barnes & Neilson).

Matheson Radio Co., Boston, Mass. (WHDH) -- Opposes proposals of Hildreth & Rogers, Yankee Network (Dempsey & Koplovitz).

Meredith Champlain Television Corp., Albany, N. Y. -- Opposes proposals of Yankee Network Inc., Albany Amateur Radio Assn., DuMont, WCAU Inc. (Haley, McKenna & Wilkinson).

Meredith Syracuse Television Corp., Syracuse, N. Y. (WHEN-TV) -- Opposes proposals of DuMont, Eastern Radio Corp. (Haley, McKenna & Wilkinson).

Milwaukee Broadcasting Co., Milwaukee, Wis. (WEMP) -- Opposes proposal of Badger Broadcasting Co. (Bingham, Collins, Porter & Kistler).

- Picture Waves Inc., Columbus, O. (TVN-TV) -- Opposes proposals of NBC to change Channel 6 from Lansing to Detroit.
- Pittsburg Broadcasting Co., Pittsburg, Kan. (KOAM) -- Opposes proposals of KFEQ Inc., DuMont, WHB Broadcasting Co. (George O. Sutton).
- Radio Cincinnati Inc., Cincinnati, O. (WKRC & WKRC-TV) -- Opposes proposals of DuMont, Evening News Assn. (Cohn & Marks).
- Radio-Television of Baltimore Inc., Baltimore, Md. (WAAM-TV) -- Opposes proposals of Piedmont Bcstg. Corp. to assign Channel 13 to Norfolk-Newport News and No. 12 to Winchester, Va. (Henry G. Fischer).
- Rockford Bcstrs. Inc., Rockford, Ill. (WROK) -- Opposes proposals of DuMont, Badger Broadcasting Co. (Spearman & Roberson).
- Sangamon Valley Television Corp., Springfield, Ill. (WTAX & WSOY, Decatur) -- Opposes proposal of Rockford Broadcasters Inc. (Hogan & Hartson).
- Southeastern Ohio Broadcasting System Inc., Zanesville, O. (WHIZ) -- Opposes proposals of DuMont, WCAE Inc. (Dow, Lohnes & Albertson).
- Southwestern Publishing Co., Fort Smith, Ark. (KFSM) -- Opposes proposals of DuMont as they affect Fort Smith and Tulsa; Southwestern Sales Corp., as they affect Fort Smith.
- Summit Radio Corp., Akron, O. (WAKR) -- Opposes proposals of Evening News Assn., WICA Inc., DuMont, Communications Measurement Laboratories Inc.
- Triangle Publications Inc., Philadelphia, Pa. (WFIL & WFIL-TV) -- Opposes proposals of Elm City Bcstg. Corp. insofar as they request change to metropolitan classification (Wilner & Bergson).
- United Broadcasting Co., Cleveland, O. (WIK) -- Opposes proposals of Summit Radio Corp., WICA Inc. (Loucks, Zias, Young & Jansky).
- Universal Broadcasting Co., Indianapolis, Ind. (WISH) -- Opposes proposals of Radio Cincinnati Inc. (Haley, McKenna & Wilkinson).
- Wabash Valley Broadcasting Corp., Terre Haute, Ind. (WTHI) -- Opposes proposals of DuMont, Rockford Broadcasters Inc.
- WDEL Inc., Wilmington, Del. (WDEL & WDEL-TV) -- Opposes proposals of Eastern Radio Corp., DuMont (George O. Sutton).
- WGAR Bcstg. Co., Cleveland, O. (WGAR) -- Opposes proposals of WICA Inc. (Caldwell-Rollo).
- WHB Broadcasting Co., Kansas City, Mo. (WHB) -- Opposes proposal of Pittsburg Bcstg. Co. (Spearman & Roberson).
- Wisconsin Broadcasting System Inc., Milwaukee, Wis. (WFOX) -- Opposes proposals of Badger Broadcasting Co., Rockford Broadcasters Inc. (Haley, McKenna & Wilkinson).
- WJAC Inc., Johnstown, Pa. (WJAC & WJAC-TV) -- Opposes proposals of Westinghouse Electric Corp. (Dow, Lohnes & Albertson).
- WJIM Inc., Lansing, Mich. (WJIM & WJIM-TV) -- Opposes proposals of Evening News Assn., NBC, DuMont.
- WJW Inc., Cleveland, O. (WJW) -- Opposes proposals of Evening News Association, WICA Inc. (Pierson & Ball).
- WPIX Inc., New York, N. Y. (WPIX) -- Opposes proposals of Wyoming Broadcasting Co. (Caldwell-Rollo).

(more)

Note: The following filed oppositions to the proposals listed below.

Oppositions to Evening News Assn. proposals: Mid-America Broadcasting Corp., Louisville, Ky. (WKLO); National Broadcasting Co., Cleveland, O. (WTAM & WNBK-TV); Presque Isle Broadcasting Co., Erie, Pa. (WERC); Scripps-Howard Radio Inc., Cleveland, O. (WENS-TV).

Oppositions to McClatchy Broadcasting Co. proposals: Don Lee Broadcasting System, Los Angeles, Cal. (KHJ & KTSL-TV); Golden Empire Broadcasting Co., Redding, Cal. (KVCV); Standard Radio & Television Co., San Jose, Cal.; Television California, San Francisco, Cal.; Valley Electric Co., San Luis Obispo, Cal. (KVEC).

Oppositions to Piedmont Broadcasting Corp. proposals: Atlanta Journal Co., Atlanta, Ga. (WSB & WSB-TV); Hearst Radio Inc., Baltimore, Md. (WBAL & WBAL-TV); Jefferson Standard Broadcasting Co., Charlotte, N. C. (WBT & WBT-TV); Roanoke Broadcasting Corp., Roanoke, Va. (WLSJ); Times-World Corp., Roanoke, Va. (WDBJ); WPTF Radio Co., Raleigh, N. C. (WPTF).

Oppositions to DuMont proposals: Allegheny Broadcasting Corp., Pittsburgh, Pa. (KQV); Carolina Broadcasting System Inc., Greenville, N. C. (WGFC); Cherry & Webb Broadcasting Co., Providence, R. I. (WPRO); Durham Radio Corp., Durham, N. C. (WDNC); Fall River Herald News Publishing Co., Fall River, Mass. (WSAR); Fort Industry Co., Miami, Fla. (WGBS); Fort Industry Co., Toledo, O. (WSPD & WSPD-TV); Gable Broadcasting Co., Altoona, Pa. (WFBG); Guy Gannett Broadcasting Services, Portland, Me. (WGAN); Guy Gannett Broadcasting Services, Bangor, Me. (WGUY); Golden Empire Broadcasting Co., Chico, Cal. (KHSL); Havens & Martin Inc., Richmond, Va. (WMBG & WTVR-TV); Hazleton Broadcasting Co., Hazleton, Pa. (WAZL); Hildreth & Rogers Co., Lawrence, Mass. (WLAW); King Broadcasting Co., Seattle, Wash. (KING & KING-TV); KVOS Inc., Bellingham, Wash. (KVOS); Richard Field Lewis Jr., Winchester, Va. (WINC); McClatchy Broadcasting Co., Sacramento, Cal. (KFBK); Miami Valley Broadcasting Corp., Dayton, O. (WHIO & WHIO-TV); North Jersey Broadcasting Co., Paterson, N. J. (WPAT); Tom Olsen, Olympia, Wash. (KGY); Piedmont Broadcasting Co., Danville, Va. (WBTM); Sarkes Tarzian Inc., Bloomington, Ind. (WTTS & WTTV-TV); WGAL Inc., Lancaster, Pa. (WGAL & WGAL-TV); WJHL Inc., Johnson City, Tenn. (WJHL). Constitution Publishing Co., Atlanta, Ga. (WCON & WCON-TV) endorsed DuMont proposals.

CROSS-SECTION COMMENTS ON PROSPECTS: Besides the cautious notes sounded by key executives of Emerson and Dumont last week (Vol. 6:14), we have additional comments from other top manufacturers in response to telegraphed inquiries as to what they foresee for spring-summer TV trade. Most of the replies were quite optimistic, consensus being that market is softening somewhat but that nothing comparable to last year's distress season should be expected. Everybody expects seasonal slump, varying timing up to end of May.

"The bloom will be off the peach in May," said one of big "little fellows" (Garod-Majestic's Leonard Ashbach) -- and another in same category (John Meck) thought, "This market is on the edge of tipping over. It will be a hard summer." But, quoting from 6 more "top 10" producers, using names only where authorized:

"We hear of some shipments being refused, but not ours. We are short in all markets now, but expect seasonal slump to begin about May 15. Even baseball can't maintain winter-going rate." -- Henry G. Baker, RCA.

"Our TV sales still holding extremely strong, although we are promoting sales with the dealers in nation-wide newspaper and tabloid campaign. Do not foresee any slackening over normal seasonal estimates." -- J. H. Carmine, Philco.

"We're under pressure even now for every set we can build. Have no reports of any market dropping off. Demand especially heavy for 16-in. I see nothing standing in way of taxing our capacity through May. June and July will slack off but not anything like percentage last year, for whole economic philosophy is different now from last year when everything was on downtrend. Price reductions will be nothing like last year. Our radio also enjoying best year we ever had." -- E. H. Vogel, GE.

"Some signs of TV markets softening, but very spotty. Actually, our total distributor sales to dealers last week were largest since first week in March. Do not anticipate serious distress market this spring, though planning on natural summer slump in retail sales which has always occurred in entertainment field since early phono days."

"Slight softening of higher priced merchandise, but to be expected as seasonal. Do not foresee any distress market this spring or summer, and even less seasonal drop than last year due to better values, more seasoned market and better programs."

"There is evidence of overbuilding of TV receivers, which can only result in price structure breakage and slowing up of sales for next few months. Fall business should be terrific."

* * * *

TV receiver production reached all-time record third week of March, for which RMA reports total of 106,600 units. Since first March week figure was 90,500, second 95,200, RMA members alone made 292,300. Add 25% to account for non-RMA production and you have 365,375 already toward month, which will be 5 weeks and for which final 2 weeks remain to be compiled. So March is certain to reach new high, far exceed 4-week January's 420,000, February's 460,000 (Vol. 6:7,11).

ENGINEERS SIZE UP UHF, CHECK ON VHF: Optimism over uhf and improved vhf equipment techniques were most noteworthy TV angles at NAB Engineering Conference in Chicago's Hotel Stevens this week. But fact is that station engineers, mostly from small outlets, reflect ideas of their bosses -- they're leery of TV altogether, fearful of TV costs while trying to keep highly-competitive AM paying.

Uhf isn't mystery it was even year ago, engineers gathered from talks by Westinghouse's Ralph Harmon and NBC's Raymond Guy. Former reported that tests in Pittsburgh area's rough terrain showed telecasters "will have difficulty in getting

adequate coverage at uhf frequencies until higher radiated powers [200-400 kw] are obtained than are now available" and that "capital investment and operating cost of a uhf plant will be greater than the lower-power vhf plant for equivalent coverage."

In Bridgeport's smoother terrain, said Guy, good-to-fair coverage can be obtained out to some 20 miles with only 1-kw transmitter radiating 11-12 kw (Vol. 6:14). RCA-NBC's "guinea pig" operation there is being eyed closely by telecasting and manufacturing engineers alike.

New air-cooled 5-kw vhf transmitters were unveiled by DuMont and GE, while RCA showed 20-kw air-cooled vhf amplifier, following lead of Federal last year (Vol. 65:8) -- indicating watercooled jobs are on way out. RCA's amplifier is built on same principle as Bridgeport uhf transmitter, i.e., cluster of tubes in circle.

Crying need for high-quality camera and projection equipment (Vol. 6:10) is bringing nice response from manufacturers. General Precision Labs' engineers showed off new 16mm projector well-tailored for TV. Dr. Frank Back, of Zoomar lens fame, traced TV signal through camera chain, told how it can be cleaned up.

All-in-all, well-rounded picture could be gained by diligent note-taker as he heard about engineering economics, station construction, lighting, network facilities, antennas, etc.

MANUFACTURERS READYING FOR UHF SETS: Set makers' plans for uhf receiver production are still obviously very fluid, won't congeal until FCC makes decision -- probably toward end of this year. But present plans of leaders are worth noting. Philco's David Smith, during cross-examination in color hearing Monday, envisaged starting out by making 3 kinds of sets: vhf, uhf and vhf-uhf. Public demand would take it from there, determining what proportion of each would be made.

In answer to dealers worried about obsolescence stemming from uhf, Smith said a few weeks ago that he thought it would be 1-1½ years after FCC final decision before there would be substantial amount of uhf telecasting.

Talking about uhf converters during hearing, Smith hinted about one so simple it could be considered part of uhf antenna. It turns out that Philco has developed single-channel converter size of cigarette pack, considered it excellent during tests on signals from Bridgeport's KC2XAK (Vol. 6:14). Catch is, of course, that it's good for only one channel. Two or 3 of them, with switch, might be practical. But most engineers still believe tunable unit to be most realistic answer where more stations are involved.

MAJESTIC-GAROD TO ABSORB WILCOX-GAY: These are Leonard Ashbach's stated purposes in acquiring Wilcox-Gay Corp., Charlotte, Mich., in deal concluded this week following withdrawal of John Meck-Bernard Lippin (Philharmonic) offer (Vol. 6:13):

(1) Michigan plant will provide his Majestic and Garod lines with badly needed source of cabinet supply.

(2) New facilities permit expansion of Majestic brand, recently acquired from bankrupt former Majestic company in Elgin, Ill. (Vol. 5:49,50). Majestic combination TV-radio consoles, some private-label sets and some radios will henceforth be made in newly acquired plant.

(3) It's step toward consolidation of his companies into new parent firm, Majestic Radio & Television Corp., an Illinois corporation, for which Wilcox-Gay stock will be exchanged. Details of capitalization are undecided as yet. Only cash involved in Wilcox-Gay deal as yet is \$100,000 put up for immediate working capital.

Ashbach's Garod brand is fast being pushed into background by Majestic, but he expects to retain Garod label on certain top-of-line receivers. It's unlikely Wilcox-Gay TV brand (Vol. 6:6) will be continued, but the Recordio wire and tape recorders will certainly be, he said.

With his own personnel already on hand, headed by Ben R. Ross, with fulfillment of some private-label orders now assured out of Charlotte, Ashbach raised his sights to \$40,000,000 volume this year, of which he said \$32,000,000 will represent 200,000 TV receivers.

Note: Television Shares Management Co. in February "guesstimated" Garod-Majestic TV production this year at 100,000 sets with factory value of \$14,500,000.

Topics & Trends of TV Trade: Sentiment in industry quarters seems to be that semi-annual Furniture Market in Chicago June 19-29 is too early for introduction of new fall-winter models—and it won't be surprising if very few manufacturers show then. In fact, some are planning own conventions, not necessarily in Chicago, including of course Philco's big ones for its dealers as well as distributors in Atlantic City, June 16-22 (Vol. 6:12). Even then, it's expected the big set makers will only show a few models in mid-summer, then add to lines in August, September, October. That would repeat pattern of last January when Chicago marts (Vol. 6:2) brought out only starters of new 1950 lines—13 companies displaying at the Furniture Mart, 6 at Merchandise Mart, scattering few others elsewhere around city.

* * * *

Mail order houses are still making considerable pitch for TV markets, Sears Roebuck in spring catalog listing these Silvertone models: 12½-in. metal table (advertised as good for 25-mi. radius from transmitter) at \$140; same in wood cabinet, more sensitive, \$180; rectangular 16-in. table, \$235. Aldens also listed TVs in recent spring catalog (Vol. 6:12).

Spiegel Inc., big Chicago mail order house which sells private-label Aircastle sets, announces this line in its spring catalog: 12½-in. table \$150, console \$190; 16-in. table \$190, console \$230; 12½-in. console with AM-phono \$250, with AM-FM-phono, \$290; 16-in. console with AM-phono \$300, with AM-FM phono \$340; 19-in. console, \$340. All 16-in. are rectangulars.

Western Auto Stores does not intend to eliminate its private-label Truetone line, as rumored in trade—made for it by Hallicrafters, Belmont (Raytheon), Wells-Gardner. Current line: 12½-in. leatherette table \$180, in wood cabinet \$200; rectangular 16-in. console \$260, round \$280, in better cabinet \$300; rectangular 16-in. console with AM-phono \$350, with AM-FM-phono \$480.

* * * *

International Resistance Co., flourishing in TV trade that requires some 100 resistors per set, has embarked on \$1,500,000 plant expansion to assure supply not only of ½, 1 & 2-watt resistors but also insulated chokes and other components. "Our decision to take on an expansion of this magnitude," says v.p. Harry A. Ehle, "is of course based on our complete confidence in the future of TV and electronics . . ." IRC 1949 sales were \$6,589,706 vs. \$4,934,448 in 1948; net profit for 1949 was \$347,529 (39¢ per common share) vs. \$141,273 (12¢) in 1948. For first 10 weeks of 1950, Mr. Ehle reports IRC sales \$1,646,000, earnings \$126,000.

Admiral president Ross Siragusa told stockholders this week that when and if price-cutting hits TV, it probably will take form of bigger-screen sets offered at prices charged for smaller ones. Currently he said, Admiral is shipping some 80,000 sets monthly, yet retailers have only about 5000 on hand . . . Noblitt-Sparks (Arvin) adding 81,000 sq. ft. factory adjacent to plant in Columbus, Ind., to be devoted exclusively to TV production.

Olympic states rising costs of cabinets and components have forced it to add \$10 to price of 12½-in. table, now \$220, in blonde \$230; has priced its 16-in. console combination at \$500 . . . Freed has added 19-in. consoles with FM to line—\$595 with traditional cabinet, \$625 modern . . . Mercury line comprises rectangular 16-in. console \$320, combination \$370; 19-in. console, \$400.

Sonotone Corp. (hearing aids) says there's absolutely no foundation to rumor it's going into manufacture of TV sets, given currency apparently when it undertook sub-contract on making of part of CR gun for unnamed tube-maker . . . Tele-tone has set up export subsidiary, called

Cinelectric Inc., headed by Jack Kellman, ex-sales v.p. of Nateo Sound Projector Co.; will handle foreign radio and (when export market opens up) TV sales . . . In Montreal, Electrical Products Co. Ltd. reported planning plant for manufacture of Tele-tone TVs; its own radio brand is Fleetwood.

* * * *

Bankrupt Majestic Radio & Television Corp. (whose brand name is now owned by Leonard Ashbach interests) has sued Fairchild Engine & Airplane Corp. for \$6,054,939 damages in Chicago Federal court, suit being cross-complaint in answer to Fairchild's \$650,000 breach of contract suit; Majestic charges Fairchild's failure to deliver 39,479 radio cabinets was a cause of its inability to take advantage of postwar radio-TV boom . . . Ashbach is in no way connected with this proceeding.

Sylvania's first entry into radio starts with 3 sets—AC-DC plastic table at \$16.95; 3-way portable, \$29.95; clock table model, \$34.95. First set will be on market in 2 weeks, second in May, third in June. Latter two are made by Jewel, which also makes one Admiral radio set.

Add Sylvania to tubemakers known to be readying 24-in. direct-view tubes—others definitely being GE and Lansdale, with RCA working on 21-in. DuMont on 30-in. (Vol. 6:12). Others probably, too, but no definite word from them and little likelihood of anything going into new receivers before late winter or next year.

Court attitude on fair-trade practices is expected soon out of New York Supreme Court in decision on GE request for temporary injunction to restrain Macy's and other dept. stores from price-cutting its appliances. Macy's defense was that discount houses have been selling GE appliances below fair-trade prices for years, and GE has done nothing about it. Macy's et al, have been selling various fair-traded appliances below price since early March.

Brach Mfg. Corp., 200 Central Ave., Newark, N. J. (division of General Bronze Corp., Garden City, L. I.) has \$19.75 antenna coupler to feed up to 4 TV sets from one antenna. Unit is called *Mul-Tel*, and company says it has orders for 10,000; it's producing 500 a day, has capacity for 1500 daily.

* * * *

Excesses in some TV set advertising, as well as some abuses in service, etc., have impelled Better Business Bureaus in New York and Washington to work up standards to guide retailers. In Washington, 13-point recommendations suggest these points, among others, be stated in advertising of sales or clearances: (1) Year of model. (2) Condition of model—whether new, used, repossessed. (3) Number of sets available. (4) Name of manufacturer—not "famous make." Washington bureau also suggests term "RCA licensed" not be featured, terms "big," "large," etc. be eliminated and only actual tube sizes used. New York bureau, after meeting this week with manufacturers and retailers, is preparing standards covering, among other things, extent of service, what prices include, responsibility for performance. Manufacturers' sales managers committee is still working on set of advertising standards, following initial meeting last month (Vol. 6:9, 12). RMA is also revising regular receiver warranty to make terms more specific on TV parts (such as cathode ray tube, etc.).

—■—

Admiral president Ross Siragusa hung up another piscatorial world record during March vacation at Cat Cay—9 lb. 12 oz., bonefish, 14 oz. heavier than ever taken on 7 ft. flyrod, 5 oz. tip, 6 lb. nylon line; bonefish, in case you're uninitiated, are reputed by fisherman to be the fastest of all light-tackle gamefish.

Financial & Trade Notes: Admiral Corp. net rose to \$4,158,449 (\$2.08 per share) for first quarter 1950, nearly 3 times the \$1,536,217 (77¢) shown for same period last year, just about half the \$8,239,582 (\$4.12) profit shown for all 1949. Sales for March quarter totaled \$46,291,409, up 97% over \$23,513,097 for same 1949 period—comparing, also, with sales of \$112,004,251 for all 1949 and \$66,764,265 for all 1948 (Vol. 6:8). President Ross Siragusa told April 13 stockholders meeting that sales for first half of this year will reach \$100,000,000, for third quarter \$35-38,000,000, for all 1950 should reach \$200,000,000. While TV is biggest item (expected to be about 1,000,000 sets this year), Admiral's appliance v.p. Lee H. D. Baker has reported first quarter factory sales of 88,000 refrigerator-electric range units.

Motorola first quarter sales exceeded \$35,500,000, profits \$3.50 per share, all-time highs, reports president Paul Galvin. This compares with \$15,200,000 sales, \$1.14 per share profit for same 1949 period. Present outlook, he said, is for "greatest year in the company's history." Factory expansion now under way will by Aug. 1 permit doubled TV output, or 110,000 sets per month. TV accounts for nearly 60% of Motorola business. In proxy notice for May 1 stockholders meeting, Motorola discloses these officer salaries: Paul V. Galvin, president, \$60,000; Robert W. Galvin, executive v.p., \$25,000; and vice presidents Daniel E. Noble, \$40,000; Elmer H. Wavering, \$36,200; Walter H. Stellner, \$35,600; George R. MacDonald, \$35,300; Frank J. O'Brien, \$35,000.

DuMont sales first 10 weeks of 1950 totaled \$12,944,000 vs. \$9,023,000 in like period last year and \$3,595,000 in same 1948 period, according to annual report. (For 1949 and comparative figures, see Vol. 6:14.)

Avco president Victor Emanuel told stockholders meeting April 13 that Crosley is setting new records in TV and refrigerators, its AM stations (WLW & WINS) enjoying good business, its 3 TV stations (WLWT, WLWD, WLWC) operating at loss but with good long-range prospects. Business will be improved, he said, during second fiscal quarter ending May 31, with TV capacity particularly expanded.

Hytron, which owns Air King, had sales of \$6,646,046 for 3 months ended March 31, profits of \$473,705 vs. \$3,233,743 sales, \$128,906 profits for same period last year. President Bruce Coffin reported to stockholders April 13 that sales are now running at rate of \$20,000,000 a year vs. about \$16,000,000 last year. Management is considering common dividends, he said. Present TV picture tube output was reported 1000 to 1200 daily, which will run 3500-4000 when new plant in Newburyport, Mass. goes into production in July.

Muter Co., which owns Rola and acquired Jensen last June, reports \$7,907,572 gross sales and \$453,264 (\$1.53 per share) net profit for 1949 on 296,000 shares outstanding; in 1948, profit was \$389,184 (\$1.31). At April 18 annual meeting, stockholders will be asked to approve proposal to increase authorized shares of 50¢ common stock from 325,000 to 1,000,000; as of March 15, 1950 president Leslie Muter is shown as owner of 50,000 shares.

National Union 1949 sales were \$7,455,106, net income \$70,846 (3¢ per common share) vs. \$5,497,391 sales and loss of \$40,601 in 1948; working capital declined to \$795,796 from \$1,163,087 year earlier . . . Webster-Chicago reports 1949 sales of \$11,089,364, profit of \$835,824 (\$2.89) vs. \$13,768,731 sales, \$834,550 (\$2.89) profit in 1948.

Muntz TV Inc., which has just incorporated in Delaware with authorized capital of \$1,500,000, has Keibon, McCormick & Co., Chicago investment firm, heading up underwriting for its first public stock offering—400,000 shares at \$3.

Zenith has sent stockholders notice, under date of April 1, informing them of privileges to subscribe for \$10 par common stock of Teco Inc. (Television Entertainment Co. Inc.), formed to promote Phonevision or pay-as-you-look TV (Vol. 5:28, 31, 48). First offering will be April 19, with 99,000 shares registered. This week, Zenith asked FCC for permission to move experimental TV station KS2XBS to Field Bldg., Chicago, with 5 kw visual, 2.5 kw aural at 563 ft. FCC turned down previous request for move with higher powers (Vol. 6:13). Company also asked Commission to set Oct. 1 as date for start of 3-month Phonevision tests. Previous reports had Comdr. McDonald stating tests would start Sept. 1.

Paramount-DuMont negotiations, whereby former would sell its Class B stockholdings (Vol. 6:4, 5, 7), have fallen through—and big movie concern has moved to strengthen its position in DuMont management. Paramount president Barney Balaban and director-attorney Edward L. Weisl have been elected to DuMont board in place of Bernard Goodwin and Arthur Israel Jr., Goodwin continuing as secretary, Israel as asst. secretary. Also elected by Paramount was Irving Singer as asst. treasurer to succeed Richard Hodgson, resigned. Unverified reports are current that Paramount, besides owning all Class B, has become substantial Class A stockholder.

Organized to take over Western Electric's radio transmitting equipment business, marketed through Graybar, Standard Electronics Corp. has apparently abandoned Providence factory project (Vol. 6:5) and instead has become subsidiary of Claude Neon Inc., which in electronics fields also owns Reeves Hoffman Corp. (quartz crystals), Hudson American Corp. (marine radiotelephones), American Transformer Co. (radio transformers). In joint April 12 press release, Claude Neon-Graybar also state that, in addition to AM-FM, Standard is "now in a position to manufacture a line of TV broadcast transmitting equipment"—although Western Electric's Fred Lack states that deal with WE involved only AM-FM equipment, designs etc., nothing in TV. Edward M. Martin, ex-Farnsworth, now president of Standard, is quoted as saying: "With some 2000 TV stations probably to be licensed soon, TV is one of the new major industries in the country today, and with the help of Graybar . . . we intend to get a substantial share of this market." Thus sixth competitor is promised in now-frozen TV field (others being DuMont, Federal, GE, RCA, Raytheon)—to say nothing of more competition in presently-depressed AM-FM equipment field (something less than 2300 AM stations authorized, about 750 FM).

RCA took licenses on Philco patents in 1946, covering TV receivers and other developments, paying \$375,000 a year royalties until 1954. So Philco engineering research v.p. David B. Smith testified at FCC color hearing this week, adding that GE, Westinghouse, et al, are also negotiating for Philco licenses.

General Precision Laboratory, Pleasantville, N. Y., reports license-sales arrangement with Pye Ltd., Cambridge, England, which is expected to make GPL "an important supplier to the American TV industry." GPL is subsidiary of General Precision Equipment Corp., big supplier to movie industry.

Trade Personals: Raytheon elects Percy L. Spencer power tube div. v.p.; Norman B. Krim, receiving tube div. v.p.; Ernest S. Leatham, asst. to president Charles Francis Adams Jr. . . . Howard M. Boyd new sales mgr. for parts div., Sylvania, Warren, Pa. . . . S. M. Decker, ex-Garod, named asst. chief engineer of Air King . . . Louis Kahn named research director of Aerovox.

1950 Directory of

Consulting Engineers Specializing in Radio & Television

Including Network Engineering Executives and Miscellaneous Television-Electronics Consultants

Broadcasting and Telecasting Engineering Services

- ADAIR, GEORGE P.**
1833 M St. NW., Washington 6, D. C. Executive 1230.
Staff: Edward Mueller, Robert E. Ritch, Warren Taylor.
- ADLER, BEN**
Adler Engineering Co., 18 Grand St., New Rochelle, N. Y. Telephone: 6-1620.
- AMOO, LLOYD R.**
3709 Carpenter, Des Moines, Ia. Telephone: 7-9272.
- ANDREW CORP.**
263 E. 75th St., Chicago 19, Ill. Triangle 4-4400.
John W. McLeod, manager, broadcast consulting division; Leonard J. Petraitis, field engineer; George Sklom, engineering asst.
- ANTHONY, W. E.**
Broadcast Engineering Service, P.O. Box 1387, Shreveport 92, La. Telephone: 2-8711.
Partner: O. S. Droke. *Associates:* T. A. Tinsley, E. S. Gunning.
- BAILEY, STUART L.**
Jansky & Bailey, National Press Bldg., Washington 4, D. C. Metropolitan 5411. *Laboratory:* 1339 Wisconsin Ave. NW., Washington 7, D. C. Adams 2414.
Partner: C. M. Jansky Jr. *Associates:* Delmer C. Ports, Frank T. Mitchell Jr., Oscar W. B. Reed Jr., N. J. Schalrer, R. E. Rohrer.
- BAIREY, GEORGE B.**
1757 K St. NW., Washington 6, D. C. National 0196.
- BAKER, LEE E.**
826 Landers Bldg., Springfield 4, Mo. Telephone: 2-1951.
- BARCLAY, JAMES N.**
Silliman & Barclay, 2915 Red River Ave., Austin, Tex. 2-5055.
Washington Office: 1011 New Hampshire Ave. NW., Washington 7, D. C. Republic 6646. (Robert M. Silliman).
Partner: Robert M. Silliman. *Staff:* Carl L. Kowalski.
- BEECHER, WILLIS C.**
Kear & Kennedy, 1703 K St. NW., Washington 6, D. C. Sterling 7932.
Partners: Dr. Frank G. Kear, Robert L. Kennedy. *Staff:* Stewart Schmalbach, Henry R. Dolstra, Marianna Woodson, James C. Moseley Jr.
- BENNS, WILLIAM E. Jr.**
3738 Kanawha St. NW., Washington, D. C. Ordway 8071.
- BERNARD ASSOCIATES**
5010 Sunset Blvd., Hollywood 27, Calif. Normandy 2-6715.
Field Offices: 86 Webster Ave., Harrison, N. Y. Harrison 8-3083-J. (Edward Iannelli).
- BITTER, A. R.**
Bitter Associates Inc., 4125 Monroc St., Toledo 13, O. Kingswood 7631.
- BITTER, RALPH H.**
Carnine & Bitter Engineers, 2332 Ontario Rd. NW., Washington 9, D. C. Hudson 7513.
Partner: Robert L. Carnine.
- BOND, CLYDE H.**
629 E. Maple St., Orange, Calif. Telephone: 1403M. Affiliated with Gautney & Ray, Washington, D. C.
- CARNINE, ROBERT L.**
Carnine & Bitter Engineers, 2332 Ontario Rd. NW., Washington 9, D. C. Hudson 7513.
Partner: Ralph H. Bitter.
- CARR, LESTER H.**
Weldon & Carr, 1605 Connecticut Ave. NW., Washington 9, D. C. Michigan 4151.
Dallas Office: 1728 Wood St., Dallas 1, Tex. Riverside 3611 (James O. Weldon). *Seattle Office:* 4730 W. Ruffner St., Seattle 99, Wash. (Maj. Gen Frank E. Stoner, USA Ret.).
Partner: James O. Weldon. *Staff:* Ross Hilker, Jules Cohen, James E. Hardwick, B. W. Griffith Jr., C. A. Brawner Jr., Eugene E. Arnold, Paul L. Wimmer, G. W. Martin, F. W. Yeagley.
- CHAMBERS, JOSEPH A.**
Chambers & Garrison, 1519 Connecticut Ave., Washington 6, D. C. Michigan 2261.
Partner: Millard M. Garrison. *Staff:* J. R. McKenna, M. F. Cook, H. D. Carlson, D. L. Steel.
- CRAVEN, T. A. M.**
Craven, Lohnes & Culver, Munsey Bldg., Washington 4, D. C. District 8215.
Partners: George M. Lohnes, Ronald H. Culver, LaVerne M. Poast.
- CREUTZ, JOHN**
Bond Bldg., Washington 5, D. C. Republic 2151.
- CROSBY, MURRAY G.**
Crosby Laboratories, 126 Herricks Road, Mineola, N. Y. Garden City 7-0284.
- CULLUM, A. EARL Jr.**
Highland Park Village, Dallas 5, Tex. Justin 8-6108.
Partners: D. A. Peterson, C. M. Daniell, R. L. Hammett. *Associates:* J. G. Rountree, L. E. Cox.
- CULVER, RONALD H.**
Craven, Lohnes & Culver, Munsey Bldg., Washington 4, D. C. District 8215.
Partners: T. A. M. Craven, George M. Lohnes, LaVerne M. Poast.
- DAVIS, GEORGE C.**
Munsey Bldg., Washington 4, D. C. Sterling 0111.
Staff: Joseph W. Collier, Julius Cohen, A. P. Barsis, Ralph Dip-pell, A. F. Barghausen, Walter L. Davis.
- DILLARD, EVERETT L.**
Commercial Radio Equipment Co., 1319 F St. NW., Washington 4, D. C. District 1319; Porter Bldg., Kansas City 2, Mo. *Associates, Washington:* Edward F. Lorentz, Irl T. Newton. *Kansas City:* Robert F. Wolfskill.
- DROKE, O. S.**
Broadcast Engineering Service, P.O. Box 1387, Shreveport 92, La. Telephone: 2-8711.
Partner: W. E. Anthony. *Associates:* T. A. Tinsley, E. S. Gunning.
- du TRIEL, L. J. N.**
L. J. N. du Triel & Associates, 204 Homedale Ave., New Orleans, La. Telephone: Audubon 0917.
- EBEL, A. JAMES**
212 So. Jefferson St., Peoria 2, Ill. Telephone: 6-0711.
Associates: George Pyle, Williard Hall, Dale King.
- FOSS, WILLIAM L.**
William L. Foss Inc., 927 Fifteenth St. NW., Washington 5, D. C. Republic 3883.
Staff: John A. Moffet, Edmund E. Pendleton, Edward W. Deeters.
- FRIEDMAN, THOMAS B.**
2909 Washington Blvd., Cleveland Heights 18, Ohio. Telephone: Yellowstone 2-6866.
- GARRISON, MILLARD M.**
Chambers & Garrison, 1519 Connecticut Ave., Washington 6, D. C. Michigan 2261.
Partner: Joseph A. Chambers. *Staff:* J. R. McKenna, M. F. Cook, H. D. Carlson, D. L. Steel.
- GAUTNEY, GEORGE E.**
Gautney & Ray, Warner Bldg., Washington 4, D. C. National 7757. *West Coast Affiliate:* Clyde H. Bond, 629 E. Maple St., Orange, Calif. Telephone: 1403M.
Partner: Homer A. Ray Jr. *Associate:* John S. Chavez.
- GELLERUP, D. W.**
5437 N. Santa Monica Blvd., Milwaukee, Wis. Woodruff 2-5172.
- GILLE, BENSON D.**
Gille Bros., 1108 N. Lillian Way, Hollywood 38, Cal. Gladstone 6178.
Associate: C. E. Taylor.
- GILLET, GLENN D.**
Glenn D. Gillett & Associates, National Press Bldg., Washington 4, D. C. National 3373-4.
Associates: William E. Plummer, E. M. Hinsdale Jr., Paul Bergquist.

GODLEY, PAUL F.
Paul Godley Co., P.O. Box J, Upper Montclair, N. J. *Laboratory:* Great Notch, N. J. *Telephones:* Montclair 3-3000 and Little Falls 4-1000.
Associates: B. C. Coffman, P. F. Godley Jr., C. W. Kauffman, R. F. Holtz, J. G. Littlefield, G. H. Wagner.

HATFIELD, J. B.
936 Thirty-fifth Ave., Seattle 22, Wash. Prospect 7860.

HEFFELFINGER, JOHN B.
815 East 83rd St., Kansas City, Mo. Telephone: Hilland 7010.

HOLEY, W. J.
1146 Briarcliff Place NE., Atlanta, Ga. Atwood 3328.

HOLTZ, ROBERT F.
Box 177, Great Notch, N. J. Telephone: Little Falls 4-1433R.

HUTCHESON, GUY C.
1100 W. Abram St., Arlington, Tex. Telephone: 4-8721.

INGLIS, ANDREW F.
McIntosh & Inglis, 710 Fourteenth St. NW., Washington 5, D. C. Metropolitan 4477.
Laboratory: 910 King St., Silver Spring, Md. Juniper 7-9200.
Partner: Frank H. McIntosh. *Staff:* Robert Ankers, Robert E. Baluta, Ambrose Cavegn, James R. Croy, Elizabeth Dahlburg, Gordon Gow, Maurice L. Painchaud, Richard Walter, Kenneth W. Owen.

JACKER, EDWARD W.
Church Road, Elmhurst, Ill. Telephone: Elmhurst 3610.

JANSKY, C. M. Jr.
Jansky & Bailey, National Press Bldg., Washington 4, D. C. Metropolitan 5411. *Laboratory:* 1339 Wisconsin Ave. NW., Washington 7, D. C. Adams 2414.
Partner: Stuart L. Bailey. *Associates:* Delmer C. Ports, Frank T. Mitchell Jr., Oscar W. B. Reed Jr., N. J. Schairer, R. E. Rohrer.

KEAN, WALTER F.
1 Riverside Road, Riverside, Ill. Telephone: Riverside 7-2153.
Associates: W. J. Gemulla, G. M. Boyd.

KEAR, DR. FRANK G.
Kear & Kennedy, 1703 K St. NW., Washington 6, D. C. Sterling 7932.
Partners: Robert L. Kennedy, Willis C. Beecher. *Staff:* Stewart Schmalbach, Henry R. Dolstra, Marianna Woodson, James C. Moseley Jr.

KEEL, JOHN J.
Warner Bldg., Washington 4, D. C. National 6513.
Associates: Paul L. Muller, J. O'Connor.

KENNEDY, ROBERT L.
Kear & Kennedy, 1703 K St. NW., Washington 6, D. C. Sterling 7932.
Partners: Dr. Frank G. Kear, Willis C. Beecher. *Staff:* Stewart Schmalbach, Henry R. Dolstra, Marianna Woodson, James C. Moseley Jr.

KEYWORTH, J. GORDON
42 Main St., Williamstown, Mass. Telephone: 869-J.

LENT, WORTHINGTON C.
5209 Roosevelt St., Bethesda, Md. Oliver 8200.

LOHNES, GEORGE M.
Craven, Lohnes & Culver, Munsey Bldg., Washington 4, D. C. District 8215.
Partners: T. A. M. Craven, Ronald H. Culver, LaVerne M. Poast.

MCCACHREN, WINFIELD SCOTT
2404 Columbia Pike, Arlington, Va. Glebe 9096.

MCINTOSH, FRANK H.
McIntosh & Inglis, 710 Fourteenth St. NW., Washington 5, D. C. Metropolitan 4477. *Laboratory:* 910 King St., Silver Spring, Md. Juniper 7-9200.
Partner: Andrew F. Inglis. *Staff:* Robert Ankers, Robert E. Baluta, Ambrose Cavegn, James R. Croy, Elizabeth Dahlburg, Gordon Gow, Maurice L. Painchaud, Richard Walter, Kenneth W. Owen.

MCKEY, DIXIE B.
Dixie B. McKey & Associates, 1820 Jefferson Pl. NW., Washington 6, D. C. Republic 7236.

McNARY, JAMES C.
McNary & Wrathall, National Press Bldg., Washington 4, D. C. District 1205; 1407 Pacific Ave., Santa Cruz, Cal. Telephone: 5140.
Partner: Grant R. Wrathall (Director, Western Office). *Staff:* R. S. Duncan, C. J. Rohrich Jr.

MASON, JOHN D.
Mason & Dixon, 1616 Sixteenth St. SE., Washington 20, D. C. Telephone: Ludlow 4-1012.
Staff: R. L. Easley, J. W. Bauknight.

MAY, RUSSELL P.
1422 F St. NW., Washington 4, D. C. Republic 3984.
Frederick N. Lee.

MERRYMAN, PHILIP
Philip Merryman & Associates, 114 State St., Bridgeport, Conn. Telephone: 5-4144.

MURRAY, ALBERT F.
4707 Windom Pl. NW., Washington 16, D. C. Ordway 4841.

PAGE, E. C.
E. C. Page Consulting Engineers, Bond Bldg., Washington 5, D. C. Executive 5670.
Partner: Joseph A. Waldschmitt. *Staff:* Virginia R. Erwin.

PLOTTS, ELLERY L.
8223 No. Merrill, P.O. Box 165, Park Ridge, Ill. Park Ridge 2704.

POAST, LAVERNE M.
Craven, Lohnes & Culver, Munsey Bldg., Washington 4, D. C. District 8215.
Partners: T. A. M. Craven, George M. Lohnes, Ronald H. Culver.

POLLACK, DALE
Box 422, New London, Conn. Telephone: 2-0760.

RAY, GARO W.
Hilltop Drive, Stratford, Conn. Telephone: 7-2465.

RAY, HOMER A. Jr.
Gautney & Ray, Warner Bldg., Washington 4, D. C. National 7757. *West Coast Affiliate:* Clyde H. Bond, 629 E. Maple St., Orange, Calif. Telephone: 1403M.
Partner: George E. Gautney. *Associate:* John S. Chavez.

RING, ANDREW D.
A. D. Ring & Co., Munsey Bldg., Washington 4, D. C. Republic 2347.
Associates: Howard T. Head, Stephen W. Kirshner. *Staff:* Raymond P. Aylor Jr., Charles S. Wright, Charles Keller, Raymond Dordal.

ROTHROCK, HAROLD B.
Citizens National Bank Bldg., Bedford, Ind.

SILLIMAN, ROBERT M.
Silliman & Barclay, 1011 New Hampshire Ave. NW., Washington 7, D. C. Republic 6646.
Austin Office: 2915 Red River Ave., Austin, Tex. 2-5055. (James N. Barclay).
Partner: James N. Barclay. *Staff:* Carl L. Kowalski.

SINGLETON, HAROLD C.
2073 SW Park Ave., Portland 1, Ore. Beacon 1201.

SMEBY, LYNNE C.
820 Thirteenth St. NW., Washington 5, D. C. Executive 8073.

SMITH, CARL E.
4900 Euclid Ave., Cleveland 3, O. *Telephones:* Prospect 1-5000, Express 1-8888, Fairmount 1-3335.

STONER, FRANK E., Maj. Gen., USA Ret.
Weldon & Carr, 4730 W. Ruffner St., Seattle 99, Wash. *Washington Office:* 1605 Connecticut Ave. NW., Washington 9, D. C. Michigan 4151 (Lester H. Carr). *Dallas Office:* 1728 Wood St., Dallas 1, Tex. Riverside 3611 (James O. Weldon).
Partners: Lester H. Carr, James O. Weldon. *Staff:* Ross Hilker, Jules Cohen, James E. Hardwicke, B. W. Griffith Jr., C. A. Brawner Jr., Eugene E. Arnold, Paul L. Wimmer, G. W. Martin, F. W. Yeagley.

TAPP, JAY E.
T & T Radio Measurements Co., 1228 E. Compton Blvd., Compton 1, Calif. Nevada 6-3170.
Partner: Ray Torian.

TAYLOR, ARCHER S.
P. O. Box 1479, Missoula, Mont. Telephone: 8562.

TAYLOR, C. E.
Gille Bros., 1108 N. Lillian Way, Hollywood 38, Cal. Gladstone 6178.
Associate: Benson D. Gille.

TORIAN, RAYMOND B.
T & T Radio Measurements Co., 1228 E. Compton Blvd., Compton 1, Calif. Nevada 6-3170.
Partner: J. E. Tapp.

TOWNE, ALFRED E.
Universal Research Laboratories, 1 Nob Hill Circle, San Francisco 6, Calif. Douglas 2-5380.

VOGT, ERNEST J.
Rm. 310, 2200 N. Tejon, Colorado Springs, Colo. Main 184, Ext. 50.

WALDSCHMITT, JOSEPH A.
E. C. Page Consulting Engineers, Bond Bldg., Washington 5, D. C. Executive 5670.
Partner: E. C. Page. *Staff:* Virginia R. Erwin.

WELDON, JAMES O.
Weldon & Carr, 1728 Wood St., Dallas 1, Tex. Riverside 3611. *Washington Office:* 1605 Connecticut Ave. NW., Michigan 4151 (Lester H. Carr). *Seattle Office:* 4730 W. Ruffner St., Seattle 99, Wash. (Maj. Gen. Frank E. Stoner, USA Ret.).
Partners: Lester H. Carr. *Staff:* Ross Hilker, Jules Cohen, James E. Hardwicke, B. W. Griffith Jr., C. A. Brawner Jr., Eugene E. Arnold, Paul L. Wimmer, G. W. Martin, F. W. Yeagley.

WILLIAMS, MARTIN R.
7401 East 14th St., Indianapolis, Ind.

WILLIAMS, NATHAN
20 Algoma Blvd., Oshkosh, Wis. Blackhawk 22.
Engineers: Robert Ziehlke, Harold Timmerman.

WILMOTTE, RAYMOND M.
Raymond M. Wilmotte Inc., 1469 Church St. NW., Washington 5, D. C. Decatur 1231.
Staff: Warner R. Sinback, G. J. Harmon, Donald L. Rodenhi.

WILSON, HERBERT L.
Herbert L. Wilson Associates, 1025 Connecticut Ave., Washington 6, D. C. National 7161.
Associate: Karl Gerhard.

WITTY, W. M.
6923 Snider Plaza, Dallas, Tex. Lakeside 7118.

WOLFSKILL, ROBERT F.
Commercial Radio Equipment Co., Porter Bldg., Kansas City 2, Mo.; 1319 F St. NW., Washington 4, D. C. District 1319.
Associates (Washington): Everett L. Dillard, Edward F. Lorentz, Irl T. Newton.

WRATHALL, GRANT R.
McNary & Wrathall, 1407 Pacific Ave., Santa Cruz, Calif. Telephone: 5140; National Press Bldg., Washington 4, D. C. District 1205.
Partner: James C. McNary, Washington, D. C. *Staff:* R. S. Duncan, C. J. Rohrich Jr.

Network Engineering Departments

AMERICAN BROADCASTING CO.

30 Rockefeller Plaza, New York City 20. Circle 7-5700.
Engineering Executives: Frank Marx, v.p. in charge of engineering; Clure H. Owen, administrative assistant; William H. Trevarthen, director of technical operations; James L. Middlebrooks, chief facilities engineer; Robert M. Morris, radio facilities engineer; Joseph H. Copp, audio facilities engineer; John G. Preston, allocations engineer. Kear & Kennedy, Washington consulting engineers.

COLUMBIA BROADCASTING SYSTEM Inc.

485 Madison Ave., New York 22. Plaza 5-2000.
Engineering Executives, General Engineering Dept.: William B. Lodge, v.p.; A. B. Chamberlain, chief engineer; H. A. Chinn, chief audio-video engineer; J. W. Wright, chief radio engineer. *Engineering Research & Development Dept.:* Peter C. Goldmark, director; J. W. Christensen, chief engineer; J. J. Reeves, studio equipment development; R. Snepvangers, recording development.

DuMONT TELEVISION NETWORK

515 Madison Ave., New York City 22. Murray Hill 8-2600.
Engineering Executives: Rodney D. Chipp, director of engineering; Robert Bigwood, chief facilities engineer; Sal Patriemo, special development engineer; Harry Milholland, technical operations engineer, WABD, New York; Malcolm Burleson, chief engineer, WTTG, Washington; Raymond Rodgers, chief engineer, WDTV, Pittsburgh.

MUTUAL BROADCASTING SYSTEM Inc.

1440 Broadway, New York City 18. Pennsylvania 6-9600.
Engineering Executives: Earl M. Johnson, v.p. in charge of station relations and engineering; L. Learned, chief of engineering traffic division; L. Tower, chief of facilities division; Ed W. Davis, chief of plans and allocations division.

NATIONAL BROADCASTING CO.

30 Rockefeller Plaza, New York 20. Circle 7-8300.
Engineering Executives: O. B. Hanson, vice president and chief engineer; George McElrath, director of radio network technical operations; W. A. Clarke, administrative assistant; Raymond F. Guy, manager, radio and allocations engineering; C. A. Rackey, manager, audio and video engineering; J. Wood Jr., manager of technical services; E. R. Cullen and J. D'Agostino, liaison engineers; George M. Nixon, manager of engineering development; Thomas H. Pheasant, New York division engineer; Robert E. Shelby, director of television engineering operations; H. C. Luttgens, Central Division Engineer (Chicago); A. H. Saxton, Western Division Engineer (Hollywood); Donald H. Cooper, engineer in charge (Washington); S. E. Leonard, engineer in charge (Cleveland); R. H. Owen, engineer in charge (Denver); C. D. Peck, engineer in charge (San Francisco).

Miscellaneous Consulting Services

ANDREW ALFORD

Antenna & RF Circuits.
299 Atlantic Ave., Boston 10, Mass. Hancock 6-2339.

W. J. BROWN

Television, radio and industrial electronics.
512 Marshall Bldg., Cleveland, O. Telephone: Tower 1-6498.

CARL H. BUTMAN

Washington Radio Consultant.
National Press Bldg., Washington 4, D. C. National 7846.

EDWARD J. CONTENT

Acoustical and Radio Engineering Consultant, Roxbury Rd., Stamford, Conn. Stamford 3-7459.
H. M. Uriass.

ELK ELECTRONIC LABORATORIES

Design and development of test equipment; product re-design.
12 Elk St., New York 7, N. Y. Telephone: Worth 2-4963.
Jack Rosenbaum.

FRAZIER & PETER

Television and Radio Management Consultants.
Bond Bldg., Washington 5, D. C. National 2173.
Howard S. Frazier, Paul F. Peter.

DR. ALFRED N. GOLDSMITH

597 Fifth Ave., New York 17, New York. Plaza 3-4150.

HAROLD M. HEIMARK

Communications Engineers. Design Specialists.
734 N. Austin Blvd., Oak Park, Ill. Telephone: Estebrook 8-7047.

ROBERT C. HIGGY

Ohio State University.
2032 Indianola Ave., Columbus 1, O. University 9229.

JOHN V. L. HOGAN

Hogan Laboratories Inc., 155 Perry St., New York 14, N. Y. Telephone: Chelsea 2-7855.

RICHARD W. HUBBELL & ASSOCIATES

Television, Radio and Motion Picture Consultants.
315 East 56th St., New York 22, N. Y. Plaza 8-2675.

NEAL McNAUGHTEN

Director of Engineering Dept., National Association of Broadcasters, 1771 N St. NW., Washington 6, D. C. Decatur 9300.

MEASUREMENTS CORP.

Research and manufacturing engineers of electronic test equipment.
Boonton, N. J. Telephone: Boonton 8-2131.
Associates: Harry W. Houck, Jerry B. Minter, John M. Van Beuren.

PICKARD & BURNS Inc.

Consulting radio and electronic engineers.
240 Highland Ave., Needham 94, Mass. Telephone: Needham 3-3033.
Officers: Greenleaf W. Pickard, president; Dr. Lynde P. Wheeler, v.p.; Harold S. Burns, treas. & gen. mgr.

PREISMAN & BISER

Electronics consultants.
3308 Fourteenth St. NW., Washington 10, D. C. Telephone: Adams 7299.
Partners: Albert Preisman, Mark H. Biser.

TELEVISION ENGINEERS Inc.

Apartment house TV antenna systems, installations.
1539 W. Harrison St., Chicago. Telephone: Taylor 9-4200.
I. J. Kaluzna, W. I. Kuzak.

WHEELER LABORATORIES

Consulting, research, developing, models.
Great Neck, N. Y. Telephone: Great Neck 2-7806.
Harold A. Wheeler, David Dettinger.

...the ... of ...
...the ... of ...
...the ... of ...
...the ... of ...
...the ... of ...

...the ... of ...
...the ... of ...
...the ... of ...
...the ... of ...
...the ... of ...

...the ... of ...
...the ... of ...
...the ... of ...
...the ... of ...
...the ... of ...

...the ... of ...
...the ... of ...
...the ... of ...
...the ... of ...
...the ... of ...

...the ... of ...
...the ... of ...
...the ... of ...
...the ... of ...
...the ... of ...

...the ... of ...
...the ... of ...
...the ... of ...
...the ... of ...
...the ... of ...

HIGH HOPES FOR PRINTED-CIRCUIT TUNER: First substantial use of printed circuits in TV sets -- long-heralded and hoped for -- was announced by RCA this week. New tuner has printed circuit for each channel (except oscillator coils for channels 2-6), is now being offered manufacturers. RCA says it has number of orders, isn't putting it in its own sets yet but plans to.

Though RCA doesn't give price, saying only that it's "highly competitive," expectation is that mass production will bring cost down considerably under conventional tuners -- meaning cheaper sets. Circuits are photo-etched, eliminate complex and precise coil-winding operations. RCA claims performance is as good as or better than present tuners. Use of printed circuits in other portions of set is planned, but none immediately.

GE, WESTINGHOUSE REPORT; RMA, TOC: Giants GE and Westinghouse, reporting record net incomes for first 1950 quarter at stockholder meetings this week (see Financial & Trade Reports), did not break down their figures to reveal size of their TV-radio business -- but with almost same words they stressed increased production rates apace with other appliances. TV-radio, of course, are only fractional though sizeable factors in their huge over-all operations.

GE president Charles E. Wilson noted that sales of all electronics products first quarter were up 34% from same period year ago, adding: "The prospects are for further substantial improvement. Our production of TV and radio receiving units is currently running at a combined record rate of 30,000 units per week, while the production of radio receiving tubes and TV picture tubes is likewise at a record level." Note: 30,000 per week, in 48-week production year, mean 1,440,000 units combined -- of which it has been "guesstimated" (Vol. 6:13) TVs will number 300,000.

Westinghouse president Gwilym A. Price said TV production this year will be double 1949, which probably means somewhat more than predicted 150,000 (Vol. 6:13). Same sort of report comes from Avco (Crosley) but no figure is divulged either, though recent "guesstimate" was 250,000 TVs.

Curiously, neither GE nor Westinghouse has cut nearly as much figure in TV as in radio, but GE is avowedly out to challenge undisputed quantitative leadership of Admiral, Philco, RCA, Motorola. Executive v.p. Ralph G. Cordiner reported April 19 that GE plans to increase output of TV-radio by 66 2/3% to 100%, depending on supply of picture tubes and cabinets.

* * * *

RMA report on March TV output will be out next week, but it's disclosed fourth week reached record total of 115,000 -- meaning 407,000 in 4 weeks. Or, adding 25% to account for non-RMA, well over 500,000 already. Statistical month has 5 weeks, so it looks as though final count will add up to approximately 650,000, as compared with 4-week January's 420,000, February's 460,000 (Vol. 6:7,11). At Quebec meeting of RMA board this week, straw vote disclosed "average" prediction of 5,350,000 TV output this year.

SCOTT-MECK DEAL MAY BE HARBINGER: It's logical to expect that John Meck's control of Scott Radio Laboratories Inc., following short on Leonard Ashbach's somewhat similar acquisition of control of Wilcox-Gay soon after acquiring Majestic trade name (Vol. 6:15), presages many more consolidations of weak into strong companies, possible shrinkage in number of TV-radio producers (now more than 100), emergence of several big new factors in TV-radio industry.

Yet it's unrealistic to repeat prediction, so often made in last few years, that the smaller companies in general are headed for oblivion in their competitive battle with the fast-growing big ones. Not in the immediate future anyhow -- not

while the TV market gobbles up everything they're all producing. Up to now, Majestic and Sonora have been the only major post-war bankruptcies, Capehart-Farnsworth take-over by IT&T the only other big consolidation, Howard Radio plant purchase by Muntz the only other sizeable sale since reconversion from wartime.

Hell bent on expansion, Meck purchased undisclosed "substantial interest" in Scott by acquiring most of retiring president H. S. Darr's stock, will continue Chicago factory (4541 N. Ravenswood) as producer of Scott quality-brand radios and phonos, will push Scott TV lines "aggressively through franchised dealers" and competitively at DuMont, Magnavox, Stromberg, Zenith levels. New corporate structure is planned, but Scott factory will operate separately from lower-price production of John Meck Industries Inc. plants in Plymouth & Peru, Ind. John Meck is new president; John C. Weisert and Frank Beiser, reelected vice presidents; Russell G. Eggo, secretary; G. F. Meck, treasurer; Mr. Darr, director.

Trends & Topics of TV Trade: Current stock market hurries in TV-radio shares, reflected in daily headlines, have turned into windfall of institutional advertising for TV industry at large and big brand-name companies in particular. Such publicity may help account for expected but seemingly delayed seasonal recession in demand. Certainly, it hasn't hurt sales. One top manufacturer now says he thinks there's good chance present excellent market will continue until end of June.

* * * *

Proposed 10% excise tax on TV comes up for House Ways & Means Committee decision April 24, as it votes item-by-item. This week, committee voted to retain 10% excise on radio, phonos, records, also voted to put 7% tax on deep freezers—first addition to list. Votes are technically tentative, but usually stick when reported to House. Excise cuts thus far total \$335,000,000, but fact that committee is on record as agreeing that lost revenues must be made up may render TV position precarious. On one hand, there's no sentiment for taxing TV (Vol. 6:15); on other, promise of \$40,000,000 revenue from TV tax may intrigue some. Bright production figures, current earnings reports, stock market activity in TV-radio shares, have gotten sort of publicity that may offset strong case put up by industry-labor forces in February.

* * * *

DuMont's new line comprises 5 new sets, priced downward from old line—claiming improved circuits, better selectivity, greater sensitivity through improved Inputuner which also provides FM in all sets. Provision is made for uhf converter in 19-in. models. New 12½-in. sets are: Putnam table, \$269.50; Guilford consolette, \$329.50—former \$60 less than previous model, latter \$50 less. New 19-in. consoles are: Winslow, \$495; Hanover, period cabinet with doors, \$565; Sherbrooke, with AM-FM-phonos, \$695.

Tube complement in all DuMont 12½-in. models is 21 plus 2 rectifiers (vs. 25 & 5 in previous models); in 19-in. console, 29 & 4; in 19-in. combination, 33 & 4. Sets are now being delivered to distributors, are expected to remain in line through 1950. Additional models may be included later in year, but no decision has been made yet.

* * * *

Crosley has added rectangular 14-in. at \$200 to its new line (Vol. 6:14). Rectangular tube is in same plastic table cabinet previously used for 10-in., priced at \$170 but deleted several weeks ago. Current 12½-in. wood table is \$240. Motorola also offers 14-in. rectangular table, \$230, and Packard-Bell, Stewart-Warner, Tele-King have promised them . . . Magnavox has added 12½-in. console to line, price \$240.

Motorola, which never releases actual production figures but likes to speak in terms of percentage increases, reports TV unit sales first 1950 quarter are 340% ahead of same period last year, dollar volume 330% up. Its auto radio unit sales are up 198%, dollar volume from this business doubled. Home radio sets gained 185% unit-wise, 200% in dollar volume. Referring to radios, v.p. Walter H. Stellner said: "We expect a continuing increase throughout the summer, particularly in table models and portable sets."

Industrial Television Inc. has cut 16-in. consolette from \$500 to \$450; 19-in. commercial unit, from \$945 to \$660; has new 19-in. consolette at \$595. All have remote control. ITI says it will make 50,000 TVs this year.

Jackson Industries, making mostly for private label, has changed line to: 12½-in. tables at \$160 & \$220, consolettes at \$200 & \$250; 16-in. rectangular tables at \$200 & \$270, consolettes at \$250 & \$300; 12½-in. console with AM-phonos \$300, plus FM \$350, with AM-FM-phonos and more sensitive circuit \$450; rectangular 16-in. console with AM-phonos \$350, plus FM \$400; 19-in. console \$400. All TV-only sets have 19 tubes, 2 rectifiers, all combinations 26 & 3. Sales mgr. Henry Goldsmith says production by June 1 will reach 400 sets per day.

* * * *

Macy's-New York and other dept. stores were enjoined from price-cutting fair-traded GE appliances in April 19 ruling by New York Supreme Court Justice Benjamin F. Schreiber. Court held Macy's, et al, failed to establish charges that widespread under-selling of GE products existed and that such condition indicated GE had given up fair-trade price protection.

Tie-in that ought to produce TV sales is that reported between United Artists and Westinghouse. UA has film, *Champagne for Caesar*, with Ronald Colman, story of TV quiz winner, and some of scenes show viewers watching TV show on—you guessed it, Westinghouse sets. In return, Westinghouse is sending out special promotion for dealer-exhibitor tieups when film plays their cities.

General Transformer Co., Homewood, Ill., recently organized by executives of General Transformer Corp., Chicago, has purchased assets of latter firm to make TV transformers. New officers: M. A. Goldberger, president; W. D. Dunifon, v.p. and factory mgr.; Conrad E. deHorn, v.p. and chief engineer; Stuart A. Goldman, secy.-treas. . . . Acme Electric Corp., Cuba, N. Y., has started building new 15,000 sq. ft. plant for added capacity to supply TV transformers.

Creditors of Remington Radio Corp., White Plains, N. Y., this week petitioned Federal district court in New York City to declare company bankrupt; sum allegedly due 3 companies totals \$7500.

Financial & Trade Notes: CBS gross income for 13 weeks ended April 1 was \$30,809,064, net profit \$1,626,750 (95¢ per share) vs. \$27,018,288 gross and \$855,764 (50¢) net for same period last year. At stockholders meeting April 19, Chairman Paley said company faces period of high expenditures for TV facilities, indicated smaller percentage of earnings may be paid in dividends than previously. Good guess is that, besides unverified deal for purchase of KFI-TV, Los Angeles (Vol. 6:14-15), it has plans to acquire full permitted limit of 5 TV stations (it now owns WCBS-TV, New York, and 49% of KTTV, Los Angeles).

DuMont issue of 250,000 Class A shares at \$25, at time when market quotations were running 25¼ to 26¼, was oversubscribed promptly this week when offered by syndicate headed by Kuhn, Loeb and Van Alstyne, Noel & Co. Proceeds will be used to pay cost of transferring WABD transmitter and antenna to Empire State Bldg., for new Pittsburgh studios of WDTV, for other expansions. Prospectus for issue revealed 1949 salary of Dr. Allen B. DuMont was \$26,100, plus bonus of \$144,099; of executive v.p. Leonard Cramer \$26,870, plus \$4038.

Muntz TV Inc. registration of 400,000 shares of \$1 par stock (Vol. 6:15) involves merger of California corporation by that name into new Delaware corporation which will issue 501,994 shares of common in exchange for stock of predecessor company; will also issue 112,000 shares to acquire 56,000 shares of Tele-Vogue Inc., owned by California Muntz TV. Tele-Vogue, since last May 1, has been making sets in old Howard Radio plant, Chicago, paying reported "rental" of \$5 per set; having paid out \$287,130, it is now buying Howard plant for \$250,000. SEC report states that up to Feb. 28, 1950 Muntz has shown net profit of \$289,815 on sales of \$13,108,636. Prospectus also stated that plans call for production of 7500 TV sets in April and May, 6500 June, 3500 July, 10,000 thru November, 7000 in December.

* * * *

Zenith-sponsored Teco Inc., formed to promote Phonovision (Vol. 5:28, 31, 48) this week sent Zenith stockholders prospectus covering Class D "speculative securities," offering them privilege of purchasing (on or before May 9, 1950) one-fifth of \$10 Teco share for each share of Zenith held, proposing 99,000 shares, noting 1000 already outstanding, subscribed to by these Zenith officers and directors: E. F. McDonald, president, 590 shares; Hugh Robertson, executive v.p., 76; Karl E. Hassell, v.p., 20; directors Irving Herriott 194, Frank A. Miller 100, Ralph Hubbard 20. Officers of Teco Inc. are: S. I. Marks, owner of Simarks Co., Chicago distributor, president; Thomas M. McNicholas, ex-officer of Tennessean Newspapers Inc., Nashville, v.p., treasurer & director; B. A. Masee, Chicago insurance broker, secretary & director. Mr. McNicholas is only paid officer, getting \$10,000 a year.

General Electric Co. first 1950 quarter net profit was \$36,858,391 (\$1.28 per share), up 38% from \$26,702,978 (93¢) for same period last year and highest in company's history. Consolidated net sales for quarter were \$418,449,611, up 2% . . . Westinghouse net income for quarter just ended was \$11,890,377 (87¢) vs. \$10,866,921 (79¢) for same period last year; billings were \$223,933,898, compared with \$226,658,722 for March 1949 quarter.

IT&T 1949 report this week showed net income of \$4,685,877 vs. \$6,818,691 in 1948, points out that subsidiary Federal was still unprofitable although rate of loss has decreased; that Capehart-Farnsworth, acquired in May 1949, showed loss though small operating profit was realized in final months of 1949.

Hallcrafters March sales of \$3,487,294, profits of \$322,370 (48¢) brought total sales for first 7 months of company's fiscal year to \$14,469,156, profits \$745,711 (\$1.10). In March 1949 sales were \$2,104,242, earnings \$108,159 (16¢); for 7 months ended March 31, 1949 sales were \$10,314,966, profit \$409,828 (61¢). Daily TV unit production has been stepped up to 1000 per day, should reach 1500 this summer, said president William J. Halligan. TV set sales first 3 months of 1950 have increased 229% over same 1949 period, communications sales 21%. Mr. Halligan forecast \$40,000,000 sales this year, including 250,000 TV sets and communications orders that include \$4,490,959 military contracts.

Magnavox sales were close to \$9,000,000 first 1950 quarter, its third fiscal quarter, estimated earnings \$624,742 (about 89¢ per share), of which March accounted for about \$256,000. For 9 months ended March 31, earnings were \$1,400,442 (\$2.04). Shipments are behind orders, reports executive v.p. Frank Freimann, and "sales for second quarter are expected to be even more favorable."

Muter Co. first quarter sales were \$2,819,000, net profit \$219,137 (74¢) vs. \$1,763,000 sales, \$75,340 (25¢) net profit in same 1949 period . . . Blaw-Knox first quarter earnings were \$276,658 (20¢) vs. \$925,976 (66¢) in first quarter last year, declining in billings to \$11,257,060 from \$17,129,337 in 1949 period being attributed to "carryover results of the steel and coal strikes." . . . Pacific Cabinet & Radio Co., 14500 Aetna St., Van Nuys, Cal. (Max Stettner, president), parent of Mercury TV, plans stock issue reported to be 175,000 shares at \$3.50, thru Lester & Co., Los Angeles; Mercury is a supplier for Sears Roebuck, gets some chassis from Air King and Colonial while parent company ships cabinets to East.

Hoffman Radio reports net income for first 1950 quarter of \$680,595 (\$1.78 per share), compared with \$1,276,036 (\$3.33) for all 1949. Gross sales for quarter were \$6,240,660, compared with \$11,987,650 for all 1949. First quarter TV set sales totaled 25,000 vs. 42,000 for all 1949 . . . Olympic Radio reached all-time high sales of \$4,778,448 first quarter, record net profit of \$368,454 (\$1.44); this compared with sales of \$1,531,249, profit of \$79,170 (30¢) same period last year . . . Sentinel's net for \$200,000 has been taken over, sizeable block of stock optioned, by new interests headed by Louis Frankel, one-time in radio, recently with Holeproof Hosiery (which is headed by his brother Gus); Mr. Frankel is now executive v.p., E. Alschuler continuing as president.

* * * *

Pertinent observations on stock market by *Wall Street Journal's* Oliver J. Gingold (April 21): "The speculation in the television shares has worried conservatives. These stocks, many of which have doubled and trebled in price in recent months, have attracted the fancy of the public. Much of the recent buying has been on margin and some professional Wall Street traders have sold many of these stocks short. It is true that many television companies are showing sharp improvement in earnings but it remains to be seen how stable they are and what competition may bring as the industry develops. A lot might be learned from an investment standpoint from the growing pains of the radio industry over a quarter of a century ago. The short interest in the market remains large and although latest figures show a small decline from the position in March, it is still close to the highest level in some 17 years and prices continue to mount against the bears, some of whom continue to pay dividends and premiums to maintain their expensive positions."

Count of TV Sets-in-Use by Cities

As of April 1, 1950

Sets-in-use totaled 5,343,000 as of April 1, according to NBC Research's monthly "census" report estimating TV receivers within 40-mi. service areas (.5Mv). NBC no longer publishes family figures, but those here listed are best available estimates of 1948 families within 40-mi. radius of city; note, however, that there are some overlaps, so that family figures are sometimes higher than actually served. April report includes Kalamazoo, due to have own station soon. Total represents 508,000 increase over March 1 count (Vol. 6:12).

Interconnected Cities

Area	No. Stations	No. Families	No. Sets
Baltimore	3	732,000*	158,000
Boston	2	1,175,000*	339,000
Buffalo	1	323,000*	84,800
Chicago	4	1,438,000	455,000
Cincinnati	3	384,000*	107,000
Cleveland	3	695,000	200,000
Columbus	3	225,000*	63,800
Dayton	2	291,000*	48,100
Detroit	3	839,000	212,000
Erie	1	112,000	18,500
Grand Rapids	1	182,000*	19,100
Kalamazoo	—(a)	143,000*	7,700
Lancaster	1	85,000*	40,700
Memphis	1	177,000	29,800
Milwaukee	1	327,000	101,000
New Haven	1	557,000	72,700
New York	7	3,597,000*	1,225,000
Norfolk	1(b)	196,000	7,900
Philadelphia	3	1,184,000*	428,000
Pittsburgh	1	742,000*	91,000
Providence	1	1,011,000*	49,000
Richmond	1	130,000*	26,200
Rochester	1	208,000*	35,300
Schenectady	1	258,000*	70,000
St. Louis	1	474,000	115,000
Syracuse	2	199,000*	38,900
Toledo	1	241,000*	39,000
Utica	1	127,000*	11,500
Washington	4	691,000*	118,000
Wilmington	1	183,000*	30,700
Total Interconnected	56		4,242,700

Non-Interconnected Cities

Albuquerque	1	22,000	2,800
Ames (Des Moines)	1	126,000	8,100
Atlanta	2	233,000	31,300
Binghamton	1	131,000*	10,900
Birmingham	2	196,000	11,900
Bloomington	1	104,000*	5,800
Charlotte	1	171,000	13,200
Davenport	1	133,000	9,100
Fort Worth	1	269,000*	22,300
Dallas	2	277,000*	26,900
Greensboro	1	165,000	10,400
Houston	1	217,000	17,000
Huntington	1	132,000	7,200
Indianapolis	1	281,000*	32,500
Jacksonville	1	94,000	9,000
Johnstown	1	250,000*	18,800
Kansas City	1	275,000	31,500
Los Angeles	7	1,372,000	462,000
Louisville	2(c)	188,000	30,100
Miami	1	117,000	22,000
Minneapolis-St. Paul	2	333,000	81,600
New Orleans	1	225,000	23,300
Oklahoma City	1	138,000	24,800
Omaha	2	132,000	19,600
Phoenix	1	49,000	5,500
Salt Lake City	2	93,000	14,200
San Antonio	2	130,000	12,500
San Diego	1	113,000	34,100
San Francisco	3	825,000	49,200
Seattle	1	307,000	26,700
Tulsa	1	125,000	20,800
Others	—		5,200
Total Non-Interconnected	47		1,100,300
Total Interconnected and Non-Interconnected	103		5,343,000

* Family figures are based on estimates of 1948 population. Note that following coverages (hence total families) overlap: Bloomington-Indianapolis; Kalamazoo-Grand Rapids; Detroit-Toledo; Syracuse-Rochester-Utica-Binghamton; Binghamton-Utica; Philadelphia-Wilmington; Rochester-Syracuse-Schenectady-Utica; Pittsburgh-Johnstown; New York-Philadelphia; Boston-Providence; Buffalo-Rochester; Cincinnati-Columbus-Dayton; Detroit-Grand Rapids; Lancaster-Baltimore; Dallas-Fort Worth.

- (a) WKZO-TV now testing, due to start scheduled operation soon.
 (b) WTAR-TV began scheduled operation April 2.
 (c) WHAS-TV began scheduled operation March 27.

Mexico's first TV station—in fact, first in Latin America—will be 5-kw outlet of Television de Mexico, owned by Romulo O'Farrill Sr., publisher of *Mexico City Novedades*. RCA 5-kw transmitter for Channel 4 has been ordered, to be located in 20-story National Lottery Bldg.; station is due on air this summer.

New theatre TV unit, capable of resolution comparable with 35mm film, is being offered by RCA. Its 8-mc video bandwidth is double that of present equipment, which is same as standard TV. Though unit is gauged for 525 lines, it can be set for more—625 lines have been suggested. First delivery will be to Fabian Fox, Brooklyn. Fabian has also ordered one for Palace Theatre, Albany.

Twice as many people plan to buy TV in 1950 as in 1949, according to annual Federal Reserve Board survey of buying plans. Study was conducted during January-February, is based on 300 responses from 66 areas.

Jurisdictional fight in TV performer unions looms after this week's vote by executive board of AAAA giving newly-formed TV Authority (Vol. 6:8) jurisdiction over all TV performers—live or film. Screen unions declared immediately that they would not abide by decision of parent union, will insist on authority over all performers in films whether made for theatres or TV.

Comr. Hennock urged educators to persevere in fight for non-commercial, educational TV channels, speaking April 20 to group of teachers at U of Pennsylvania. Nine educational organizations have asked FCC to set aside block of TV frequencies for school use—one of them actually asking for vhf channels in larger cities (Supplements 67-67G). Only educational TV station among present 103 outlets is Iowa State College's WOI-TV, Ames.

Hooper's new "Hooperecorder," to be shown later this month, seems to be very similar to Sindlinger's Radox (Vol. 5:33), using device at TV receiver and phone lines to central office. Hooper plans to install it in 500 Los Angeles "guinea pig" homes, says it will give overnight reports on program ratings. Rival researchers say system is too expensive to cover large enough sample and can only show fact set is tuned to particular program, not how many people are watching per set.

Milton Berle plans repeat of Cancer Fund marathon telecast on NBC-TV which brought over \$1,000,000 in pledges last year (Vol. 5:16). Plans call for Berle to start at noon, April 29, continue until 10:30 a.m. next day, except for 2½ hours of *Saturday Night Revue*.

Film exhibitor's grumble at recent gathering of showmen, as reported in April 16 *New York Times* drama section: "The movie business is getting too complicated. What with having to look at 6 pictures in order to buy one, and keeping the popcorn machine in working order, I just can't find time to sit at home with my family and look at TV."

First view of RCA's tri-color tube by general public is set for May 12-21, at Home Builders Exposition in Washington's National Guard Armory. Number of sets to be displayed hasn't been determined.

AT&T 1951 schedule for TV interconnections adds only 2500 miles of coaxial and 5500 microwave to make total of 23,000 miles of network circuits; we were in error last week (Vol. 6:15).

FCC Friday approved Zenith request to move experimental TV station KS2XBS to Field Bldg., radiating 1 kw visual power (Vol. 6:15).

RMA members' sales to govt. in 1949 totaled \$141,288,869, up some \$28,000,000 over 1948. Radar accounted for lion's share—\$97,798,244.

'TELEVISION IS BEGINNING TO GROW UP'

Excerpts from Address by FCC Chairman Wayne Coy

Before NAB Convention in Chicago, April 18, 1950

Only those remarks directly relating to TV are reprinted. Mr. Coy's analysis of FCC's statistics on AM, TV & FM revenues, etc. are particularly apropos at this time—and his conclusions are even more significant to the broadcasting industry. FCC's complete 13-page report titled 'Estimated Revenues, Expenses and Income (before Federal Income Tax) of Radio and Television Broadcast Services, 1949' has been released as Public Notice 49197. It's obtainable from FCC Information Department, or we'll get you a copy if you wish.

* * * *

THE middle of the century finds us with a broadcasting system which grew from nothing in 1920 to one of the biggest industries and one of the most important social forces in our civilization. The mid-century, moreover, finds this vast industry on the threshold of another dramatic era of expansion and transition.

Some clues to the trends of this transition period may perhaps be gleaned from the 1949 annual preliminary financial reports released by the FCC today. I believe they are interesting to all of us.

First of all, the aggregate revenues for all three broadcast services—AM, FM and TV—are estimated for 1949 at nearly \$460,000,000. This is an increase of \$43,000,000 or 10.3% above 1948.

Now here is our first interesting trend:

For the first time in its history of more than a quarter of a century, aural broadcasting did not contribute all or most of those *new* dollars.

Most of the *new* money came from a new upstart medium—Television.

Aural broadcasting produced only about two-fifths of the new money. AM and FM contributed \$18,000,000 to the \$43,000,000 of new money, while TV contributed \$25,000,000.

Now let us examine the figures for standard broadcasting.

Total station revenue for the established AM stations (meaning stations established two years or more) for last year was 0.8% lower than in 1948.

However, in 1949 expenses for these stations climbed 1.2%. As a result, their income was 10% below 1948.

You can get some idea of the effect of that 10% decrease in income from these figures: The average income of the 1466 established stations (on the air two years or more) was \$32,100.

Our 821 pre-war stations had an average income of \$52,000, or 13% below 1948.

Our 645 war-time and post-war stations (but not including the last two years) had an average income of \$6700.

The expenses of these stations included their expenses in FM operation but not their TV expenses.

Of the AM stations, the old pre-war stations are, of course, in the most favored position. These 800 pre-war stations garnered 94% of the income last year, while the 1200 war and post-war stations had to share remaining 6%.

Here, ladies and gentlemen, is the Achilles Heel of our standard broadcasting system in meeting the transition problems. This pie (total station income before taxes) has been shrinking each year since the end of the war. Obviously, the 800 pre-war stations are in a stronger position than the 1200 other stations as they face the dilemma of today's broadcasting transition. A large proportion of

these war-time and post-war stations are low-powered or daytime only. They have an average annual income now of only \$6700 and, consequently, there is small prospect of these stations financing the construction and operation of TV from AM broadcast earnings. There is the unpleasant prospect that the competition of the transition period may be too severe and that some of these stations may not swim.

What was the impact of TV? We cannot find any significant impact yet on AM income. The best clue to TV impact is to determine the change in revenues of established stations. We find that established stations in TV communities suffered only a slight decline in revenues—1.8%. In non-TV communities the established stations' revenue was virtually unchanged—an increase of .3%.

The TV Revenue Story

Now let's look at the TV statistics. TV networks and stations quadrupled their 1948 revenue, raising it from \$9,000,000 to \$34,000,000. Of course, this year [1949] we have 97 stations reporting as against 50 reporting in 1948. But now we come to the red ink phase of TV operations. The networks and their 13 owned and operated stations lost \$12,000,000. The 84 other stations lost \$12,500,000.

All of the networks (including their stations) and all but six of the other 84 TV stations reported losses from their total operations during the year. It is probably true, however, that some stations were achieving profit status by the end of the year, although insufficient to counterbalance losses from the earlier part of the year.

Before examining some of the individual TV markets, it might be well to look at over-all network operations with regard to the effect of TV on AM.

Network revenues (including all owned and operated stations) for AM were virtually unchanged from 1948—or \$104,100,000, while at the same time, network TV revenues increased by \$14,400,000. In 1949, networks boosted their AM income 11.3% over 1948, as a result of some economies in network and station operations. Their AM income for 1949 was \$19,700,000. Out of this AM income networks have met TV losses of about \$12,000,000. Thus, over-all network income (before tax) declined in 1949 to about \$8,000,000 or 30.1% below 1948.

In summary of the network picture, it can be said that AM revenues were maintained in 1949 at the 1948 level; that TV revenues increased in 1949 over 1948; that TV losses were greater in 1949 than in 1948; and that TV losses were met almost entirely from AM income.

A look at a few selected cities may be of interest.

Of the total AM, FM and TV revenues reported by all stations in the Washington, D. C. area, the portion going to TV in 1949 was 18%, double the 1948 percentage. This increase in TV revenues was accompanied by a drop in AM revenues.

In the New York area, TV was 17% of the total station revenues, also doubling the 1948 proportion. Here, however, the increase in TV station revenues apparently was not at the expense of AM revenues which showed a slight increase over 1948.

Here in Chicago, TV represented 12% of the total, or triple the 1948 proportion. Also, AM revenues declined only slightly.

In Los Angeles, TV went from 4.5% in 1948 to 15.1% of the total in 1949. There AM revenues also increased.

Boston is still another example of where a sizable increase in TV revenues was not accompanied by a drop in AM revenues. From 2.4% in 1948, TV jumped to 14% of the total in 1949.

No Impact (Yet) on AM Revenues

These figures from networks and selected cities seem to bear out the general conclusion, which I stated earlier, that TV has not made significant impact on AM revenues. TV seems to be attracting new sources of revenue either from increased advertising expenditures by American business or from money heretofore spent with other media.

These figures show that television is still largely supported by its parent, AM. But they also show that television is beginning to grow up—and is starting to look hopefully for the day when it will be independent of the old man.

In fact, it is already starting to show off, starting to smoke, to stay out late and even starting to use naughty words [*Laughter*].

The situation facing you broadcasters due to the competition in the aural broadcast field, the competition of television both for your advertising dollar and your audience, and the continuing competition with other media of communication reminds me of a story I heard about an English farmer who was in need of a hired hand.

Parable of Farmer and the Big Wind

He went to the nearest village and found four young men who wanted the job. He interviewed them altogether. They all appeared to be strong and physically able. He asked the first of these four young men to state his qualifications. This young fellow gave in detail his knowledge of seeds, planting, harvesting, and so forth. The second young man, in reply to this same question, gave in detail his knowledge of livestock, its care, breeding, and so forth. The third young man gave in detail his knowledge of machinery, repair and maintenance of it, etc. And the fourth young man, asked to state his qualifications, said, "Please, sir, I know how to sleep on a windy night."

The answer from the fourth young man was somewhat surprising, so the farmer repeated the question and received the same answer. Obviously, the farmer was puzzled but he was also intrigued and, particularly, by the confidence of the fourth young man. He hired him.

Now, this young fellow rendered quite satisfactory service for several weeks but the farmer had no chance to see if he could really do the one thing he claimed he could do best. There had just not been any windy nights. Finally, however, the wind came in all its fury. The farmer jumped from his bed, looked out the window and could see only the faint flicker of lanterns on his neighbors' farms as the hands there went about securing the barns and the belongings.

The farmer shouted for his hired man but got no answer. He finally went up to his room where he found him snoring away undisturbed by the howling wind. He made every effort to awaken him but found it impossible to do so. The farmer grabbed his lantern and without the assistance of his hired hand went out to save what was left by the terrific gale which was blowing. But when he got out he found the gate not only shut, but securely wired; the haystacks were held firm by ropes and the ropes were held by doubly-reinforced stakes. On each barn door he found new

hinges had been put in place and that an extra bar was in place protecting each door. The farmer learned the hard way why the young man had been so confident that he could sleep on a windy night.

The winds of competition are blowing a terrific gale on the broadcasting business. There may be a few among you who are complacent because thus far you have been spared even the first signs of the storm. In many places the storm is in its full fury and in other places the winds are rising, but to those of you who are complacent, I say that the full strength of this storm will hit you with a suddenness not characteristic of the places where it is now in full strength. The question is: "Can you sleep on a windy night?"

The key to sleeping on a windy night involves your preparation to serve the public interest.

* * * *

When Will The TV Freeze End?

I know that many of you would like for me to talk about the television freeze. What you really want me to tell you is when we will get out of the freeze and when you may be expected to receive your construction permit for a television station. I suspect that there is a great deal more about television which you would like to know and which you would be glad to get from me or anyone else.

Some of you have asked me whether or not you should get into television or when did I think television would become the dominant broadcasting medium of this country. I hate to disappoint you by not talking at great length about television today. I can only say this to you on the general subject:

I have avoided a television discussion because, as you know by this time, I have tried to keep to the text given me by Judge Miller, and, because of the further reason that I do not want to disillusion you about my knowledge of television. However, I suppose you might as well know the truth now as any other time.

A year has gone by since I last addressed this gathering. In that year, I have learned a lot about television and I am even less certain of the answers to your questions than I was a year ago. I am even less certain about the time when we will get out of the freeze.

I certainly hope—and let me repeat the word "hope"—that we get out of the freeze before the end of the year. I pray that it will be earlier. I do not predict when. I suspect that some of you would even like to hear me say that there will never be an end to the freeze [*applause*].

"TV Will Become Dominant Medium"

I believe that the statistics which I have given you today covering the operations of aural broadcasting and television reflect the interregnum in the growth of television flowing from the freeze. I cannot prove that to you by the figures I have given you nor do I urge upon you the thought that the figures for 1949 can be accepted as an index to what the future may bring.

Frankly, I still believe that television will become the dominant broadcasting medium in this country and that it will occupy that position rapidly once the Commission and the industry have reached and accepted a solution to the problems which resulted in the current freeze on the processing of television applications.

I know that the economics of network television programming will change considerably when more stations are available and more markets can be covered. I hope that when that time comes the networks will not be the only beneficiaries and that the individual stations will share in the improved economic position. I hope that it will result in continuously improved programs.

But if that happens, the competition between television and aural broadcasting for audience and for the advertiser's dollar will become more and more severe . . .

FOR EVERY 2 RADIOS, ONE TV NOW MADE: Some interesting and significant facts about TV and radio receiver output and values, as adduced from RMA and other authoritative sources of statistical information:

(a) One TV receiver is now being made for every 2 radio sets; in fact, just about as many TVs are being made as home radios -- omitting portables and auto sets. (See RMA March figures, below.)

(b) Though TV represents one-third unit output of radio factories (34.1%, according to RCA license figures for Jan.-Feb.), it accounts for four-fifths (78.1%) of dollar volume. TV dollar volume at factory ran well over \$70,000,000 in January, \$80,000,000 in February, \$112,000,000 in March.

(c) Average factory price of TV receivers first 2 months of this year was about \$170; of radios, \$25. Average TV price was \$166 in January, \$176 in February.

1,535,000 TVs MADE IN FIRST QUARTER: TV unit output shattered all records during March, 5-week month accounting for 525,277 sets by RMA's count, or approximately 655,000 when you add 25% to embrace non-RMA producers. This compares with February's 460,000 (Vol. 6:11) and January's 420,000 (Vol. 6:7); previous high was 5-week November 1949 -- 497,000.

RMA weekly figures for March show steady upswing: first week 91,684, second 95,315, third 106,598, fourth 115,000, fifth 116,680. March RMA breakdown: table models, 251,376 (4182 with AM and/or FM); TV-only consoles, 219,517; combination consoles, 54,384 (42,438 with phonos). TV sets with FM totaled 57,602. Total radio-TV production: 1,505,641 units.

For first quarter, RMA reports 1,227,930 TVs out of total radio-TV production of 3,618,882. Projected by 25%, round figure of 1,535,000 may be good estimate of industry's first quarter TV output. These added to post-war cumulative of just about 4,000,000 as 1950 began (Vol. 6:3) mean TVs produced up to end of March cumulatively totaled well over 5,500,000. Figure doubtless now exceeds 6,000,000.

RMA breaks down own first quarter figures as follows: table models, 586,153 (14,287 with AM and/or FM); TV-only consoles, 518,122; combination consoles, 123,655 (89,438 with phonos). TV sets with FM: 134,629.

Note: RMA statistics committee henceforth will issue "projections" of monthly RMA members' output figures in order to provide truer estimate of production of industry as whole. As a starter, based on formula of its own, for first quarter 1950 it reports 1,600,000 TVs (somewhat more than 25% up) and 3,100,000 radios. Latter include 2,000,000 home & portable units, 1,100,000 auto radios.

WILL 12½-in. GO THE WAY OF 7 & 10? Trend to ever-bigger tube sizes was pointed up, once again this week, when Allen B. DuMont told FCC at color hearing: "Eighty per cent of our production is in sizes larger than 12½; and our present plans are that by the end of the year we won't even be making 12½." In other words, he sees the 12½-in. tube going the way of the 7 & 10-in., yielding to 14-in. and larger sizes.

Although DuMont's new receiver line (Vol. 6:16) contains two 12½-in. models, its fall line will feature 14 & 17-in. glass rectangular and 19-in. round metal-coned picture tubes -- and probably the new 19-in. glass rectangular being readied by both Corning and American Structural Products. DuMont also has a 21-in. rectangular in the works -- and of course is experimenting with the 30-in. tube previously announced (Vol. 6:11,14), but intended primarily for public places.

Since DuMont has always led way to larger tube sizes -- made 12, 15 & 20-in. long before others did -- its thinking and planning are usually bellwether for the industry. It is a prime picture tube supplier for other manufacturers, but states that by September it will be making 12½ & 16-in. rounds only for replacements.

Topics & Trends of TV Trade: From set and tube makers alike—the latter always good barometers—you get fairly consistent reports of “softening” demand for TV receivers. But it’s seasonal, and nobody seems to think TV is heading into trouble. As one major set maker put it:

“The 2 weeks after Easter declined just about the way it did last year. The summer looks slow, too, but there won’t be last year’s panic. Nobody is dumping and prices appear to be stabilized.”

This particular manufacturer, operating at ever-increasing rate of production, says positively he does not intend to cut back production now or later this summer. But another one, equally big, thinks present “frenzied” production pace must slow down, plans to cut down night and Sunday shifts, reduce overtime, drop back (as he says) to “more normal operations.”

* * * *

Coincident with release of DuMont’s “interim” line (Vol. 6:16) in New York this week, sales chief Ernest A. Marx reported April orders, while extremely satisfactory, are well below February-March peak and said he believed this holds for the entire industry. “There has been a perceptible softening in the market in the last 30 days,” he told *New York Times* April 26. “We are planning our production to meet the usual summer hiatus and will step it up appreciably to meet heavy fall demand after Sept. 1.” He said he was aware no other manufacturer is bringing out new line at this time and added: “Maybe that’s why we are doing it.”

Actually, another manufacturer is just out with new line—Meck Industries Inc., Plymouth, Ind., leading it off with much-publicized “under \$100” 10-in. set (Vol. 6:14). New Meck line comprises: 10-in. table, \$99.90; 12½-in. table, \$149.90; 12½-in. console, \$189.90; 16-in. table, \$199.90; 16-in. console, \$229.90. All sets have wood cabinets and essentially same chassis.

* * * *

Motorola reports it will produce 2,500,000 units—TVs, home radios, car radios combined. But it doesn’t break them down, v.p. Walter Stellner merely stating: “We will have facilities for producing 110,000 TV sets a month by the end of summer, and additions to factory facilities and personnel for Motorola car radios and home sets also will enable us to considerably increase the output of those products.” Stellner sees no substantial price reductions in TV for some months, said price reduction in components has already been reflected in today’s prices, and set makers have already absorbed 5-10% increase in cabinet costs.

Hallcrafters ad manager Charles Nesbitt, reporting new 16-in. rectangular-tubed table model, in leatherette at \$250, says market is softening gradually. “We’re beginning to tell the men from the boys,” he asserted, referring to Hallcrafters’ 38 distributors. But no serious effects have been felt yet, and Hallcrafters expects to continue present rate of production through summer.

Raytheon president Charles F. Adams Jr. reported in *Wall Street Journal* as saying that if seasonal decline in TV occurs this summer, it will only serve to allow industry to catch up with production of sets and parts. Belmont receiver division is still allocating TVs to dealers, he reported, and receiving tube division has added about 1700 workers and still can’t keep up with demand.

Pacific Cabinet & Radio Co., Los Angeles, plans to change name to Mercury Television Mfg. Co. next month, according to SEC registration statement (Vol. 6:16). Mercury Television & Radio Corp. is Pacific subsidiary.

In the East this week to address New York Society of Security Analysts, Hoffman Radio’s H. L. Hoffman reported again that his company probably won’t make more than 180,000 TVs this year but said it could turn out 300,000 except for scarcity of parts. Radios, he said, are in even shorter supply than TVs. His Los Angeles factory has been getting tubes and components via air freight for some months. He foresees new peaks in TV production and demand next fall-winter, said TV is mass market product which has barely skimmed potential.

Appearance of Hoffman receivers in more Eastern markets (Washington, as well as New York, Chicago) led to this advice from president H. L. Hoffman: Demand is twice supply, so Hoffman is playing it “conservative” in market expansions so as not to spread too thin. Distribution is well established along Coast as well as in Phoenix, Albuquerque, El Paso, Salt Lake City, San Antonio, Houston, Dallas, Tulsa, Oklahoma City, Kansas City, St. Louis. Basic plan is that St. Louis is as far East as it plans to go distributor-wise, though it is handling a few “direct accounts in other major TV markets and, the supply situation allowing, we may expand further this coming fall.”

* * * *

Hytron’s Air King has cut some prices. Line now is: 12½-in. walnut table, \$180 (no change); same in mahogany \$200 (no change); same in console \$230, down \$20; 16-in. rectangular table \$250, down \$30; same in console \$280, down \$20; same in console with doors \$370 (no change); same in console with AM-FM-phono \$400, down \$50; 19-in. console \$370, down \$80. Now producing at rate of 1200 per day, sales mgr. R. D. Payne foresees 200,000 sets this year; 40% of Air King business is for private label.

Air King is disclosed, through its parent Hytron, to be planning steel cabinet table model TV to be brought out in June, and company is said to have orders for 15,000 already. Hytron had excellent first quarter (Vol. 6:15), is now concentrating on very scarce receiver tubes, turning them out rate of 100,000 per day. Company looks forward to full year’s volume of about \$30,000,000 vs. \$16,226,143 in 1949.

Starrett has new 12½-in table, \$160. It now has considerable private-label business, mostly large dept. stores. In recent Philadelphia promotion, Strawbridge & Clothier offered Starrett-made sets at \$40 to \$100 below prices of regular Starrett line (*TV Directory No. 10*). Company is changing from direct-to-dealer sales to distributor setup, reports it’s turning out 1200 sets a day, hopes to do \$15,000,000 TV sales rest of this year.

Telequip has moved to new plant, 2559 W. 21st St., Chicago, which will triple production capacity, according to president Edward E. Arkin. Production of new 19-in. sets was begun this week, to be followed by 14-in. and 16-in. rectangulars. Firm has large commitments on private label models, and Mr. Arkin says he anticipates no “summer slump.”

* * * *

Sears Roebuck president Gen. Robert Wood, was referring to confusion due to color TV hearings, uhf, bigger tube sizes, etc., when he told stockholders this week: “TV is still a dangerous item for the retailer because of the continuing technical developments and the resultant price changes. We are handling it very cautiously at the moment.” Gen. Woods’ statement got big play on financial pages, but Sears’ TV-radio executives tell us big mail order house has always bought its private-label Silvertone on a cautious basis. Same officials say TV sales are very good. Company will have new line in summer catalog.

Question of 10% excise on TVs hadn't been reached by House Ways & Means Committee Friday. Situation was clouded at week's end, with some possibility committee will vote levy on TV. Rep. Jere Cooper (D-Tenn.) is understood to be leading proponent of tax as one way to help make up lost revenues from excises already cut (\$967,000,000). Cooper argues equity demands TVs be taxed same as radios. Among others, committee this week cut travel tax from 15% to 10%; home phones, from 15% to 10% (retaining 15% on business calls); long distance, from 25% to 20%; theatres, sports & cabarets, from 20% to 10%.

Factory expansions: Empire Coil Co., New Rochelle, N. Y., has purchased 50,000 sq. ft. plant formerly occupied by U. S. Plywood Corp. for additional operations . . . Capehart-Farnsworth reports \$200,000 addition to Ft. Wayne plant, providing 43,000 sq. ft., will be ready by end of vacation period in July; will permit 100% increased output . . . Trav-Ler will double TV output about July 1 when 30,000 sq. ft. addition to Orleans, Ind. plant is completed . . . Noblitt-Sparks (Arvin) plans new factory for TV receivers in Columbus, Ind., to be ready about July 1 . . . Sentinel building 25,000 sq. ft. addition to plant in Evanston, Ill., expects to double production of TVs, also portable and table radios.

* * * *

Big air-freight carrier, Slick Airways Inc., Chicago, tells *Chicago Journal of Commerce* that "TV is providing one of the largest and hottest movements in air freight today." TV parts now account for about 50% of Chicago-bound traffic from East, and sales mgr. M. C. Wilkin said: "The TV people tell us we haven't seen the half of it yet."

Philco has put new base on its 12½-in. table model 1404, now priced at \$230; it supersedes table-only at that price, takes place of previous \$260 console . . . Sightmaster has 19-in. console with FM and Sightmirror at \$399 . . . Pilot has new 16-in. console with FM and full doors, \$400.

Remington Radio Corp., White Plains, N. Y., went into receivership this week after creditors had asked it be adjudged bankrupt (Vol. 6:16). Assets are estimated at \$50,000, liabilities in excess of \$100,000. Federal tax claim of \$9000 has been added to \$7500 alleged due 3 petitioning creditors.

American Television & Radio Co., 300 E. Fourth St., St. Paul, Minn., believes it has a hot item in TV set inverters for use in the more than 350,000 DC homes in U. S. ATR has 3 types of DC-to-AC inverters, with 150, 225 and 350-watt output, selling for \$65 to \$82.50. Units can be attached to standard TV set, will permit it to work in DC areas.

Sylvania on May 1 moves all departments and divisions to new headquarters at 1740 Broadway, New York 19; telephone Judson 6-2424.

Hallicrafters wants in on color hearing, but chances are FCC will give it same brushoff given Emerson, Wells-Gardner, Packard-Bell, et al. Company contends adoption of incompatible system would be "breach of faith" with public, that FCC should lift freeze before present set market is saturated, that public should get color system of highest quality. Testimony on problems likely to be encountered with disc-type sets was also offered. FCC has been strict in its insistence new petitioners be prepared to offer "substantial" scientific data on color.

"Now look here!" may replace traditional "Now hear this!" preface to Navy shipboard commands over public address system. Navy is reported experimenting with closed-circuit TV systems for intra-ship communications.

Financial & Trade Notes: Sylvania's sales and earnings for first 1950 quarter were best it ever enjoyed in any peacetime first quarter, president Don G. Mitchell reported at special stockholders meeting April 27. Sales were \$29,347,911 vs. \$27,108,895 for first 1949 quarter. Earnings were \$1,225,844 (77¢ per share) on 1,456,550 shares of common stock, after deducting \$1 dividend on \$4 cumulative preferred. This compares with \$1,176,815 (74¢) in same 1949 period (when earnings based on average of 1,228,772 shares were reported at 88¢). First quarter orders were nearly 30% in excess of shipments. Demand for receiver and picture tubes, Mr. Mitchell said, is expected to keep production at capacity for some time; second quarter demand will be down seasonally but not as severely as last year.

Emerson board has recommended 2-for-1 split of stock, to be acted upon by stockholders at May 29 meeting. Present 879,805 shares of \$5 par value stock outstanding would be doubled to 1,759,610, leaving 1,240,390 authorized but unissued shares. Second fiscal quarter operations are reported better than expected, will considerably exceed those for 13 weeks ended Feb. 4 (\$1,225,912, or \$1.39 per share on sales of \$15,282,000). Company is aiming for \$65,000,000 sales this year vs. \$40,543,925 in 1949 and \$30,926,842 in 1948. It is now turning out 1700-1800 TVs per day.

Olympic stockholders this week approved 6-for-5 stock split. President A. A. Juviler reported about 30,000 TVs turned out first quarter vs. 51,718 for all 1949. Quarter's net income was \$368,454 (\$1.44 per share) vs. \$79,270 same period last year. Present expansions will lift current 600 per day capacity to 1000, he stated.

Packard-Bell reports sales of \$6,124,911, profit of \$506,792 (\$2.10) for 6 months ended March 31, first half of its fiscal year. They compare with \$2,679,501 sales, \$88,638 earnings for same period year ago. First half earnings were after costs of about \$30,000 incident to moving to new plant in January.

Americans are showing interest in Britain's TV industry, reports April 28 *Wall Street Journal*, which says it's reliably reported American investors have acquired large block of stock in Scophony-Baird from its managing director, Samuel Seeman.

Trav-Ler reported planning public offering of 315,000 shares at \$6.25 per share through Straus & Blosser, Chicago, to be sold from holdings of president Joseph Friedman, now owner of all 640,000 shares outstanding.

Radio & Television Inc. (Brunswick), New York, has new major stockholder and director in Edmund Mudge, Texas oilman, reported to have purchased 100,000 shares recently for \$225,000.

Webster-Chicago first quarter sales were \$3,708,808 vs. \$3,577,779 in same 1949 period. Net earnings were \$364,076 (\$1.26) vs. \$340,878 (\$1.17).

American Phenolic Corp. sales first quarter were \$2,788,759, profit \$175,649 vs. \$2,765,336 sales, \$224,906 profit same 1949 quarter.

F.A.R. Liquidating Corp., formerly Farnsworth, has voted to dissolve; stockholders of F.A.R. will receive one share of IT&T for each 12 shares of F.A.R. common.

Excise tax payments on radios, components, phonographs, etc. (10%) during March totaled \$4,210,125, reports RMA, vs. \$3,373,864 in February, \$3,502,434 in March 1949. Excises on phono records in March ran \$597,527 vs. \$581,778 in February, \$767,887 in March 1949.

Station Accounts: Vol. 1, No. 1 of BAB's newsletter *TV Pitch*, dated April 21, specializing in commercial side of TV, is recommended as "must" reading for sales & program managers of all TV stations. Among other things, it reports **Army & Air Force** will make appreciable use of TV as paid ad medium during fiscal year 1951; also that **Goodall Co.** (Palm Beach) has sent men's clothiers cooperative ad plan stressing TV, and **Glidden Co.** (paints) is seeking TV vehicle, thru **Meldrum & Fewsmith** . . . **Davega Stores** with **Emerson** sponsoring *Answer Yes or No*, panel quiz featuring **Moss Hart** as m.c., on **WNBT**, Sun. 10:30-11 . . . **American Apothecaries Co.** (Salviae) new participant in **WJZ-TV** *TV Telephone Game*, Wed. thru Sat. 2:30-3 . . . **Sunset Appliance Stores** with **Carrier Air Conditioners** sponsoring *Maggi's Private Wire*, with **Maggi McNellis**, on **WCBS-TV**, Wed. 11-11:15 . . . **WCBS-TV** partic. show, *Sewing Can Be Fun*, Mon.-Wed.-Fri. 3:45-4 p.m., starts May 1 with these sponsors: **Advance Pattern Co.**, **Arthur Bier Co.**, **Schwarzenbach Huber Co.**, **B. Blumenthal & Co.**, **Philbeck Corp** . . . **Admiral Corp.** May 17 starts sponsoring amateur shows in local movie houses on **WBKB**, Chicago, Wed. 8:30-9 . . . **Fleming-Hall Tobacco Co.** (Encore cigarette) breaks spot campaign in major markets in June, thru **Raymond Spector Co.** . . . **Peter Fox Beer** sponsoring 58 daytime home games of Chicago White Sox on **WGN-TV** . . . Among sponsors using or reported planning to use TV: **Squirt Co.** (grapefruit drink), thru **Harrington, Whitney & Hurst**, Los Angeles; **Carter's Inc.** (Arrid), thru **Sullivan, Stauffer, Colwell & Bayles (KTSL)**; **California Dairy Advisory Board**, thru **Brisacher, Wheeler & Staff (KTSL)**; **Ben Hur Products Inc.** (coffee), thru **Mogge-Privett Inc.**, Los Angeles; **Gold Seal Co.** (wax), thru **Campbell-Mithun**, Minneapolis.

Personal Notes: **Phil Hoffman**, ex-mgr. **WOL**, Washington, now gen. mgr. of **KOB & KOB-TV**, Albuquerque, N. M. . . . **Doyle D. Thompson** new technical supervisor of **WFMY-TV**, Greensboro, N. C. . . . **CBS** Radio Sales names **Herbert A. Carlborg** mgr. of AM & TV sales development; **Thomas Dawson** succeeds him as Eastern AM sales mgr., and **Fred J. Mahlstedt** becomes gen. service mgr. for research, promotion, programs, etc. . . . **Phillips Carlin**, ex-MBS v.p., now has offices in **RKO Bldg.**, New York, as TV-radio consultant . . . Elected to board of Advertising Council: **Frank K. White**, MBS president; **Joseph Katz**, adman; a director-at-large is **Frank Stanton**, CBS president . . . New officers of Assn. of FCC Consulting Engineers: **A. D. Ring**, president; **George C. Davis**, v.p.; **James McNary**, secy; **Frank G. Kear**, treas . . . **Klaus Landsberg**, mgr. of **Paramount's KTLA**, Hollywood, now a v.p. of **Paramount Television Productions** . . . **Joe Csida**, ex-*Billboard* editor who quit last year to join **RCA Victor**, has returned to *Billboard* as editor . . . **Edward E. Benham** named asst. chief engineer of **KTTV**, Los Angeles.

Screen Actors Guild has asked **NLRB** for election to determine union preference of all movie actors in Southern California, including those working for TV networks, stations, packagers, etc. Move is first in jurisdictional squabble between western union and newly-formed TV Authority, mainly eastern performers. Last week **TVA** got blessings of parent **AAAA** to represent all performers in TV, both live and film (Vol. 6:8, 16). **SAG** also informed all TV networks and stations that it represents motion picture actors, warned against recognizing **TVA**.

ABC and **NBC** signed new 18-month contract with **NABET** technicians April 26, terms not to be disclosed until members ratify agreement. **NABET** employes staged 2-hour work stoppage April 24, forced **NBC-TV** to cancel *Judy Splinters* and *Howdy Doody*. **ABC** wasn't telecasting at time. Both nets had to cancel several radio programs.

Incidental radiation interference, regarded as serious by **FCC** and industry alike (Vol. 6:14), is getting more attention from industry. Committees of **American Standards Assn** working with **FCC** and electronics industry, met in New York April 24-25, are just getting well into problem. **RMA** is collecting data from members, regarding: (1) Methods of measuring radiation on production line and in the field. (2) Radiation characteristics of various equipment, including TV receivers. (3) Costs and techniques for suppressing radiation. Top committee in matter, called **Central Committee on Incidental Radiation Devices**, comprises: **E. W. Allen**, **FCC**, chairman; **W. E. Gilbert**, **Philco**, representing **RMA**; **Dr. J. J. Smith**, representing **American Standards Assn**.

Trade Personals: **Max F. Balcom** elected chairman of **Sylvania Electric Products Inc.** board, succeeding late **Walter E. Poor**; an ex-**RMA** president, **Balcom** has been with **Sylvania** since 1918, since 1937 has been v.p. in charge of radio division, in 1944 was elected treasurer. New **Sylvania** directors are: **Edward J. Poor**, who resigned as chairman in 1943; **Richard L. Bowditch**, president of **C. H. Sprague & Son Co.**; **H. Ward Zimmer**, operations v.p. . . . **Dr. Donald Sinclair** new chief engineer of **General Radio Co.**, Cambridge, Mass . . . **Walter Lefebvre** named acting field sales mgr., **Colonial radio & TV (Sylvania)** . . . **Russell Hobert**, new controller & operations mgr. of **Admiral-New York** . . . **Clarence S. Tay**, gen. mgr. of **Admiral's** 4 distributing divisions, elected president and chairman of these divisions; branch mgrs. were elected v.p.'s: **T. C. Carey**, Chicago; **T. J. Hodgens & E. R. Glauber** New York; **R. O. Habensteit**, Milwaukee; **E. M. Perkins**, Boston . . . **Jack Petterson** new asst. adv. mgr. of **Motorola**.

IUE-CIO won first important victory Friday when it won **NLRB** election at **Westinghouse** plants over leftist **UE**, 27,281 to 22,280. However, main **Pittsburgh** plant has to have runoff, since vote there was 5763 to 5663, with about 300 votes challenged, voided or otherwise not counted. Next **NLRB** vote in electrical industry is May 25 when **GE's** 100,000 workers ballot; **RCA's** 7000 workers at **Camden and Pulaski, Va.** are due to vote before end of May.

Webster-Chicago, quite taken with **CBS** color system, has built own color camera chain, will demonstrate it during **Radio Parts Show** in Chicago May 22-25. Company has made number of color receiver components for **CBS**.

Havana's CMQ has ordered **RCA** equipment for Cuba's first TV outlet; president **Goar Mestre** says he may get it on air before year's end.

RCA has engaged **Clark M. Clifford**, who recently resigned as aide to President **Truman** to practice law in Washington, as special counsel.

AM network billings down slightly (except for **CBS**), **TV network billings** up substantially—that's essence of **March** and first 1950 quarter **Publishers Information Bureau** reports. Trend is same as noted for first 2 months (Vol. 6:14); here's the complete table:

NETWORK RADIO				
	March 1950	March 1949	1st Quarter 1950	1st Quarter 1949
ABC	\$ 3,477,451	\$ 4,238,845	\$10,184,501	\$12,152,424
CBS	6,110,831	5,837,746	17,860,893	17,037,484
MBS	1,410,683	1,775,790	4,490,974	5,329,172
NBC	5,847,374	5,847,557	16,785,941	17,003,602
Total	\$16,846,339	\$17,699,938	\$49,322,309	\$51,522,682
NETWORK TELEVISION				
	March 1950	March 1949	1st Quarter 1950	1st Quarter 1949
ABC	\$ 347,361	\$ 26,352	\$ 784,311	\$ 51,299
CBS	661,986	190,865	1,827,941	430,890
DuMont	*	81,352	*	204,882
NBC	1,177,166	476,800	3,197,562	1,090,548
Total	\$2,186,513	\$775,369	\$5,809,814	\$1,777,619

* Not available.

EMERSON CUTS 12½ & 16-in. \$70 EACH: Emerson this week had trade buzzing, production analysts scanning their cost sheets, following slash of \$70 each from 12½-in. wood table and 16-in. console models -- new prices \$160 & \$260, respectively. Now fifth ranking producer (Vol. 6:8), Emerson obviously has other set makers thinking hard about price levels of new June-July models now being planned. Most predictions had been for prices only slightly lower (5-10%) than now prevailing. Emerson not only slashed prices, but cut out all other models, will stick to these 2 until fall line.

Reason for drastic action was given as "softening" of markets in recent weeks, president Ben Abrams repeating to newsmen Wednesday that he sees real summer slump though not as severe as last year's (Vol. 6:14). Long a specialist in low-priced radios, Emerson is out, he said, "to show the way in TV values as it has in the radio field." Production, he said, will be hiked from present 1800 to between 4000 & 5000 daily by end of year. Big new plant in Jersey City recently acquired from Continental Can Co. (Vol. 6:6) goes into production May 22.

Mr. Abrams said price plunge had been planned for July 1, but early market conditions caused company to put it into effect this week -- even lower than originally planned. Sales dept. discloses enough large-scale orders already on hand to offset seasonal decline, so that there will be no cutback in factory operations. First 2 days after announcement, 3500 sets were shipped to Chicago alone.

Future Emerson lines won't have 7 or 10-in., will concentrate mainly on 14 & 16-in. rectangulars. Whether 19-in. and projections will be included hasn't been decided. The 16-in. console is already in dealers' hands, with rebates assured for those who ordered at old price of \$330. The 12½-in. will be delivered beginning May 15. Both sets are essentially same as already in line (TV Directory No. 10), though 12½-in. has new cabinet. Dealer discounts remain as before, 25-32%.

Nearest comparable prices for 12½-in. table models in current lines of other major producers are: Meck, \$150; Tele-tone, \$170; Admiral, \$180 (plastic); Air King, \$180; Hallicrafters, \$180 (plastic); Olympic, \$180. Other name brands are \$200 & up.

* * * *

Reactions in the trade were mixed, ranging from puzzlement as to how Emerson can do it to ire over "upsetting the applecart" of still-flourishing trade. Inclination of most was to ask time to think it over, but Majestic-Garod's Leonard Ashbach probably expressed instant reactions of many when he issued statement characterizing price cuts as tending "to strain trade relations rather than to improve them...A manufacturer should not destroy confidence by carelessly issuing announcements of price cuts, thereby devaluating the merchandise the dealer has in stock. Lack of confidence often leads to confusion, and that confusion is passed on to the public, and when the public is confused, they do not buy."

COLOR TV AND THE SELLERS' MARKETS: Would TV manufacturers and sellers have more to gain if color were held back or delayed while they saturated market with black-and-white sets -- then, when color came, could enjoy brand new market for replacements?

That question expresses or implies reason attributed from time to time (by CBS, Sen. Johnson, Comr. Jones) why set makers and merchandisers have been so luke-warm toward CBS "color now" campaign. It was raised again at current FCC color hearings this week while RCA's Gen. Sarnoff was on stand.

You have to read the record to get the full flavor and significance of the questions and replies (notably pages 10363-10369) -- and of course you need to know the background of the virtually unanimous industry opposition to any incompatible color system. But this reply by Gen. Sarnoff to questions put by CBS chief counsel Samuel Rosenman is worth verbatim report:

"At the present time, the whole industry is in a state of transition from

sound to sight. The pattern has not yet emerged. There is no such thing as a steady volume of sales.

"If you will read this morning's paper, as you probably have, you will have observed an announcement by one important radio manufacturer of TV sets, who already states that he is reducing his production because the market is becoming soft in the TV field, and the prices are going down.

"Now, under our private economy system, highly competitive, the production facilities very soon reach a point in excess of consumption, and then you have got demoralization in the market.

"There is liquidation, there is obsolescence. There are all kinds of things which are done in the trade; people are taken to Atlantic City and even to Europe -- dealers -- in order to get them to buy TV sets or radio sets.

"That fierce competition which goes on can only be improved by the introduction of new models, new types of instruments, which put the industry again on a new level.

"Now, if for 5 years there was nothing new in the TV industry except black-and-white TV receivers, I would expect that within a year or two from now, the competition would be so fierce that there would probably be an unprofitable business in the manufacture of TV receivers.

"If, on the other hand, you introduce a new element, color at the transmitting end and color at the receiving end, and new models, you offer new opportunities for increased merchandise; people who have black-and-white exchange for color..."

Gen. Sarnoff predicated this statement on compatibility, of course -- the fact that present set owners (he predicted 20,000,000 by 1952) would be able to receive colorcasts in black-and-white without need of adapters, could swap or replace old sets for either polychrome or monochrome sets as they choose and according to their pocketbooks. Also, that compatibility renders transition for both telecaster and receiver relatively painless.

TV EFFECT ON HOME HABITS & BUYING: Reasons why people are buying TVs and other "home centered" goods in such profusion lately, as adduced by New York Herald Tribune financial writer Harvey E. Runner in interview with chief economist Dr. Leo Barnes, of Prentice-Hall Inc.: (1) Many new families, and (2) they stay at home more. It's as simple as that.

"Young folks at home," is the way Dr. Barnes describes people today, noting dominance of "family" rather than "personal" buying, showing that 68% of women 20-24 are married whereas only 52% were in 1920. "Television, of course, fits right into the trend," he observes.

TV is credited with sparking small boom in furniture, according to May 1 Wall Street Journal. For example, hassock makers are grossing extra \$17,000,000 from sale of their products as extra TV seats. One chair maker actually reports seats for TV now constitute 50% of his business. Furniture items specially designed for TV include love seat on casters, barrel swivel chairs, slanted plastic chair, even snap-on tray.

Adding to pattern, RCA Victor's sales mgr. Allan B. Mills noted in Atlanta speech last week that TV, besides being tremendous retail business of itself, is stimulant for such appliances as new types of home lighting apparatus, and as an ad medium shows uses and features of electrical products. And set maker John Meck attributes to TV strong impact on other merchandise sales:

National average of retail merchandise sales first 2 months of 1950, he notes, was 3% above same months last year. But furniture was up 8%, musical goods 11%. Reinforcing Dr. Barnes' stay-at-home thesis, Meck shows on other hand that drinking places were down 8%, sporting goods 8%, cameras 7%, luggage 12%. While autos were up 30%, filling stations rose only 1%. Thus, he concludes people stay at home more after getting a TV, become more aware of home needs.

Topics & Trends of TV Trade: If you want to get freeze lifted, "time has come to take off the gloves and go to work for it," says National Appliance & Radio Dealers Assn in pungent letter to membership. NARDA recommends members write Congressmen, FCC, newspapers, etc., offers suggested resolution for civic and business organizations. Its attitude is that color TV, main cause of delay, is merely "icing on the TV cake"—and that most of its members don't even have the cake yet.

Senator Ed Johnson, back in Denver recently to open Western League baseball season (he's league president) saw some of the local radio dealers getting up giant 150,000-signature petition asking for end of freeze (Vol. 6:14). Since he sparked color campaign, constituents naturally contacted him. He told them he couldn't do anything about it since it was a technical matter not within his province. But said he had no objection, told them go ahead with petition and publicity campaign.

Johnson is noted for his independence and, though silent lately about color TV and the freeze, he obviously reckoned without his constituents when he helped start current color imbroglio. Denver is one of few major markets still without TV station; Salt Lake boasts 2.

* * * *

Continued good demand, no curtailment of production, second quarter TV sales that will be 30% ahead of record first quarter's \$46,291,409 (Vol. 6:15)—is report from Admiral's Ross Siragusa, who usually calls his shots. Third quarter production will be slightly under second quarter, said he, due to vacation shutdown in July, "but by end of the third quarter we'll be turning out sets at a new peak of 115,000 a month." Current capacity production will continue through June "because our distributor inventory reports across the nation, taken weekly, indicate they only have a 3-day supply of sets, whereas normally at this time of year they hold a 3-week supply."

DuMont's Ernest Marx, chief of receiver sales, reports Paterson plant putting on extra shift, 4:30 p.m. to 1 a.m., to augment present production. Though repeating markets are softening (Vol. 6:17), Marx says production is better than former rate and no cutbacks are in prospect—due to greater demand and wider distribution. DuMont now has 25 distributors, is still adding them. Second 13-week period will be better than first, Marx avers.

John Meck reports full 3-months production of "summer promotion" line, led by 10-in. table model at \$99.90 (Vol. 6:17), was ordered by distributors 3 days after April 26 announcement. Plants at Plymouth, Peru and Argos, Ind., he says, are working at capacity, and aim is still 250,000 receivers this year.

* * * *

Kaye-Halbert Corp., Los Angeles, has discontinued 12½-in. sets, new line comprising: 16-in. rectangular table \$250, with doors \$290, console \$289, in stylized consoles \$369-\$399; 19-in. console \$379, in stylized consoles with doors \$449-\$469. All sets have 19 tubes, 3 rectifiers.

Industrial Television Inc. will produce 54,000 TVs this year, states president Horace Atwood Jr. ITI has factory outlet in Newark, sells direct to consumer in northern New Jersey, has distributors everywhere else east of Mississippi. New Jersey situation was caused by price-cutting, says Atwood, and ITI has no plan to introduce factory-to-consumer selling anywhere else.

Philtain Electric Corp., 2131 S. Fairfield Ave., Fort Wayne, Ind., maker of portable and table radios, reports plans for TV production toward end of year, both of own brand and private label receivers.

Magnavox has 2 Normandy 16-in. consoles out—one at \$400, other with more sensitive circuit at \$450 . . . Regal has cut 16-in. table with AM-FM from \$400 to \$377 . . . Majestic reported due to show new models at Radio Parts Show in Chicago's Stevens Hotel, starting May 19 . . . Private-label Astoria 12½-in. table at \$130 advertised by Hecht-Washington this week (made by Tele King).

Admiral won't bid for TV contracts in housing developments unless other TV manufacturers also bid—as measure of prestige protection. That's what company told New York City dealers protesting \$400,000 Levittown contract (Vol. 6:11), which won't be cancelled.

GE will start production of new 24-in. TV picture tube (Vol. 6:8) in fall; details soon . . . *Tele-Teek* reports 3 new tubemakers (unnamed) due soon, one in Midwest, others in East; that would make 34, according to our list (*TV Directory No. 10*).

Henry L. Crowley Co., W. Orange, N. J., to offset bottleneck in powdered cores used in horizontal output transformers, deflection yokes, etc., announces new plant in Cleveland under joint ownership arrangement with Republic Steel. New company is Crowley-Republic Corp. . . . Canadian Admiral Corp. president Vincent Barreca reports new factory being built at Lakeview, near Toronto, will double capacity of present leased plant at Malton . . . Hoffman Sales moved May 1 to new, larger quarters at 325 W. Ninth St., Los Angeles, reports district manager Walter Epstein.

Viewing same set from different rooms is basis of novel TV design for new homes, reported by AP April 30. Architect Elmer Gylleck, Elgin, Ill., has TV set mounted on turntable in living room, viewable from dining area, kitchen (through glass wall), and even master bedroom when focused through opening in the wall.

Philadelphia Electric Assn reports average retail price of TV sets sold there first 1950 quarter was \$279. Philadelphia area accounted for 93,188 sets sold at \$26,120,679 retail vs. 37,392 at \$15,045,866 same period 1949.

RMA membership at Chicago convention June 5-8 will vote on—probably approve—reorganization committee's proposal to change name to Radio-Television Manufacturers Assn.

— ■ —

For clincher proof about trend in TV picture tube production and sizes, have a look at these RMA figures for March in comparison with February (Vol. 6:13), January (Vol. 6:9) and all 1949:

Total March output of CR tubes, 642,986—which is slightly more than 636,953 total for last quarter 1949 and compares with 3,305,673 in all 1949, 1,225,419 in all 1948.

7 & 8½-in.—5509 units or .86% of March total vs. .7% of February, 2.4% of January, 7% of 1949.

10-in.—6162 units or .96% vs. 3.4% of February, 5.8% of January, 34% of 1949.

12½-in.—394,057 units or 61.3% vs. 60.8% of February, 61.3% of January, 43% of 1949.

14-in. and up—237,181 units or 36.9% vs. 35.1% of February, 30.4% of January, 15% of 1949.

Projections—78 units vs. 52 in February, 130 in January, 9020 in 1949.

Dollar volume from CR sales to set manufacturers was \$15,588,979 in March, and \$37,728,460 for first quarter of 1950.

Sales of radio receiving tubes in March set all-time record of 33,663,494 vs. 24,865,546 in February and 14,505,349 in March 1949. First quarter total was 80,801,064 vs. 40,658,043 in same 1949 period.

Financial & Trade Notes: There's good reason to believe that, given a continually flourishing TV trade, RCA may achieve close to half-billion dollar mark this year vs. nearly \$400,000,000 in 1949 and about \$357,500,000 in 1948 (Vol. 6:8). It got good start toward that fabulous goal in first quarter 1950 when gross income was \$127,369,550, net profit \$11,236,231 (75.3¢ per common share) vs. sales of \$92,327,827, profit of \$5,932,083 (37.1¢) for same 1949 period. At May 2 stockholders meeting, Chairman Sarnoff said TV accounted for about 50% of gross last year, about 60% first quarter this year. He didn't break down figures, but that would mean about \$76,400,000 attributable to TV. Credit \$3,000,000 to NBC-TV sales (Vol. 6:17), \$5,000,000 to royalties received from TV patent licenses (on basis of roughly 2% on industry's first quarter factory sales; Vol. 6:17)—and it would seem that somewhere near \$70,000,000 must have been done by RCA Victor in TV receiver, tube, transmitter and other TV equipment sales.

Philco proxy statement and notice of annual stockholders meeting May 19 reports these executive and director salaries and incentive compensations for 1949: Wm. Balderston, president, salary \$75,000, bonus \$33,000; John Ballantyne (deceased), \$35,750; Raymond Boyce, \$18,000 & \$7000; James T. Buckley, \$25,000 & \$16,500; Harold W. Butler, \$30,000 & \$19,500; James H. Carmine, \$60,000 & \$27,000; Joseph H. Gillies, \$30,000 & \$21,000; Larry E. Gubb, \$33,125; Larry F. Hardy, \$30,000 & \$25,000; Robert F. Herr, \$20,000 & \$15,000; Thomas A. Kennally, \$30,000 & \$22,500; Courtney Pitt, \$25,000 & \$12,500; David B. Smith, \$42,708 & \$5000; Wm. R. Wilson, \$20,000 & \$7500; Leslie J. Woods, \$33,750 & \$24,000. Among officer stockholdings: Balderston, 3997 shares; Carmine, 14,869; Hardy, 3819; Herr 13,032; Kennally, 13,336; Gubb, 13,831; Russell Heberling, 11,470; Gillies, 4494; John M. Otter, 2482; Smith, 1408; Woods, 5250.

* * * *

At Motorola stockholders meeting May 1, president Paul Galvin reported first 4 months of this year indicate company will maintain its No. 4 position as TV producer, predicted 6,000,000 TVs turned out by industry this year, admitted to stockholder that increased dividend rate and possible stock split are being considered later in year.

Trav-Ler Corp. public offering of 315,000 shares (Vol. 6:17) will include 240,000 shares of stock now held by company officials and families—including 157,000 shares by president Joe Friedman, 69,000 by Mrs. Friedman, 14,000 by v.p. Ellis Friedman. Thereafter they will hold 27.2%, 11.9% & 2.5%, respectively.

Olympic executives selling 80,000 shares through Van Alstyne, Noel Corp.: president Adolphe Juviler selling 60,000 of his 143,000 shares, and executive v.p. Percy Schoenen selling 20,000 of his 44,760 shares, reducing their holdings to 23.3% & 7.6%, respectively.

Corning Glass Works sales were \$22,702,746 in first quarter 1950, net income \$3,301,441 (\$1.22 per common share) vs. \$17,223,052 sales, \$1,271,913 profit (45¢) same 1949 period.

Television Fund Inc. reports net assets at market as of April 29 as \$6,080,000, or \$12.55 per share on 484,751 capital shares, compared with \$2,061,761 or \$8.76 per share on 235,408 shares as of April 30, 1949.

American Phenolic Corp. sales and earnings for first quarter 1950 and 1949 were inadvertently reversed in this column last week (Vol. 6:17). First 1950 quarter sales were \$2,765,336, net profit \$224,906 vs. \$2,788,759 sales, \$175,649 profit same 1949 period.

Economic potential of radio in 1950, as enumerated in May *Tele-Tech*: More than 6,000,000 receivers, factory value of \$900,000,000; 12,000,000 AM & FM sets, \$260,000,000; broadcast station, recording, studio & associated equipment, \$200,000,000; mobile, airplane, police, taxi radio, \$100,000,000; government orders, \$350,000,000; replacement tubes, parts, accessories & test equipment, \$190,000,000—total of \$2 billion for radio, TV and government alone. Industrial electronics output is estimated at \$50,000,000.

United States Television Mfg. Corp. reports 1949 net loss of \$195,094, after investment reserve credit of \$45,000, vs. profit of \$27,035 in 1948 after contingency reserve credit of \$20,000. Net sales were \$795,362 in 1949 vs. \$1,937,606 in 1948. At Dec. 31, 1949 current assets were \$240,788 vs. \$584,445 at end of 1948; liabilities \$306,795 vs. \$452,926; inventory \$210,155 vs. \$349,963.

Natalie Kalmus Colorvision Television Corp. stock issue to be underwritten by Edgerton & Wykoff, Los Angeles, according to May 3 report in *Retailing Daily*, quoting trade sources that 200,000 shares will be offered at \$2 per share.

Noblitt-Sparks (Arvin) reports \$718,496 net profit (\$1.21 per share) for quarter ended April 2 vs. \$502,067 (85¢) same 1949 period.

Muntz TV Inc. reports profit of \$436,323 (71¢) for 4 months ended Feb. 28, on sales of \$6,563,747. For year ended Oct. 31, 1949 Muntz sales were \$6,548,766, profit \$283,864 (46¢).

Packard-Bell reports sales of \$3,203,531, profit of \$506,793 (\$2.10) for 6 months ended March 31; comparisons unavailable.

National Union reports sales of \$2,485,746, profit before taxes of \$310,383 for March 31 quarter vs. \$1,663,792 sales, net loss of \$91,630 for same 1949 period.

Note on why TV stocks have "quieted down in past few weeks," from one of major brokers and analysts in field: "This was inevitable. The speculation simply got out of hand and was carried to an absurd extreme; people were multiplying first quarter results by four to get a full year estimate without making any allowance for seasonal factors. The current seasonal downtrend in production is going to give the late bulls a lot of headaches."

Trade Personals: Capt. David R. Smith, USN retired, has left executive v.p. post at Farnsworth to join Raytheon May 15 as asst. to Wallace L. Gifford, Equipment Divisions v.p. . . . W. E. McWhorter promoted to adv. mgr. of Owens-Illinois Kimble Glass Div. and American Structural Products Co. . . . Robert Cheshire new asst. Eastern Regional sales mgr., DuMont receiver div., under James Tait . . . Harold Dittenhoefer promoted to sales engineering mgr., Tele-tone . . . J. S. Muller now TV dept. sales mgr., Electrical Products Div., Corning Glass Works, formerly under supervision of T. S. Wood Jr. . . . A. Earle Fisher, ex-Southeastern div. mgr., named merchandising mgr., Westinghouse Home Radio Div. . . . John H. Ganzenhuber, ex-mgr. of Western Electric broadcast equipment sales, named v.p. in charge of sales and product development of Standard Electronics Corp., newly acquired subsidiary of Claude Neon Inc. (Vol. 6:15) . . . G. A. Bradford appointed ad mgr., GE Tube Divisions, Schenectady . . . Monte Cohen new president-treas. of F. W. Sickles Co., components subsidiary of General Instrument Corp., succeeding R. E. Laux who remains president of parent company . . . Marvin Hobbs, Chicago consulting engineer, appointed deputy director of Joint Electronics Committee, Munitions Board, Dept. of Defense.

COLOR TV — SARNOFF'S VIEWS & RCA PLANS

**From Statement by Brig. Gen. David Sarnoff, Chairman of Board, RCA
With Statement of Policy Regarding Patents**

Before En Banc Session of FCC Color Hearing, May 3-4, 1950

These are salient portions of Gen. Sarnoff's opening statement, omitting some of his emphatic criticisms of CBS system—which were much the same as those reported in our Special Report of April 1, 1950: 'The Tri-Color Tube—and RCA Policy.' Lengthy cross-examination included questions about patents and many other matters posed by FCC commissioners and counsel, as well as sometimes acrimonious exchanges with CBS chief counsel Samuel Rosenman. Gen. Sarnoff's testimony and cross-examination were undoubtedly the most comprehensive thus far in color hearings, particularly noteworthy for its exposition of RCA's 'accelerated color' philosophy. We strongly recommend reading of the verbatim official transcript (Part II, Vol. 54 & 55), purchasable from Electreporter Inc., 1760 Pennsylvania Ave. NW., Washington 6, D. C.

* * * *

IN MY OPINION, the demonstrations made and the testimony submitted in these hearings, have proved that color television has advanced technically to a point that justifies the Commission in setting standards now on a regular commercial basis. This would enable broadcasters and manufacturers to proceed promptly with their plans for providing the public with programs and equipment to receive the benefits of color television.

I do not agree with the opinion expressed to you by Dr. Allen B. DuMont, that color television, as a service to the public, is many years away.

I respectfully recommend to you, that on the conclusion of the present hearings, the Commission set standards that would enable the industry to go forward with its plans for color television, without delay.

Basic Requirements for Color Standards

I believe that the standards to be set by this Commission should meet three basic requirements.

(1) The Commission has proposed that the width of the channel should be six megacycles. That requirement should be met.

(2) The color pictures, by whatever system transmitted or received, should not be inferior in quality and definition to present black-and-white pictures.

(3) The color system should be compatible with existing black-and-white standards.

Broad standards based upon these three requirements will enable color television to move forward as a service to the public. In my judgment, a color television system that does not meet these broad standards will not be acceptable to the public and should not be approved by the Commission.

That is why the RCA has devoted its energies to the development of a system which meets each of these three broad standards. We are confident that our system will meet with full public acceptance and approval and it will enable the Commission and the industry to keep faith with the five or six million present owners of black-and-white receivers.

During these hearings, questions have been asked as to

what the policy of the RCA would be in the event of certain hypothetical decisions of the Commission. I shall now address myself to these questions.

A. If the Commission Approves the CBS System Only:
Dr. Engstrom was asked a hypothetical question on April 11. In effect, this was: If the Commission were to adopt the CBS color television proposal only, what would RCA's policy be with respect to including adapters which would enable its future sets to receive CBS color transmissions in black-and-white?

If the Commission were to adopt the CBS proposal only, we would be confronted with a field sequential color system which gives a degraded picture and is non-compatible. We would then find ourselves saddled with a system which we firmly believe is inadequate and inferior and which we seriously doubt would prove acceptable to the public.

Nevertheless, my answer to this hypothetical question is as follows:

(1) We would make and sell transmitting equipment, on order, to anyone.

(2) We would make and sell tubes, including our tri-color kinescopes, and parts, to anyone.

(3) We would make and sell field-sequential color receivers, utilizing the tri-color tube, as the public demand for such receivers might exist.

(4) We would make and sell tri-color tube converters on the same basis.

(5) We would make and sell separate adapter units for television sets already in the hands of the public, as well as for new sets thereafter manufactured.

Won't Build Adapters

Building adapters into our sets at the factory presents an entirely different problem. This, we do not plan to do. It has been estimated that the present annual production of television receiving sets is at the rate of 5,000,000 a year. With an estimated minimal figure of \$20 for built-in automatic adapters, the public would have to pay more than \$100,000,000 a year for an adaptation to a degraded system which is non-compatible.

We do not believe that the public will want adaptation to a degraded CBS picture at this or at any other price. Nor do we believe that the public should be forced to pay this tax of \$100,000,000 a year in order to receive the CBS degraded picture.

If we are wrong, the public will prove us wrong. In all these plans we would necessarily be guided by public reactions and competitive conditions. We would have to modify or adjust our plans in accordance with such reactions and conditions. And we will have to make receivers with adapters, if future experience proves that this is what the public wants.

RCA stands on its record of energetically developing those things in which we have confidence and which we believe the public will want. We have done this even though on occasion we have stood alone. I think our record in the development of radio and television will fully confirm this statement. On the other hand, I do not assume that we would be expected to be in the vanguard of promoting any system in which we have no confidence and which we believe is inferior and unsound; a system whose length of life commercially, is open to serious question.

"The Best Will Sell Itself"

I thought I detected some intimation in the record of these hearings, that the hypothetical decision of this Commission might in some way be frustrated, unless all manufacturers will now commit themselves to full scale production of a system even though that system, in the judgment of the manufacturer, is inferior and not in the public interest.

I see no reason for the Commission to assume frustration now of the hypothetical decision it may make in the future.

Presumably the Commission would not decide to adopt the Columbia proposal on any theory other than the theory that it is "the best" system. If the Commission has adopted "the best" system then no one in our competitive and free enterprise economy of today is going to be able to keep the public from getting it—if it really is "the best". Consequently, any inference that an advance commitment by manufacturers, or even compulsion, might be necessary to ensure that the public will be able to buy that which has been assumed to be "the best," is unrealistic. For it goes without saying, that no commitment or compulsion will be needed to sell the public "the best". The best will sell itself on its own merits. Competition will see to that.

Of course we do not think the Columbia proposal is "the best". If it were the best, the Commission would not be faced with the need to get a commitment, or to apply force, to sell it. The need to apply force would come only from the opposite premise—that Columbia's proposal could not be sold on its own merits.

Now I wish to make it entirely clear that in answering this hypothetical question I have not anticipated, and do not expect, that the Commission's decision will be to adopt standards based on the CBS system exclusively. We cannot believe that the Commission would outlaw the RCA system and all other systems.

We are proud of what RCA scientists and engineers have done. Our presentation before the Commission and our plans for the future are based upon our sincere belief that we are right. I would be going contrary, not only to my own opinion, but also contrary to all the highly skilled and expert opinions I have received from others, were I to assume that the CBS system is better than the RCA system. I know of no reason, at this time, why I should assume that the CBS system will be adopted and that the RCA system will be outlawed by this Commission.

Asking RCA this question now is like asking a prize fighter who, after 9½ rounds, is way ahead on points and has been steadily gaining throughout the fight, what he

will do after the fight is over if he is felled by an unexpected blow in the last half of the last round and has to be carried from the ring. The only answer he can have is that while he may be felled, he will retain a fighting heart and will do the best he can under the circumstances.

B. If the Commission Approves the RCA System: Should the Commission adopt the RCA system; or any other system which meets the three requirements of the broad standards I have discussed, the road ahead is clear. Our policies under such a decision would be as follows:

I. Tri-color Tubes

Our confidence in the new RCA tri-color tubes, which have been demonstrated before this Commission and the industry, is so strong that we are already proceeding with plans for acquiring a new factory and the machinery necessary to produce these color tubes in quantity.

These steps involve heavy financial commitments on the part of the RCA.

By June of next year we expect to commence the manufacture of color tubes on a mass production basis. In the meanwhile we will have completed our commercial design and development of these color tubes. By that time also our pilot plant will have produced a sufficient number of color tubes, to meet not only our own needs for testing and design purposes but also to supply those tubes to competitors in the set and tube industries for the same purposes.

II. RCA Color Receivers

Within sixty to ninety days from now we expect to have about ten development model color receivers using the tri-color kinescopes available in the Washington area for field test purposes.

During September of this year we expect to build five or six receivers each week from a pilot assembly operation. This pilot operation will continue until a sufficient number of sets have been made to fulfill our testing requirements and to make color receivers available to other manufacturers for their testing and design purposes.

You understand, of course, that the manufacture of any new product requires extensive planning and other pre-production preparation. Tools, jigs, dies must be designed and manufactured. Testing equipment to insure a uniform high quality of product must be devised and manufactured. Production lines and schedules must be set up. We must make arrangements with the thousands of independent suppliers throughout the United States with whom we deal to secure the parts and material necessary for the sets. Each of these in turn must set up his own production schedules. All of this takes time.

If final standards are adopted and commercial operation in color is authorized soon, the RCA could and would be in factory production of color television receivers by June of next year. This would amount to a weekly production rate of 200 color receivers. By the end of that year our color receiver rate of production will have reached over a thousand per week. Thereafter, we expect production quantities to rise substantially.

We assume, of course, that competing manufacturers would likewise gear their facilities for production of color tubes and receiving sets once the Commission determines the standards.

We do not believe that turning our facilities to the production of RCA color television sets will be any more or any less difficult, or take any more or any less time, than has been required in the past for similar projects. We are confident that within a year after standards are adopted, we will have a substantial manufacturing capacity for color sets. Within that capacity we will produce and sell as many color sets as the public will buy from RCA. Our

entire tube making and receiver manufacturing facilities will be available for color tubes and sets depending upon public demand.

The question was asked as to what percentage of the 20,000,000 sets, which it was estimated will be in the hands of the public in 1954, will be black-and-white if the Commission should adopt the RCA system.

I think the estimate of 20,000,000 sets by the end of 1954 is too low. If normal business conditions prevail and if more television stations go into operation reasonably soon, it will be much greater than 20,000,000. In my opinion, there will be 20,000,000 television receivers in the hands of the public by the end of 1952.

We have faith in the RCA color system and we feel strongly that if it is approved by the Commission a large percentage of the sets outstanding in 1954 will be color sets.

III. Converters

Within the next six weeks we shall demonstrate an RCA color converter utilizing an RCA tri-color kinescope. This all-electronic converter will provide a method of converting existing black-and-white television receivers to color.

C. If the Commission Approves the CTI System Only: I am informed by our engineers that the CTI system has not been demonstrated to have satisfactory picture quality in color, nor to give a satisfactory picture on present sets. However, if the CTI system overcomes these defects, if it meets the three requirements of the broad standards I have discussed, and if the Commission should adopt the CTI system only, then in general, our policies would be the same as if the RCA system had been adopted.

D. If the Commission Approves Broad Standards: If the three basic requirements—the 6 megacycle bandwidth, compatibility and picture quality equal to existing black-and-white—are adopted as broad standards, our policies would be the same as if the RCA system had been adopted.

E. If the Commission Approves Multiple Standards: If multiple standards are adopted by the Commission, and by that I mean standards that will permit not only the RCA system but also systems which do not meet the three basic requirements of the broad standards, we would do what I have outlined in the event the RCA system were adopted.

The question has arisen as to what our policy would be with respect to the manufacture and sale of a receiver capable of receiving and reproducing transmissions of all the various systems. I have not yet seen a multiple receiver. Such a receiver would necessarily be more complex than one built for a single standard and would involve

substantial additional expense to the set owner. However, we would manufacture and sell multiple receivers to the extent of public demand.

Summary and Conclusion

I should like to conclude my statement with a summary of the CBS system and the RCA system, as each relates to the three basic requirements of the broad color television standards I have discussed; namely, the 6 megacycle bandwidth; picture quality equal to present black-and-white pictures; and compatibility.

Both CBS and RCA accept the 6 megacycle bandwidth. By the adoption of horizontal dot interlacing, CBS has conceded that its system ought to have improved picture quality. If CBS, in spite of its testimony that it cannot visualize the tri-color tube being made in quantity, adopts a tri-color tube such as the RCA has developed and demonstrated, and throws away its mechanical disc, CBS may be able to overcome a few more of the defects in its system.

Nevertheless, the CBS system will still have important limitations not found in the RCA system. The CBS picture will still have only 405 lines, will be non-compatible and will have other defects as well.

One system—the RCA system—is compatible and the other—the CBS system—is non-compatible. It is the unanimous opinion of all parties to these proceedings that compatibility is of the utmost importance. In fact, the president of CBS himself has testified that he would “love” to have a compatible system. In this statement he is giving voice to the basic needs of the entire television industry and of the viewing public.

As I understand it, it is the field sequential aspect of the CBS system which prevents compatibility. CBS already has adopted RCA’s image orthicon camera tube. CBS already has embraced the RCA single tri-color kinescope in order to eliminate the mechanical disc with its limitations of viewing angle and picture size. CBS already has embraced horizontal dot interlace in order to obtain increased definition in its pictures.

All that remains is for CBS to adopt the dot sequential method of transmitting color. CBS would then be in a position to achieve that compatibility which its president so ardently desires. This would end needless argument and color television could go forward immediately.

We firmly believe that with the development of its all-electronic, high-definition, compatible color television system and its tri-color tubes, RCA has shown the way for the adoption of color standards now. We recommend that the Commission set color television standards based on the RCA color system.

RCA STATEMENT OF POLICY REGARDING PATENTS

By RCA Chairman Sarnoff at May 3 FCC Hearing

IN ANSWER to that I should like to make a statement with respect to RCA’s patent policies and patent position in the industry.

RCA has been licensing its own inventions in the radio and television industry for a great many years. It has also for many years been licensing the inventions of others in those instances where it has sub-licensing rights. The basic structure of this patent licensing was approved by the Department of Justice and the United States District Court for the District of Delaware in 1932.

At the time the 1932 consent decree was entered, the agreements with the American Telephone & Telegraph Co., the General Electric Co., and the Westinghouse Electric Corp., pursuant to which RCA received the non-exclusive right to grant licenses under the patents of these companies

were described by the Department of Justice as being manifestly in the public interest.

From time to time since 1932 RCA has acquired licenses for itself under the patents of others and in some instances sub-licensing rights for the benefit of the rest of the industry as well.

In 1942 the Department of Justice through the Assistant Attorney General Mr. Thurman Arnold sought to set the consent decree aside. After full argument, the decree was reaffirmed by the Courts. The Attorney General withdrew his appeal to the Supreme Court of the United States on this issue.

I believe that the beneficial nature of RCA’s licensing policies are apparent from the assistance which the industry has received as a result of these policies.

As I have said, we have been in the patent licensing business for many years. No one can conceivably claim that the radio industry has been anything but helped by RCA's patent position or RCA's patent policies. The history of the whole radio industry has been one of rapid expansion and keen competition.

Patents and the TV Industry

Coming to the television industry, I believe it will be conceded by all concerned that we would not have the highly competitive, highly successful television industry that we have today were it not for the affirmative assistance which the RCA has made available through its patent licenses and otherwise.

As a result of this, we now have a television industry of a billion dollars a year. RCA not only gave this industry the benefits of its television patents at no extra charge, but its licensees got blueprints and manufacturing assistance. Competing television manufacturers were invited to our plants and greatly helped to get into competition with RCA.

Our patent licenses contain no restrictive provisions whatever. There is no effort to fix prices, to limit production or to do anything but to further the industry to the fullest possible extent. We maintain an Industry Service Laboratory as a part of our licensing policy to help licensees. Our licenses are uniformly non-discriminatory and our royalty rate is low.

Now, I do not wish to be drawn into detail in this hearing. It is no secret that we are engaged in patent litigation

of the greatest importance in AM, in FM and in television. We are either the defendant or the plaintiff in several litigations of far reaching importance to us and we believe to the entire industry.

In these litigations we have been called all the names which the ingenuity of opposing counsel can imagine. We have been accused of every nefarious practice which the fertile imaginations of these gentlemen could breed. We categorically deny all these characterizations and charges and we fully expect to prove them false in open court.

I believe it is sufficient for these proceedings that we stand on our record and I believe you will respect the situation in which we find ourselves with regard to these litigations.

So far as our agreements with others for obtaining licensing or sub-licensing rights are concerned, most of these agreements are on file with this Commission. They speak for themselves. The consideration paid for the value received was arrived at by the combined best judgment of many experts in our organization. As we have stated on other occasions, however, we can not indulge in the public evaluation of the significance of particular patents which belong to others.

We have also submitted to the Commission all patents which we own or under which we can grant licenses which we believe to read on the transmission standards already existing or which are proposed in these proceedings.

Further than this, however, I do not think we should be asked to go.

TV-RADIO AT THE SUMMER MARTS: We may begin to get inklings of fall-winter receiver lines and prices at Chicago's Home Furnishings Market, June 19-29 -- but quite a few manufacturers aren't too keen about revealing them that early. These are the TV-radio exhibitors thus far booked, though that doesn't necessarily mean they'll show their new stuff then:

American Furniture Mart: Admiral, Bendix, GE, Hallicrafters, Mercury Records Corp., Motorola, Noblitt-Sparks, Philco, RCA, Sparton, Westinghouse.

Merchandise Mart: GE, Crosley, Sentinel, Bendix, Air King.

July 10-13 National Music Merchants Show in Chicago's Palmer House should bring out many of foregoing plus others as exhibitors -- Belmont, DuMont, GE, Hallicrafters, Starrett and Stromberg-Carlson being among those who have already indicated plans to show there. Los Angeles Summer Furniture Market is set for July 17-27, San Francisco's Western Merchandise Mart July 24-28, Pacific Electronics Exhibit in Long Beach Auditorium Sept. 13-15.

Unlike last year, Parts Distributors Conference & Show in Chicago's Palmer House May 22-25 is not expected to bring out many set exhibitors; it's mostly devoted to components. RMA convention this year will be held entirely apart from that show, in Hotel Stevens, June 5-8. And National Assn of Electrical Distributors meeting is set for June 12 week in Atlantic City's Convention Hall.

AS MAJOR PRODUCERS SEE THE MARKET: Has the TV market softened, or hasn't it? Mindful of last summer's price cave-in (Vol. 5:26-29), some set makers and quite a few distributors and dealers have been showing signs of jitters. They've anticipated doldrums ever since Easter, which in radio trade is traditionally followed by a few dull weeks. That has been pattern this year, too.

What caused more goose bumps, though, was Emerson's action last week, cutting prices \$70 each on 2 basic models and eliminating all but those 2 from current line (Vol. 6:18). More dealers began playing their cards close to vest, some began crying "the slump is on us."

What's the real story? Checking with top half-dozen manufacturers, this is sum of what they said: (1) Business continues good at the retail level -- extraordinarily good, in some instances. (2) Production is still running along at or near capacity. (3) Summer recession in demand is inevitable, but they've geared for it and it won't be as bad as last year. (4) No substantial cut in production is planned by any of them, except for usual vacation shutdowns, and by July-August they will start delivering new merchandise for a "terrific fall and fourth quarter."

April was a big month, generally equalling March in average weekly production, said several. Retail business has been "going great guns" so far in May, said one. Another said he was still under pressure for his allocated sets, his distributors having less than 3 days inventory on hand.

One big producer admitted he was tapering down production -- the same who told us several weeks ago he intended to reduce to "more normal operation" (Vol. 6:17). Signs of softening were admitted in spots, but not generally, by most spokesmen. Several thought some smaller manufacturers might find it necessary to liquidate stocks during summer.

There was perplexity as to Emerson's cut at this time, while business was still good, but consensus was that it didn't upset anything and won't hurt anybody except perhaps the private brands. There was some thought that maybe Emerson had felt softening of markets before others; admittedly, the Emerson sets were undergoing the closest scrutiny of rival cost engineers.

An Emerson distributor proffered this view: Emerson has had \$230 table (12½-

in.) since beginning of 1950. Admiral broke one last winter at \$180, Motorola at \$190, and RCA's at \$230 included matching table. For 5 months, Emerson made no move to meet these prices, albeit its reputation was built in low-priced field. Therefore, it was "about time" for Emerson to come forth with cheaper numbers (table at \$160, console at \$260).

From one of the small but strong manufacturers, Frank Andrea, came prediction that "the shoe will start pinching about July 1 or sooner." Majority of set makers, said he, will reduce prices in new lines to be announced in June and July. "But it will not be as drastic as last year," he said.

FIRST U. S. EXPORTS OF TV APPARATUS: First large-scale shipment of American TV receivers to any foreign country occurred this week when GE sent 2000 chassis (12½ & 19-in.) to Brazil in preparation for August opening of publisher-broadcaster Dr. Assis Chateaubriand's Station TUPO, now being installed by GE atop Rio de Janeiro's famed Sugar Loaf Mt. (Vol. 5:43). Chassis will be built into cabinets made by GE Sociedade Anonima, local affiliate. Altogether, Brazilian government has authorized importation of \$500,000 worth of TVs.

To Mexico City, RCA will soon ship 500 non-synchronous TV sets (10-in.) -- these to be adjusted by RCA Mexicana S.A. to work on local 50-cycle current. They're on order of publisher Romulo O'Farrill, who has ordered RCA transmitter to be built in National Lottery Bldg. (Vol. 6:16).

Thus far, U.S. manufacturers have sold 5 transmitters to Latin America, and GE has sold one to Radio Italy in Turin. GE has also sold one to Emilio Azcarraga, Mexico City. RCA's other sales were to Dr. Chateaubriand for his second station, in Sao Paulo, Brazil (Vol. 5:43), and to Goar Mestre (CMQ) for Havana (Vol. 5:53).

Colombia's director of cultural extension in Bogota has let U.S. govt. trade officials know he's interested in receiving bids for station and receivers. It's reported Colombia has already had British bid of \$500,000 and Dutch of \$650,000 for transmitter and 500 initial sets, for which it's preparing to spend \$300,000-\$700,000. Bidder must also train Colombian technicians.

Uruguay last year evinced interest in U.S. equipment and standards, but nothing ever came of it (Vol. 5:45,51). One problem with exports is that some current is 50-cycle, which means U.S. 525-line apparatus has to be adapted. There's also question of monetary exchange, not so serious with some of our Latin American neighbors but practically prohibiting exports to Europe and rest of world. Even British haven't made much dent in that field. Russia, of course, continues to beat propaganda drums about "inventing TV" and superiority of its TV system (including color) -- but nobody, not even American correspondents who have been stationed in Moscow, appears ever to have seen Soviet TV.

Trade Personals: Capt. David R. Hull, USN (ret.) joins Raytheon May 15 as asst. to Equipment Divisions v.p. Wallace R. Gifford--and not David R. Smith, as erroneously reported here last week; we sincerely regret the inadvertency . . . L. M. Clement, Crosley director of engineering, named technical advisor to v.p. & gen. mgr. John W. Craig; D. B. Nason appointed mgr. of electronic engineering, O. E. Norberg mgr. of appliance engineering . . . George S. Eveleth Jr. elected executive v.p. of GE International . . . Alfred C. Lindquist shifted from mgr. of TV Antenaplex Systems to mgr. of sound products and associated electronic activities, RCA Engineering Products Dept . . . Charles Grean new mgr. of RCA Victor recording div. popular artists and repertoire, succeeding Joe Csida, resigned to return to *Billboard* . . . A. Earle Fisher named merchandising mgr., Westinghouse home radio div. . . Edgar H. Wimpy promoted to director of quality control, Hytron.

Cost of converting black-and-white station to RCA color, according to exhibit introduced by RCA in color hearing: \$54,440 for one camera chain, \$26,750 for each additional camera.

Senator Johnson issued his own color-freeze timetable this week, after group of New York-Hollywood showfolk known as National Society of Television Producers waited on him with their counsel, former FCC chairman James Lawrence Fly, to protest freeze. His estimate, which sounds off kilter to us, is that FCC can't start allocations hearing before making color decision; and color, he figures, isn't likely to be decided before Sept. 1. Actually, there's nothing to stop FCC from plunging into allocations hearing in latter June, right after 470-500 mc hearing which starts June 5 (Vol. 6:18). The Senator said he looks for final allocation decision in later November or early December. If color isn't decided first, said he, "I am informed on the highest authority that . . . commercial advent of color would be set back a generation." He expects Condon Committee color report in early June.

Webster-Chicago, after planning demonstration of CBS color at Chicago Parts Show (Vol. 6:17), postponed it with announcement that "attention to this planned showing of closed-circuit color TV has threatened to build it into far more than was intended, to the possible detriment of the industry."

Trends & Topics of TV Trade: GE's 24-in. tube (Vol. 6:8,18) goes into "limited production" this fall, says official announcement, affording picture "almost as large as a newspaper page." It's round, metal-coned, dark-faced, aluminized, will be installed in at least one GE model in September. Tube will be sold to other manufacturers, production geared to demand.

Hallcrafters president Wm. J. Halligan fears "serious trouble in TV sales in 1952" if FCC holds off decision to lift freeze until end of this year. Following FCC's refusal to permit his company to appear in color hearings (Vol. 6:17), he issued statement this week observing that it takes nearly 18 months to get TV transmitter on air after CP has been issued, refers to stymie of TV's employment potential, asserts: "TV is the one thing that can create jobs at a rate greater than the population increase if it is released from this freeze situation."

One of those new tubemakers reported last week (Vol. 6:18) apparently will be Reeves Soundcraft Corp., which has acquired picture tube division of Remington Rand Inc.'s laboratory of advanced research at South Norwalk, Conn. Reeves is setting up plant at Stamford, Conn., to which Remington Rand equipment is being moved.

* * * *

Pioneer radioman Frank A. D. Andrea, celebrating his 30th year in radio manufacturing, is out with new line of TV sets this week and with these observations: "Next step in TV is color. I believe that [RCA's] 3-color element tube has cut the time for the advent of commercial color TV in half." Then, said he, you can expect 3-dimensional TV pictures, which he saw demonstrated at Princeton some years ago. "I feel strongly that this, combined with color, is the ultimate to expect in TV."

Andrea's new line of 6 models, all with FM: Saybroke, 12½-in. table, \$250; Mayfield, 16-in. table, \$320; Sutton, 16-in. console with doors, \$420; Fleetwood, 16-in. console with phono, \$500; Normandy, 19-in. console with doors, \$595 (reduction of \$55 on preceding model); Caronia, 19-in. console with phono, \$795. Normandy and Caronia also include AM.

* * * *

Zenith has new 12½-in. table (Buchanan) at \$240; it's in wood cabinet, same set as leatherette Garfield which sells at \$220 . . . Stromberg-Carlson has priced 16-in. rectangular console combination at \$625 . . . Tele King has 16-in. rectangular console on casters, \$260 . . . Meck has new 19-in. console at \$350, not part of "summer promotional line" (Vol. 6:17) . . . Starrett cut 16-in. table from \$300 to \$270.

Sylvania has discontinued making 10-in. set (\$170), line now begins with 12½-in. table at \$200 . . . John Wanamaker, New York, began advertising own-name private-label this week on 16-in. console, \$299; also offered own Ranch House brand, 16-in. table, at \$219—maker of sets unidentified.

Hallcrafters has new, interim 16-in. console with phono jack, which advertising mgr. Charles Nesbitt says will be without list price "because price may vary with tempo of different markets." *Retailing Daily* says price is expected to be \$50 less than comparable \$330 model.

Emerson reports April sales largest in its history, president Ben Abrams stating May 9 that it had in previous week received \$10,000,000 in orders for its newly priced 12½-in. table, 16-in. console (Vol. 6:18).

Wells-Gardner & Co. has purchased, for unnamed cash sum, Zangerle & Peterson Co., 2161 N. Clybourn Ave., Chicago, cabinet and furniture manufacturer.

Webster-Chicago's aggressive sales and promotional moves are featured in May 6 *Tide*. Article relates how company shifted emphasis from parts supply to consumer sales; latter amounted to 60% of last year's \$11,089,364 volume. Company's current big drives are on new 3-speed record changer to modernize sets and a wire recorder. Work on CBS color (Vol. 6:17) is termed "strictly exploratory."

Jackson Industries, in May 11 *Retailing Daily*, advertised 14-in. rectangular table model at \$180; it's reported pushing present 200 per day production up to 600 as of July 1 . . . Sylvania's Colonial plant hopes to hike production from present 3000 per week to 5000-6000 by early August . . . Tele King says it will be putting out 1000 TVs daily in June, claims \$10,000,000 backlog.

DeWald has 2 new 14-in. rectangular receivers—table at \$220 (replacing 12½-in. at \$240), console at \$270; deliveries start June 10 . . . Starrett has promotional summer line of 5 models—12½-in. leatherette table \$130, wood table \$140, console \$180; 16-in. table \$190, console \$220 . . . Bendix is coming out with new 8-model line next week, including 14 & 16-in. rectangulars, 19-in. console.

Scott Radio by end of May will be turning out 150 radio-phono and TV units daily, president John Meck reported to stockholders this week. Added to list of v.p.'s (Vol. 6:16) was Leslie Evan Roberts.

Tele-tone has 16-in. console at \$230; president S. W. Gross says it's \$30-\$50 lower than any comparable unit.

* * * *

Reprehensible set-servicing practices in New York area are brought to light and castigated in May 10 *Radio Daily*. Article is written in narrative form by anonymous technician who obtained employment in several places, generally received these instructions: "It's more essential that you make 10 calls a day than worry about how well the set operates." Idea seems to be to keep set owners in line with promises and threats to take set to shop.

Steel industry expects to sell TV manufacturers about 45,000 tons of silicon steel this year, predicated on production of 5,000,000 sets, reports May 13 *New York Times*. It adds that indications are the goal will be attained unless cutbacks occur later in year.

Ad-packed special TV section of *Baltimore Sun*, Sunday, May 7 (32 p.) doesn't indicate that that "hot" TV area, claiming 169,000 sets as of May 1, is suffering any diminution of interest.

"Distributors here," says May 10 letter from telecaster in big Southern city, "think they recognize a slight softening in the market, but their sales are still running ahead of last year. I am beginning to wonder whether the distributors and dealers aren't going to talk themselves into a summer slump to a point where it will affect the consumers' thinking."

— ■ —

Quest for paid president of RMA will continue, possibly beyond June 5-8 convention in Chicago—committee coming to no conclusion at this week's meeting in New York. President Ray Cosgrove has made it clear he doesn't want reelection at June convention, is anxious to turn to personal business affairs. Committee has many names before it, but hasn't yet fixed on any one man it really wants. Committee consists of Jerry Kahn, Standard Transformer, chairman; Fred Lack, Western Electric; W. A. MacDonald, Hazeltine; Max Balcom, Sylvania; Paul Galvin, Motorola; W. R. G. Baker, GE; W. J. Barkley, Collins; Leslie Muter, Muter Co.; George Gardner, Wells-Gardner; Ray Carlson, Tung-Sol; A. D. Plamondon Jr., Indiana Steel; A. Liberman, Talk-A-Phone.

Financial & Trade Notes: Philco's first quarter sales totaled \$79,487,000, up 50% from \$53,006,000 for same 1949 period. Net income first quarter was \$4,074,000 (\$.237 per common share) vs. \$915,000 (49¢) same period last year. President Wm. Balderston reported that TV was largely responsible for this record first quarter, that March output reached 20,000 per week rate, that radio business continues "very satisfactory," that demand for refrigerators and ranges continues high, and that "sales of all products are continuing at high levels in the second quarter." Plants are being equipped, he added, to increase TV output throughout last 6 months of the year. At annual meeting May 19, stockholders will be asked to elect 2 additional directors—John M. Otter, general sales v.p., and William H. Chaffee, purchases v.p.

ABC reports net profit of \$93,000, equal to 5¢ per share on 1,689,017 shares of common stock outstanding, on first quarter business—this despite considerably reduced revenues (Vol. 6:17). In first quarter last year, ABC had loss of \$64,000; for all 1949, loss was \$519,085 vs. profit of \$468,676 for 1948.

* * * *

Stewart-Warner reports first quarter sales \$15,550,516 vs. \$14,706,155 in same 1949 period. Profits nearly doubled—\$762,676 (59¢) vs. \$404,292 (31¢). Improved operations in several units are reported by chairman-president James Knowlson, TV shipments running considerably ahead of same 1949 period and radio recovered considerably from slump of early last year.

CBS board declared dividend of 40¢ payable June 2 to stock of record May 19 . . . Oak Mfg. Co. declared extra of 30¢ and regular quarterly dividend of 25¢, both payable June 15 to stock of record June 1 . . . Magnavox declared dividend of 25¢ on Class A preferred, payable June 1 on stock of record May 15; also 25¢ on common, payable June 15 to stock of record May 25.

Televista Corp. of America, Long Island City, N. Y., has filed petition in bankruptcy in Brooklyn Federal Court, proposes to pay creditors 100% on basis of 2% per month; liabilities are about \$28,000, assets \$10,000 . . . Sonora reorganization has been approved and company released from all claims of creditors under order of Referee Austin Hall in Chicago Federal district court.

Magnavox elects 2 new directors—Arnold S. Kirkeby, president, Kirkeby Hotels, and Alva J. McAndless, president, Lincoln National Life Insurance Co., Fort Wayne.

* * * *

Television Fund Inc.'s semi-annual statement of assets and liabilities as of April 30 shows assets at new high of \$6,082,747, up more than 115% from \$2,780,795 shown at end of October. Net assets per share rose to \$12.55 from \$9.33. Over 4400 shareholders owned 484,751 shares at end of April.

"The Fund has continued to move toward a heavier representation in the field of telecasting and electronics," states president Chester F. Tripp, "and we have for the present reduced moderately the percentage invested in teletest manufacturers. Television broadcasting is approaching a profitable basis, and while network operations are still in the red, many individual stations are in the black and some are making substantial profits."

Stockholdings in Television Fund's portfolio as of April 30 are listed as follows: Primarily TV (18.24%) Admiral 4000, DuMont 6600, Emerson 4000, Motorola 4000, Philco 5000, Zenith 1000, TV & Electronics (33.49%)—Aerovox 1000, ABC 6000, American Phenolic 1000, CBS 'A' 7000, Corning Glass 2000, Fansteel 4000, GE

6000, Mallory 1000, Muter 2400, Oak Mfg. 3000, Owens-Illinois 4000, Pittsburgh Plate Glass 1000, RCA 12,000, Raytheon 5000, Sprague 1500, Stromberg-Carlson pfd. 200, Westinghouse 7000. Electronics Other Than TV (22.85%)—American Bosch 4000, Bendix 2000, Consolidated Engineering 2000, Cutler-Hammer 8000, Fairchild Camera 2000, General Precision Equipment 3500, IBM 1000, Minneapolis-Honeywell 7000, Remington-Rand 7000, Sperry 3000, Webster-Chicago 3000. Miscellaneous (25.42%)—AT&T 1800, Bell & Howell 500, Burgess Battery 1200, Capitol Records 3000, Decca Records 5000, Disney Productions 5000, Eastman Kodak 5000, Joslyn Mfg. 2000, Loew's 6000, Otis Elevator 5500, Paramount Pictures 2500, Reliance Electric 2500, Time Inc. 2000, Twentieth Century-Fox 5000, United Paramount Theatres 2500, Warner Bros. 2000.

Additions during 6-month period were Bendix, Remington-Rand, Raytheon, Stromberg-Carlson, AT&T, Decca, Otis, Reliance, Time, Warner. Eliminations were: IT&T 4000, General Instrument 1300, Hoffman 1000, Magnavox 2000, National Union 1000, Burgess Vibrocrafter, 1200.

* * * *

Observation on TV stocks by *Wall Street Journal's* Oliver J. Gingold (May 12): "The television shares are not in quite as weak a position technically as they were a few weeks back. There has been a lot of profit taking in some of these and many are on firmer ground. However, the booming industry is going to suffer a lot of growing pains and the race will be won by the strong and not those which have developed on high prices and indifferent financial structure. This is a boom year for companies selling television sets and sales have mounted sharply. However, already the inroads of competition are being felt and in the next year this is likely to be an even more important factor in the situation. This will be a year of highly satisfactory profits for many television companies but it remains to be seen if these shares have not discounted most, if not all, the good news for 1950. What portends in this growing competition for 1951 is another story and still has to be registered in markets."

—■—

What TV has done for Hopalong Cassidy (William Boyd), hero of the westerns, is toted up by Walter H. Oxstein in May 10 *Wall Street Journal*. Here's the take: \$250 to \$1000 per picture for each TV showing; \$1,250,000 royalties from sales by 90 licensed manufacturers, who figure to sell \$50,000,000 worth of "Hopalong" brand merchandise this year—such as roller skates with spurs, bicycle with built-in gun sling, even special castile soap, as well as run-of-mill watches, knives, guns etc.; \$5000 weekly from radio; \$1000 for brief daily appearances with Cole Bros. Circus, of which he is one-third owner and which concentrates its summer itinerary in TV areas.

CBS's 42-year-old president Frank Stanton is subject of article by Robert McFetridge in financial section of May 8 *New York Times*, who writes: "He's the last person in the world you'd expect to find heading up the CBS. He'd probably be the nation's No. 1 idol of movie fans, if he wished, or he could be that college professor that makes the girls swoon. Instead, by applying education to business he has achieved an unusual niche in American industry."

Eighteen RMA directors, participating in poll "guesstimating" 1950 TV set production, ranged from 4,500,000 to 6,500,000—average of 5,350,000. Two months ago, similar informal poll ranged from 3,200,000 to 6,750,000—average 4,500,000.

VACATION SHUTDOWNS, THEN NEW MODELS: July's the month wherein (a) most TV plants will shut down, generally for the traditional 2-week vacation, and (b) many manufacturers will disclose new fall-winter models and prices to distributors and dealers.

Matter of fact, several big set makers are already tooled for and producing (though not yet shipping) some new models. This time, no one wants to get caught short when the fall-winter boom begins.

Surveying the major producers, we found majority shutting down first 2 weeks in July, namely: Admiral, Arvin, Belmont, Emerson, GE, Hoffman, Magnavox, Meck, Philco, RCA, Sentinel, Stromberg-Carlson, TeleKing, Tele-tone, Westinghouse, Zenith.

Others with different vacation schedules: Hallicrafters, June 30-July 10; Bendix and Motorola, June 26-July 8; Olympic and Wells-Gardner, June 30-July 19; DuMont, July 4-18; Stewart-Warner, July 17-29; Packard-Bell, first 3 weeks in July; Crosley and Sparton, not shutting down -- Crosley's W. A. Brees stating: "We are not closing our plants for vacation as we need all the production we can get."

* * * *

More significant was timing of first new model showings to distributors, dealers and public, as reported by most of the foregoing companies:

Admiral -- Chicago distributor convention in June, date not yet set.

Arvin -- distributor convention June 19-20 in Chicago; to show at Furniture Mart beginning June 20.

Belmont (Raytheon) -- distributor convention in latter June, then exhibit at National Music Merchants show (NAMM) in Chicago, July 10-13.

Crosley -- distributor convention late in summer.

DuMont -- new models sometime in July, possibly at NAMM show.

General Electric -- distributor showings in Syracuse first, then at NAMM show.

Hallicrafters -- distributor meetings in Knickerbocker Hotel, Chicago, June 16-18, then at Furniture Mart June 19-29, possibly also at NAMM show.

Hoffman -- distributor meetings in mid-July.

Magnavox -- no plans for new models, other than those recently introduced (Vol. 6:13,14,16); will convert some 16-in. rounds to 19-in. rectangulars.

Meck -- distributor convention in Chicago latter August or early September.

Motorola -- new line "some time after" plant vacation, ending July 8.

Olympic -- showings in New York City in August, date and place undecided.

Packard-Bell -- first showings at San Francisco Furniture Mart July 24, then convention in Los Angeles about week later.

Philco -- Atlantic City distributors convention June 17-19, dealer convention June 19-21, Philco footing all bills for 5000 invitees (Vol. 6:12).

RCA -- no distributor convention, time of local showings unannounced.

Sentinel -- regional meetings start July 10.

Stewart-Warner -- distributors convention in Chicago July 14.

Tele-tone -- some time in June or July.

Sparton -- first showings at American Furniture Mart, Chicago.

Stromberg-Carlson -- distributors meeting in latter June, then NAMM show.

Wells-Gardner -- no new models planned before October (private-label only).

Westinghouse -- at American Furniture Mart, then local distributor meetings.

Zenith -- Chicago convention late June or early July.

Telecasting Notes: This Sunday (May 21) Dallas' KBTB formally changes call to WFAA-TV, tying up with new owner *Dallas News'* AM outlet WFAA (Vol. 6:4, 11) . . . Phoenix's KPHO & KPHO-TV change hands third time this year (Vol. 6:6), Rex Schepp selling his 43% interest in AM and 5 shares in TV outlets. New TV stockholdings include: hotelman John B. Mills, 28.5%; *Tucson Daily Citizen*, 19.8%; Dr. J. N. Harber, 15.2%; attorney John Mullins, 13.3%; KPHO-AM, 11.4%. Mr. Mills also owns 48% of AM . . . Transfer of title of Wm. Nassour Studios to *Los Angeles Times*-CBS station KTTV, to be used for producing live shows as well as films for syndication, is expected within next week or so . . . ABC's New York key WJZ-TV returns to 7-days-a-week schedule Sept. 11, starting daily at 12:30 p.m.; has been dark Mon. & Tue. since last Nov. 14 . . . Don Lee Network's KTSL, Hollywood, going to afternoon programming in August . . . KDYL-TV, Salt Lake City, expands to 3-5:30 & 6:30-10:30 p.m. daily as of May 20; heretofore was silent Sat., Tue. & Thu. . . WXYZ-TV, Detroit, offering sponsor identifications on feature films at bottom of screen, obviating need to halt films for commercials . . . Young & Rubicam, New York, has installed TV-movie "conference room" with RCA Vidicon camera chain to test proposed TV shows and commercials . . . Now-building WSM-TV, Nashville, has asked FCC for microwave relay link from Louisville—links to be at Bethpage, Tenn.; Bonnieville, Fairdale, Smith's Grove, Elizabethtown, Ky. . . KMLB, Monroe, La., will apply shortly for TV, has placed conditional order for DuMont equipment.

CBS quit NAB this week with its 7 AM and other stations—and status of other 3 networks was regarded shaky. ABC has hinted it will do likewise, NBC's "present inclination" is to stick, MBS plan is indeterminate. CBS withdrawal means \$40,000 annual loss in dues, total from all 4 networks being about \$100,000. CBS executive v.p. Joseph Ream said NAB services are "duplicated" by those it provides for itself, added: "We do not wish our resignation to be taken as an example to be followed by any independently-owned station. The manifold problems of [radio] attest to the need for a trade association . . ."

Screen Actors Guild met with TV networks May 17, explored jurisdiction over TV film performers. SAG agreed it had no jurisdiction over kines, reported that it would file requests for NLRB election in other part of U.S. as well as Southern California (Vol. 6:17). SAG has called membership meeting on TV question for June 4 in Hollywood Legion Stadium.

FCC this week approved merger of *Atlanta Journal* (WSB) and *Constitution* (WCON) radio properties (Vol. 6:12-13). Plan is to retain WSB-AM, drop WCON-AM; drop WSB-TV (Channel 8), retain WCON-TV (now on Channel 2 equipment tests)—depending whether its 1060-ft. radiator overcomes current propagation troubles. All stations will eventually carry WSB call letters.

FCC denied Yankee Network request for special authority to change its Boston WNAC-TV from Channel 7 to Channel 2 in order to avoid receiver oscillator interference between Channel 7 and WJAR-TV's Channel 11 in Providence (Vol. 6:13). Commission said interference was due to improper receiver design, and manufacturers and servicemen should be called on to clear up problem—not FCC by changing allocations.

FCC has named Cyril M. Braum chief of TV engineering, succeeding Curtis B. Plummer, recently named chief engineer (Vol. 6:10); Braum was chief of FM engineering, combined with AM into new division called Aural Broadcast, under James E. Barr.

Count of TV Sets-in-Use by Cities

As of May 1, 1950

Sets-in-use totaled 5,846,000 as of May 1, according to NBC Research's monthly "census" report estimating TV receivers within 40-mi. service areas (.5Mv). NBC no longer publishes family figures, but those here listed are best available estimates of 1948 families within 40-mi. radius of city; note, however, that there are some overlaps, so that family figures are sometimes higher than actually served. May report includes Kalamazoo, due to have own station on regular schedule from June 1. Total represents 503,000 increase over April 1 count (Vol. 6:16).

Interconnected Cities

Area	No. Stations	No. Families	No. Sets
Baltimore	3	732,000*	166,000
Boston	2	1,175,000*	368,000
Buffalo	1	323,000*	91,200
Chicago	4	1,438,000*	496,000
Cincinnati	3	384,000*	120,000
Cleveland	3	695,000	223,000
Columbus	3	225,000*	66,400
Dayton	2	291,000*	62,100
Detroit	3	839,000*	231,000
Erie	1	112,000	21,100
Grand Rapids	1	182,000*	21,600
Kalamazoo	—(a)	143,000*	9,600
Lancaster	1	85,000*	44,800
Lansing	1(b)	168,000*	7,400
Memphis	1	177,000	34,700
Milwaukee	1	327,000	110,000
New Haven	1	557,000	77,500
New York	7	3,597,000*	1,300,000
Norfolk	1	196,000	14,000
Philadelphia	3	1,184,000*	491,000
Pittsburgh	1	742,000*	105,000
Providence	1	1,011,000*	56,500
Richmond	1	130,000*	29,100
Rochester	1	208,000*	39,400
Schenectady	1	258,000*	78,000
St. Louis	1	474,000	128,000
Syracuse	2	199,000*	43,400
Toledo	1	241,000*	40,000
Utica	1	127,000*	13,200
Washington	4	691,000*	128,000
Wilmington	1	183,000*	32,700
Total Interconnected	57		4,648,700

Non-Interconnected Cities

Albuquerque	1	22,000	3,100
Ames (Des Moines)	1	126,000	9,100
Atlanta	2	233,000	37,500
Binghamton	1	131,000*	12,400
Birmingham	2	196,000	12,400
Bloomington	1	104,000*	5,900
Charlotte	1	171,000	14,600
Davenport	1	133,000	10,400
Fort Worth	1	269,000*	23,600
Dallas	2	277,000*	28,900
Greensboro	1	165,000	11,500
Houston	1	217,000	21,000
Huntington	1	132,000	8,500
Indianapolis	1	281,000*	34,100
Jacksonville	1	94,000	9,900
Johnstown	1	250,000*	21,300
Kansas City	1	275,000	34,300
Los Angeles	7	1,372,000	494,000
Louisville	2	188,000	32,000
Miami	1	117,000	24,800
Minneapolis-St. Paul	2	333,000	88,700
New Orleans	1	225,000	26,100
Oklahoma City	1	138,000	27,500
Omaha	2	132,000	22,500
Phoenix	1	49,000	7,000
Salt Lake City	2	93,000	15,700
San Antonio	2	130,000	15,300
San Diego	1	113,000	37,100
San Francisco	3	825,000	55,000
Seattle	1	307,000	29,000
Tulsa	1	125,000	24,100
Total Non-Interconnected	47		1,197,300
Total Interconnected and Non-Interconnected	104		5,846,000

* Family figures are based on estimates of 1948 population. Note that following coverages (hence total families) overlap: Bloomington-Indianapolis; Grand Rapids-Lansing-Kalamazoo; Detroit-Lansing; Detroit-Toledo; Syracuse-Rochester-Utica-Binghamton; Binghamton-Utica; Philadelphia-Wilmington; Rochester-Syracuse-Schenectady-Utica; Pittsburgh-Johnstown; New York-Philadelphia; Boston-Providence; Buffalo-Rochester; Cincinnati-Columbus-Dayton; Lancaster-Baltimore; Dallas-Fort Worth.

(a) WKZO-TV now testing, due to start scheduled operation June 1.

(b) WJIM-TV began scheduled operation May 1.

WHYS AND WHEREFORES OF THE TV FREEZE

Excerpts from Addresses by FCC Chairman Wayne Coy

Scheduled for Delivery Before Portland City Club May 19 and Denver Rocky Mountain Council May 22

Chairman Coy spells out, in lay language, the technical reasons for the TV freeze, the problems of color TV, how and when local communities not now served by TV may reasonably expect service. His happy facility for making complex problems understandable merit this complete treatment, even though all the information has been reported piecemeal by The Digest. This is a document that should be read particularly by prospective telecasters and by manufacturers, distributors and dealers so that they can impart the basic facts to their local constituents. Local allusions to Denver and Portland are equally applicable to other areas as yet without TV stations of their own.

IT is becoming more and more apparent to me—and especially on occasions like this one here tonight—that Daniel would have been an ideal choice to serve as a member of the Federal Communications Commission.

Daniel was perhaps the only person I ever heard of or read about who had all the necessary requirements for the job. The Bible tells us that Daniel was skillful in all wisdom, cunning in knowledge, and understanding in science. He had an understanding in all visions and dreams; in all matters of wisdom and understanding he was ten times better than the magicians and astrologers in all the king's realm. He could make interpretations and dissolve doubts.

No wonder he was the king's favorite bureaucrat. Try as they might, his enemies could find no occasion to trip him up because there was just no error or fault in him.

Finally, however, these discontented conspirators cooked up a plot and managed to have Daniel thrown into the lions' den.

Daniel was saved because the Lord found "innocency" in him and sent an angel to shut the lions' mouths.

The only similarity between Daniel and me is that I'm in the lions' den but I see no angel hovering about.

Roar from Deprived Citizens

Of course, as between Daniel and a commissioner of the FCC, the advantage was all with Daniel. He was never put into the position of dangling the prospect of such an exciting, enchanting delight as television before the citizens [of Denver], then suddenly withdrawing it. We at the FCC have been hearing the roars [of Denver, Portland and other areas] hit by the freeze all the way back there in Washington.

I believe it is safe to say that never before has a freeze generated so much heat. Ever since the FCC ordered the freeze, it has been in hot water.

And sometimes it seems to me that whenever we try to explain the freeze, we are promptly called upon to explain the explanation.

The reasons for the continued freeze on the construction of new TV stations—the reason why TV cannot be authorized [for Portland & Denver] at this time—are really not too difficult to understand. All you have to do is to understand the implications and relationships of a few simple things as, for example, tropospheric phenomena, compatibility, incompatibility, dot interlace, line interlace, color break-up, threshold flicker, iso service contours, median field intensities, signals in decibels, equatorial

planes, time fading factors and vestigial sideband transmission.

It's as simple as that, and perhaps what I have said will be so clarifying as to eliminate the need for any future questions.

To get the full picture of the progress and problems of today's TV, we must go back 5 years. World War II had brought many new advances in electronics. To prepare for what it knew would be a post-war boom in all branches of radio, the Commission, while the war was still raging, conducted a lengthy hearing, participated in by the leading electronic scientists of the nation. As the result, it drew up an elaborate table setting forth frequency allocations for many new services. These included frequency modulation (FM), broadcasting, railroad radio service; general mobile radio service for streetcars, interurban buses, transcontinental trucks, etc.; citizens "walkie-talkie" service, rural telephone service, radar; radio heating, and many industrial applications of radio.

And, of course, among these many new services was TV. The Commission was bound to allocate space to these services in the public interest, convenience and necessity just as it is bound by the Communications Act to grant licenses to permittees on the basis of public interest, convenience and necessity.

At the time of the 1945 allocation, there were only 6 TV stations on the air, giving very limited service. It was apparent, however, that TV would be one of our greatest post-war activities. For the immediate post-war development of TV, the Commission allocated 13 channels (later reduced to 12) in the Very High Frequency Band. This was all the space that could possibly be given in that band to TV.

The Interference That Results

The Commission's first proposal for this band was a separation of 200 miles between co-channel stations and 100 miles between adjacent channel stations. But because of the very limited channels, the Commission revised the table to provide separations of 150 mi. and 75 mi. It is fair to say that the Commission acted in this particular matter on the basis of industry advice in which the Commission concurred. Of course, the closer you put stations together, the more you can crowd into a band. On the other hand, the more stations you crowd in, the less area each station will have to itself which is free of interference from other stations.

With the war over, the TV boom started and stations went on the air over the country. As more and more sta-

tions went into service, we began getting reports of interference caused by the bouncing back of signals from atmospheric layers in the troposphere. The troublesome elements in the troposphere extend from about 300 feet above the earth to about 6 miles above the earth.

This effect caused television signals to be carried farther than anticipated by the Commission and the industry and many of the stations were invading each other's territory. Obviously, there was only one remedy and that was to draw up a new table locating the stations farther apart. It is also obvious that the prudent thing to do was to make this change before too many additional stations were permitted to go on the air.

This meant the deletion or shifting of channels in many areas. The Commission, therefore, on Sept. 30, 1948, ordered a freeze on all new construction of TV stations not already authorized. It did not halt construction already started. Under this order, we have 104 stations on the air today and 5 more being completed.

Now the ironic aspect of ordering wider mileage separations and reducing the number of stations in the present VHF band was that at the same time the Commission was receiving many applications from over the United States for more TV stations. Improving reception in the VHF threw fuel on the flames of this demand.

New Channels Available Only in UHF

The only place to get additional channels was in a comparatively unexplored part of the spectrum—the higher Ultra High Frequency band. The Commission had foreseen in 1945 that eventually space for more channels and for color would be needed and had set aside this important reserve in the public domain of the spectrum for that purpose. The Commission in its 1945 allocation report said, in part:

“As was pointed out in the proposed report, the Commission is still of the opinion that there is insufficient spectrum space available below 300 mc to make possible a truly nationwide and competitive television system. Such a system, if it is to be developed, must find its lodging higher up in the spectrum where more space exists and where color pictures and superior monochrome pictures can be developed through the use of wider channels. In order to make possible this development of TV the Commission has made available the space between 480 and 920 mc for experimental TV.”

The need to use that upstairs space arose much more rapidly than had been anticipated.

So even before the freeze of September 1948 was ordered, the Commission decided to investigate the feasibility of employing the UHF space to get additional channels. This had to be done at once so that both the VHF and the UHF could be considered simultaneously in making a fair distribution of channels over the country. We could not make sound, equitable assignments of channels without knowing what we had available in both the VHF and the UHF.

But now a further complication developed.

Then Came the Color Issue

In opening up the UHF we would be going into TV's last reserve. If we were going to have color, this was the only place we could hope to have it—at least in our time. The kind of standards we set for the VHF and the UHF might tie our hands with regard to future color. We might be ruled by the dead hand of the past. For color, it was now or never. And coincidentally, color, which had for some years seemed rather remote, was now reported to have made sudden strides. The Commission had rejected color in 1947 because, among other reasons, the systems demonstrated needed channels 12 to 16 mc wide. But now we had reports that the scientists had managed to squeeze

color into 6 mc—the same width we were using for black and white.

So we had on our hands three problems:

- (1) Interference and allocations in the VHF.
- (2) Allocations in the UHF and engineering standards which would minimize interference conditions.
- (3) Color—whether color was feasible in a 6-mc bandwidth, and if so, which system or systems to choose.

Our hearing is one of the longest, most complex and most controversial in the history of the FCC. On it hinges the future course of the fastest growing industry in the United States.

Status of the VHF and UHF Problems

Now as to the status of our progress in dealing with each of these problems:

The VHF: A committee of engineers representing the industry, the Bureau of Standards and the FCC studied the VHF interference problem for several months. Basing its action to a great extent on this committee's findings, the Commission has proposed to place co-channel stations approximately 220 mi. apart (as against 150 mi.) and adjacent channel stations 110 mi. apart (as against 75). This will substantially reduce interference caused by tropospheric propagation.

In the distribution of these 12 VHF channels to cities and towns throughout the country on the average separation of 220 and 110 mi., the mathematical possibilities would indicate that 645 stations would be possible. In this connection, it should be pointed out that as a practical matter there will not be that many stations in operation because some of these channels in some areas would be available only in communities too small to support a station.

What I have said may need further clarification. Unused channels in cities and towns are not automatically available for use elsewhere unless it can be shown that their use elsewhere will not cause interference. This figure of 645 VHF stations engineeringly possible includes five in Denver. [For allocations to other cities, see *Television Digest Supplement No. 64.*]

2245 Stations in 1400 Communities

The UHF: The Commission proposes to add 42 6-mc channels in the UHF. Again, from purely an engineering standpoint, but not at all necessarily from a practical standpoint, these 42 UHF channels would make possible 1600 metropolitan stations. These, added to the 645 VHF stations I have just discussed, would give us 2245 metropolitan stations in 1400 communities. [See also Supplement No. 64.]

In addition, about 1000 low-power community type stations are provided for in the UHF. These stations will have a maximum power of 20 kw as compared with a maximum power of 100 kw for the metropolitan VHF stations and 200 kw for the metropolitan UHF stations on the basis of an antenna height of 500 feet.

As a rule these stations will be assigned only in those communities which are not a part of a metropolitan district. It should be pointed out in connection with UHF that the Commission proposes the same separation between co-channel stations and adjacent channels as in the VHF.

With 2245 metropolitan stations and 1000 low-power community stations provided for in our table and even taking into account the channels which may fall in areas where they cannot be utilized because of economic reasons, you can see that America is assured of an abundance of TV. We are confident that if this proposed table is adopted we will have the truly competitive service which will assure diversity of TV programming to the American people.

As to Color: The Commission has witnessed several demonstrations of three color systems—those of the Columbia Broadcasting System, the Radio Corporation of America, and Color Television, Incorporated, of San Francisco. The latest demonstration of the latter system was given in San Francisco Wednesday [May 17].

I do not propose to try to evaluate for you all of the technical details of the color systems proposed. I do think it important that you know something about the systems in order that you may see the character of the problems which the Commission must decide in writing engineering standards for color TV.

For example, the system proposed by CBS involves a change of transmission standards in two important respects. First, the number of lines is reduced from 525 to 405. Secondly, the number of fields is changed from 60 for black-and-white TV to 144 for color—that is, a substantial increase in the number of fields scanned per second. Present black-and-white receivers in the hands of the public will not receive a black-and-white picture from CBS color transmissions without the addition of a manual or automatic adapter capable of converting the receiver to receive pictures under the color TV standards proposed by CBS.

In the case of both RCA and CTI, the standards as to number of lines per picture and number of fields per second are identical for both color and black-and-white. Therefore, with color transmissions from these systems, present-day receivers in the hands of the public will receive black-and-white pictures from both RCA and CTI color transmissions.

Many Technical Considerations

Another example of the technical details of the color systems which create problems in the decision making process arises from the method employed by the various systems in showing color pictures. At the present stage of development, the CBS system uses a mechanical rotating filter in front of the tube of a TV receiver as the means of producing color. Since the mechanical filter must be more than twice the size of the tube due to the fact that it rotates upon an axis, it is obvious that the direct view tube, as a practical matter, cannot be larger than 10 to 12 in. It is theoretically possible to build mechanical rotating filters for tubes of larger size, but the size of an ordinary living room is not conducive to the manufacture of receivers of this type for 16, 20 and 24-in. tubes.

Until a few weeks ago the RCA system utilized 3 tubes, one for each color, and a system of dichroic mirrors to converge the signals from the 3 separate tubes into a single picture. This was a costly and cumbersome procedure and you can see that it involved a fundamental problem of registration of the complete picture.

A little more than 6 weeks ago RCA demonstrated a single tri-color tube to replace the previously employed cumbersome mechanism for reproducing a color picture. This tube is in the early stages of its development and RCA relies quite heavily upon this development in expressing their belief that their system is now ready for standardization. The Commission, therefore, must judge whether the tube is sufficiently developed on which to base a judgment that the apparatus employed in the RCA system is ready for public utilization.

It should be said that if and when the RCA tube is ready for public use and can be produced in quantity the tube can be employed by the CBS system and, by its use, CBS can then discard the use of the mechanical rotating filter.

Color Television Inc. displays color through the employment of a projection method. It is claimed that they can display color by a direct view tube just as the other systems claim they can do, but up to this point, all of their demonstrations have been from projection model receivers. The RCA direct view tri-color tube now in the process of de-

velopment, and other such tubes being developed in other laboratories throughout the country and not yet demonstrated to the Commission, can probably be utilized by CTI to better advantage than the projection method which they are now using.

Questions the FCC Must Resolve

I hope I have not in any way indicated that the Commission or that I presently favor one of these systems as against the other. The Commission has never discussed the merits or lack of merits of any of these systems for the purpose of reaching a decision in this part of the television proceeding. The record will be completed at hearings scheduled . . . May 25, and will continue for one or two days. When the hearing is finished, the parties will file proposed findings of fact and proposed conclusions, and when those documents are before us, the Commission can then get at the decision making process.

All 3 systems have shown marked improvement since their first demonstrations. These improvements were coming at the rate of one a week during the April and May portions of the hearing. There is no question but what the Commission's order stating that they would entertain proposals for color TV has spurred the development of these techniques by months and years.

When all the testimony is in, here are some of the questions the Commission must decide regarding color:

How important is it to have a system whose color transmissions can be received in black-and-white on existing receivers without the expense of an adapter? This is compatibility and it would mean that existing receivers would continue to bring in black-and-white pictures.

Should we give all of the systems more time for experimentation and development?

If more time were to be allowed for experimentation and development of all color TV systems, could the freeze be lifted and permit black-and-white TV to go ahead? Or must the freeze be kept on until it is practical to write engineering standards for color TV?

What Would Set Makers Do?

If there were to be time for further experimental and developmental work, is there any action which, taken now, would protect the public presently buying TV receivers in a manner which would reduce the obsolescence factor in the event the Commission decision favored a color system incompatible with present black and white standards?

Given the assumptions I have just stated, could it be expected that the TV manufacturing industry would immediately build manual or automatic adapters in all TV receivers? Would the relative small cost for such an addition to a set be worth it in terms of giving the widest possible latitude for decision after further experimentation extending perhaps a year or more?

Or must we write multiple standards and let the public decide in the market place which is the better system? Is there any way to assure the future use of all color sets if such a proposal is followed? Is it a proposal in which the public will willingly accept the risks and costs involved?

Or must we reject all of the systems and say that we will proceed immediately with black-and-white TV in both bands and let color wait until another generation or two, and in another, and now unexplored, portion of the spectrum?

Lifting of Freeze at Year's End?

The color phase of our hearing will be completed by May 26. The Commission will then have the task of studying some 10,000 pages of testimony and 250 exhibits. Just how long it will take us to arrive at a decision on the color question, I don't know. After we issue the decision we will take up the matter of allocations.

My best judgment today is that all this cannot be completed and the freeze ended much before the end of this year. If the freeze is lifted by the end of this year, the Commission will begin processing applications early next year.

In some cities there will be more applications than there are channels available. In such cases the Commission will have to hold a hearing to determine the applicants best qualified to receive the grants. In cases where the number of applications is less than or equal to the number of available channels, hearings will not be held unless for some specific reason it becomes necessary to decide the qualifications of some of the applicants. Where hearings are not necessary, we expect to be able to process the applications expeditiously. When the freeze is lifted, a reasonable time will be permitted for other applicants to file. . . .

A question we are frequently asked is why we cannot lift the freeze in a certain community without waiting for the conclusion of the present hearing and the general lifting of the freeze over the nation.

The answer to that is that any changes that might have to be made in the present proposed allocations in one city might set up a chain reaction of changes elsewhere. In TV no city lives unto itself alone.

Suppose that we now permitted the construction of stations in Denver—or any other city—and later found that the weight of the evidence should indicate that the 220-mi. and the 110-mi. channel spacings are insufficient to provide an acceptable interference-free TV service? It would be extremely difficult to change the allocations in a region in order to eliminate potential interference. If changes were to be made in allocations plans after the construction of a station has started, the permittee might be put to considerable expense.

When we proceed with construction in TV, when we give the green light to TV's coming expansion, an expansion that will involve billions of dollars, we must be sure that we are right. We cannot expect people to make costly investments in TV stations unless they are assured that the channel allocation plans are based upon the most complete and the most competent engineering testimony available.

To jump the gun and begin making piecemeal allocations now would not be calculated to insure the stability of what should be one of America's greatest industries. . . .

Color and the Freeze

The point has also been made that none of the color systems proposed would cause any interference problems that would affect the proposed allocation table. Hence, they suggest that we need not wait until the color issue is resolved before lifting the freeze.

The answer to that is this: The Commission cannot make any assumptions on so important a matter except on the basis of all the testimony—the full record and on the basis of demonstrations and field tests. It must be completely satisfied on a scientific basis that the picture quality and the performance of the proposed systems can be accommodated by a 6-mc channel.

The Commission must also satisfy itself that the interference and propagation characteristics of the proposed systems will be accommodated by the 220-mi. and 110-mi. separations. We have asked the proponents of the 3 systems to conduct field tests to establish this point. The results which we have received in the hearing up to this point from CBS and RCA indicate that the channel separations on which our proposed allocations are based would be adequate for color and black-and-white. However, we do not yet have information on the separations that would be required for the CTI system. I do not think that any of you here in the West would want the Commission to disregard the proposal of CTI because that interference information is not yet available to us.

The Commission has still to hear testimony from all interested parties on the proposed VHF allocations. To take any other course would be arbitrary and unsound and might result in future difficulties, comparable to the difficulties which resulted in the present freeze. In fact, it might well be jumping from the frying pan into the fire.

In fact, any change in those allocations could be made only at the expense of deleting or changing the channel assignments made to permittees elsewhere. If changes had to be made in allocation plans after the construction of a station has started, the permittee might be put to a considerable expense to replace transmitter equipment, secure a new antenna and perhaps build a tower at another location. Verily, in TV no city lives unto itself alone. . . .

The kind of TV system we are now working on will be worth waiting for. It will be a better service for the public, and a more stable, attractive enterprise for the broadcaster and the manufacturer.

TV Will Move Fast After Freeze

Once the freeze is lifted, TV will move ahead with Seven League boots toward its goal as America's dominant form of broadcasting—as America's dominant medium of mass communications. Already it is having far-reaching repercussions in our home life, our social life, our educational and informational techniques, our entertainment industries and on commerce.

Already there are 5,500,000 sets in the hands of the public, and in 3 years from now, there should be around 25,000,000.

The TV stations already on the air cover areas occupied by more than one-third of all the families in the United States.

According to a recent survey, more people in the city of Baltimore are now watching television than are listening to the radio. And in Washington, D. C., the schools have just come up with a survey showing that nine out of ten pupils are now watching TV and 2 out of 3 watch as many as 4 programs a day.

Approximately \$35,000,000 was spent in TV broadcasting by advertisers last year.

TV can have an almost magical effect in uniting this nation, in speeding a mutual understanding of the problems of our diverse social, economic and racial groups and in overcoming the barriers of geography.

Our coaxial cable and radio relay facilities to exchange television programs between cities will be more than quadrupled this year. By the end of the year more than 40 cities will be bound together. These facilities are moving steadily westward.

TV Relays Extending Westward

The New York-Chicago radio relay system is now nearing completion and the installation of equipment for the Chicago-Des Moines and Des Moines-Omaha links is under way. The link from Omaha to Denver will be completed in May of next year. . . .

The great day when the Atlantic Coast and the Pacific Coast are finally joined by TV will come sometime in the latter part of next year by the completion of a radio relay link between Omaha and San Francisco. The present coaxial cable between Portland and Sacramento, now used for telephone service, can be converted for TV transmission. Thus Portland can look forward to being connected with the Atlantic Coast by TV almost 70 years after it was connected by railroad.

I give you my pledge that we will lift the freeze at the earliest practical date and that in all our planning we will insure that [Portland & Denver] will share fully and freely as is her right in the exciting, challenging future development of American television.

105,000 TVs WEEKLY IN APRIL, TOO: TV receiver production through April continued to maintain RMA's March weekly average of about 105,000 units -- RMA reporting 420,026 sets, which projects to 525,000 when you add 25% to account for non-RMA production. There were signs of lag toward end of month, weekly RMA totals being: first week 112,319, second 104,418, third 105,865, fourth 97,424. No figures are available yet for any week in May, but month is expected to run somewhat under April.

Projected April figure compares with 5-week March's 655,000 (Vol. 6:17), February's 460,000 (Vol. 6:11), January's 420,000 (Vol. 6:7) -- totaling 2,060,000 units thus far this year. Add these to the 4,000,000 counted at start of 1950 (Vol. 6:3), and cumulative at end of April was 6,060,000. RMA economists say 6,250,000 -- and NBC Research estimated 5,846,000 sets-in-use as of May 1 (Vol. 6:20).

RMA April tally sheet shows receivers by tube sizes for first time: 139,342 table models and 85,771 console-consolettes in 12 to 15-in. classification (mostly 12½); 67,188 table models and 104,492 consoles-consolettes 16 to 18-in. (mostly 16); 12,134 sets 19-in. (including 5 table models); small residue 10-in. or under. There were 454 projections.

April breakdown by models: table, 216,995; TV-only consoles or consolettes, 164,625; combinations (with AM and/or FM), 9996; combinations (with phono), 28,410. Of the 420,026 total, 36,987 contain FM.

Also reported by RMA were 882,706 radios in April, of which 234,354 were auto sets and 201,284 battery portables. Total compares with 980,364 in March (5 weeks); significant is fact that RMA total of TVs (420,026) is almost equal to number of radios excluding auto and battery sets (447,068).

LARGER TUBE SIZES & LOWER PRICES: It's apparent that 16 & 19-in. will dominate fall-winter market, that 12½-in. will gradually take back seat, that 10-in. will all but disappear. Also, that more and more rectangulares will make appearance -- 14, 16, 17, 19 & 21-in. diagonals, competing with 12½, 16 & 19-in. rounds.

As for GE's 24-in. direct-view job, DuMont's 30-in. and others variously reported (Vol. 6:8,18,19), they're frankly experimental -- they'll require big and probably ungainly cabinets. It remains to be seen whether, when brought out, they will be bought for homes (built-in) or only for public places.

Thing that stands out in trend to larger pictures, oft pointed out in these pages is that nearly everybody in the industry now agrees that 12½-in. is usable wherever 10-in. is used, 16-in. usable wherever 12½-in. is used -- regardless of room size -- and, as in cheap car days, small TV set owners are ambitious to get larger ones. All of which spells big trade-in business, for the 7, 10 & 12½-in. sizes are by far most numerous among the 6,000,000 or more sets sold to date.

April RMA CR tube sales figures show 14-in. and up category (mostly 16-in.) taking lead away from 12-in. (12½). Breakdown of 498,624 total sold to equipment manufacturers for \$12,054,207 last month: 6 to 8.9-in., 2459 units (.5%); 9 to 11.9-in., 736 (.15%); 12 to 13.9-in., 240,063 (48.14%); 14-in. & over, 255,251 (51.9%); projections, 115 (.02%). [For comparisons with prior 1950 months, see Vol. 6:18.]

* * * *

Summer slowdown, lowered costs of production, competition from rectangulares were reflected in picture tube price reductions just announced. RCA and Sylvania posted prices to manufacturers of \$17.50 on 12½-in. rounds (down from \$19) and \$25 on 16-in. rounds (down from \$29), effective June 1. Sylvania additionally announced new price on 14-in. rectangulares as \$19.50 (down from \$20.50), on 16-in. rectangu-

lars \$27 (down from \$29); no changes in 7, 10 or 19-in. Neither released new distributor, dealer, list prices yet.

DuMont made all foregoing price changes, plus others, effective June 15 (for details see item next page) -- and it's presumed others have or will set same or nearly same rates, though none had made formal announcements at week's end.

New CR tube maker is Federal Telephone & Radio Corp., IT&T subsidiary, now in full production at Clifton, N.J. plant. Quietly, it started producing for sister subsidiary Capehart about 9 months ago; 2 weeks ago its 12½ & 16-in. rounds and 14 & 16-in. rectangulars went into full production -- shipments going also to Crosley, Hallicrafters, Sentinel, Tele-tone, Tele King, Lytle & Cannon (Chicago private label maker). Production now runs 300 per day, goes to 600 daily in about month, then aim is 1500 daily. Prices are same as RCA's and Sylvania's (above).

* * * *

You seldom hear about projections these days. First quarter RMA production of only 260 projection tubes (Vol. 6:18), plus April's 115 and mere 9000 or so in 1949, do not betoken much interest in them. North American Philips, of course, imports its tubes from Holland; no figures are available -- though it's the chief remaining proponent of projections in this country.

Yet from National Union Radio Corp., tubemaker of Orange, N.J., we hear of new type projection CR which president Kenneth C. Meinken says is based on "an entirely new approach...and from preliminary results we will be in a position to bring forth for the manufacturers a tube that will allow them to manufacture and merchandise a low price projection set with a very large screen.

"This principle will be the answer," Meinken adds, "to large size picture without having big glass or metal direct-view CR tubes." National Union isn't disclosing details yet, but from other sources it's reported tube may utilize Skiatron principle of using outside source of light (Vol. 5:46).

* * * *

Sylvania reopening its Altoona, Pa. tube plant, with limited assembly lines, to meet increased demands for receiving tubes; it was closed down last July...RCA has bought new building with 126,000 sq. ft. to expand receiving tube facilities in Harrison, N.J.

USING THE PRINTED-CIRCUIT TUNER: First user of RCA's printed-circuit tuner (Vol. 6:10) turns out to be Hallicrafters. Company announced it (called "Dynamic Tuner") with gleeful claims that it has 6-months jump on rest of industry, says it will absorb all RCA can make for that period. President Wm. Halligan tells us he's genuinely enthusiastic about tuner, feels it's a real technical advance.

Pilot production of 5000 TV sets already have tuners in them; full line, due in June, will contain it. Currently, new tuners cost slightly more than conventional units, but Halligan guessed that mass production might, by fall, bring them down 25% below conventional tuners of comparable quality. Since tuners are most expensive component in set, next to CR tube, Halligan thinks they may eventually permit as much as 10% reduction in receiver prices; others think he's too optimistic, that 3-4% may be more reasonable.

Improved performance in several ways is claimed: increased oscillator stability; greater sensitivity (twice present tuner average, Halligan estimates); higher interference rejection; easier manufacturing and servicing.

Hallicrafters may have head start, but it's hard to believe other tuner makers won't come up with similar units soon. Virtually all have been working hard on it. Other than those set makers who build their own tuners, principal suppliers are: Standard Coil, Sarkes Tarzian, General Instrument, American Steel Package.

Printed circuits were a wartime marvel, contributed heavily to success of the vital proximity (VT) fuse. What's surprising is that it has taken so long to make use of them in commercial receivers. You can be sure that manufacturers aren't stopping with a tuner; several propose to use them in other parts of TV sets.

Topics & Trends of TV Trade: To our list of 26 TV manufacturers reporting their vacation shutdown schedule (Vol. 6:20), we can add belated reports from Capehart-Farnsworth (first 2 weeks in July) and Air King (June 30-July 17).

Capehart president Fred D. Wilson also reports distributor convention will be held in Fort Wayne in latter July, when new fall-winter models will be shown. Air King sales chief R. D. Payne adds:

"It is our planned program to build an inventory prior to that [vacation] time so that any emergency orders may be filled . . . We adhere to policy of not bringing out a complete new line at any one time but continuously adding new models to pep up our line from time to time."

GE's distributor meetings have now been announced for June 16-17 in Syracuse, with first public and trade showings of new models at National Music Merchants Show (NAMM) in Chicago, July 10-13.

* * * *

DuMont tube prices change June 15 for all save 19-in., which changes June 30. New prices to manufacturers (old in parentheses) are: 12-in., \$17 (\$18.50); 12½-in., \$17.50 (\$19); 14-in. rectangular, \$19.50 (\$20.50); 15-in., \$24.50 (\$28.50); 16-in. round, \$25 (\$29); 16-in. rectangular, \$27 (\$29); 17-in. rectangular, \$29 (no previous price); 19-in. \$45 (\$54.50). Prices to distributors: 12-in., \$19 (\$20.50); 12½-in., \$19.50 (\$21); 14-in. rectangular, \$21.50 (\$22.55); 15-in., \$27 (\$31.75); 16-in. round, \$27.50 (\$32.25); 16-in. rectangular, \$30 (\$32); 17-in. rectangular \$32 (no previous price); 19-in., \$49.50 (\$60). Prices to dealers: 12-in., \$23.50 (\$25.50); 12½-in., \$24 (\$26.25); 14-in. rectangular, \$27 (\$28.15); 15-in., \$34 (\$39.75); 16-in. round, \$34.50 (\$40.25); 16-in. rectangular, \$37 (\$40); 17-in. rectangular, \$40 (no previous price); 19-in., \$62 (\$75). List prices: 12-in., \$31.50 (\$34); 12½-in., \$32 (\$35); 14-in. rectangular, \$36 (\$37.50); 15-in., \$45.50 (\$53); 16-in. round, \$46 (\$53.50); 16-in. rectangular, \$49.50 (\$53.50); 17-in. rectangular, \$53 (no previous price); 19-in., \$82.50 (\$100).

Dumont's 30-in. tube (Vol. 6:12) will go into commercial table model, to be called "Club 30," and will be offered next fall. It won't be ready, though, by time of NAMM Show in Chicago when DuMont fall line is due to be shown. Tube will be 20 to 24-in. long, will have 15 to 20-kv input. Exact description hasn't been released, nor price decided. It's expected to find market mainly for public places.

* * * *

This week's Radio Parts Distributors Conference & Show at Chicago's Hotel Stevens had estimated 3000 distributors on hand, more than 8000 visitors. Of some 200 displays, 26 were TV antennas, 8 radio-TV chassis, remainder usual run of components and accessories. Tone of show was as optimistic as receiver trade—everybody looking to boom months toward end of year, most enjoying orders placed far in advance of fall season.

Although Parts Show itself doesn't have receiver lines, some of smaller TV manufacturers set up showrooms in nearby hotels—among them Air King, Atwater, Automatic, DeWald, Jackson, Majestic, Philmore, Regal, Starrett, Tele King, Video Products Corp.

Among new sets shown were Air King's 14-in. rectangular table at \$200; Atwater's 14-in. rectangular table \$200, 16-in. round table \$220, 16-in. rectangular console \$240, 16-in. round console with doors \$300, 19-in. console \$300; DeWald's 10-in. table cut \$30 to \$170, with doors \$180, 16-in. table \$270, 19-in. console \$370, 16-in. console cut \$40 to \$300; Regal's 19-in. console \$320.

New models are emerging gradually, these being reported this week: Tele-tone 16-in. rectangular console with AM-phono, \$300; Trav-Ler 14-in. rectangular console \$200 (has ceased 12½-in.); Jackson 14-in. rectangular console, \$220; Trans-Vue 12½-in. table \$190, console \$230; Mars 16-in. stylized console \$595, 19-in. console \$665, combination \$1195; Peerless 14-in. rectangular table \$200, 16-in. rectangular table \$280, console \$300 (has ceased making 12½-in.); Conrac 16-in. console with doors \$390, 19-in. \$450 (has ceased making 12½-in.). [For full names and addresses of companies, see *TV Directory No. 10*]

Industrial Television Inc. lists 12½-in. table \$149, console \$249; 16-in. table \$199, console \$299, with doors \$319, with remote control \$379; 19-in. remote control \$469, in metal cabinet \$660 . . . Bace has cut 16-in. table from \$385 to \$325, console from \$423 to \$385; 19-in. console from \$595 to \$485, with commercial remote control from \$795 to \$660. Bace also has new 16-in. console with half doors \$395, same with 19-in. \$495, with remote control \$595 . . . Air King's forthcoming metal 16-in. rectangular table (Vol. 6:13) will be priced at \$200.

Admiral's \$100 trade-in allowance on used 7 & 10-in. sets, applied toward purchase of any one of its five 19-in. models, was big news this week—had some rivals calling it just another price cutting device. Sales v.p. Wallace C. Johnson said it was "designed to educate viewers to the advantages of the larger sized tubes, which can be viewed comfortably from a distance of 3 feet." The trade-in applies to TV-only consoles listing at \$495, \$515 & \$535, and to TV-radio-phono combinations at \$695 & \$775.

Motorola made news this week in announcing an estimated \$15,000,000 national and local advertising budget for 1950—triple last year's, said ad chief E. L. Redden. Ruthrauff & Ryan is handling TV-radio advertising; Warwick & Legler, newspapers; Gourfain-Cobb, magazine.

Lowest priced projection TV yet offered is table model at \$299 announced by Scott (now owned by Meck). Set uses Protelgram, formerly was \$495. Scott also has 16-in. rectangular combination at \$695, will show radio-TV line in Chicago's Hotel Blackstone June 1.

Capehart has new 16-in. period console with doors, \$380; it has new, more sensitive chassis (Vol. 6:20).



Trade Personals: H. Ward Zimmer, Sylvania operations v.p., recently made a director (Vol. 6:17), elected this week as executive v.p. . . . Maj. Gen. Roger B. Colton, U. S. A. retired, elected president of Federal Telecommunications Labs, IT&T research unit, succeeding Harold H. Buttner, appointed v.p. and deputy technical director, IT&T . . . Bell Labs' Wm. H. Doherty gets honorary degree June 7 from Catholic University of America in recognition of his scientific achievements . . . Five new Philco promotions, in line with company policy to develop own executives: John F. Gilligan, named v.p. in charge of advertising; Henry T. Paiste Jr., v.p., TV-radio service & quality control; Ray B. George, v.p., TV-radio merchandising; Walter H. Eichelberger, v.p., refrigeration merchandising; James M. Skinner Jr., shifted from v.p. in charge of service & parts div. to v.p. & gen. sales mgr., refrigeration div. . . . James C. Affleck, ex-adv. & sales promotion mgr., Radiomarine Corp. of America (RCA), joins DuMont as sales promotion mgr., receiver sales div. . . . Sam Norris elected president of Amperelex Electronic Corp.; was executive v.p. . . . Vinton K. Ulrich named mgr. of renewal tube sales div., National Union Radio Corp. . . . Glenn E. Webster, ex-Collins and Turner, named distribution mgr., Scott Radio.

Financial & Trade Notes: Whisperings from some of the majors: Admiral second quarter probably will be well ahead of first (Vol. 6:15) due to continued TV production and seasonal upturn in refrigerators . . . Motorola's second quarter won't be off much . . . Zenith said to have had very big final quarter to its April 30 fiscal year . . . DuMont estimates 1950 earnings will "conservatively" run between \$5,000,000 and \$6,000,000 on volume of \$75,000,000 to \$80,000,000 (vs. \$3,269,880 net on \$45,267,089 in 1949.)

Philco TV output won't slow down until July-August, accelerating rapidly thereafter, in September should run ahead of record 220,000 units produced in March; refrigerators enjoying good season; plans to expand radio output second half of this year, concentrating on radio-phono consoles.

* * * *

Emerson reports new record earnings for 26 weeks ended May 6, in report mailed to stockholders this week. Net income rose to \$3,048,948 (\$3.46 per share) from \$1,896,126 (\$2.37) earned in corresponding 26 weeks ended April 30, 1949. On May 6, 879,805 shares were outstanding; on April 30, 1949, 800,000 shares.

Trav-Ler filed SEC report showing net profit of \$314,931 (\$2.10 a common share) on sales of \$3,281,262 during quarter ended March 31. No comparable figures for period are available, but firm's 1949 earnings were \$299,122 (\$1.99) on sales of \$7,014,971, and in 1948 earnings were \$70,213 on sales of \$5,322,148.

Pacific Mercury Television Mfg. Corp. (formerly Pacific Cabinet & Radio Co.) report to SEC for 11 months and 4 days to March 4, 1950 shows net profit of \$171,502 on sales of \$4,372,230, compared with \$42,081 profit on \$1,774,168 sales for fiscal year ended March 31, 1949. Major portion of TV and radio-phono sales are to Sears Roebuck.

Hallcrafters has revised previous report (Vol. 6:16), filing with Midwest Stock Exchange statement showing \$14,404,300 net sales, \$748,228 profit (\$1.11 per share), for 7 months to March 31.

Reeves-Ely Laboratories Inc. reports 1949 net profit of \$731,420 (95¢) vs. \$636,868 (79¢) in 1948.

* * * *

IT&T chairman Sosthenes Behn reported to stockholders this week that subsidiary Capehart-Farnsworth should exceed \$35,000,000 in gross sales this year, twice that of 1949—and he also predicted 1951 will double this year's. Company plans to turn out Capehart equipment on assembly line at Federal plant in September, he said. IT&T is expanding domestic activity to assure greater dollar volume, but dividend resumption (after 18 years of non-payments) is still indefinite. This year's net, Mr. Behn stated, should be at least twice the \$4,685,000 earned last year; first quarter income was \$2,100,000, compared with \$1,500,000 same period last year.

Television & Radar Corp., organized in April, has become parent company of Plastoid Corp., Hamburg, N. J., making coaxial cable, insulated wires, etc., and "also planning the development of converters which may be used in changing over present TV sets to receive color when color broadcasting is undertaken as it is believed that in about a year, if color broadcasting is ready for use, there will be a demand for some 5 to 10 million converters." Quote is from May 15 circular offering 747,500 shares of Television & Radar Corp., sold at 40¢ through Tellier & Co., New York. President of company is Louis Danenberg, head of Plastoid since 1941.

That CBS plans own TV in Hollywood, separate and apart from its 49% interest in KTTV (*Los Angeles Times*, 51%), was made clear this week when it announced it will build a "Television City" on site of Gilmore Stadium, extending 3 blocks along Beverly Blvd. and one block on Fairfax Ave. Purchase of property is being completed, construction due to start in July 1951. Meanwhile, KTTV has occupied and acquired Nassour Studios (Vol. 6:20); CBS is trying to buy Don Lee's KTSL (Vol. 6:17,19); and CBS presumably will be in there pitching, post-freeze, to acquire limit of 5 TV outlets of its own (now owns only WCBS-TV outright and the minority in KTTV). NBC & ABC each has 5 stations, DuMont 3—and nearly all of these are now reported at or near profit point.

Most authoritative roundup on TV interference to date was presented by FCC chief engineer Curtis Plummer in May 25 talk to Canadian Manufacturers Assn. in Toronto. He listed 3 broad categories of complaints: (1) Attempted reception beyond normal range. (2) Apparatus deficiencies, particularly poor set design. (3) Misunderstanding of TV's inherent limitations. Oscillator radiation (Vol. 6:8, 14, 17-19) was termed "a most insidious type." Of 3 cures (reallocation, change of IF, limiting radiation), it seems FCC considers last most desirable. For co-channel trouble, he said, greater spacing seems best solution—offset carrier helping, but not enough. Also covered were harmonic radiation, ignition, diathermy, TV interference to AM, incidental radiation devices. If you desire full text, write to his office.

Improved kine recordings, call Vitapix, were announced by ABC this week with claims of quality good as professional 16mm film and cost about 30% less than ordinary kines. According to engineering chief Frank Marx, development took 18 months and improvement stems from special film processing, lighting, camera angles, new devices. He said new equipment will be installed immediately in ABC's New York, Chicago and Los Angeles stations, supplied to all affiliates as soon as possible. First recordings from Los Angeles are due East in 2 weeks.

First use of tri-dimensional TV is by Atomic Energy Commission's Argonne National Laboratory, Chicago. DuMont closed circuit (12 mc) monochrome was modified for purpose, which is to enable handling of radioactive materials from safe distance. Two lenses are placed in front of camera tube. In one arrangement, 2 images appear on receiving tube, are combined by means of polarizing filters; operator wears polaroid spectacles. In another setup, 2 CR tubes are used; several observers may watch simultaneously without wearing spectacles.

Looks like ASCAP-TV per-program agreement is long way off. This week, industry committee chairman Dwight Martin (WLWT) indicated funds would be sought for continuing committee's activities. In sending interim report to stations, Martin said committee had met with ASCAP 9 times since September 1949—but were near no final solution. He revealed also ASCAP was seeking per-program rate for spot announcements adjacent to programs using its music.

CIO's International Union of Electrical Workers won majority of votes among GE's 100,000 employes in NLRB election May 25. Vote was 53,970 for IUE vs. 36,683 for left-wing United Electrical Workers, recently expelled from CIO (Vol. 5:46, 49). IUE now represents 28,000 Westinghouse, 8000 RCA, 35,000 GM electrical workers.

Hazeltine's work on RCA color (Vol. 6:17, 18) will be shown to hearing participants and press June 14, at Little Neck, L. I. labs, now that its licensees have seen it.

NO TOPKICK IN SIGHT FOR RMA YET: Unless Hazeltine's W. A. MacDonald and his subcommittee come up with a candidate who strikes the fancy of all forthwith -- quite unlikely, according to several subcommittee members -- next week's RMA convention (Stevens Hotel, Chicago, June 5-8) won't pick a paid president; instead, will as usual choose member president and then bide time "until the right man comes along."

Only other probability is selection of someone for an interim period, possibly continuance of president Ray Cosgrove on paid basis for 6 months or so, or election of someone like GE's Dr. W. R. G. Baker for the hiatus. At least, those alternatives have been suggested. Firm belief still prevails TV-radio-electronics industry has grown so big, has such enormous stake and stature in American economy, that a fulltime leader is needed. Though some still balk at military man, there was frank disappointment when Gen. Lucius Clay turned down \$50,000 job after committee had been given reason to believe he would accept (Vol. 6:16-17).

That's about long and short of Chicago convention picture as top brass of set, tube and parts makers meet -- representing about 75% of the industry. Out of confusion, this much seems clear: though there are plenty of "willing" and "suggested" candidates for paid job, bylaws must first be revised, dues structure altered. All this is too complex to expect old board to act when it meets Wednesday, or to expect membership and new officers and board (14 directors to be elected) to take up at their Thursday meetings. It's good guess that, when general manager Bond Geddes retires next month, RMA administration will be left in hands of his aide James Secrest -- until next board meeting in September, at very least.

Note: FCC chairman Wayne Coy delivers major address at Thursday night banquet; it will be important discussion, particularly with respect to Commission's attitude and suggestions for meeting increasingly irksome interference problems, including oscillator radiation. He will also touch on color issues.

PICTURE TUBE SIZES, SHAPES & DEMAND: Bigger and rectangular. That's still the trend in picture tubes -- and it's accelerating fast. A check this week again (Vol. 6:21), among biggest glass-blowers and tube-makers, brought that unanimous consensus.

Here's outlook from American Structural Products Co. and Corning, who make just about every all-glass envelope built:

ASPC: Now almost 100% converted to rectangular, 14 & 16-in., about same number each. Behind demand on both. Introducing 19-in. in July; no present plans for anything larger. Will be well abreast demand by fall. Rectangulards proving even stronger than rounds, structurally.

Corning: About 60-70% rectangular at the moment, will be virtually 100% by fall. Making 14, 16, 17-in. Samples of 20-in. now being built; nothing larger scheduled this year. By fall, sizes 16-in. and larger will probably comprise 80% of production. Behind demand now, but certain to catch up by fall.

Tube-makers confirm those trends, but a couple suspect that even 14-in. is due for early demise -- and it's barely started! One reports 2 cancellations of orders for 14-in; number of set-makers using 16-in. want 17-in. as soon as possible.

DuMont is gearing for 21-in. rectangular, metal-coned (same length as 19-in. round), expects delivery of first cones this week. RCA is still all-out for rounds, but is universally believed to have full line of rectangulars in the works and bound to come out with them sooner or later. Here's RCA attitude: We have nothing against rectangulars, but do you think industry could reach this year's predicted 6,000,000-set output if everyone dropped rounds?

Sylvania now makes round 12½, 16 & 19-in.; also rectangular 14 & 16-in., with 17 & 20-in. planned. Rectangulars in big demand. Company reports many cus-

tomers giving up 12½-in. aren't replacing them with 14-in. Spokesman says demand is ahead of production but "watered": "If you add up all tube orders, they'd indicate 9,000,000 sets this year." Demand of Sylvania customers will be met.

GE produces round 10, 12½, 16, 19, with 24-in. due "later in year"; also rectangular 14 & 16-in., with 17-in. scheduled for August. Buffalo plant now solely rectangular, with 1000-tube daily capacity.

Both Sylvania and GE say trick of welding rectangular faceplate to metal cone is still to be mastered.

Following set-makers say they have already replaced 12½-in. with 14-in.: Atwater, Bendix, Crosley, DeWald, Emerson, Jackson, Majestic, Motorola, Peerless, Stewart-Warner, Trav-Ler. DuMont says it will. These have ceased 12½-in. production but haven't yet announced any 14-in.: Capehart, Conrac, Kaye-Halbert, Mercury.

* * * *

Talk about porcelain-steel picture tubes, started by recent Chicago Journal of Commerce story, seems to be just talk. Writer Ray Vicker reported "several manufacturers are experimenting with a porcelain-enamel carbon steel [rectangular] tube. Their objective is to break the tube production bottleneck." He said U of Illinois was first to make porcelain tube, in its betatron department.

Glass and tube-makers were curious about story, particularly since there isn't any tube bottleneck. One finally sent investigator to university; he came back with word that people there were upset by article since they'd done no such work -- although some thought tube of such material might be practical.

As for manufacturers allegedly working on it, inquiries among key producers fail to uncover any who say they are. One informs us that Motion Picture Research Corp., 236 Lafayette Ave., Lyndhurst, N.J. (Ben Doktor), approached it with plan for "enamel sealing," but tests "did not indicate it would be practical at this time."

Topics & Trends of TV Trade: "Nobody's waiting in line for television sets, as they did a month ago—but they're still selling." That observation by one of industry's leading producers would seem to size up current trade situation rather well.

"The public hasn't stopped buying," he continued, "and the manufacturers haven't stopped shipping. Distributors and dealers, though, are finding more merchandise on hand than they expected, hence the sales to unload in preparation for the new models.

"We had them on allocation so long that a dealer would place an order for 100 sets in expectation of getting 10; now, to his surprise, he's getting entire 100. That's the way things are. But the big difference between now and last year is that the public stopped buying then; they haven't stopped buying yet."

* * * *

Cleanouts of nearly all lines continue to feature retail market, while every set maker is warily watching every other to get line on new price trends. We should begin to get good inkling of that when Philco holds its Atlantic City convention June 17-21 (Vol. 6:12), Admiral its Chicago convention in 2 or 3 weeks (dates undecided), and RCA, Emerson, Motorola, et al, release models in early July. Chicago's Furniture & Merchandise marts, June 19-29, will bring some out (Vol. 6:19), and more will exhibit at NAMM Show in Chicago's Palmer House, July 10-13—by which time the new season should be well under way.

Meeting of National Appliance & Radio Dealers Assn. has now been set for June 25-26 in Chicago's Hotel Stevens. Besides the several western TV-radio shows (Vol. 6:19), it has been announced that New York is planning big public exposition Sept. 23-30, called National Television & Electronics Exposition and to be held in 69th

Regiment Armory. Chicago's Electric Assn. has set 1950 National Television & Electrical Living Show for Sept. 30-Oct. 8 in Chicago Coliseum.

Clearances seem to be fairly orderly, with some surprising values offered in overstocked and soon-to-be-superseded brand name models. Signs of the seasonal times include spate of ads offering free home demonstrations and free trials; giveaways of dishes, silverware, lamps, etc. with receiver purchases; big turn-in credits (up to \$100) on 7 & 10-in. sets, and even radios; dumping of these turn-ins at prices as low as \$39; free trip to Bermuda (Brooklyn offer) and week-end in Atlantic City (Philadelphia offer) with purchase of a TV; free vacation trips for dealers achieving certain number of sales points.

Denver isn't TV area, probably won't be for good year yet, but chain appliance dealer Jack's (also operating in Los Angeles) advises us through executive Marvin Hayuten that it's bringing in several hundred Majestic combination TV-radio-phono consoles this month, to retail under \$300, with thought of selling them for their radio-phono now against day when TV is usable. It's frankly "an experiment," said Mr. Hayuten, intended primarily "to get some good radio-phonographs immediately, with the TV there when needed."

* * * *

Philco this week released new Model 1606—16-in. (round) mahogany table at \$270. It has been on production line awhile and demand got so heavy company felt it was forced to place it on market immediately. Set has 19 tubes, 5 rectifiers.

Motorola's interim line, due on market around June 12 as sort of prelude to new line coming out after plant vacation ends July 8, comprises 4 models—14-in. rectangular console, \$240; 16-in. round console, \$270; 17-in. rectangular table \$240, console-combination \$400.

Westinghouse 12½-in. table is \$230 & 16-in. rectangular console with half-doors and phono jack \$325 . . . National Co. has 12-in. table at \$230, console \$270; 16-in. rectangular table \$290, console \$340; has ceased production of 7 & 10-in. . . . Montgomery-Ward's "Airline" private label sets are 12½-in. leatherette table \$190, in wood \$200, console \$230, console with more sensitive circuit \$250; 16-in. rectangular table \$250, with round tube in console with more sensitive circuit \$290.

Stewart-Warner has 16-in. rectangular console at \$300, has priced its 16-in. rectangular console-combination (Vol. 6:11) at \$400 . . . International Television (Arnold H. Klein new sales mgr.) reports 16-in. rectangular table \$239, console \$255, with doors \$319, in better chassis \$359; 19-in. console with doors, \$438.

Tele King has cut 16-in. rectangular table from \$260 to \$240, raised console from \$240 to \$270; has new 14-in. rectangular table, \$200 . . . Arvin has cut 12½-in. table \$10 to \$180 . . . Video Corp. cut 16-in. table from \$250 to \$230, console from \$300 to \$250, with doors from \$329 to \$280; 19-in. console cut from \$445 to \$340; has new 19-in. console at \$300, 16-in. console-combination at \$340.

Trav-Ler has new 14-in. rectangular console at \$200, has cut 16-in. rectangular console with AM-phono \$50 to \$300 . . . Telequip has 14-in. rectangular table, \$220; 16-in. rectangular table \$260, console \$300; 19-in. console, \$370.

* * * *

Reports from Canada, where RCA Victor Ltd.'s F. W. Radcliffe told Canadian Manufacturers Assn. last week that 40,000-50,000 TV sets will be produced and sold this year, and CBC's Charles Harris reported he hoped TV stations will be in operation in Montreal and Toronto by September, 1951:

RCA Victor Ltd. has 10-in. metal table, \$340; 12½-in. metal table \$419, console \$490; 16-in. table \$530 . . . Dominion Electrohome Industries Ltd. has 16-in. rectangular console \$495 . . . Stewart-Warner-Alemite Corp. of Canada Ltd. reports it's making 12-in. console, 14-in. rectangular table and console, 16-in. rectangular console, projection console. All consoles are combinations; no prices given . . . Canadian Admiral reports 7-in. plastic table \$220, wood table \$230; 10-in. plastic table \$340,

console \$370; 12½-in. table \$400, console \$450. Other models with more sensitive chassis are slightly higher priced . . . Stromberg-Carlson Ltd. has 10-in. table with FM \$450 . . . Pye Canada Ltd. reports it no longer is making TV sets.

Brand & Millen Ltd., Long Branch, Ont. (L. H. Gaetz, president) has signed for exclusive manufacture and sales of Crosley TV and radio sets in Canada; sets will be sold through Cross Country Television Ltd., newly formed.

* * * *

GE's Electronics Division allotted about \$7,000,000 of company's \$50,000,000 plant expansion program for this year. Largest expansion will be new TV picture tube plant in Syracuse which when completed late this year will provide 152,000 sq. ft. Other expansions include TV-radio plants at Buffalo, Utica, Owensboro, Ky., Wabash & Tell City, Ind. Electronics Division currently employs about 16,000, expects to increase this by 5% by end of year.

Sylvania's tube expansion program now includes new 500,000 sq. ft. plant at Shawnee, Okla., costing \$1,500,000 and due to be ready by Jan. 1, 1951 with capacity of 1,000,000 receiving tubes per month; manager will be C. W. Hosterman, ex-supt. of Sylvania plant at Huntington, W. Va. . . . Expansion of Sylvania in receiving set field indicated by subsidiary Colonial's sponsorship of college football games on ABC-AM starting Sept. 30.

RCA picture tube plant at Marion, Ind. will shut down only July 1-8, though all 10 other plants of Victor Division will close for vacations June 30 through July 18.

Some 35 employes of Remington Rand TV picture tube division are transferring to Reeves Soundcraft Corp., which will henceforth produce its rectangular tubes (Vol. 6:19). Remington Rand v.p., Lieut. Gen. Leslie R. Groves, said all facilities of the division necessary for making kinescopes will be transferred to Reeves' new plant on Hope St., Springdale, Stamford, Conn. Gen. Groves said Remington Rand will devote its research at South Norwalk, Conn. henceforth to new vacuum tube developments. Reeves has plants in Long Island City, Philadelphia, Allentown and subsidiary Light Metals Co., Louisville. It bought Remington tube division for price between \$50,000 & \$75,000.

FCC asks Zenith for explanation of certain Phonevision promotions in sharply-worded letter May 31 (Public Notice 50-785), to which Zenith counsel is expected to reply next week. Letter dealt primarily with Zenith's offer of Phonevision decoder unit licenses on royalty basis to RMA members, Admiral and Tele-tone (which none says he's accepted) and attendant publicity—but it's known commissioners are also concerned about Teco Inc. stock issue (Vol. 6:21). Six commissioners approved letter, Walker not participating. It asks for explanation before FCC acts on Zenith request for extension of its 90-day experimental license from last Feb. 8 to next Oct. 1. Letter stresses requirements of Feb. 8, 1950 order (FCC 50-191) that "Zenith . . . shall avoid any action that might create the impression [that] Phonevision has been or will be authorized on a regular basis or that the said authorization constitutes approval by the Commission of the principle of Phonevision or subscription television" which must be determined at public hearing. Letter continues: "Your actions, on the contrary, tend to destroy that flexibility [in determining standards after hearing] by encouraging the mass production of receivers containing Phonevision decoder outlets built in accordance with your present stand-

ards. Thus, if in the future such a hearing were held on this matter, a great number of sets might already be in the hands of the public and on the market all containing decoder outlets built to your standards. Furthermore, in the short time since your organization was granted special temporary authorization to conduct the Phonevision tests, various advertisements concerning Zenith television receivers have appeared containing such statements as 'Phonevision will soon be here' and 'Phonevision exclusive with Zenith.' The Commission is of the opinion that the public might be confused as to the true significance of the Phonevision decoder outlets and might easily be misled into believing that Phonevision has been or will soon be adopted by the Commission on a regular basis . . . the Commission believes that a serious question is raised as to whether your actions have been consistent with the conditions imposed in your special temporary authorization . . ."

Zenith's John R. Howland, in Los Angeles this week, said in address before California Independent Telephone Assn. that film makers will relent in opposition to Phonevision and cooperate in tests by September. From Chicago, *Wall Street Journal* June 3 quoted Comdr. McDonald as stating Zenith has no intention of instituting legal action against film companies.

Financial & Trade Notes: In wake of record 6-month sales and earnings report (Vol. 6:21), Emerson stockholders May 29 approved 2-for-1 stock split, authorizing increase from present 1,000,000 to 3,000,000 capital shares—1,240,390 still unissued. Directors meet June 21 to consider dividend. President Ben Abrams said recent concentration on 2 new models (Vol. 6:18) has greatly stimulated seasonal sales, disclosed Emerson's first 19-in. and other models will be released in July.

Officers' and directors' stock transactions reported by SEC (for April, except as noted): ABC—v.p. Earl E. Anderson, sold 6000 shares, holds 9000; v.p. Frank Marx, sold 300, holds 200; v.p. John H. Norton Jr., sold 900, holds 2100; director Owen D. Young, sold 5000, holds 5000. Hazeltine—v.p. Laurence B. Dodds, sold 100, holds none. Magnavox—treas. John S. Sturgeon, sold 200, holds 218; comptroller John D. Grayson, sold 100 in March 200 in April, holds 100; Stanley Sondles, sold 140, holds 2500. Noblitt-Sparks—Frank H. Sparks, sold 400, holds 5300. Philco—v.p. Thomas Kennally, sold 3, holds 13,333; v.p. Leslie Woods, sold 200, holds 5050; v.p. Frederick D. Ogilby, bought 100, holds 100; v.p. Frank D. Peltier, sold 100, holds 350. RCA—v.p. Robert A. Seidel, bought 100, holds 600; v.p. Harold R. Maag, sold 170, holds none. Zenith—v.p. Hugh Robertson, bought 200, holds 1518; v.p. Donald MacGregor, sold 100 in March, holds 150.

General Instrument Corp.'s annual statement dated May 26 shows net sales for year ended Feb. 28 were \$13,634,582 and net loss \$107,184. This compares with \$14,024,316 sales, \$302,535 profit for preceding year. Commenting on unprofitable first half of year, report states: "Continued difficulties with the original TV tuning head and the multi-speed record changers, in addition to the confusion existing in the industry with this item, resulted in low sales level. In the second half, notable improvements were achieved in the demand for all products of the company . . ." Proxy statement for June 29 annual meeting discloses president Richard E. Laux's salary as \$46,184, director Monte Cohen's (v.p., S. W. Sickles Co.) as \$24,800 plus \$10,000 bonus.

Allied Electric Products Inc., parent company of Sheldon Electric Co., tubemaker (Nathan Chirelstein, president), has filed SEC registration statement covering 160,000 units of \$6 par convertible preferred and \$1 par common shares (to be sold as units of one preferred and one-half common at \$7.50); also 20,000 common to be offered at \$4.50. Hill, Thompson & Co. is underwriter.

Geneva Electronic & Television Corp. reported to have paid \$500,000 for 71% interest in Continental Electric Co., 108 W. Randolph St., Chicago, operating plant in Geneva, Ill. making industrial tubes and photocells and planning to manufacture 16 & 20-in. rectangular TV picture tubes as well as fluorescent and other lamps.

Raytheon stockholders will be offered 290,000 additional common shares shortly, on basis of one for 5 held, issue to be underwritten by Hornblower & Weeks. Proceeds will be used for working capital incident to increased TV volume.

International Television Corp. (John B. Milliken president, Allen Gittelsohn & Arnold H. Klein new principals) is offering 360,000 shares of 10¢ par common at 60¢, thru D. F. Bernheimer & Co. and Hunter & Co., New York, net proceeds to be used for working capital.

Cornell-Dubilier sales were \$10,167,358 during 6 months ended March 31, net profit \$554,823 (\$1.21). This compared with \$6,905,872 sales, \$246,622 (48¢) profit in same period of preceding year.

When ABC broke into profit column in first quarter of this year (Vol. 6:19), it may have marked turning point in rather turbulent career, remarks *Wall Street Journal*. Profit was \$93,000 vs. loss of \$64,000 same 1949 period and loss of \$519,085 for all 1949. "Primarily responsible for the profitable first quarter this year is the upturn in TV time sales . . . understood to have topped \$1,100,000 compared with something less than \$100,000 in the comparable period last year [see PIB figures; Vol. 6:20]. This doesn't mean, of course, that the network's TV operation is out of the red. It isn't, but each day finds the losses getting smaller . . . Consequently, when the end of the year rolls around, ABC should be able to turn in a financial report which will show considerable improvement over that for last year."

Sightmaster Television Corp., newly formed by principals in Sightmaster Corp., set maker, plans to sell 750,000 shares of common stock through Tellier & Co., at 40¢ per share, to raise funds to exploit new method of filtering color said to be adaptable to any color TV system. Sightmaster Corp. itself will retain 400,000 shares, according to president Michael L. Kaplan. Company says technique provides "first method of filtering color . . . which eliminates glare and improves the contrast."

Sylvania estimates that about 10% of its expected 1950 volume of between \$110,000,000 & \$120,000,000 will come from TV receivers, reports *Wall Street Journal*. It entered that field last October, so less than 5% of its 1949 sales of \$102,539,866 came from TV sets, with radios and auto radios accounting for another 15%, and lamps, lighting fixtures, receiver tubes and TV picture tubes running 70%. It claims to be second largest maker of radio tubes.

Bendix Aviation reports profit for quarter ended March 31 was \$3,563,685 (\$1.69 per common share) vs. \$2,040,773 (69¢) for same 1949 period. For 6 months ended March 31, net income was \$7,362,604 (\$3.48) vs. \$5,143,398 (\$2.16) for same 1949 period. Fiscal year ends Sept. 30.

John G. (Joe) Wilson, 50, executive v.p., RCA Victor Division, died June 1 at his home in Wynnewood, Pa., following brief illness. He joined RCA Victor in 1944 as administrator of accounts and finance, became operating v.p., then v.p. & general manager before election to succeed Frank Folsom in January 1949 when latter was appointed RCA president. He had formerly held executive posts with United Wall Paper Co., Goldblatt's dept. store, Chicago, and Montgomery Ward. He leaves wife, son, 3 daughters. RCA Victor operating triumvirate comprises Admiral W. A. Buck, operating v.p.; J. B. Elliott, consumer products v.p.; L. W. Teegarden, technical products v.p.

Trade Personalities: Ellery W. Stone, Rear Admiral USN retired, ex-president of Federal and Capehart-Farnsworth, elected president of American Cable & Radio Corp., also IT&T affiliate . . . Robert MacLachie, ex-v.p. in charge of engineering & manufacturing of Colonial (Sylvania), has returned to private practice as designer and consultant on program mechanisms, automatic machines, manufacturing facilities, plant layout—headquarters in Penlynn, Pa. . . . Norman Wunderlich elected executive v.p. of Link Radio, Frederick T. Budelman elected engineering v.p. . . . Benjamin Abrams, president of Emerson, elected director of Better Business Bureau, New York . . . W. J. Moreland Jr., executive v.p., elected president of Conrac Inc., Glendora, Cal., TV receiver manufacturer, succeeding E. Z. Walters, now chairman.

RMA ELECTS SPRAGUE, REVAMPS SETUP: RMA convention in Chicago this week was so pre-occupied with problems of paid president, reorganization, bylaws changes, dues revisions, that members did little about other trade matters (reported elsewhere in this issue).

Unable to agree on any one of 4 military men advanced by J. J. Kahn's committee for \$50,000 presidency, board elected Robert C. Sprague (Sprague Electric) both president and chairman. When paid president is selected, Sprague remains as board chairman. He will appoint committees soon, including new one to continue quest for president. [For list of newly elected officers and directors, see p. 4.]

Radio-Television Manufacturers Assn. is new name of association, effective immediately. Higher dues schedule applies mainly to big companies, is calculated to provide for new needs. Annual budgets of \$250,000 have been running into red due to special appropriations.

PROGRESS REPORT ON SET RADIATION: Even as FCC Chairman Coy was putting oscillator radiation problem (Vol. 6:8,14,17-21) squarely up to industry, in serious talk to RMA convention Thursday night, perceptible progress was apparent out in the field.

Crux of Coy's speech (full text reprinted as Special Report herewith) was: "The question before us now -- today -- is whether cooperation from the industry will solve the problem or whether it will have to be solved under the power of the Commission to license transmitters -- and this is what we are dealing with in the cases of those receivers radiating excessive amounts of power."

Threading throughout speech, you'll notice this philosophy: "Boys, the spectrum is getting tremendously crowded. That means more regulations and restrictions, either self-imposed or governmental. Make your choice. Furthermore, radio is becoming so complex that FCC must have more assistance from you."

Abhorring governmental regulation, which they've never had to endure, receiver makers have begun to produce results. Problem is not new; in fact, FCC began warning industry some 2 years ago. At that time, a very few manufacturers looked far enough ahead to build moderately well-behaved sets. Three months ago, Commission really began to nag industry. As result of latest prodding, several manufacturers have already hurriedly checked new TV and FM models, redesigned some.

FCC has measured number of sets, at Laurel Labs, knows best and worst; there's huge gap between. Performance of some top-name brands is surprisingly bad. Since TV tuners are prime source of radiation, Commission has been querying all known tuner makers, enlisting their help as well as that of set makers. Better tuner makers are starting to extol their products. One tuner, according to FCC, seemed quite superior -- radiating very nearly FCC's suggested limit, 15 uv/m at 100 ft.

FM sets, not TV, are most dangerous culprits at the moment. Right now, TV sets are interfering primarily with each other. But FM receivers are fouling aircraft navigation instruments using vhf frequencies and jeopardizing air transportation. So serious is problem, that CAA Administrator D. W. Rentzel wrote FCC urgent plea for help. It's only recently that CAA found FM sets were to blame. FCC, CAA and manufacturers are now checking sets in Crawfordsville-Lafayette, Ind. area as "guinea pig". After current check, remedy will be chosen. Possible solutions range from shielding, traps, etc. to removing sets or ordering them kept turned off. By comparing allocations, FCC and CAA counted 60-odd areas where trouble can occur.

* * * *

Coy had 2 other principal points, aside from talk about color -- FM and research. His predecessors have fostered and fed FM with little success. Now, Coy

believes, the powerful new medium of TV could bring FM out of its moribund state. FM could be added inexpensively to TV sets, he said, and --

"FM set production could ride TV piggy-back up the ladder of success. At this state of TV's development, when daytime service is limited, such an arrangement would make it convenient for the set owner to snap on the FM when TV is not on..."

Coy chided industry, reasonably, for its great concentration on production and merchandising, neglect of research. He wondered, again, why many of industry's most prosperous entities have given FCC so little assistance in allocations (Vol. 6:21) -- as they might by more studies of propagation, interference and service areas, and equipment development.

"By allocating a reasonable amount of your energy and your money to such research programs," he said, "you will be helping to assure the stability of your industry and you will be serving the public interest."

Topics & Trends of TV Trade: It was no compliment to the TV trade that the head of New York's Better Business Bureau, Hugh R. Jackson, should have reported to BBB national convention in Washington this week that 18.2% of all complaints handled by his office concern TV. Also, that such complaints increased 230% during first quarter of 1950.

As glaring example, he cited offer of free trip to Bermuda with sale of any TV set on floor; but when buyers came, only a handful of sets were available, all in highest price brackets.

Service contracts are big headache, as well as advertising complaints—and it was to these that Philco's James H. Carmine addressed himself largely when he spoke June 6. He said the industry isn't overloaded with TV sets, but admitted to an excess of zeal on part of some dealers in disposing of inventory in expectation of new models or to hypo sales during seasonal slumps. Such abuses, said Carmine, are growing pains of an infant industry. He said 6,000,000 sets will be sold this year, of which Philco will account for 400,000 first 6 months, 1,000,000 for year. [Also, 2,000,000 radios this year, he later told us.]

Carmine said some dealers have turned over servicing to contractors who don't feel same obligation to customer as do established retailers. Where service is rendered directly by retailer—as in 60% of Philco sales—there is little trouble, he said. He pleaded for patience: "We're just now learning about TV, and I think you may feel reasonably sure selling practices will improve."

* * * *

Everything's pointed now to big TV exhibits due shortly at Chicago marts (Vol. 6:19), to say nothing of various company conventions starting mid-June—biggest one to be 5000-delegate Philco affair in Atlantic City, June 17-21 (Vol. 6:12). But most numerous and biggest displays of TVs and radios will doubtless be those at National Assn. of Music Merchants (NAMM) show in Chicago's Palmer House, July 10-13. List of exhibitors thus far engaging space:

Admiral, Ansley, Atwater, Belmont (Raytheon), Brunswick, DuMont, Fisher, Freed, General Electric, Jewel, Magnavox, Motorola, Pathe, RCA Victor, Scott, Sparton, Starrett, Stromberg-Carlson, Sylvania (Colonial), Tele King, Westinghouse, Zenith.

Unverified but probably accurate report has RCA readying for initial dealer showings of new line starting July 6, or a few days before NAMM show. Regional meetings are planned, no national convention. GE's unveilings come at Syracuse convention next week, June 16-17. Arvin convention will be in Moraine Hotel, Highland Park, Ill., June 19-20.

Tele King is pulling out of 12½-in. field entirely, will concentrate on 14 & 16-in. rectangulars, 16 & 19-in. rounds, low end of line to be \$200 wood table model. This week's sellout of 12½-in. Tele King tables at \$99.95 by Macy's and Bamberger's was last of odd-lot to clean out old \$129 private-label line; it was not Tele King's own former \$190 model in that size, now discontinued. New Tele King line is due sometime in July.

Entry of Mercury Record Corp., 839 S. Wabash, Chicago, into TV receiver manufacture is now confirmed. Big popular record maker will show first line at Chicago Furniture Mart. Its sets are made by SMA Co., 4721 N. Kedzie Ave., Chicago (formerly Lytle & Co., then Lytle & Cannon), of which Mercury is major stockholder. SMA's president is Chester Lytle, with onetime Iranian oil millionaire S. M. Avaezadeh as other major stockholder. SMA is already heavily in tuner manufacture. TVs will be sold through Mercury's 9000 dealers. SMA Co. also makes private-label sets for several Chicago retailers.

Sears Roebuck's midsummer catalog lists only one TV set—16-in. rectangular console at \$250 . . . Spiegel Inc. catalog lists TVs ranging from 12½-in. table at \$140 to 16-in. console at \$210.

Scott has 16-in. chassis for custom installation \$210, reports it's producing 150 units a day . . . Federal Television Corp. has 16-in. console at \$300, 16-in. rectangular with more sensitive chassis \$400; 19-in. console \$400, with more sensitive chassis \$500 . . . Philmore cut 16-in. table from \$365 to \$289, console from \$395 to \$345; has new 19-in. console at \$389; has dropped 12½-in. Also makes kits . . . MP Concert Installations reports 12½-in. table at \$250, console \$260; 16-in. rectangular table \$290, console \$300 . . . Transvision-Television (Canada) has 16-in. rectangular table at \$479, console \$539; 14-in. rectangular table and console and 19-in. table, no prices.

Emerson can be added to lists of factories shutting down first 2 weeks in July (Vol. 6:20-21), with new models (including 19-in.) due sometime in July . . . Bendix plant addition at Baltimore, exclusively for TV, will be 2-story structure 500x72-ft., will house 4 new TV lines of 350-ft. each, will be completed by Sept. 1. Handling average of 14 carloads of TV materials daily, new facilities should quadruple production, says gen. mgr. W. A. Mara . . . Freed has leased more space at 12-16 Vestry St., New York, adjoining present factory at 200 Hudson St., and president Arthur Freed says this will permit 50% increase in TV production . . . Olympic's new assembly lines will be doubled late in July, when new fall line starts, will increase daily capacity from 600 to 1000 TVs per day; first 6 months output will be about 50,000, second about 100,000, according to president A. A. Juviler.

Financial & Trade Notes: "If circumstances should make it advisable to liquidate our interest in DuMont," Paramount president (and DuMont "B" director) Barney Balaban told stockholders this week, "we shall probably do so by offering it to our stockholders in exchange for shares of our corporation on the same basis bearing a relationship to the respective market values of each of the stocks."

Paramount holds 560,000 shares of all Class B DuMont and 43,200 Class A shares, for which it paid some \$164,000 in 1938-43 (Vol. 4:30) and which currently has market value of around \$14,000,000. Paramount thus owns about 26% of DuMont, its "B" shares entitling it to 3 out of 8 directors.

Balaban report was first since Paramount Pictures Corp. (production) was set up separately from United Paramount Theatres (distribution) under govt. consent decree. Paramount Pictures Corp. owns one TV station, Los Angeles' KTLA, which Mr. Balaban revealed was now operating in the black as, reportedly, is United Paramount-Balaban & Katz's WBKB, Chicago. TV phase of report was largely designed to counter common belief that TV accounts for current box office dropoff; analysis doesn't sustain this, said Mr. Balaban, because dropoff is same in non-TV as in TV areas.

* * * *

International Television Corp., in prospectus for new stock issue (Vol. 6:22), discloses sales of \$185,083 for 3 months ended April 30, 1950, net profit \$12,345—sales running \$24,696 in February (deficit \$5439); \$67,257 in March (profit \$7142); \$93,129 in April (profit \$10,643). In operation to Jan. 31, 1950, losses totaled \$246,191.

Allied Electric Products Inc., tubes and components, reports sales at \$2,702,834, profit \$89,192 for 9 months ending March 31. Company was organized June 17, 1949. April-May sales reached new high of \$935,000.

Zenith accepts no blame for Phonevision ads and publicity giving impression that FCC has authorized service on commercial basis. In 10-page letter with 11 attachments, answering FCC's warning of last week (Vol. 6:22), president E. F. McDonald asserted ads were initiated by dealers and distributors and that Zenith took immediate steps to discipline offenders, even threatening disenfranchisement. As for urging other manufacturers to install decoding outlets in sets now on royalty basis (Vol. 6:8), McDonald insisted he was just continuing Zenith's policy of preventing obsolescence, which company had carried out, he said, in case of high-low band FM, vhf-uhf TV, and now Phonevision.

Flexibility of FCC's future decision would not be impaired by installation of such outlets now, he maintained, claiming that many types of "scrambling" are possible with those outlets. He also disclaimed any responsibility for gyrations of Teco stock (Vol. 6:21-22). He said that both he and Teco v.p. T. M. McNicholas, in interview published in May 25 *Chicago Herald-American*, made it clear that Phonevision hadn't been authorized and that phenomenal rise in Teco shares' value wasn't considered warranted. He went on to say:

"If the Commission feels that it is not in the public interest for us to continue to suggest to our competitors that they help protect the public by equipping their sets to accommodate Phonevision if and when it is approved, then we will on your request withdraw that offer and make no further move towards permitting our competitors to put these outlets on without royalty until and if the Com-

Dividends declared: Admiral, regular quarterly 25¢ payable June 30 to stock of record June 16; Zenith, first quarterly 50¢, payable July 31 to stock of record July 14, last annual dividend having been \$2 paid last April 29; Muter, quarterly 15¢ payable June 30 on new common (100% stock dividend having been declared May 15) of record June 15, last annual payment having been 60¢ in December; Clarostat, paying 8¢ on common July 10 to stock of record June 20.

Besides price reductions in 10, 12½ & 16-in. kinescopes sold to manufacturers, disclosed in latter May to become effective June 1 (Vol. 6:21), RCA announces new distributors', dealers' and list prices as follows (old prices in parentheses): Type 10BP4 & 10BP4A, distributor \$18.60 (\$20.85), suggested dealer \$22.25; suggested list \$31. Type 12LP4 & 12LP4A, distributor \$19.25 (\$21), dealer \$24, list \$32. Type 16AP4 & 16AP4A, distributor \$32 (\$41), dealer \$40, list \$53.50. Type 16GP4, distributor \$27.60 (\$32), dealer \$34.50, list \$46. New list prices do not become effective until July 1.

As summer sales stimulant, DuMont has launched dealer contest offering \$12,500 worth of prizes (1950 Cadillac, Plymouth, \$500 savings bond, 30 Longines wrist watches, 30 Royal portable typewriters). Dealers will write about and show how they pushed 19-in. Hanover. Contest closes July 31, will be backed by full-page ads in magazines, tie-in space in TV markets, TV spots, continuance of *Morey Amsterdam Show* on DuMont Network.

More June 1 sets-in-use, reported since NBC Research "census" of May 1 (Vol. 6:20): St. Louis 135,500, up 7500 in month; Miami 27,000, up 2200; Omaha 23,933 (as of June 3), up 1433; Norfolk 19,634 (as of June 5), up 5634; Greensboro 12,479, up 979; Davenport 11,447, up 1047; Ames (Des Moines) 11,200, up 2100; Kansas City, 35,793, up 1493.

mission has approved Phonevision as a commercial service. However, we feel it our duty to the public to point out that such action on our part at the behest of the Commission would result in unfortunate and costly repercussions for both the general public and competing manufacturers, if Phonevision should be approved by the Commission and established as a public service."

Company's policy, Comdr. McDonald added, "is also in line with the suggestions which have been made by the Commission in connection with its consideration of color TV that if possible some provision be made in TV sets now being manufactured to prevent them from becoming obsolete with the coming of color TV when the Commission shall have established standards for that system of broadcasting." Presumably, he was referring to commissioners' questions, particularly Coy's (Vol. 6:9). They have asked whether installation of Chapin-Roberts switch in sets built from now on might give FCC greater freedom in making color decision by stopping number of sets incompatible with CBS system at number now outstanding. McDonald's comment started some speculation that he's thinking of putting switch into new sets.

* * * *

Zenith's first mention of easy uhf convertibility of its TV sets since its "obsolescence" campaign of last year (Vol. 5:11-21) came in letter to FCC on Phonevision. Said President McDonald: "Many standard Zenith TV receivers are now operating satisfactorily on the uhf band in Bridgeport, Conn."

Serving with RMA's new president-chairman Robert C. Sprague are these v.p.-directors elected at Chicago convention this week: Max Balcom, Sylvania (also heads tube div.); W. J. Barkley, Collins; A. Liberman, Talk-A-Phone; A. D. Plamondon, Indiana Steel; Glenn W. Thompson, Arvin (heads set div.). Other officers reelected were Leslie F. Muter, treas.; John W. Van Allen, gen. counsel; Dr. W. R. G. Baker, engineering director. Newly elected directors: Robert Bell, Packard-Bell; John W. Craig, Crosley; R. S. Perry, Federal; R. C. Tait, Stromberg; R. G. Zender, Lenz Electric (heads parts div.). Re-elected directors: E. Alshuler, Sentinel; R. E. Carlson, Tung-Sol; G. M. Gardner, Wells-Gardner; H. J. Hoffman, Machlett (heads transmitter div.); H. L. Hoffman, Hoffman Radio; H. C. Mattes, Belmont; Ray F. Sparrow, Mallory. On retirement of executive v.p. Bond Geddes July 31, public relations director James D. Secrest becomes secy-gen. mgr.

Bitter about Washington's treatment of industry on color issue, RMA retiring president Raymond Cosgrove told convention luncheon meeting: "The industry was accused falsely of holding back color . . . If the folks making the ungrounded statements had any business experience or any elementary knowledge of this industry, they would have known that all of us have built our business on enlightened self-interest in the public interest . . ." Although FCC has regarded RMA's baby—the NTSC—as a stepchild, NTSC panels are doing a lot of work on color. They want to be ready to aid in writing exact standards when and if FCC asks for assistance.

FCC hearing on 470-500 mc, requested for new broadband mobile telephone service by Bell Labs (Vol. 6:22), ran all this week, resumes June 14, should finish that day or next. Bell contends that present narrowband service, lower in spectrum, isn't enough and that 470-500 mc is peculiarly well-suited to new service. Other common carrier participants (U. S. Independent Telephone Assn., National Mobile Radio System, Mutual Telephone Co.) want 470-500 mc, but some of them fear Bell would get in early enough to preempt channels in some areas. First TV witness, DuMont's T. T. Goldsmith, got on stand late Friday, continues next week. Other TV participants are TBA and Philco. TV people are challenging Bell's contentions, asserting TV has greater need of space.

New JTAC members, taking office July 1, are T. T. Goldsmith, DuMont research director, and I. J. Kaar, manager of GE's receiver division. John V. L. Hogan moves up to chairman, Kaar becomes vice chairman. New members replace Melville Eastham (General Radio) and E. K. Jett (WMAR-TV, Baltimore); first has retired, second begged off because of other work. Rest of JTAC members: Donald Fink (*Electronics*), Ralph Bown (Bell Labs), Haraden Pratt (IT&T), Philip Siling (RCA), David Smith (Philco). IRE's L. G. Cumming is secy.

That 6 mc is sufficient for color, in FCC Chairman Coy's opinion, seemed strongly indicated in his RMA speech this week when he said that if 6 mc isn't enough "color would not be available to the people of this country until some unknown date in a presently unknown and probably presently unexplored part of the radio spectrum, perhaps as far away as 2 or 3 decades, if at all." Other commissioners are known to feel that 6 mc is enough for any kind of TV; dot-interlacing has served to deepen that conviction, since it can provide greater resolution in limited bandwidth.

Louis Silver promoted to executive v.p. of Majestic, Milton R. Benjamin moving in from district sales post for New England to take over sales managership.

Personal Notes: Barry Bingham, publisher of *Louisville Courier-Journal* (WHAS & WHAS-TV) resigned this week as chief of Marshall Plan mission in France to return to Louisville . . . French Govt. June 6 awarded Brig. Gen. David Sarnoff, RCA, Grand Medal of the Association des Ingenieurs-Docteurs de France for services in war and peace contributing to the "development of public cultural relations on a world scale" . . . Leonard Reeg is new ABC-AM eastern program mgr., Alexander Stronach Jr. national director of TV programs, Harold L. Morgan Jr. national director of TV program operations . . . Anne Nelson and Wm. Rosenthal appointed assistants for business administration, CBS-Hollywood, under director Kenneth L. Youred . . . Ruddick C. Lawrence, from *Fortune Magazine* ad staff, new mgr. of NBC-TV sales development . . . Stuart Ludlum, ex-Blackett-Sample-Hummert & McCann-Erickson, new TV director of Duane Jones Co. . . . Robert Breckner, KTTV, Los Angeles, new president of TV Council, Screen Directors Guild . . . Clarence Menser, ex-NBC v.p., now professor of speech and director of radio, Stetson U, DeLand, Fla. . . . Leonard Reinsch elected to board of Atlanta Newspapers Inc. (*Journal, Constitution*, radio & TV stations) . . . David H. Carpenter, ex-WCON & WCON-TV (CP), out in Atlanta newspaper-radio shuffle (Vol. 6:20), has joined Music Corp. of America as director of national sales of radio shows, including transcribed MGM Radio Attractions; at MCA with him is Crenshaw Bonner, ex-WCON sales mgr., with Gaines Allen handling Southern sales . . . Harvey Aderhold, ex-WCON chief engineer, has joined TV dept. of WSB-TV, Atlanta . . . Ralph J. Roberts, adv.-sales promotion chief of Muzak, elected v.p. . . . Harold J. Cohen, chief of FCC Common Carrier Bureau, has resigned to join New York law firm of Root, Ballantine, Harlan, Bushby & Palmer; acting chief of Common Carrier Bureau is Jack Werner . . . Don Petty, NAB general counsel, has resigned to resume private law partnership in McClean & Petty, Los Angeles.

Creation of a Hopalong Cassidy-like character, "owned and operated" by themselves, is behind big deal announced this week by 6 manufacturers. They'll exploit, through sale of clothing, novelties, etc., name of Wild Bill Hickok. Actors Guy Madison and Andy Devine are to star in 5-year series, making 52 half-hour TV films and 195 quarter-hour radio transcriptions yearly; movies are also planned. David Hire, ex-Paramount and Fox, will be in charge of all production, with headquarters at Hal Roach studios. Leonard Picker, ex-Columbia Studios, will produce films; Ruth Burch, ex-Selznick, will handle radio. Manufacturers involved: Robert Bruce Knitwear, Irvin B. Foster Sportswear, De Luxe Wash Suit, Varsity Mfg., George Schmidt Mfg., Western Junior Mfg. They won't sponsor shows, but will offer them to others.

More than 200 copies of Princeton student Jerry Jordan's survey on TV's impact on sports attendance (Vol. 6:19) have been sent to that many colleges faced with fall decisions on use of TV. When complete Jordan report is issued late in July, it will contain names and records of all colleges, ball clubs and others who cooperated—making individual findings available for different sections of country. RMA voted \$18,000 to reprint, send study to every college, ball club, football team, sports clubs and promoters in country. Jordan gave presentation to Receiver Division Wednesday, impressed them with survey's thoroughness.

Improved kine recording transmission will be demonstrated in New York and Hollywood June 12 by NBC-TV, details not yet available. All of improvement is said to be in transmission techniques, not in making of kines themselves. Development comes on heels of ABC-TV's improved kines called Vitapix (Vol. 6:21).

WHAT'S EXPECTED OF THE MANUFACTURERS

Problems of Freeze, Color, UHF, Oscillator Radiation, Aural Radio, Research As Discussed in Address by FCC Chairman Wayne Coy

Before Annual Convention of Radio Manufacturers Assn., Chicago, June 8

THE theme of my remarks here tonight is the expansion that lies just ahead for the radio manufacturing industry of America, some methods by which that expansion may be fostered, and the stake of the public in that new era of your development.

Tonight, the radio manufacturers of America can look back upon an exciting, dramatic history of accomplishment. In a comparatively short space of time you have made yours one of the leading industries of the leading industrial nation of the world.

You have built for the American people transmitters for some 3000 FM, AM and TV broadcasting stations and more than 100,000,000 broadcasting receiving sets of all types. You have produced hundreds of thousands of transmitters and receivers for radio communications systems for almost every social, economic and industrial activity, many of them new and novel applications. Over and above the domestic needs, you have exported the products of your factories around the globe and have thereby added lustre to the fame of American mass production genius.

You are in the extremely fortunate position of serving a public that is radio-minded—radio-minded as perhaps no other people in the world. Figures just released by the Department of Commerce point up the activity in your industry. In the first two months of this year, sales of almost every major classification of merchandise by department stores were down 2 to 34% from the corresponding period in 1948 and 1949. But radios, TV sets and phonographs were up 159% over 1948 and 121% over 1949.

Maximum Utilization of the Spectrum

Perhaps the key problem of all of us concerned with radio at this particular time is the maximum utilization of that natural resource in the public interest. For the public, maximum utilization of the spectrum means maximum service. For the broadcaster, it means maximum coverage. For the radio manufacturer, it means maximum production. And for the Federal Communications Commission, it means the fulfillment of the mandate of Congress to encourage the larger and more effective use of radio in the public interest.

You gentlemen construct the vehicles that haul our loads of communication up and down the electronic highways of the radio spectrum. That spectrum space is so precious that we should strive for the most efficient operation, the maximum utilization of these highways of the ether.

That is why at this particular stage of radio's development the radio manufacturer finds himself more and more confronted with problems that the manufacturer of yesterday might not have considered so immediate to his planning. But now it is becoming increasingly obvious that the extent of our efficiency, ingenuity and economy in employing these highways determines the extent of the manufacturer's production opportunities.

I think TV affords a splendid example of the mounting importance of the inter-relationship of the manufacturer, the broadcaster, the public and the government.

In the TV area of the radio spectrum we have seen what happens when, in response to enthusiastic demands for a new and exciting broadcast service, we authorized more traffic on the electronic highways than the development of the art would permit. The result was a traffic jam that could only be straightened out by halting all new construction. In this particular instance the solution of the over-crowding was complicated by the necessity of providing for color, along with black and white, in the spectrum space allocated to TV, if we are to have color in the foreseeable future.

The Freeze, Color and UHF

In general, we seek the same objectives: We want to lift the freeze as soon as practical so that construction of stations can resume. The freeze has already lasted more than a year and a half. We want to employ channels in the Ultra High Frequency Band so that we can have many more stations and give the public by means of a proper distribution of station assignments, a truly national and competitive TV broadcasting system. We want to have color if it is feasible. To use only black-and-white pictures when color is feasible would not be maximum utilization of the spectrum.

The color phase of the Commission's hearing was concluded on Friday afternoon, May 26. Proposed findings, arguments and rebuttal briefs will be in the hands of the Commission on July 10 and then the decision-making process can get under way. The most critical questions which the Commission must decide as a result of this phase of the hearing and in the light of the continued halt on the construction of television stations are:

(1) Can we get good color TV in a 6-megacycle channel?

(2) Are the interference conditions, which affect the station assignment plan, the same, substantially the same, or more or less critical than for black-and-white TV?

The Commission could answer the first question in the negative and, therefore, express no concern as to question No. 2. Such an answer would have these consequences:

(a) Color no longer would be an issue prolonging the freeze.

(b) Color would not be available to the people of this country until some unknown date in a presently unknown and probably presently unexplored part of the radio spectrum, perhaps as far away as two or three decades, if at all. I add "if at all" because TV is now allocated such a large amount of the known radio spectrum that it is very doubtful if additional space will be granted this service in our lifetime in view of the many, many other demands for use of the spectrum.

Some of you have made it clear that you would answer the color question in the negative. Others in your organization have strongly inferred such an answer would be yours. But most of you, in my opinion, see the merits of

the proposition that adequate provision for both color and black-and-white TV must be made now in the public interest and in your own interest, if such action is possible at this time.

Key to Lifting of the Freeze

The Commission can answer the question affirmatively by any one of the following decisions: the writing of engineering standards for color TV transmission; provision for multiple standards, permanently or temporarily; or provision for further experimentation and development.

Involved in the making of such an affirmative decision is the consideration, among other things, of whether apparatus for the showing of color from any of the proposed color systems has been developed or seems *certain* of such development as would permit the sale of receivers at a sufficiently low price so as to be economically available to practically all homes in America.

As to the question of color in 6 mc, we have had help, great and important help, from segments of the radio industry. At times it has seemed that some segments of the industry wanted to hold back color for another day, even at the risk of not having color in the future. But on the whole color has progressed in its developments at a rather rapid pace. It seems to me that the inventive genius of the electronic scientists has been stimulated and put to working overtime. I see no stopping the advance and I see no one willing today to lie down in its path as an impediment.

I must, however, express my concern about the help the Commission has had on the interference problems of color TV, a key to our station allocation list if we are to have color or, to put it another way, a key to the lifting of the freeze. I cannot and I do not ignore your interest in lifting of the freeze. I recognize the necessity of such action not only in your interest but in the broader public interest.

But I do not understand why the Commission has had such difficulties in getting necessary information from the industry on these interference problems. We have had to prod you continuously for it in the face of the assumptions which you were giving us to the effect that the interferences would be the same as in black-and-white.

You say it isn't your problem—that it is the problem of the proponents of color systems and the Commission.

Problem Is Also the Manufacturers'

And I say to you it is your problem and it is to your selfish interest that you regard such problems as your own. Anything that determines the size of the service areas, including the people living in the marginal service areas, determines the size of your market. Complete and accurate knowledge of both the co-channel ratios between stations and the magnitude of undesired interfering signals are large factors in determining the size of your markets. Having useable TV signals reach all the people of this country is in the public interest and likewise serves your economic well-being.

And I do not think it will be difficult for me to establish with you the view that it is in the public interest—and in your own interest—that TV quickly achieve its full potential of usefulness to the American people. TV must have something to say to the people of this country. It is not to your interest that it become third rate, or even second rate, in the field of entertainment, culture, education and as a "window on the world".

TV must be an affirmative force in our national life. It is to your interest as manufacturers that every possible program resource is available to the telecasters and thus to the homes of America. We must be as vigilant in guarding against monopolies in the creative fields—the greatest source of programming materials—as we are in

the marketing of electric light bulbs or groceries.

On Monday [June 5] the Commission began a hearing on the petition of the American Telephone and Telegraph Co. for an allocation of a portion of the UHF for common carrier services. This hearing is a harbinger of further conflict over the use of the radio spectrum.

Next Steps: Color Decision, Then Allocations

Following this phase of the hearing and the decision on the color issue our next step will be to begin taking testimony on the general allocation part of this hearing. In this general allocation phase we will take up the feasibility of employing the UHF, antenna heights, power, spacing between stations in the VHF and the UHF, classification of stations (metropolitan, rural, community and perhaps some intermediate class), directional antennas, offset carrier, carrier synchronization, service areas, oscillator radiation, stratovision, polycasting, the reservation of channels for non-commercial educational stations and metered television.

This portion of the hearing will be followed by the hearing on allocation of channels, in both VHF and UHF, to specific communities throughout the country.

When all this is completed, the Commission will proceed with the processing of applications as speedily as possible. In some communities there will of course be delays because of hearings on competitive applications.

Considering the large number of station assignments available, and considering the tremendous enthusiasm already evidenced by the public, and considering the improved and relatively interference-free allocations we will have, it is easy to understand why some of your industry leaders are predicting that there will be 28,000,000 sets in use within the next four years.

The Oscillator Radiation Problem

And now I wish to refer to another area in which the radio manufacturer is confronted with new opportunities to improve the effectiveness of his operations in the light of the realities of today's radio transmission conditions and thereby further serve the public interest.

The problem I refer to is interference caused in some areas and under certain circumstances by TV and FM receivers having excessive oscillator radiation. The TV or FM set in the living room, if proper safeguards have not been built into it, is in effect a schizophrenic—a split personality—a Dr. Jekyll and Mr. Hyde.

In the living room, as Dr. Jekyll, it shows a smiling, benign face to its owner, amusing, informing, spellbinding, even educating or uplifting. But simultaneously, as Mr. Hyde, it may be up to nefarious activities elsewhere. It may be radiating interference which is causing havoc far and wide. It may be spoiling television reception for many blocks away—producing shimmying and Venetian blind and herringbone effects on the screen.

It and its companion miscreants may be causing hundreds, even thousands of TV set owners to gnash their teeth, tear their hair, complain to TV stations and the FCC, or perhaps to wind up by demanding that the TV retailer come and take his set back and refund their money.

It may be up to something far more sinister than spoiling somebody's TV enjoyment. It may be acting as a deadly weapon, interfering with aviation radio and endangering the lives of passengers on airliners.

What is happening? As a split personality the TV or FM set is acting as both a receiver and a transmitter.

The TV and FM receiving sets, by thus transmitting radio waves far and wide, are also interfering with each other. Interference-wise they are their own worst enemy. It is a kind of an electronic cannibalism in which they are all trying to destroy each other.

This problem is grave enough today when we have only 105 television stations on the air and more than 6,000,000 receivers in the hands of the public. But after the freeze is lifted and hundreds of new stations go on the air and the number of receivers climbs to 10,000,000, 20,000,000 and 30,000,000 this problem could become extremely magnified unless something is done about it now.

Possible Solutions

Three possible solutions have been advanced:

- (1) Reallocate channels.
- (2) Change the intermediate frequencies of receivers.
- (3) Limit the amount of receiver radiation.

To reallocate channels would mean a reduction of the number of TV stations and would require a change in the frequency of many stations now on the air. This seems quite impractical.

Both the Commission and the RMA have given considerable study to the possibility of changing the intermediate frequencies of receivers. If the industry changed from the present almost universally employed 21.6-26.1 mc intermediate frequency to 41.2-45.7 mc, it could completely eliminate oscillator radiation in the VHF TV channels, but the signal generated would cause interference to vital safety services, primarily aviation.

As to the third solution—limiting receiver radiation—both the Commission and industry have taken some steps looking thereto. In its Notice of Proposed Rule Making on April 13, 1949, relating to the revision of Part 15 of its Rules, the Commission proposed to bring receiver oscillator radiation under its rules. In the discussion of ways of specifying a limitation a value of 15 microvolts per meter at a distance of 100 feet was used by way of example.

No such value has been formally proposed but tests of different types of receivers and a careful study of receiver requirements indicate that such a value may be achieved by TV receivers if adequate consideration is given to the problem in the design stages.

During the war the Commission required that the radiation of shipboard receivers should be less than 400 micromicrowatts, which corresponds to a field intensity of about 4 microvolts per meter at a distance of 100 feet.

In contrast, in September of 1948 the RMA Committee on TV receivers suggested a limitation of 25 microvolts per meter at 1,000 feet. Under conditions of rural reception each receiver would cause interference to about 1/100th square mile under the suggested value of 15 microvolts per meter, whereas the RMA proposal could result in interference over an area of about one sq. mi.

However, tests on recent receivers indicate even the more lenient RMA proposal has not been met in practice.

Of course, cost is a factor in the determination of a reasonable and tolerable level of suppression. At the present time exact information on such costs is not available as methods of suppression are still under study. However, informed opinion is that it is a matter of a few dollars on the price of each receiver. In any event, the results of our failure to take the necessary corrective action will be so far-reaching that we cannot allow the relatively insignificant increase in receiver cost to stand in our way.

Three committees are now working on this problem. There is a Central Coordinating Committee composed of representatives from the FCC, the RMA and the American Standards Association. As a contribution to this work, the American Standards Association Committee C-63 is studying receiver susceptibility for various services which may receive interference, radio noise and methods of its measurement. Also, the RMA Committee R-15 is obtain-

ing data from RMA members and cooperating organizations as to the amounts of radiation from present TV receivers and as to methods of measuring and reducing such radiation.

The Commission has asked the parties in the color TV hearing to file as a part of their proposed findings of fact, a statement of the precise data available concerning the susceptibility of the system and various types of apparatus to interference and similar effects, and a statement of how such interference may be minimized with respect to oscillator radiation as well as other types of interference.

Reducing Radiation in New Models

In the meantime, the Commission solicits the wholehearted cooperation of the radio manufacturing industry—those outside the RMA as well as the RMA members—in this important problem. The Commission also solicits the cooperation of servicemen, retailers and broadcasters in alleviating local conditions pending a general solution of the problem.

Some manufacturers are already making plans to reduce radiation in their upcoming models. Other manufacturers, however, are making no plans. Meanwhile, receivers continue to cascade off the assembly lines at the rate of 400,000 per month. The need for action is urgent.

The question before us now—today—is whether the cooperation from the industry will solve the problem or whether it will have to be solved under the power of the Commission to license transmitters—and that is what we are dealing with in the cases of those receivers radiating excessive amounts of power.

As many of you know the Commission maintains 19 monitoring stations over the nation to act as watchdogs of the air waves, to police all illegal radio transmission and to track down interference. However, in view of the skyrocketing growth of radio, we cannot hope to keep the situation in hand without stringent regulations.

The Commission may have to establish interim standards. But in certain areas where safety of life and property is jeopardized immediate action is mandatory.

All of us here recall how industry after industry in the past has had to set up safeguards when an aroused public decided that the public interest was being injured. The railroads have had to eliminate grade crossings. The building industry has had to meet zoning and safety regulations. The drug industry has had to establish the safety of new drugs before they are permitted to market them. The maritime industry, after tragic shipwrecks, has been required to adopt various life-saving measures.

The public looks to us—both the industry and the government—for a solution. We cannot evade it. The amount of goodwill, broad-gauge thinking, concern for the welfare of the radio manufacturing industry as a whole and the regard for the public interest that you exhibit here will be a test of the leadership and sense of responsibility of this giant industry. . . .

Opportunities Yet in Aural Radio

Now, because I have talked so much about the problems of TV, I would not want anyone here to get the impression that I think that your upcoming opportunities for expansion do not include aural radio.

I reiterate that despite the welcome addition of TV, we are going to need a strong, healthy and indeed improved system of aural broadcasting.

You have a tremendous stake in the improvement of that system.

And the public has a tremendous stake in the improvement of that system.

Despite the undoubted rosy future of TV it will be many years before many small communities can support

their own TV station. In the meantime, they are going to need a local radio station to give them their local news, to serve as a forum for the discussion of local issues, to serve as an outlet for their local talent. And even in the larger cities we are seeing today that there is a growing demand for the services of aural stations that can cater to specialized tastes.

The great post-war demand for AM radio stations resulted in hundreds of American communities getting their first station for serving local community needs. On the other hand because of the limitations of the AM band, these stations could only be installed at the cost of creating interference to the existing stations and cutting down the range of most of the existing regional and local channel stations. The local station in many areas can give interference-free service at night to an area within a radius of only a few miles. The daytime station of course leaves the community without its own local radio service when the sun goes down.

Some observers predict that this interference problem will be aggravated in the near future by interference to secondary AM service areas from Cuba and Mexico—regardless of whether or not there is a North American Regional Broadcasting Agreement.

FM's Superiority Over AM

Can we continue to justify our tolerance of these defects in AM when we have at hand another system of sound broadcasting—FM—that has none of these defects and has, moreover, some other highly desirable advantages?

FM's superiority over AM is as unchallenged as ever—freedom from static, noise and fading; with day and night operation and high fidelity and with many more high power stations of uniform range so that competition must be on the basis not of power but of programming.

With FM we can give American communities more local stations to serve their local needs; and stations that will reach far, far beyond their present AM stations with a clear, loud signal and with stations that aren't blacked out at sunset.

It is a startling but true fact that a Class B FM station can cover from 300 to 500 times the area now served by many local channel AM stations at night.

FM has had a rough time.

Only a handful of [FM] broadcasters are showing a profit or are near a profit status. They complain that networks treat FM as a stepchild; that they refuse to affiliate with FM stations even though FM stations provide additional coverage, particularly at night; that networks have never provided proper, high fidelity inter-city network lines. And they complain that manufacturers have not produced easy-to-tune, stable and cheap FM receivers; that manufacturers are so preoccupied with television that there is a substantial unmet demand for FM receivers in many communities.

The FM members of the National Association of Broadcasters have asked manufacturers to install FM tuners in all television sets. The circuitry of FM is such, I am told, that it can be added to the TV set at comparatively small cost. In TV sets which have continuous tuning the cost would be negligible.

'FM Could Ride TV Piggy-Back'

This would mean that FM set production could ride TV piggy-back up the ladder of success. Every TV market would, therefore, automatically become an FM market. At this stage of TV's development when daytime service is limited, such an arrangement would make it convenient for the set owner to snap on the FM when TV is not on the air. Whenever a manufacturer sells a TV-only set as the principal receiver in the home, he is slamming a door on aural radio.

Such an innovation by the manufacturers would be a tremendous spur to FM while being an extra sales argument. Rendering this service would be a splendid example of manufacturing in the public interest.

But even today we have 5,500,000 sets with FM, which does not compare unfavorably with the 6,700,000 TV sets produced up to date.

And here is another significant fact: FM, despite its many growing pains as an infant service, has in these five post-war years grown to more than 700 stations that give the nation more total nighttime coverage than is given by all the regional and local AM stations after AM's quarter of a century existence. The area covered by these stations holds 100,000,000 people.

A survey just completed in New York City shows that there are now three times as many sets with FM as there were two years ago and furthermore that the number of families actually using their FM sets has also tripled. It also found that more than 10% of all the homes are using their FM sets in preference to AM.

The future of our aural broadcasting system is a matter of concern to the broadcasters of this country and to the FCC. And when it is viewed in the light of future marketing opportunities for your products, I am sure you will agree that it is a matter of urgent importance to the radio manufacturer.

I believe that the points I have discussed here tonight point to the inevitable conclusion: that radio—all types of radio—is living in a shrinking spectrum and that the radio manufacturer, if he is to build soundly for the future, must take the implications of that into account.

He must project his planning beyond circuits, cabinets, inventories. He must plan beyond vacation shut-downs and next season's new models. The broad base of radio itself must be of prime concern to him. Why are we in a freeze today which has already halted all new TV construction for more than a year and a half? Principally because of lack of basic information. That information must come in large part from radio manufacturers. It should be produced as the result of a consistent year-round research by the members of your industry.

Job To Be Done in the UHF

For example: We are now proposing to quintuple the number of TV channels by moving into the UHF. Here is a problem involving the expenditure of hundreds of millions of dollars by the public and by the radio industry. This part of the spectrum is relatively unexplored for TV purposes. And yet in all America there were only a half dozen experimental UHF TV stations broadcasting programs last year and they were on the air for limited periods. Another half dozen licensees have carried on propagation studies and other limited research in the UHF. A billion dollar industry is no place for operation by guess.

We cannot afford—and the public will not long permit us to plan our radio system on a crisis basis. By allocating a reasonable amount of your energy and your money to such research programs you will be helping to assure the stability of your industry and you will be serving the public interest.

Your responsibility for instituting research programs to help chart a sound course for radio's future cannot be negated by the claim of the stresses of business competition. In fact, the interest of the radio art, the interest of your industry and the interest of the public would be best served by a healthy competition that would extend not only to products and prices but to fundamental research that will pave the way for consistent expansion. . . .

WHAT THE EARLY PACEMAKERS REVEAL: Forecasts of lower prices all down the lines, with emphasis on larger picture sizes, are entirely borne out by what the manufacturers disclosed over the last week to distributors and dealers. After visiting Chicago exhibits and big Philco convention, we can report:

(1) 16-in. picture size dominates, with 12½-in. holding on but many thinking its days are numbered. Some think, too, that 14-in. rectangular won't last long, since it offers so little more area than 12½. The 7 & 10-in. are just about out. Coming up fast are 17 & 19-in.; 20-in. is due in September -- Philco first to put it in line, though Corning reports all tubemakers except DuMont & RCA have ordered it.

(2) Nearly all agree industry should achieve 6,000,000 units this year, though suppliers still warn of shortages -- mainly receiving tubes, electrolytic condensers, resistors. And praying for end of FCC's freeze are thousands of distributors-dealers in non-TV areas, whose mouths literally water as they hear of big volumes enjoyed by their more fortunately situated confreres.

(3) Many factories are stockpiling TVs for expected huge fall-winter movements. Some have hired warehouses, most are urging distributors to take early shipments, even during July when they generally shut down for usual 2 weeks vacation. Urging of distributors-dealers to load up is causing obvious wariness among some.

(4) Radios weren't much in evidence among the exhibits, except for Philco's 27 models, ranging from tables (13 of them) as low as \$18 to AM-FM-phono combination at \$330, with plenty of choices in between; Arvin's 30 models, priced \$17 to \$55; Magnavox's 11 console-combinations, \$200 to \$795; Westinghouse's 7 units, \$18 to \$250; and a few lesser displays. It's known that RCA, GE and Emerson will continue heavily in radio, but it seems apparent that that business is being left to a few companies because of its relatively lower dollar volume.

* * * *

Low ends of major exhibitors' lines pretty well indicate how TV prices have broken. You'll find detailed prices starting on page 2 of Trade Report -- but this is summary of leader items, all tables except one:

Admiral, 16-in. plastic at \$200; continuing 12½-in. plastic \$170. Bendix, 14-in. \$170, 16-in. \$220. Arvin, 12½-in. \$150, 16-in. \$220; continues 10-in. at \$200 (only one with that size) and 8½-in. at \$120 (\$10 reduction). Magnavox, 14-in. \$199, 16-in. \$280. Philco, 12½-in. plastic \$150, 16-in. metal \$200 (plus \$30 for table containing antenna). Trav-Ler, 16-in. leatherette finish \$150, consolette \$200; 14-in. \$200; 19-in. \$300 -- latter lowest price quoted in that size. Westinghouse, 12½-in. \$160 (down from \$230); 14-in. plastic \$190, 16-in. plastic \$200.

RCA showed only radios and a few old TVs, but banners at Furniture Mart proclaimed "MP Day" July 6 when new line will be unveiled and prices released. What "MP" means is as guarded secret as new line itself. Meanwhile, Midwest manager Harold Renholm was quoted at Furniture Mart as saying RCA distributors-dealers are all sold out, awaiting new line.

* * * *

Aside from its new low-price 12½ & 16-in. leaders and average of about 25% reduction in lists, Philco's bid for preeminence rested on engineering developments which will be promoted in big way during ensuing weeks:

(1) "Balanced beam scanner," for which claim is made picture is kept as clear at edges as in center; patents on new tube deflection unit pending.

(2) Duplex chassis -- one for picture, other for power, in all save 12½s.

(3) Provision for continuous uhf tuner that can be fitted between the 2

units of duplex chassis, as and when FCC authorizes uhf. Knob outlet in most cabinets now disguised as nameplate.

(4) Remote control tuning, with thin coaxial cable extension from automatic rewind reel; available in 2 of higher priced 17-in. consoles and 2 of 20-in. Latter sizes, incidentally, now promised for delivery before September.

(5) New Neoscope tube, all-glass 12½-in., 8 lb., with slenderized neck, more compact shape, weighing 40% less than previous 12½.

(6) New "tube saver" with special resistor that will take up initial current surges, doing away with abnormal failures in AC-DC chassis -- an especially big talking point for radio line.

(7) Simplified 3-speed record changer, called M-22, with stationary platform, sloped spindle, single tone arm, one central control.

Noteworthy in Philco line were several TV-phono combinations (no radios) -- one 17-in. at \$360, one 12½-in. at \$270.

* * * *

Admiral retained 4 sets from old line in its 24-unit line, same prices. New models are priced \$80 to \$100 less than previous comparable models. Prices are guaranteed until Oct. 1. Admiral had closed meetings of top-level distributors June 16-18, about 100 attending. TV v.p. Dick Graver foresaw shortages again this fall-winter, hence Admiral is maintaining production "full blast" through summer. Graver also saw big market for second sets in the home.

Admiral president Ross Siragusa, on press luncheon panel, reported TV buying off 35% from peak 8 weeks ago. But, he added, inventories are well down, so factories will have to operate at capacity just to fill pipelines. Admiral has 10,000 retailers. He said TV sales are 2½ times what they were year ago. Other panel members said TV represented 5% of total 1949 home furnishings sales (\$10-12 billion).

New York v.p. Tom Hodgens reported June 22 that Admiral expects to produce 1,000,000 of his estimate of industry's expected 5,500,000 TV units this year.

* * * *

Magnavox's line of 24 models contained five 19-in. rectangulars, which won't be on market until September. It is continuing to put out many models in 2 chassis -- one with intercarrier circuit, other "split sound." All consoles have space inside for uhf tuners. Magnavox dealer discounts now range from 32% for lower-priced sets to about 40% for higher. Executive v.p. Frank Freimann foresaw shortage of picture as well as receiving tubes this fall, increase in costs for general components and raw materials.

Westinghouse didn't price its sets until 5 p.m. day of Furniture Mart's opening, June 19. Big feature is single-knob control (station selector plus fine tuner); sets also have space for uhf tuner. Westinghouse has followed GE lead (Vol. 6:8) in using new 40-mc IF to overcome oscillator radiation (Vol. 6:17-23). Distributors met in Hot Springs June 19-22, next hold local meetings in 23 cities.

* * * *

Hallicrafters showed its \$260 round 16-in. console (Vol. 6:19,24), playing up printed circuit tuner which it calls "dynamic tuner" (Vol. 6:21)...Sentinel showed only 2 interim sets, is holding back full line for regional meetings next month. Sets shown were 12½-in. wood table at \$180, console \$200...Both Air King and Mercury showed sets previously reported (Vol. 6:17,24), but had not fixed fall-winter prices at week's end.

Sparton, selling direct to dealers, has 16-in. leatherette table with no fixed list -- permits dealers to set own prices, expected to range from \$170 to \$210 ...Arvin Industries Inc. will be formal name after July 3 of Noblitt-Sparks Arvin Div.; it also kept Furniture Mart display dark first day while holding distributor meeting...Tele King showed line it announced 2 weeks ago (Vol. 6:23)...Crosley showed line it announced in April (Vol. 6:14,16).

SOME SHOW LINES, BUT MORE TO COME: Now that Admiral, Philco and several other pace-makers have shown their wares, released their prices, others will move somewhat faster -- so that details of just about all fall-winter models should be known within next 30 days. This week's top news comes out of exhibits at Chicago Furniture and Merchandise Marts, and Philco's huge Atlantic City convention. Details about actual models, prices, etc. will be found in Topics & Trends columns (8 pt. type) starting on page 2, with comments on what we saw reported in Special Trade Report herewith.

Exhibiting at Furniture Mart were Admiral, Arvin, Bendix, Hallicrafters, Jackson, Mercury, Motorola, RCA, Sparton, Tele King, Westinghouse. At Merchandise Mart were Air King, Crosley, Sentinel, Magnavox. Most showed new sets, though all did not divulge full details. Among top-flight producers still to be heard from are:

Emerson, which displays June 26-27 at convention in Waldorf-Astoria, to be followed by dealers around country. Only advance information is that line will be completely new -- won't include 12½-in. table at \$160 and 16-in. console at \$260 that created so much stir early in May (Vol. 6:18).

RCA Victor, planning showings July 6-7 in New York, Chicago and other key cities. Field men, meanwhile, are showing photos of line with "suggested prices" but final pricing remains to be decided. Line will omit 10-in., include 12½, 16, 19-in., and will "reemphasize radio."

DuMont distributor convention is July 6-7 in New York's Hotel Pierre... Zenith has meetings scheduled in Chicago end of this month... Tele-tone promises mid-July showings... Hallicrafters convenes 38 distributors, 12 regional managers in Chicago's Knickerbocker Hotel, July 17-18... Hoffman announces line July 20... Motorola plans Chicago convention July 25, meanwhile is showing only interim line (Vol. 6:22) at Furniture Mart.

By time of Music Merchants Show in Chicago's Palmer House, July 10-13, majority of the name-brand set makers will have disclosed their lines and prices -- also a considerable number of the smaller manufacturers.

16-in. & UP TOP SET SIZES IN MAY: May TV set production dipped moderately, about as expected, RTMA reporting 376,227 units. Addition of 25% to take in non-RMA production gives 470,000 total, compared with April's 525,000 (Vol. 6:21). May's successive weekly output: 95,853; 94,488; 96,132; 89,754.

Year's 5-month total stands at 2,530,000, including 25% increment. Grand total comes to 6,530,000, figuring 4,000,000 turned out before 1950.

How fast big tubes are taking over is well illustrated in breakdown by tube sizes: 112,781 table models and 53,163 console-consolettes in 12 to 15-in. category; 71,672 table models and 125,532 console-consolettes 16 to 18-in.; 11,570 units 19-in. or over; only 1472 under 12-in.; 37 projections. In April (Vol. 6:21), 12 to 15-in. had still outrun 16 to 18-in.

May breakdown by models: table, 185,911; TV-only consoles or consolettes, 159,872; combinations (with AM and/or FM), 11,667; combinations (with phono), 18,777. Of total, 30,582 contained FM.

RTMA members also built 900,056 radios in May -- of which 266,091 were battery and 206,464 auto -- bettering April's 882,706.

RTMA REORGANIZATION & TV COMMITTEES: RTMA's new interim president Robert C. Sprague moved swiftly this week, during 3-day stay at Washington headquarters, to set up new reorganization committee, charged particularly with quest for paid president (Vol. 6:15-17,19). Heading new committee is Max Balcom, Sylvania, ex-RMA president, with these members: Jerome Kahn, Standard Transformer; Ben Abrams, Emerson; Dr. W. R. G. Baker, GE; Wm. Balderston, Philco (Larry Hardy, alternate); W. J. Barkley, Collins;

Frank M. Folsom, RCA (J. B. Elliott, alternate); Paul Galvin, Motorola; Harry Liberman, Talk-A-Phone; W. A. MacDonald, Hazeltine; E. F. McDonald Jr., Zenith (H. C. Bonfig, alternate); Leslie F. Muter, Muter Co.; A. D. Plamondon Jr., Indiana Steel Products; Robert C. Tait, Stromberg-Carlson.

GE's Dr. Baker was named chairman of TV committee, succeeding Mr. Balcom. Added to committee were Ray Cosgrove, ex-president, and John Craig, Crosley. Other members: Allen B. DuMont; George M. Gardner, Wells-Gardner; Wm. J. Halligan, Halli-crafters; and Messrs. Abrams, Balcom, Barkley, Bonfig, Elliott, Galvin, Hardy.

Topics & Trends of TV Trade: TV - radio exhibitors may have lacked numbers at Chicago marts, but TV's impact on home furnishings business was none the less noteworthy. Whereas, generally, furnishings showed upward price trend of 3-5%, TV prices were down considerably. TV exhibits were cynosure of buyers visiting the Chicago exhibits this week; more than 20,000 buyers are expected at marts before they close June 29.

It was interesting to note how furniture makers used TV angles to promote their wares and to push new items. For example: lounge chairs and sofas on casters; sectional, curved sofas; lounge chairs that rotate, tilt, rock; occasional tables that rotate, adjust to various heights, even some with open wells for TV positioning; bookcases built deeper than usual for insertion of TV; hassocks with nests of extra folding chairs; swivel chairs and loveseats.

George N. Lamb, director of Mahogany Assn., said spring decline in furniture buying had very little effect on furniture manufacturers. They simply made TV cabinets.

* * * *

For the TV "scouts"—and there were many from many companies going the rounds—main interest was new models and prices. These are the details, so far as they were revealed officially:

Four 12½-in. sets in Philco line of 34 are: Model 1207, plastic table, \$149.95; 1208, mahogany table, \$169.95; 1234, mahogany console, \$199.95; 1282, mahogany console with phono, \$269.95. Plastic model is mahogany finish; all have 18 tubes, 1 rectifier.

Eight 14-in. rectangular tube models (100 sq. in. vs. 97 for 12½-in.): 1443B & 1443M, mahogany tables, \$199.95; 1443L, blonde table, \$239.95; 1443X, mahogany console, \$259.95; 1443XL, blonde console, \$279.95; 1443PW, Queen Anne walnut console with AM-phono, \$339.95; 1443PM, same in mahogany, \$359.95; 1443PL, same in blonde, \$379.95. First 5 have 19 tubes, 3 rectifiers; those with AM-phono, 22 & 3.

Seven 16-in. models (round tube with 145 sq. in.): 1601, metal table mahogany finish, leather trim, \$199.95 (with table containing antenna, \$229.95); 1602, mahogany table, \$239.95; 1604M, mahogany table, \$249.95; 1604L, blonde table, \$269.95; 1606, mahogany table, \$269.95 (interim model recently introduced, see Vol. 6:22); 1634M, Hepplewhite mahogany console, \$279.95; 1634L, Hepplewhite blonde console, \$299.95. Models 1601 & 1602 have 19 tubes, 4 rectifiers; remainder of 16-in. line have 20 & 5.

Ten 17-in. rectangular models (150 sq. in.): 1835, mahogany console, \$299.95; 1836M, mahogany console, Modern Chinese Chippendale, \$349.95; 1836L, same in blonde, \$369.95; 1838, mahogany Hepplewhite console, with remote control, \$429.95; 1870, mahogany console with 3-speed, \$359.95; 1872, Queen Anne mahogany console with AM-phono, \$399.95; 1874M, same in Contemporary Hepplewhite, \$449.95; 1874L, same in blonde, \$479.95; 1875, mahogany console in Contemporary Georgian, AM-FM-phono, \$499.95; 1876, same with remote control, \$575. The 1835 & 1870 have 19 tubes, 4 rectifiers; 1836M, 1836L, 1838, 21 & 4; 1872, 1874M & 1874L, 22 & 4; 1875, 24 & 4; 1876, 26 & 4.

Five 20-in. rectangular models (215 sq. in.): 2134, ma-

hogany console, \$399.95; 2136, mahogany console, Chippendale, \$459.95; 2138, same with remote control, \$525; 2175, mahogany console with AM-FM-phono, Contemporary Georgian, \$650; 2176, same with remote control, \$695. First 3 have 21 tubes, 4 rectifiers; latter 2 have 26 & 4.

* * * *

Only 12½-in. in Admiral line of 24 is last season's Model 12X11, plastic table, \$169.95. Remainder of line:

Two 14-in. rectangular tube console models with AM-phono: 34R15, walnut, \$299.95; 34R16, mahogany, \$319.95.

Five 16-in. rectangular tube models: 16R12, plastic table, \$199.95; 26R12, same in consolette, \$229.95; 26R45, walnut console with AM-FM-phono, \$379.95; 36R46, same in mahogany, \$399.95; 36R37, same in blonde, \$445. Latter 3 were introduced month ago as interim models (Vol. 6:20).

Eight 16-in. round tube models: 26X55, walnut console, \$269.95; 26X56, same in mahogany, \$279.95; 26X57, same in blonde, \$289.95; 26X65, modern console with doors, walnut, \$299.95; 26X66, same in mahogany, \$319.95; 26X67, same in blonde, \$339.95; 26X75, traditional walnut console with doors, \$309.95; 26X76, same in mahogany, \$329.95.

Eight 19-in. round tube models: 29X25, traditional walnut console with doors, \$399.50; 29X26, same in mahogany, \$419.50; 29X27, same in blonde, \$445; 39X35, traditional walnut console with AM-phono, \$499.50; 39X36, same in mahogany, \$519.50; 39X25, traditional walnut console with AM-FM-phono, \$595; 39X26, same in mahogany, \$615; 39X17, modern blonde console with AM-FM-phono, \$675. Last named was in line last season, no change in price.

Tubes in 12½ & 14-in. sets total 16 plus 3 rectifiers; in 16-in. rectangular, 21 tubes; 16-in. round, 24; 19-in., 24.

* * * *

Magnavox line of 22 sets has 14-in. rectangular table Model 7E Hampshire, \$198.50; 25E Plaza is same in console, \$239.50. Remainder of line:

Six 16-in. rectangular tube models: 11F Metropolitan, mahogany table, \$279.50 (in blonde, \$295); 33F Playhouse, same in mahogany console, \$298.50 (in blonde, \$319.50); 74F Avenue, mahogany console with AM-FM-phono, \$449.50 (in blonde, \$469.50); 78F Contemporary, same, mahogany, \$459.50 (in blonde, \$479.50); 72F Wedgewood, same, mahogany, \$498.50; 77F Provincial, same, antique, \$498.50.

Eight 16-in. round tube models: 26C Shoreham, mahogany or maple console, \$298.50; 34C Hepplewhite, mahogany console, \$398.50; 36C Hepplewhite, same with more sensitive chassis, \$449.50; 32C Normandy, mahogany console, \$398.50; 76C American Traditional, mahogany console with AM-FM-phono, \$595; 79C American Traditional, same with more sensitive chassis, \$695; 65C American Modern, mahogany or blonde console with AM-FM-phono, \$695; 68C French Provincial, same in antique, \$695.

Only 19-in. round tube model is 30D Shoreham "200", mahogany console, \$398.50.

Five 19-in. rectangular tube models, all due for September delivery: 38H Hepplewhite, mahogany console, \$498.50; 39H Normandy, antique console, \$498.50; 79H American Traditional, mahogany console with AM-FM-phono, \$775; 65H American Modern, same in mahogany or blonde, \$775; 68H French Provincial, same in antique, \$775.

Westinghouse fall-winter line of 11 sets leads with 12½-in. Model H625T12 Kenwood, walnut table, \$159.95. Two 14-in. rectangular sets are: H632T14 Greenwich, plastic, mahogany table, \$189.95; H630T14 Glenwood, same in wood, \$199.95.

Three 16-in. rectangular receivers are: H624T16 Sutton, plastic, mahogany table, \$199.95 (with base, \$229.95); H626T16 Lynwood, same in wood, \$239.95 (with base, \$259.95); H622K16 Ardsley, mahogany console, \$269.95.

Two 16-in. round sets are: H628K16 Hampden, mahogany console, \$279.95 (in blonde, \$299.95); H627K16 Berkeley, same with doors, \$299.95.

Two 17-in. rectangular models: H633C17 Manorcrest, mahogany console with AM-FM-phono, \$449.95; H634C17 Lansdowne, same in blonde, \$469.95.

Single 19-in. rectangular is H631K19 Copleigh, mahogany console, \$399.95.

In 12½-in. model are 18 tubes, 4 rectifiers; 14 & 16-in., 20 & 2; 17-in. combinations, 25 & 2; 19-in., 21 & 2.

* * * *

Arvin continues 8½-in., last season's Model 4080T in metal mahogany-finish cabinet, at \$119.95, reduced \$10; in green, same price, model is 4081T. Only 10-in. is 3100TM, wood mahogany table, \$199.50. Remainder of line of 18:

Six 12½-in. models: 2123TM, wood table, \$149.95; 2121TM, same in better cabinet, \$169.95; 2126CM, console, \$179.95; 2120CM, same in better cabinet, \$199.95; 3120, same in better cabinet, more sensitive chassis, \$279.95; 2124, console with AM-FM-phono, \$279.95.

Six 16-in. rectangular models: 2161TM, mahogany table, \$219.95; 2164CM, same in console, 2/3 doors, \$279.95; 2164CB, same in blonde, \$289.95; 2162CM, 18th Century, console with AM-phono, \$349.95; 4162CM, 18th Century mahogany console, doors, \$329.95; 4162CB, same in blonde, \$339.95.

Three 16-in. round models: 2160CM, mahogany console, \$249.95; 2160CB, same in blonde, \$259.95; 3160CM, same in better cabinet, more sensitive chassis, \$349.50.

Arvin's basic line has 15 tubes, 2 rectifiers; middle line has 16 tubes, 2 rectifiers; sets with more sensitive chassis have 19 tubes, 2 rectifiers.

* * * *

Bendix, which introduced 14 & 16-in. month ago (Vol. 6:20, 24), repriced them downward \$20 to \$50 this week. New in line are 17 & 19-in. with rectangular tubes. Total line is 9 models.

The 14-in. rectangular table Model 2051 is now \$169.95; 3051, same in console, \$199.50. Five 16-in., all rectangular, are: 2060, mahogany table, \$219.95; 2060B, same in blonde, \$229.95; 6003, mahogany console, \$259.95; 6001, mahogany console with doors, \$279.95; 6100, mahogany Chippendale console with AM-FM-phono, \$399.95.

Single 17-in. is Model 6990, antique French Provincial console, \$299.95. Single 19-in. is 6920, mahogany console with doors, \$399.95.

In 14 & 16-in. sets are 14 tubes, 2 rectifiers; 17 & 19-in., 19 & 2. All have phono plug.

* * * *

Fifteen of Sparton's 21 models are 16-in. rectangulars, two 19-in. round. Line leads off with 12½-in. 5014 Dexter, mahogany table, \$189.95; 5015, same in blonde, \$194.95; 5056 Kenwood, mahogany console, \$229.95; 5057, same in blonde, \$234.95.

Fifteen 16-in. rectangular sets are: 5035 Observer, two-tone leatherette table, no list price (Sparton permits dealers to set own price on this one, to range from \$170 to \$210); 5025 Belmar, mahogany table, wood, \$239.95; 5026, same in blonde, \$244.95; 5029 Gorham, mahogany table, \$259.95; 5030, same in blonde, \$264.95; 5076 Lyn-

brook, mahogany console, \$279.95; 5077, same in blonde, \$289.95; 5076BB Wardell, same in different cabinet, \$279.95; 5077BB, same in blonde, \$289.95; 5079 Ardmoor, mahogany console, doors, \$299.95; 5080, same in blonde, \$309.95; 5088 Westmont, mahogany console with AM-FM-phono, \$399.95; 5089, same in blonde, \$409.95; 5082 Nassau, mahogany console with AM-FM-phono, \$439.95; 5083, same in blonde, \$449.95.

Only 19-in. round is 5085 Carnegie, mahogany console, doors, \$399.95; 5086, same in blonde, \$409.95.

In 12½-in. sets are 18 tubes, 2 rectifiers; 16-in., 23 & 3; 19-in., 24 & 3.

* * * *

Trav-Ler's leader among 10 models is 16-in. rectangular Model 62R50, leatherette table, \$149.95; 63R50 is same in mahogany, \$179.95. Also with 16-in. rectangular but more sensitive chassis are: 64R50, mahogany console, \$199.50; 16R50, same in console, \$249.95; 16R60, same with doors, \$269.95; 16R70, same with AM-phono, \$299.95.

Only 14-in. rectangular is Model 14B50, mahogany console, \$199.95. Two 16-in. round tube sets are: 65G50, mahogany console, \$229.95; 16G50, same with more sensitive chassis, \$249.95. Only 19-in. set is 19A50, mahogany console, \$299.95.

Some of these sets were announced earlier (Vol. 6:21-22). Remaining in line from early this year is 16R50. Basic line has 18 tubes, 2 rectifiers; others have 21 & 2.

* * * *

Trans-Vue's line of 11 models, shown in Chicago's Congress Hotel, includes 3 carried over from earlier in year (Vol. 6:9, 21) with new prices: Triumph 210, 12½-in. wood table, \$149.95 (down \$40); Triumph 310, same in console, \$179.95 (down \$50); Aristocrat 660, 16-in. rectangular console, \$259.95 (down \$40). In addition, Trans-Vue has:

Three 14-in. rectangular sets: Bristol, table, \$179.95; Buckingham, console, \$199.95; Kent, console with half-doors, \$219.95.

Five 17-in. rectangular sets: Phoenix, table, \$199.95; Winfield, console, \$239.95; Manhattan, console with half-doors, \$279.95; Alexander, console with full doors, \$299.95; Diana, same in blonde, \$299.95.

All save last 2 are in mahogany or blonde. Tubes in 12½-in. are 16 & 2; 14 & 17-in., 19 & 2.

Trans-Vue is moving to new plant at 2231 S. Wabash Ave. with 120,000 sq. ft. of space; it expects to produce 350-400 sets a day, plans to spend \$1,500,000 in magazines during 1950-51 season.

* * * *

Jackson Industries offers 5 models, starting with 14-in. rectangular mahogany table at \$179.95, and these 16-in. rectangulars: mahogany table, \$199.95; same in console, \$229.95; console with AM-phono, \$349.95. Also, 19-in. round mahogany console, \$349.95. All have 17 tubes, 2 rectifiers. Gimmick by this firm is chairside AM-phono at \$119.50, with top broad enough to make it TV base.

Jerrold Mul-TV multiple antenna system service for hotels, apartment houses, hospitals, etc. got Philco accessory chief Jack Cherry's complete endorsement this week—distributors being urged to get dealers to install it as well as promote it locally for more TV set sales. In fact, 75 Philco sets in convention hall were operated on one antenna array for demonstrations, with good signals pulled in from all 3 Philadelphia stations, 60 mi. away. Jerrold Mul-TV was also rigged up in Hotel Claridge headquarters for 20 receivers, has been installed in President Hotel, Blatt Dept. Store, Goodyear appliance store, Chelsea Village (261) apartment project, Atlantic City. Mr. Cherry reported big Bedford Radio, Brooklyn, which sells average of 100 TVs daily, uses it on 229 sets, plans to expand to 400; New York Davega chain uses it in 12 stores.

Financial & Trade Notes: Statistically, Philco's trade achievements reported this week are just as impressive as the amazing job it did hosting 6500 dealer-distributor-employe personnel at Atlantic City conventions, June 17-21). When distributor orders were counted day after it unveiled new line of 34 TVs, 27 radios [see Trade Report], they exceeded goal of \$100,000,000 at factory level. TVs were ordered in practically full allotted amounts, radio orders exceeded factory's own target by 25%.

Thus, president Wm. Balderston went on record as stating Philco will sell more than 1,000,000 TVs this year (having sold 400,000 already, first 5 months), and company's gross sales will reach record-breaking level of more than \$300,000,000 in 1950 vs. \$214,884,306 in 1949 and record \$275,400,000 in 1948.

TV is by far largest item in Philco production, hence most interest was concentrated on it and most publicly announced statistics were about TV. Actual orders signed call for more than 315,000 sets to be shipped between now and Sept. 30, by which time Mr. Balderston said production will reach 35,000 TV units per week. As for radios, home unit orders at Atlantic City totaled nearly 300,000—but it's recalled v.p. James Carmine forecast 2,000,000 units this year (Vol. 6:23), including of course big proportion of auto radios. Fact is, Philco seems to be placing more stress and drive on this phase of the business than most.

Philco refrigerators, freezers, air conditioners and ranges are also moving well, their managers reported—particularly refrigerators, only 2 new models being shown at Atlantic City. Division president Tom Kennally reported refrigerator sales will run \$80,000,000 this year. Entire new line is being tooled for early next year.

Philco will spend \$25,000,000 in advertising-promotion this year, it announced, and every conceivable medium will be used—along with some unusual merchandising gimmicks. Ad story was told in detail to visitors, no secrets kept—despite fact audience included many reporters from trade and financial journals, etc. Audience, incidentally, also included Philco delegates from 18 foreign countries, mainly Latin American, several from European branches and one from as far away as Israel.

Philco's June quarter will be far ahead of year ago, but slightly below first quarter's \$79,487,000 sales and \$2.37 per share net (Vol. 6:19). It's estimated first-half sales will run about \$145,000,000 and net may reach \$4, which compares with \$103,267,000 sales, \$1.08 net first half 1949.

* * * *

Zenith's fourth quarter sales are reported at \$34,014,000 (fiscal year ended April 30), so it's estimated that year's sales will approximate \$99,211,000—nearly 30% ahead of previous year's \$77,146,861. Details have not yet been released.

Hoffman Radio's president H. L. Hoffman, speaking before Los Angeles securities group, forecast his company's net for 1950 will be about \$2,250,000 or \$5.26 per share, compared with \$1,276,036 (\$3.33) in 1949. He estimated sales for first half 1950 will total \$11,237,000, net about \$1,000,000 or about \$2.34 per share on 427,575 shares now outstanding. He also indicated dividend rate probably will be raised later this year from present quarterly 25¢.

Transvision Inc.'s new stock issue consists of 300,000 at \$1 par, selling at \$2.75 through Blair F. Claybaugh & Co., whose underwriting fee is 50¢ per share. Transvision makes TV sets and kits, has wholly owned TV picture tube subsidiary called Lectrovision Inc.

Emerson declared quarterly dividend of 25¢ on 1,759,610 shares, payable July 15 to stock of record July 5. This is equivalent to 50¢ on old stock, recently split 2-for-1, on which quarterly dividend was 30¢.

Trade Personals: GE Receiver Division has named Arthur A. Brandt to newly created post of general sales mgr., with following additional appointments: R. W. Ferrell, asst. general sales mgr.; David Davis, sales mgr., and D. E. Weston Jr., asst., TV receivers; D. S. Beldon Jr., sales mgr. and G. O. Crossland, asst., radios . . . David B. Smith, Philco research v.p., appointed RTMA vice director of engineering under GE's Dr. W. R. G. Baker . . . W. H. Henges, Graybar district mgr., Cleveland, Sept. 1 becomes asst. to A. H. Nicoll, Graybar president; C. A. Kirkpatrick, from Memphis branch, takes Cleveland job . . . John H. Cashman, president, Radio Craftsmen Inc., Chicago, succeeds L. A. Thayer, Belden Mfg. Co., as director of Radio Parts & Electronic Equipment Shows . . . Percy L. Spencer, Raytheon v.p. in charge of Power Tube Div., June 4 awarded honorary degree by U of Massachusetts . . . Dr. Allen B. DuMont appointed to succeed Joseph E. Gerl, Sonora, as chairman of RTMA (RMA) excise tax committee, with RCA Victor's E. M. Freeman continuing as vice chairman . . . Ray Durst, Hallicrafters executive v.p., sailed June 23 on *Queen Mary* for 6-weeks European trip.

TV is untouched by tax bill (HR-8920), introduced in House June 22, after 17-8 vote by House Ways & Means Committee. Bill retains 10% excise tax on radio sets but excludes proposed TV excise (Vol. 6:15-18, 23). It eliminates or reduces excises for total of \$1,010,000,000, but makes up all or most of this revenue loss by increasing corporation taxes by total of \$433,000,000 and plugging various tax loopholes. Hope is to get bill through House by June 29. Senate Finance Committee chairman Senator George (D-Ga.) hopes to hold initial committee meeting first July week, set up schedule for hearings. House committee report is H. Rpt. 2319.

R. A. Hackbusch, Stromberg-Carlson Co. Ltd. president, was elected president of RMA of Canada at June 21 Niagara Falls convention. He succeeds F. R. Deakins, RCA Victor Co. Ltd. Delegates of 60 companies heard that there are 13 Canadian manufacturers making TV sets now [names will be listed in *TV Directory No. 11*, due early in July]; that 1950 radio sales to date are 15% above same period last year; that there is good market exporting to U.S. tubes, resistors, other components in short supply in this country.

FCC is apparently unimpressed with Zenith's reply to its inquiry about Phonevision publicity (Vol. 6:22-23), now is asking for "verified" statement setting forth: (1) Names of manufacturers indicating they want to put Phonevision decoding outlets in their sets. (2) Status of agreements with such manufacturers. (3) Whether offer of contingent credits (Vol. 6:8) is still outstanding. (4) Whether Zenith proposes to continue to encourage inclusion of decoder outlets by other manufacturers. Until it gets answer, it's holding up request to change Chicago test date to Oct. 1.

FCC letter is as sharply worded as original, particularly in indicating doubt that Zenith has met its proviso against publicity tending to give public impression that Phonevision was here. Some quotes: "The Commission . . . is of the opinion that your actions have not been consistent with the conditions quoted above [re publicity] . . . It is a matter of Commission concern if promotional activities are carried on in connection with an authorization of the Commission . . . granted on the express condition that such activities would not be carried on . . . The Commission feels strongly that any proponent of a new radio service can best serve the public in the pre-experimental and experimental period by exercising restraint in publicizing the proposed new service and in advertising, selling or distributing the apparatus to be used in the new service." The letter was released this week as FCC Public Notice 51693.

✓ **KOREAN CRISIS & TV-RADIO INDUSTRY:** As did everyone else in America during this first week of Korean crisis, TV-radio industry had ears cocked to radio, eyes on latest newspaper editions, alert for "call to arms" and to war production. At week's end, however, no plant we know had received any word from Washington to prepare to convert for military needs, though govt. officials had been in phone conversations with certain leading manufacturers -- their talks mainly exploratory, preliminary planning, nothing concrete.

Neither National Security Resources Board nor National Defense Munitions Board has yet made any emergency demands on electronics industry, or if they have everything is necessarily cloaked with security restrictions. NSRB is charged with over-all industrial war planning, correlating military and civilian requirements. Munitions Board is arbiter of all military needs.

Only item worth reporting, not new to those in industry dealing with military, is this: Some military feel electronics industry, vital in new weapons category (guided missiles, radar, etc.), is below capacity for all-out war effort. Industry disputes this, points to World War II production record, current high capacity for TV; by April 1942, industry had entirely converted to war production.

Most of larger, many of smaller TV-radio manufacturers have developmental contracts and pilot production of military equipment, some of it highly restricted. For 1949, RTMA reported sale of transmitting and receiving apparatus to Govt. (mainly military) totaled \$141,288,869; in first quarter 1950, \$30,640,943 -- with orders in hand totaling \$41,305,390. Military requirements (peacetime) for electronics and communications equipment in President's January budget message to Congress included: Air Force, \$115,000,000; Navy, \$79,906,000; Army, \$60,085,997.

MORE MAJORS SHOW, MORE NEXT WEEK: This week's batch of new fall-winter TVs is topped by Emerson, Stromberg-Carlson and Zenith lines (for details, see Topics & Trends) -- with fast-moving Emerson pulling quite a surprise at distributor convention this week in New York's Waldorf-Astoria:

Prices are guaranteed for only 90 days, president Ben Abrams told 400 delegates, after which they will be raised. Sets have been in production some 3 weeks now, whereas he said most other manufacturers won't deliver in quantity until August-September. Emerson idea is to get on market ahead of others, with lower prices that will stimulate summer buying now, thus offset seasonal decline.

But increases on some or all of Emerson's 16 new models, ranging from 12½-in. table at \$150 to 16-in. wood table at \$200 to 19-in. console at \$370, are definitely promised after 90 days, which means by Oct. 1.

Abrams also told distributors Emerson is shooting for 750,000 TV production during 12 months from July 1, meaning about \$150,000,000 retail. Convention orders for July-September were reported at about \$25,000,000 at factory level. Plan is to spend about \$8,000,000 on advertising. Emerson, said Abrams, has placed orders for all scarce components for remainder of year, so isn't worried about shortages. It has also bought Musagrاند Corp., Brooklyn cabinet plant, present capacity 800 daily.

Stromberg-Carlson's 18 models feature seven 16-in., one 17-in., ten 19-in., all but 3 of them consoles, unveiled at Rochester distributor meeting this week. Emphasis is on furniture styling, sensitive chassis, quality audio systems. President Robert Tait reported inventories reduced by 35%, freeing \$3,000,000 for expanded production. By July 17, plant will be turning out 50% more TVs than peak heretofore, due to expansion and modernization of assembly lines.

Zenith at week end meetings was showing its new line to distributors in Chicago's Drake Hotel, but details were withheld as we went to press.

Other top producers due to disclose lines next week are RCA, showing in

various cities July 6-7 (Bruno-New York dealer convention is in Barbizon-Plaza), and DuMont, holding national distributor convention in Hotel Pierre there same days.

DuMont line will be 17 & 19-in. exclusively, "priced competitively," and distributors will be shown demonstration of new 30-in. tube, which Dr. DuMont says is really "hot." In fact, he's changed his mind about that size being usable only in public places; it's practicable for home, too, he claims. It's due in fall.

No word yet on GE prices on its new line of 14 & 16-in. shown to distributors few weeks ago (Vol. 6:23), except to say that shipments in quantity won't be available until late July (RCA, Philco, Admiral and Emerson are already shipping in very considerable quantities, asking distributors to warehouse). Firm prices, says GE, will not be determined until just prior to local dealer showings throughout country during latter July.

RCA line is still deep, dark secret. Camden says even distributors won't know prices until they get them via telegrams July 6.

An inkling of RCA's hush-hush line was given by RCA Victor service v.p. C. M. Odorizzi, speaking June 26 before NARDA Chicago convention. Said he:

"You will see...an entirely new chassis which represents an outstanding engineering achievement. You will see a chassis with several less tubes, almost 30% fewer components and connections, and with 50% less power consumption than its predecessor. Despite its simplification, you will quickly recognize that the many improvements have not only resulted in a more powerful chassis with better picture and sound quality, but will also be very much welcomed by TV servicemen because it will make their job of installation and service easier than ever before.

"These engineering improvements will mean not only lower set prices and greater sales opportunities, but lower service costs for the consumer."

Could be that Odorizzi inadvertently gave away RCA's secret "MP Day" slogan for July 6 (Vol. 6:25), much in evidence at Chicago Furniture Mart. "More Power" may be RCA slogan, just as "Balanced Beam" will be Philco's (Vol. 6:25).

HEADACHES OF TV SERVICING PROBLEM: Nagging set servicing problem keeps troubling industry as TV sales continue to outrun quality and quantity of servicing. Things seem to have come to a head, in New York at least, with City Council's consideration of bill to license service organizations (Vol. 6:22) and issuance of standards there by Better Business Bureau (see p. 3).

Loud opposition to bill came from 1200 members of Associated Radio & Television Servicemen of New York, particularly objecting to discrimination against little fellows (\$500 license fee, minimum staff of 3, minimum work space, required equipment), although they don't object to licensing per se. Better Business Bureau laid down list of 13 "do's" and "don'ts" -- first by any BBB in any city -- which all add up to: "Tell customer the truth." For example, some dealers have failed to specify length of service contract, or didn't tell customer that price of contract varies with size of tube, etc.

In Washington, on other hand, licensing was requested by group of service organizations claiming to include about 50% of city's outfits devoted exclusively to servicing. Newly-formed Television Associates Inc., headed by James L. Burns, of Panoramic Television Labs, wrote C. T. Nottingham, city's supt. of licenses, asking that machinery be set up to pass on qualifications of technicians, inspect installations, determine financial responsibility, etc. Burns cites instances of "fly-by-night" men who drift into town, clean up during rush months, then leave.

RCA service v.p. Charles Odorizzi told NARDA convention in Chicago this week big problem is shortage of trained men. To keep problem in bounds, he recommended:
(1) Sell service contract with set. (2) Handle good line. (3) Don't promise anything you can't deliver. (4) Pick competent service organization. (5) Don't handle too many lines. (6) If you're small, stay out of servicing business. (7) If you do handle service, treat it as an autonomous business, which must hold its own.

Admiral seeks to ease serviceman's job by fastening 8-page manual inside cabinet of each set. Manual should also be helpful to set owner, says Admiral service chief Max Schinke, who says it's written in down to earth style.

Topics & Trends of TV Trade: Long-heralded New York Better Business Bureau standards for radio-TV advertising, sales, servicing were introduced June 28 at meeting of 1000 representatives of manufacturers, retailers, service organizations. Standards embrace usual admonitions about truth in advertising, over-enthusiastic claims, details of servicing warranties, etc. (Vol. 6:9, 12, 15, 23). They go into effect July 15.

New York BBB has enlisted cooperation of all New York newspapers, president Hugh R. Jackson reported. This means, he said, newspapers will check all radio-TV advertising copy against BBB's recommendations. At same time, BBB is publishing consumer guide titled *Things You Should Know About the Purchase & Servicing of TV Sets*, to be distributed to public through dealers, etc.

Jackson reported New York bureau had received 1263 complaints about TV during first 6 months this year, compared to 379 same period 1949. Bureau figures this is increase of 233%, although TV sales have only increased 110% during the same period—greatest number of complaints on any merchandise in history of office.

Copies of full text of *Standards for Advertising, Selling & Servicing of Radios, Television & Home Appliances* are obtainable from New York Better Business Bureau, 280 Broadway.

* * * *

Featuring Emerson line of 16 entirely new TV models is 16-in. wood table at \$199.95, tube either round or rectangular. Idea is to have leader on market in rounds, pending full scale deliveries of rectangulars. Emerson line:

Six 12½-in. models: 673, mahogany table, \$149.95 (blonde, \$159.95); 660, same in better cabinet, \$169.95; 664, same in console, \$179.95 (blonde, \$189.95); 665, console with AM-phono, doors, \$249.95.

One 14-in. rectangular is Model 662, plastic table, to be priced next week.

Six 16-in. (round) models are: 661, mahogany table, \$199.95; 668, same in console, \$239.95 (blonde, \$249.95); 667, same with half-doors, \$269.95 (blonde, \$289.95); 666, console with AM-FM-phono, doors, \$339.95. Model 663 is only 16-in. rectangular, mahogany table, \$199.95.

Top of line is Model 669, mahogany console with round 19-in., doors, \$339.95 (blonde, \$369.95).

All 12½-in. have 16 tubes, 5 rectifiers; 14 & 16-in., 19 & 2; 16 & 19-in. round, 20 & 2.

* * * *

Emphasis is on furniture-styled consoles in Stromberg-Carlson's line of 18 models, featuring seven different 19-in. Chinese Classic console-combinations. This is line:

Three 16-in. rectangular tables: 116TM Mercury, mahogany, phono jack, \$259.95; 116TDM Treasure Chest, mahogany, phono jack, doors, \$279.95; 116TDA, same in blonde, \$289.95.

Four 16-in. round consoles are: 116CM Provincial, French Provincial, mahogany, \$329.95; 116CA & 116CF, same in blonde and maple, \$339.95; 116CDM, Chippendale, mahogany, doors, \$389.95.

Single 17-in. rectangular console is 17RPM Kenwood, Hepplewhite, mahogany, AM-FM-phono, doors, \$575.

Ten 19-in. consoles are: 119CM, Empire, mahogany, \$419.95; 119CDM, Georgian, same with doors, \$495; 119RPM, 18th Century, same with AM-FM-phono, \$675; 119M5M, Chinese Classic, with AM-FM-phono, \$750; 119M5A, same in blonde, \$775 (hand decorated, \$875); 119M5D, same in hand-decorated ebony; 119M5R, same in red; 119M5I, same in ivory; 119M5G, same in green—latter four, \$865.

There are 22 tubes, 3 rectifiers in 16 & 17-in. sets; 24 & 4 in 19-in.

Air King priced line of 10 sets this week, leading with 12½-in. walnut wood table Model 12T2 at \$149.95 and including rectangular 16-in. metal table Model 16M1 at \$189.95. Rest of line:

Two other 12½-in. sets 12T1, mahogany table, \$159.95; 12C1, same in console, \$189.95. Only 14-in. rectangular is 14T1, mahogany table, \$179.95.

Other 16-in. rectangulars: 16T1, mahogany table, \$229.95; 16C1, same in console, \$259.95; 718, same with doors, \$299.95; 16K1, same with AM-FM-phono, half-doors, to be priced when delivered in August.

Only 19-in. is Model 19C1, mahogany console, \$359.95. All sets have 17 tubes plus one rectifier.

* * * *

Brunswick has new 16-in. table, rectangular tube, at \$189.95; same in console, \$219.95 . . . Pilot has new 12½-in. console with FM-phono at \$269.50; TV receiver is mounted on sliding shelf . . . Shaw Television Corp. (formerly Federal Video Corp.) reports its line comprises 16-in. console, \$450; 19-in. console, \$495; 19-in. console-combination, \$1295 . . . Jamaica Television reports 16-in. table, \$129.50; better chassis, \$189.50; consolette, \$269.50; 19-in. console, \$329.

Trav-Ler president Joe Friedman is reported saying company will be producing 600-700 TV receivers daily by fall; also that 70% of production will be 16-in., about 15-20% in 19-in. . . . Add Arvin to manufacturers (GE & Westinghouse thus far reported) using new 40-mc IF to overcome oscillator radiation interference (Vol. 6:25) . . . Philco has leased 21,000 sq. ft. at A & Lippincott Sts., Philadelphia, for expanded work on govt. contracts.

Rectangular 16-in. table set at \$99.50 was offered in full page newspaper ads June 28 by American Television Inc., tube makers (U. A. Sanabria), which has own retail store in Chicago. Named "DeForest 44," ads also offered it in console for \$149.50.

* * * *

Arvin corrects our count of 30 radio models reported last week (Vol. 6:25). Actually, it's producing 37, ranging from \$12.95 to \$149.95 list. The \$55 top we reported was for table models only, but Arvin also has new AM-phono at \$129.95 and AM-FM-phono at \$149.95, marking its re-entry into console field after lapse of several years . . . Among other new radio lines are 5 new models by Stromberg-Carlson at \$30 to \$285, and 23 by Emerson (some retained from old line) at \$15 to \$150 . . . TV swivel-top table with 5-tube AM radio is reported being made by table manufacturer Guy Hobbs Inc., Dallastown, Pa., to sell for \$30 to \$35 . . . New Steelman Phonograph & Radio Co., 742 E. Tremont, Bronx, N. Y., reports it will show at NAMM with line of portable radio-phonos and phonos.

Phileo reports it was No. 1 in appliance advertising last year, 30th among all nation's advertisers. This year, it plans using all media—including TV animated spots and AM singing commercials—and will break right after Labor Day with color spreads in *Life & Saturday Evening Post*. Fall-winter ad campaign theme will be largely on "Balanced Beam—true focus, no blur, no smear."

RTMA reports 1,925,000 TV sets shipped by members and non-members first 4 months of 1950. Estimate is made in release of set distribution by counties for April (369,000) and for Jan.-April, 1950. It compares with our 2,060,000 production estimate through April (Vol. 6:21), NBC Research's estimated 1,896,000 installations for same period. Distribution breakdown is available from RTMA.

Zenith has purchased plant (180,000 sq. ft.) of Louis Hanson Furniture Co., 1500 N. Kostner Ave., Chicago, about 2½ mi. from its main plant, to be used for making components and certain TV subassemblies. Plant will not make furniture, which Zenith will continue buying outside.

Trade Personals: John F. Myers elected president of Westinghouse Electric Supply Co., operating 109 wholesale branches in 42 states; he succeeds David M. Salsbury, who becomes v.p. in charge of Texas & Pacific Coast operations with headquarters in San Francisco, having requested change for sake of health of his family . . . GE elects John L. Busey, Bridgeport, v.p. in charge of marketing policy; Wm. V. O'Brien, Schenectady, his asst.; Charles R. Pritchard, ex-marketing mgr., president of GE Supply Corp. . . . P. O. Krumm, Sentinel purchasing director, has bought controlling interest in Niles Cabinet Co., Niles, Mich., with Chicago offices in McJunkin Bldg. . . . Ben Rice new Starrett sales mgr. succeeding Seymour Newman . . . Glenn H. Browning, president, Browning Laboratories, awarded honorary degree by Cornell College, Mt. Vernon, Ia., from which he was graduated in 1921 . . . George R. Sommers appointed gen. sales mgr., Sylvania radio & TV tube divisions, succeeding C. W. Shaw, now asst. to sales v.p. . . . L. M. Sandwick, ex-Henry O. Berman Co., Washington, joins Scott Radio as merchandising mgr. . . . Tom Bernard named asst. director of public relations, RCA Victor, under v.p. John K. West . . . Raimund D. Osborne new comptroller of Federal Telephone & Radio, succeeding George Scharffenberger, now asst., to Gen. Wm. H. Harrison, IT&T president & Federal chairman . . . Edward C. Bonia, ex-Bendix and Muntz, named chief of Meck contract division sales, handling all other than jobber-distributed lines; he will open New York offices.

Zenith bowed to FCC request of last week for more information about its Phonevision royalty offer to manufacturers (Vol. 6:25), and withdrew offer—but grudgingly. In response dated June 24, Zenith's John R. Howland stated that no manufacturer had signed up under advance royalty credit plan (Vol. 6:8), but listed following 10 as having "indicated an interest": Crosley, Emerson, GE, Hoffman, ITI, Magnavox, Stewart-Warner, Stromberg-Carlson, Sylvania, Wilcox-Gay (latter now owned by Majestic). Letter also stated that one of these had asked Zenith to modify some of its receivers, so they could be used during Chicago tests scheduled for autumn.

Howland insisted Zenith still regards its royalty offer as "in the public interest," and made clear that mere inclusion of Phonevision plug isn't covered by any Zenith patent. The decoder is the patented device. Thus far, no other manufacturer has gone along with Zenith Phonevision plans; in fact, big ones like RCA, Philco and Admiral are openly opposed, as are most telecasters—to say nothing of movie producers.

Question now is whether FCC will be satisfied enough to extend Phonevision test authorization to Oct. 1, as requested, which was specific purpose of its exchange of letters with Zenith (Vol. 6:22-23,25). Best guess is that it will—that public by now should be fully aware that Phonevision is still experimental only and FCC must, after tests, still rule on basic principle of pay-as-you-look TV.

Zenith president E. F. McDonald, meanwhile, crossed swords with Skiatron's Arthur Levey. Of latter's Subscriber-Vision (Vol. 6:24), which allegedly requires no phone line, McDonald said it would require fixed subscription fees or special programs fixed in advance, thus not giving public choice. Levey retorted that his own decoder keys could be sold at any drug or grocery store.

Footnote on Phonevision publicity: One of our staffmen was visited at home by Muntz TV demonstrator, working door-to-door. In course of otherwise quite straightforward pitch, salesman volunteered that Muntz would have new "gadget" in 60 days that would enable buyer to call phone operator, order any first-run movie, pay for it on phone bill!

Financial & Trade Notes: DuMont's first 24 weeks of this year resulted in \$26,000,000 sales vs. \$18,000,000 for same 1949 period. President Allen B. DuMont told annual stockholders meeting June 28 he looks to \$80,000,000 sales this year vs. \$45,000,000 last year. Earnings for first 24 weeks approximate \$2,700,000 vs. \$1,780,000 in same 1949 period. Dr. DuMont said production would have been at much greater rate except for TV freeze, which he forecast would not be lifted before spring of 1951. Even then, because of FCC hearings and paper work, he did not think more than 30 new stations would be constructed in 1951, 100 in 1952, 150 in 1953.

Dr. DuMont reiterated his belief none of color TV systems is ready for public. He claimed DuMont sets have at least 600 parts, whereas average of other manufacturers is only 400. Company rightly anticipated tube trends, he noted, with 7 & 10 in. now practically obsolete, 12½-in. on way out. DuMont will continue to concentrate on larger screens. He predicted all TV tubes ultimately will be rectangular, showed laboratory model of 30-in. tube to be ready in fall.

* * * *

Radio-TV manufacturers averaged 5.7% net earnings on 1949 sales, National Credit Office Inc. revealed this week in study titled *Manufacturers of Radio & TV Receivers* prepared by v.p. K. W. Tibbitts. Report is based on balance sheets of group of representative manufacturers whose 1949 sales totaled \$380,221,000, and compares 1949 earnings with those for 1948—5.35% on \$260,521,000. Report indicated earnings of some companies went as high as 10% on sales in last 1949 quarter, first 1950 quarter. Inventory losses, fact some didn't reach volume production until after mid-1949, are cited for bringing yearly average down to 5.7%. Tibbitts states earnings in some cases went as high as 50% on invested capital, in 2 instances 100%. Companies with best earnings records are those with highest inventory turnover, report indicates, stressing importance of inventory control. Study can be had from NCO, 2 Park Ave., New York.

Zenith reports sales of \$99,210,746, net profit of \$5,268,001 (\$10.70 a share), for fiscal year ended April 30. This compares with \$77,146,861 sales, \$2,706,889 (\$5.50) profit in preceding year. President E. F. McDonald told stockholders trend to lower prices probably will be less evident in ensuing months than it has been in last year, due to components shortages, cited how one Zenith TV-console which sold for \$480 year ago compares with current price of \$270.

Tele-tone registration statement filed with SEC covers proposed public offering of 100,000 shares of unissued Class A cumulative convertible stock, \$10 par, and 130,000 shares of \$1 par common. Former will be sold at \$10; latter at \$6 by 15 stockholders, through Sills, Fairman & Harris Inc. and Straus & Blosser. Proceeds will be applied to working capital for plant facilities and equipment. Tele-tone also informed SEC it was purchasing Rico Television Corp., Hato Rey, Puerto Rico, through issuance of 50,000 Tele-tone shares in exchange for Rico stock. S. W. Gross, Tele-tone president, will get 22,500 of these shares for his Rico holdings.

Facet of Philco organization not generally known, and not mentioned in last week's report in this column (Vol. 6:25), is that company personnel, mainly at higher levels, owns just about 30% of its outstanding stock. Incentive compensation amounts to 10% of profits before taxes.

Olympic declared 20¢ dividend on increased common shares resulting from recent 20% stock dividend (Vol. 6:17), payable July 17 to stock of record July 7.

OUTLOOK TEMPERED BY WAR & SHORTAGES: Industrial mobilization for war would doubtless again mean freezing of TV-radio production and conversion to military needs. But even before electronics industry might be called upon, pinch may be felt as basic raw materials (steel, copper, tin, etc.) are diverted from peacetime use -- either for actual armament production or for precautionary stockpiling.

Aside from those prospects, TV production outlook continues so rosy that despite current hot-weather doldrums Sylvania executive v.p. Ward Zimmer is quoted by AP as forecasting year's production will reach 7,500,000 to 9,000,000 sets.

He amended that flat statement, when we checked with him, to say he meant this was a "possibility rather than probability." But he does think 7,500,000 will be achieved, pointing out that first 5 months exceeded 2,500,000 (Vol. 6:25), first 6 months are pretty sure to bring this close to 3,000,000, and final 6 months embrace 4 of best producing-selling months of year.

More than that, prices have come down to such an extent that nearly everybody can afford TV now -- and we have assurances from networks and stations that this fall and winter will see some of the finest program fare yet.

* * * *

You hear all kinds of reports about shortages -- of capacitors, resistors, condensers, cabinets, small tubes. Supply chief of one of biggest manufacturers told us positively that shortage of electrolytic condensers alone renders it impossible for the industry to turn out more than 5,500,000 sets this year. Most forecasts have centered on 6,000,000, Mr. Zimmer's being highest of any we've heard.

Yet Admiral and Philco alone have reasserted they'll make 1,000,000 each this year. RCA promises "twice as many" as last year, when it claims to have led the pack (with probable 400,000 to 500,000). Emerson says 750,000 for 12 months from July 1 (Vol. 6:26). Westinghouse also says twice as many as last year, though it hasn't been much of factor yet. So, if we could add up promised output of first dozen companies alone, they would easily exceed bearish 5,500,000 figure.

Attitude of big companies is that shortages, always annoying, somehow have way of righting themselves when demand is there. "We always seem to find what we need," said Mr. Zimmer, adding that receiving tubes, while tight now, are fast increasing in supply. There's no shortage of picture tubes, what with glass blowers geared to new capacity and some 30 tubemakers producing in that highly competitive field (TV Directory No. 11).

As for cabinets, the furniture makers have turned in droves to this lucrative field, and some are said to be bidding 19-20% above market for mahogany.

Admiral v.p. Dick Graver, discussing components shortages, is quoted in New York Times as saying deliveries of resistors run to 39 weeks, electrolytic condensers 16 weeks, volume controls 12-16 weeks, panel stock (for wood cabinets) 90-120 days. "That means," he's quoted as telling distributors, "we must project our production 8 months ahead."

KEEP YOUR EYE ON THAT 30-IN. TUBE: DuMont really has something in that much-publicized 30-in. picture tube -- make no mistake about it. First shown to newsmen and to DuMont distributors Thursday, it proved to have everything claimed for it -- excellent images, not too big for large rooms, indeed probably not too big even for medium-sized rooms, for you could view its pictures with comfort and enjoyment at only 6 to 8 feet. Certainly, it's vastly better than anything projections have yet shown, good enough for anybody's living room or library, splendid for public places.

Resulting images are comparable to good home movies, which few of us ever project at less than 24-in. width. Dr. Allen B. DuMont frankly admits he surprised

even himself with results, talks now not only of that 4x5-ft. job (Vol. 6:10) but even thinks he can make one 15x20-ft. suitable for theatres.

Test model was in huge, ungainly cabinet, merely a box, but Dr. DuMont said size can readily be reduced, furniture stylized, so set can be made about 34-in. wide, perhaps 50-in. high, 24-in. deep -- not much bigger than present 19-in. consoles. Metal-coned tube has 90-degree deflection angle, as against 50 degrees in 12½-in., 70 degrees in 17 & 19-in. It's only 23½-in. from face to end of neck (vs. about 20-in. for 19-in.), and experiments are under way to "flatten" it even further. It weighs about 40 lbs. vs. 20 for 19-in.

Picture framed is somewhat less than 28-in. across (expanded), giving 550 sq. in. of usable area, as against 208 in 19-in., 150 in 17-in. Standard chassis is used, with extra tubes only for power supply, sweep circuits. Voltage is 20,000, as against 12-13,000 in 19-in.

Limited number of receivers will be marketed starting September, priced around \$1000. Tube won't be sold to DuMont customers this year, inasmuch as production facilities aren't available for enough of them yet. Research labs right now can turn out only 5 or 6 daily. Enthusiastic distributor reaction (let alone news-men's) indicate inevitable demand.

WEEK'S BIG CROP OF NEW MODELS: Accent is on lower prices, larger picture sizes, superior furniture styling -- with not too many gimmicks -- in more major TV lines disclosed this week by DuMont, RCA, Raytheon, Sylvania, Tele-tone, Zenith. Most pertinent observation we heard, while viewing the new sets at distributor-dealer meetings this week: "At these prices, with this class and this wide choice of merchandise, the public will eat up our products this fall and winter -- that is, if we don't get into a hot war, in which case we might as well put our businesses on ice anyhow."

You'll find complete model and price lists in special insert herewith headed Reports on New TV Lines.

Only RCA, Raytheon, Sylvania and Zenith still offering 12½s, RCA starting with plastic table at \$160, Raytheon and Zenith with leatherette tables at \$180, Sylvania with console at \$220. Tele-tone offers 14-in. plastic table at \$140; Sylvania, wood table at \$190.

All have 16-in. size save DuMont, introducing own 17-in. rectangular. RCA emphasizes 16s (round) in 11 of its 18 models, starting with metal table at \$200, up to console combination at \$570. Raytheon and Zenith both have leatherette table at \$230, Zenith combinations going to \$550, Raytheon AM-phono to \$430. Sylvania has round table at \$200, up to rectangular combination at \$480. Tele-tone has wood table at \$190, combination \$350. All except RCA use rectangular 16s.

DuMont's 17-in. is in 10 out of 18 models, starting with metal table at \$250, then 2 other metal tables with wood doors at \$280 each, going up to \$575 combination. Tele-tone 17-in. console is \$340; Raytheon \$290, with AM-phono \$440.

All go heavily into 19-in. -- DuMont with 7, starting with console at \$400 up to combination at \$695; RCA with 4, including only table in this size (\$330), up to combination at \$695; Raytheon 3, starting with \$380 console up to \$575 combination; Sylvania 6, at \$400 to \$645; Tele-tone 2, at \$290 & \$320; Zenith 4, at \$400 to \$695. DuMont tops 19-in. line with "last word" console-combination with AM-FM-3 speed, personal and program recorder, clock selector -- to be priced "under \$1500."

Raytheon and Tele-tone showed 20-in. rectangulars, as did Philco (Vol. 6:25) -- Raytheon console at \$400 and combination at \$595, Tele-tone combination at \$600.

* * * *

RCA says 16-in. rounds will account for 70% of its set production, promises "plenty of merchandise, positively no scarcity, though we hope there is one". All its sets with phono have 2 turntables, one for 45rpm, other for 33 1/3 & 78. One model is swivel-mounted. New features are automatic brilliance and volume control, fringe area adjustment (switch on back of set adjusts for weak or strong signals at time of installation), wider tone range, illuminated channel selector, reduced power consumption (12½-in. requires only 160 watts vs. 320 for old 630TS). All

DuMont's line of 18 sets includes 10 with 17-in., all-glass rectangular tubes, 7 with 19-in. round tubes, one 30-in.—latter not due till later in fall. Top of line is Westminster, 19-in. deluxe mahogany console with AM-FM-phono—plus tape recorder and clock for selecting programs in advance. Set won't be delivered until November, is unpriced yet, but is expected to be "under \$1500." DuMont line, in addition to Westminster:

Ten 17-in. rectangular sets: Sumter, mahogany metal table, \$249.95; Ventura, same with wood doors, \$279.95; Carlton, same with wood doors, \$279.95; Strathmore, modern, mahogany wood console, \$299.95; Park Lane, mahogany console with doors, \$339.95; Andover, same, different cabinet, \$349.95; Brookville, modern mahogany console with FM, \$359.95; Revere, colonial mahogany console with FM, doors, \$399.95; Burlingame, same in modern, \$399.95; Tarrytown, mahogany console with AM-FM-phono, doors, \$575.

Six additional 19-in. sets are: Ardmore, modern mahogany console with FM, \$399.95; Westerly, modern mahogany console with FM, doors, \$459.95; Mount Vernon, same in Georgian, \$479.95; Winslow, same in modern, no doors, \$495; Hanover, same in Hepplewhite, doors, \$565; Sherbrooke, 18th Century mahogany console, AM-FM-phono, doors, \$695. Hanover, Winslow and Sherbrooke models are carryovers of interim line introduced in April (Vol. 6:16).

DuMont also showed 30-in. console, with AM-FM, unpriced, due in fall. All 17-in. TV-only sets have 20 tubes, 2 rectifiers; with FM, 22 & 3; combination, 27 & 4. All 19-in. sets have 22 & 3, except Westminster, 44 & 5. All except combinations have phono-jack. All sets come in blonde at about 5% increase.

* * * *

RCA new line of 18 models starts with 12½-in. plastic table model at \$160, includes 16-in., metal table at \$200, 19-in. table (first of majors to have such) at \$330. Here's the line—all TV-only sets having phono-jack, those with phono having 45rpm turntable separate from the 33½ and 78rpm turntable:

Three 12½-in. sets are: Model 2T51 Shelby, maroon plastic, \$159.95; 2T60 Cumberland, walnut or mahogany wood, \$189.95 (blonde, \$199.95); 2T81 Somervell, walnut or mahogany console with AM-phono, half-doors, \$299.95 (blonde, \$309.95). TV-only sets have 19 tubes, 3 rectifiers; combination, 23 & 4.

Eleven 16-in. sets (all round) are: 6T53 Newport, maroon metal table, \$199.95; 6T54 Kent, same with mahogany table stand, with built-in antenna, drop panel for controls, \$239.50; 6T64 Kingsbury, walnut or mahogany console, \$259.50 (blonde, \$269.50); 6T65 Highland, same in different cabinet, walnut or mahogany, \$279.50 (blonde, \$299.50); 6T72 Fairfield, same in different cabinet, half-doors, walnut or mahogany, \$299.50 (blonde, \$319.50); 6T74 Regency, same in walnut or mahogany, full doors, \$329.50; 6T75 Modern, same, swivel-mounted, walnut, mahogany or blonde, full doors, \$349.50; 6T76 Provincial, walnut, mahogany or maple, full doors, \$359.50; 6T84 Fairfax, same with AM-phono, walnut or mahogany, full doors, \$439.50 (blonde, \$459.50); 6T86 Rutland, same with AM-FM-phono, 18th Century, walnut or mahogany, full doors, \$495; 6T87 Hartford, same in Regency, walnut or mahogany, \$550 (blonde, \$570). TV-only sets have 19 tubes, 2 rectifiers, except 6T84 which has 24 & 2, and 6T86 and 6T87 which have 26 & 3.

Four 19-in. sets are: 9T57 York, walnut or mahogany table, drop panel for controls, \$329.50 (blonde, \$339.50); 9T77 Hillsdale, walnut or mahogany console, half-doors, \$389.50 (blonde, \$409.50); 9T79 Northampton, same in

Regency, walnut or mahogany, full doors, \$425; 9T89 Sedgwick, same with AM-FM-phono, \$695. Sets have 19 tubes, 2 rectifiers, except combination which has 26 & 3.

* * * *

Raytheon keeps 4 of old "Super-Circle" models in its new line of 22 sets, which features 16 & 17-in. rectangular tubes in consoles; 17-in. are \$10 more than 16. Here's line:

Three 12½-in. sets, all with circular pictures: Model M1106, leatherette table, \$179.95; M1105, same in mahogany wood, \$199.95; C1104, same in console, \$219.95. Only 16-in. round, also with circular picture, is C1602, mahogany wood, \$279.95. Sets have switch enabling viewer to make pictures rectangular.

Twelve models with either 16 or 17-in. rectangular tubes: M1403, red leatherette 16-in. table, \$229.95; M1404, same in blonde, \$239.95; M1402, same in mahogany wood, \$249.95; C1401, same in mahogany console, \$269.95; C1615, same in blonde, \$279.95; C1715, same with 17-in. tube, mahogany, \$289.95; C1616, same with 16-in., doors, \$299.95; C1716, same with 17-in., \$309.95; RC1618, same with 16-in., AM-phono, mahogany, doors, \$399.95; RC1718, same with 17-in. tube, \$409.95; RC1619, same with 16-in., blonde, \$429.95; RC1719, same with 17-in., \$439.95.

Three models with 19-in. rectangulars: C1901, mahogany console, doors, \$379.95; C1902, same in blonde, \$399.95; RC1905, same with AM-FM-phono, mahogany, \$575. Three 20-in. rectangular models: C2001, mahogany console, doors, \$399.95; C3002, same in blonde, \$419.95; RC2005, same with AM-FM-phono, mahogany, \$595.

There are 18 tubes, 2 rectifiers in 12½-in.; 19 & 2 in 16 & 17-in.; 20 & 2 in 19 and 20-in.

* * * *

Sylvania line of 25 models comprises:

Two 12½-in. sets: Model 245, mahogany console, \$219.95; 197, same with doors, \$249.95.

Four 14-in. rectangular models: 4120M, mahogany table, \$189.95; 4130W, same in walnut console, \$229.95; 4130M, same, mahogany, \$239.95; 4130B, blonde, \$249.95.

Eleven 16-in. rectangular sets: 6110X, mahogany table, \$229.95; 6120W, same in walnut, more sensitive chassis, \$249.95; 6120M, same in mahogany, \$259.95; 6120B, same in blonde, \$269.95; 6130W, same in walnut console, \$299.95; 6130M, same in mahogany, \$309.95; 6130B, same in blonde, \$319.95; 6140W, same in walnut deluxe console, doors, \$339.95; 6140M, same in mahogany, \$349.95; 6150M, mahogany console, AM-FM-phono, \$449.95; 6160B, same in blonde, \$479.95.

Two 16-in. round sets: 1110X, mahogany table, \$199.95; 247, same in console, \$279.95.

Six 19-in. round models: 5130W, walnut console, \$399.95; 5130M, same in mahogany, \$419.95; 5130B, same in blonde, \$449.95; 5140M, same in mahogany deluxe console, \$539.95; 5140B, same in blonde, \$559.95; 5150M, same with AM-FM-phono, \$645.

Four models are carried over at reduced prices: 12½-in. mahogany table Model 125, \$169.95 (down \$30); 246, same with more sensitive chassis, \$189.95 (down \$40); 128, same in console combination, \$299.95 (down \$100); 090, 16-in. mahogany console, doors, \$319.95 (down \$60).

* * * *

Tele-tone's new line of 20 sets is divided into 12 regular line sets, 8 in higher-priced "Imperial" group. Regular sets start with 14-in. rectangular chony plastic table Model 322 at \$139.95, feature also mahogany wood 16-in. rectangular Model 324 at \$189.95.

Other regular 14-in. rectangular sets are: Model 323, (Over)

mahogany plastic, \$149.95; 318, same in wood, \$159.95.

Other 16-in. rectangular models are: 335, mahogany low-boy console, \$199.95; 325, mahogany console, \$219.95; 325R, same with remote control, \$269.95; 326, mahogany console, doors, \$249.95; 326R, with remote control, \$299.95.

Only 17-in. rectangular: 327, mahogany console, AM-FM-phono, doors, \$339.95. Sets with 19-in. are: 329, mahogany console, \$289.95; 328, same with doors, \$319.95.

"Imperial" line, more sensitive circuit, better furniture, all TV-only sets with phono jack, starts with Model TV314, mahogany 14-in. rectangular table, \$179.95.

16-in. rectangular sets are: TV330, mahogany table, \$229.95; TV316B, same on separate base, AM-phono, \$299.95; TV310, mahogany console, AM-FM-phono, \$339.95; TV331, Queen Anne, mahogany console, doors, \$349.95; TV332, same, French Provincial, \$349.95; TV333, same, Chinese Chippendale, \$349.95.

Only 20-in. rectangular: TV334, period console, AM-FM-phono, \$599.95.

* * * *

Zenith line of 22 sets features 4 series—12½, 16 & 19-in., all round tubes, and a 16-in. rectangular group. Leading the line is leatherette 12½-in. mahogany table Model H2227R at \$179.95; same with 16-in. rectangular, Model H2329R at \$229.95.

Other 12½-in. sets are: Model H2227E, blonde leatherette table, \$189.95; H2226R, mahogany wood table, \$199.95; H2250R, 18th Century, mahogany console, \$239.95; H2255E, Modern, blonde console, \$259.95.

Other 16-in. rectangular models are: H2328R, mahogany wood table, \$249.95; H2328E, same in blonde, \$259.95; H2352R, 18th Century, mahogany console, \$289.95; H2353E, same in Modern blonde, \$309.95.

Eight 16-in. round sets are: H2438R, 18th Century, mahogany console, \$279.95; H2449E, same in Modern blonde, \$299.95; H2439R, Hepplewhite, mahogany console, doors, \$349.95; H2437R, Modern mahogany console, \$359.95; H2437E, same in blonde, \$379.95; H3267R, 18th Century, mahogany console, AM-FM-phono, \$449.95; H3475R, same in Georgian, doors, \$499.95; H3469E, same in Modern blonde, \$549.95.

Four 19-in. round models are: H2447R, 18th Century, mahogany, doors, \$399.95; H2445R, same in Sheraton, \$449.95; H3477R, Chippendale, mahogany console, AM-FM-phono, \$650; H3478E, same in Modern blonde, \$695.

Tubes in 12½-in. sets are 18 receiving tubes, 4 rectifiers; in 16-in. rectangular, 19 & 4; 16-in. round, 20 & 4 (combinations have 29 & 5 except H3267R, 27 & 5); 19-in. round, 20 & 5 (except combinations, 29 & 6).

* * * *

Mercury Radio & Television (subsidiary of Mercury Records) has priced line shown at Chicago mart (Vol. 6:25), 8 models in modern decor: 16-in. rectangular console \$300, with AM-phono \$370; 16-in. round console \$270, with FM and better cabinet \$300; 19-in. console with circular picture and FM, \$380; with doors but no FM \$390. Sets are made by SMA Co., Chicago, in which Mercury is one of 2 principal stockholders (Vol. 6:23).

New manufacturer is Television Inc., Lincolnton, N. C. (B. M. Jenkins, president & gen. mgr.). "Lincoln" line is 16-in. table \$250, console \$300, with doors \$350, doors and better cabinet \$355; 19-in. console \$400. All sets have 19 tubes, 2 rectifiers and phono jack. Same interests own Lincoln Novelty Co., furniture makers.

Coastwise Electronics Co. Inc., 130 No. Beaudry Ave., Los Angeles (LeRoy J. Smith, sales mgr.), maker of TV test equipment, has remote control tuner for attachment to existing TV sets; device will sell for "under \$40," will be tested in Los Angeles market for 90 days before national distribution.

Admiral this week upped discounts by 2% to distributors, expected them to pass on extra profit margin to dealers. Prices of sets remain as announced weeks ago (Vol. 6:25). In bulletin to distributors, sales v.p. Wallace C. Johnson called it "one of most unprecedented steps ever taken . . ." He added, "It is our calculated purpose to keep Admiral far out in front of the field. This is the year of decision, and we are determined at all costs to further entrench Admiral in the undisputed position of leadership." Johnson also cautioned that receiving tubes (he said Admiral uses 25,000,000 annually) are likely to go on allocation, warned of "impending TV shortage this fall." Longer discounts are also being offered by Raytheon, details undisclosed, in new line.

RCA has made arrangements with Commercial Credit Co. to finance sales of all its merchandise (mainly TV) to dealers and consumers. Under terms, dealer has to pay only 10% of invoice to distributor, with Commercial Credit Co. financing rest for period up to 6 months. Dealer, however, must pay credit company amount due on each set sale, before delivery of set, or turn over to company retail time payment contract. For dealers who want to use CCC to handle consumer installment buying risk, company will supply capital to finance long-term sales, will handle investigation and collection activities without cost.

"Tougher going" for private brands is seen by Philco executive v.p. James Carmine, as standard brands meet demand and add new technological features. He forecasts "conservative" 10,000,000 TV set sales next year if FCC lifts freeze. He won't be surprised, he said, if 6,000,000 is exceeded this year. Philco radio sales chief Albert J. Rosebraugh notes company will devote 25% of its facilities to radio this year, last year did 19% of entire business in radio. "We have a great deal of love for radio," he told distributors at recent Atlantic City convention where Philco showed line of 27 models (Vol. 6:25).

Admiral has taken over Newark distributorship from Dale-New Jersey Inc., will operate there as factory branch to be known as Newark Distributing Div., Admiral Corp., according to Clarence S. Tay, factory branches president. Admiral also has own distribution in New York, Chicago, Boston, Milwaukee, Peoria . . . RCA Victor is taking over own Buffalo distribution; it also has own branches in Chicago, Detroit, Kansas City.

RMA June production figures will probably go considerably below May's average 94,000 (Vol. 6:25)—actually about 120,000 if you add 25% to account for non-RMA. First June week (not projected) dropped to 58,000, according to early RMA report. It's not expected rest of June, or first 2 weeks of July, will run much better than that. Full June figures won't be available for several more weeks.

Study of FM oscillator radiation interference to air navigation around Crawfordsville, Ind. (Vol. 6:23), by RTMA committee (John L. Rennick, Zenith, chairman), resulted in report to FCC this week. Said report: "[Set radiation] figure of 50 uv/m at 100 ft is a desirable goal . . . In order to completely insure an interference free condition it looks as if a figure of 8 uv/m at 100 ft. must be attained . . . The 50 uv/m figure would amount to a reduction in maximum range of the VOR system to 86% of normal. Present conditions over Crawfordsville are equivalent to a reduction to 16% of the normal 63 mile range." FCC hasn't yet responded to report, nor have RTMA board members who received copies.

Uhf transmitter of KM2XAZ, Long Beach, Cal. is described in technical detail in July *Radio & Television News*. Built by Stanford Research Institute, it employs phase-to-amplitude modulation which SRI engineers claim holds great promise for high power (Vol. 6:21).

sets have improved shielding to minimize both outside and interior interference.

RCA dealer meetings July 6 throughout country were informed that "MP" slogan means "Million Proof" ("proven in more than 1,000,000 homes"). Enormous ad campaign starts July 16 with simultaneous publication of 16-page special sections in newspapers in 40 TV cities, plus biggest magazine, radio, TV and other sales aid promotions ever undertaken. Bruno-New York's Irving Sarnoff revealed that \$20,000,000 will go for advertising "for electronics alone -- no refrigerators, washers, etc."

DuMont's 17-in. table leaders won't be delivered for another 30-60 days, nor will its top-of-line 19-in. job be ready until November. It also showed 30-in. in mock-up (see story this issue) but took no orders for it. By end of distributor meeting July 7, it reported signing them up for \$51,700,000 worth of merchandise. DuMont line has new chassis, features switch for fringe-area reception, new FM circuit for TV sound, all TV-only sets with phono-jacks. Company plans \$4,000,000 ad campaign, highlighted by Norman Rockwell illustrations in magazines, starting with Saturday Evening Post insertions next month.

Raytheon had 150 at Chicago convention July 6, new 22-set line retaining 4 of last season's. New line intermixes dozen 16 & 17-in. rectangulars, \$10 more charged for latter. Raytheon reported \$10,000,000 in orders.

Sylvania has line of 25 new models, mainly with 14 & 16-in. rectangular tubes. Held over from last line are 4 sets, with prices cut \$30-\$100. Line leads with 14-in. rectangular table at \$190 and 16-in. round table at \$200.

Tele-tone offers 2 classes of sets -- a regular line of 12 models, "Imperial" line of 8, latter with more powerful chassis, better furniture. All are TV-only, with phono-jack. Single-knob tuning is featured, as is "Duo-Dynamic" circuit which it says means set uses only 100 watts instead of customary 150 to 200. Tele-tone has several sets with remote control.

Zenith is playing up optional remote control, called "Lazy Bones"; reflection-proof "black" tubes, variable speed turntable (anything between 10 & 85rpm); Phonovision outlet (Vol. 6:26); turret tuner capable of being modified for uhf (Vol. 5:11-16). All except its 16-in. rectangular use "porthole" or circular picture, but all have switches permitting viewer to change picture to rectangular.

* * * *

RCA particularly stresses radio, introducing 3 new plastic tables, each with phono-jack, at \$25, \$28 & \$50 (latter AM-FM). There are 4 new consoles: with AM-FM-45rpm, \$180; AM with separate 45rpm and 33 1/3 & 78, \$200; Traditional, AM-FM with half doors and 2 changers, \$240; Regency, same with full doors, \$270; all in oak \$10 to \$15 more. Tele-tone has 4 new table radios at \$12 to \$18, one \$25 portable, one AM-FM-phono low-boy at \$140. GE this week released 8 clock radios at \$30 to \$40; 8 AM tables and one AM-FM at \$20 to \$50; 4 console combinations at \$170 to \$280. Sylvania has 3 AM radios, \$18-\$21; portable, \$30; 3 clock radios, \$30-\$35.

MORE HAMS FINDING FOOTHOLDS IN TV: Amateurs are finally beginning to sink their teeth into TV, ingeniously finding ways around principal stumbling block -- costs. It goes without saying that, as in radio through the years, they'll make substantial contributions to TV. They already have, in fact -- leading way in reducing various kinds of interference, e.g., harmonic and oscillator.

One of most helpful techniques yet developed to ease amateurs' entrance into TV is that devised by J. R. Popkin-Clurman, Hazeltine engineer and ham. He "steals" expensive-to-generate sync pulses out of the air from commercial stations, uses them for his own transmissions (Vol. 6:8). Radio & Television News is currently carrying series of articles, by him, giving full technical description.

There's unusual concentration of active hams in San Francisco area. June QST, technical organ of the hams, has excellent roundup by staff member Edward P. Tilton. He says credit for first ham transmission of standard RTMA signal probably should go to Clarence Wolfe, W6JDI, Burlingame, who was on air May 1948. Others in area who've actually had pictures on air: Robert Melvin, W6VSV; Milton Cooper, W6QT; George Badger, W6RXW -- all Berkeley. Planning to transmit are: William S. Sadler, W6WCD, San Francisco; Robert Sutherland, W6UOV, Oakland; R. Loren Grace, W6VQV, Richmond. British and Dutch work is also covered in article.

Topics & Trends of TV Trade:

Music Merchants Show, conducted by National Assn. of Music Merchants in connection with its annual convention, will have more TV-radio exhibitors than did Chicago mart last month. Exhibits open in Chicago's Palmer House Monday, July 10, continue through July 13. Among 250 exhibitors, show management reports these will show both TVs and radios:

Admiral, Ansley, Brunswick, Fisher, Freed, GE, Jackson, Magnavox, Majestic, Motorola, Philco, RCA, Raytheon, Scott, Sparton, Starrett, Stromberg-Carlson, Sylvania, Tele King, Westinghouse, Zenith.

These will show TVs only: Atwater (div. of Zenith Home Appliances, Chicago); J. F. Bard Co., Chicago; Mercury (div. of Mercury Records); DuMont, Pathe, Tele-tone, Trad, Trans-Vue, Video Corp., Video Products Corp.

Showing radios and radio-phonos only: Covrall Industries Inc., Chicago; Hedco Mfg. Corp., Chicago; Magna Electronics Inc., Los Angeles; Ristocrat Inc., Appleton, Wis.; Jewel, Symphonic.

TV accessories: Coin-Meter Clock Corp., Chicago; Seaburg Mfg. Co., Jamestown, N. Y.; Universal Co., High Point, N. C.; E. M. Ward Co., Chicago; Magna.

Recorders: Ampro, Magna, Recoton, Revere Camera, Webster-Chicago.

* * * *

First 2 July weeks finds by far majority of factories closed down for traditional summer vacations (Vol. 6:20), though some are on different schedules—Bendix, Hallcrafters and Motorola, for example, resuming July 10. All new production, of course, is on fall-winter models, which most began to turn out even before vacations.

Looks like Motorola will be last of majors to announce new models and prices, due at distributor convention in Chicago July 25. Meanwhile, interim line of 4 sets (Vol. 6:22) will probably feature NAIM display. Hoffman, too, isn't due to divulge until third week in July, or just before San Francisco's Western Merchandise Mart, July 24-29, where Packard-Bell will also show.

Westinghouse claims largest single order for TV receivers ever sold by retail dealer was 607 of its sets to be installed in all homes in Tareyton Village, in suburban Oakland, Cal. Dealer was Wick's Electrical Living Shop, Berkeley, Cal. Two freight cars and part of another will carry shipment of 12½-in. sets from Sunbury (Pa.); installations will be in specially designed niches in living rooms.

* * * *

Dominance of larger sizes is emphasized by RTMA's figures on tube sales for May: 14-in. and up accounted for 64.5% (386,567 units), compared with 51.9% in April, 36.9% in March, 35.1% in February, 30.4% in January. Although RTMA doesn't provide breakdown of "14-in. and above" category, it's certain that 16-in. and up account for at least 50% of all production. Other sizes: 7 & 8½-in., 163 units; 10-in., minus 691 (adjustment in bookkeeping); 12½-in., 211,744 (35.3%); projection, 1860. Total: 599,667 vs. 498,624 in April (Vol. 6:21).

Tube notes: Carnegie-Illinois (U. S. Steel) cut price of steel for metal cones 6¢ (2½¢ lb.) . . . Hytron now producing at new plant in Newburyport, Mass., by mid-August expects to turn out 3000 tubes daily to bring total to about 4000 a day . . . Sheldon Electric claims economies in production through use of new radiant heating oven for baking phosphorus and conductive coatings. Technique is said to cut heating and baking costs in half by reducing time of operations some 65%.

Total receiving tubes sold in May by RTMA members was 29,706,500, compared with 27,387,689 in April 13-488,121 in May 1949. Five months' total was 137,895,253.

Financial & Trade Notes: Bankruptcy of Televista Corp. of America, Long Island City, was only the second in TV field this year—other having been Remington Radio Corp., White Plains, N. Y. (Vol. 6:17)—despite repeated expressions of belief that 100-odd manufacturers are too many, can't survive. In fact, our next *Directory of Television Manufacturers & Receivers*, a section of *TV Directory No. 11*, due off presses July 15, will actually list more TV manufacturers now than last January.

Televista lists liabilities of \$111,357, assets of \$65,598. Creditors are asking 30% cash settlements. Referee Sherman D. Warner, Jamaica, N. Y., has named William S. Brown trustee.

Previous to these, Majestic and Sonora were the only major post-war bankruptcies. Majestic name and certain other assets were acquired by Leonard Ashbach (Garod), who also bought out Wilcox-Gay (Vol. 6:15-16). John Meck bought out Scott, which is being continued; Capehart-Farnsworth, acquired by IT&T, also continued; and Muntz purchased Howard Radio plant—only other sizeable sales since reconversion from wartime (Vol. 6:16).

* * * *

Proxy statement for Zenith stockholders meeting at plant July 25 discloses president E. F. McDonald Jr. as owner of 49,191 shares as of May 31, 1950 (38,931 of these owned by Seneca Securities Corp., of which he owns substantially all the stock); this is approximately 10% of outstanding securities of corporation. Following are remunerations of officers exceeding \$25,000 in fiscal year ended April 30, 1950 (see Vol. 6:26 for financial report): Mr. McDonald, \$60,000 base salary, \$99,700 bonus; Hugh Robertson, executive v.p., \$50,000 & \$99,700; H. C. Bonfig, sales v.p., \$40,000 & \$52,680.

Transvision Inc., offering new stock issue (Vol. 6:25), reports to SEC that with its tubemaking subsidiary Lectrovision Inc. it earned net profit of \$54,661 after taxes on \$1,056,243 sales during 5 months to March 31, 1950. For year ended Oct. 31, 1949 net loss was \$156,508 after tax refund credit of \$97,891 vs. profit after taxes of \$248,164 for year to Oct. 31, 1948.

Tung-Sol declares dividend of 50¢, payable Aug. 1 to stock of record July 17; previous payments were 25¢ in February, and 15¢ each in March and December, 1949 . . . GE expanding radio receiver plant by adding 600-750 to Utica payroll, constructing 25,000 sq. ft. addition to factory there . . . Trav-Ler occupies its new Orleans, Ind. plant (Vol. 6:17) in September, when present 8000-9000 monthly production will be stepped up to 14,000-15,000.

Walter Albert Buck, RCA Victor operating v.p. since January 1949, was elected v.p. and general mgr. by RCA board July 7, succeeding late John G. Wilson (Vol. 6:22). Previously, he was president of Radiomarine Corp. of America, which he joined when he retired in March 1948 as Rear Admiral, USN. In the Navy, he rose to paymaster general and chief of Bureau of Supplies & Accounts; in World War II, served as supply officer on Vice Admiral Bristol's staff with the Atlantic Fleet.

Trade Personals: Robert G. Scott has been promoted to head of commercial engineering dept., DuMont tube div., under I. G. Rosenberg, mgr. . . . Simon Lynn promoted to merchandising representative for TV, radio and records for Associated Merchandising Corp. (Bloomingdale's, New York; Lazarus, Columbus, et al) . . . Sydney J. Mass, ex-National Pressure Cooker Co., new adv.-sales promotion mgr., Jerrold . . . G. L. Roark, New York district mgr., appointed central regional mgr., GE tube division, headquartering in Chicago; C. J. Biver new commercial engineer.

TV STEALS THE MUSIC MERCHANTS SHOW: There were only 30 TV exhibitors (out of some 250) at this week's Music Merchants Show in Chicago's Palmer House -- but their 37 exhibits and private showroom displays were unquestionably the major centers of attraction. More than that, they were source of substantial amount of order-taking. Actually, musical instruments were hardly in evidence in the more public places, like the exhibition hall, though they occupied 7th & 8th floors entirely.

NAMM officials say TV has benefited musical instrument sales, pointing to Arthur Godfrey's popularization of the ukulele, now being made at rate of 3000 per day. They also like fact that TV viewers, especially youngsters, can see instruments and get urge to play; that family circle has been reestablished at home, making for more musical creativeness.

Some TV exhibitors showed new lines for first time at show, though most had previously been announced and have been reported in detail in The Digest. You'll find details about others, as gathered at show, in Topics & Trends column in this issue. TV manufacturer-exhibitors were: Admiral, Ansley, Atwater, Brunswick, DuMont, Fisher, Freed, GE, Jackson, Kaye-Halbert, Magnavox, Majestic, Mercury, Motorola, Pathe, Philco, RCA, Raytheon (Belmont), Scott, Sparton, Starrett, Stromberg-Carlson, Sylvania, Tele King, Tele-tone, Trad, Trans-Vue, Video Corp., Westinghouse, Zenith.

* * * *

Cynosure of NAMM show undoubtedly was DuMont 30-in. direct-view job (Vol. 6:27). Big tube was operating in large console on raised dais at entrance to DuMont exhibit, working (as did all other sets) off Jerrold master antenna (Vol. 6:25). Picture was good, though there was yellowish tinge in center. GE's Dr. W. R. G. Baker, when asked at press conference what picture size might be largest practicable, flatly stated 30-in. -- because, he said, it was about same size as home movie screen. GE showed own 24-in. tube, but not in operation. Asked about Dr. DuMont's reference to 15x20-ft. direct-view tube for theatre TV, Dr. Baker opined it could be done, but it seemed to him "the hard way to do it."

Among many gimmicks, significant were GE and others featuring ability to modify sets for uhf when that spectrum is officially opened. GE has "uhf" lettered on station selector knob between Channels 5 & 6; idea is to use either one of those channel settings for uhf when first station in a town gets going. Majestic showed turret tuners in its sets, which Admiral and Zenith also have.

Among accessories shown were TV tables, one with swivel top; coin-meter clocks to be used by retailers selling TVs on installment-collection basis; leather photograph frame with TV antenna enclosed behind picture. RCA and GE featured casters on some consoles, RCA showing swivel-mounted Modern console (Vol. 6:27).

TOP 10 ACCOUNT FOR 75% OF OUTPUT: Six TV manufacturers account for approximately 65% of total TV sets, 4 for another 10%, some 60 for remainder, in 4 leading markets -- New York, Chicago, Philadelphia, Boston. The 6 leaders (order not divulged) are Admiral, DuMont, Emerson, Motorola, Philco, RCA. Those ranking 7, 8, 9 & 10 aren't disclosed because of wide gap from top 6 -- but it's good guess they're drawn from these also listed in "guesstimates" of last winter (Vol. 6:8): Crosley, GE, Hallcrafters, Tele-tone, Westinghouse, Zenith.

Foregoing are by-product findings of continuing study of TV commercials conducted monthly by Daniel Starch & Staff, 420 Lexington Ave., New York. They're based on 2000 personal interviews in homes of TV set owners, conducted over last 5 months primarily to get reactions to commercials. Also compiled are data on size of families, ages, income, period owned, etc.

Fully half the 2000, Starch researchers admit, are in New York metropolitan area, which would weigh heavily for DuMont. Los Angeles area, which ranks third (ahead of Philadelphia and Boston in sets-in-use; Vol. 6:25), wasn't covered.

Topics & Trends of TV Trade: You'll find the models and prices of all TV receivers thus far announced in the Manufacturers-Receivers Section of our *TV Directory No. 11*, just published. It lists 90 known TV manufacturers, 14 reported but undetailed, 5 kitmakers—indicating more than 100 firms in receiver field. In addition, it lists names and makers of 22 private brands; 34 tubemakers, 3 glass blank makers, 4 metal cone makers, 2 face plate makers. We believe it's only complete directory of its kind extant.

Most new lines have been divulged, but there are a few majors to come—notably **Hallicrafters**, showing in Chicago July 17; **Hoffman**, July 20; **Motorola**, July 25; **Olympic**, Aug. 1. Next big exposition is San Francisco's Western Merchandise Mart, July 24-28, where we're informed the following will exhibit either themselves or through their local distributors: **Bendix**, **Capehart**, **Conrac**, **Crosley**, **Emerson**, **GE**, **Hoffman**, **Jackson**, **Jewel**, **Kalmus**, **Magnavox**, **Mercury**, **Olympic**, **Packard-Bell**, **Philco**, **RCA**, **Scott**, **Sparton**, **Stromberg-Carlson**, **Tele-tone**, **Westinghouse**, **Zenith**.

* * * *

This week's batch of newly announced receivers and prices was considerable, coming mostly from the smaller companies. And at NAMM Show in Chicago, GE finally released details of its line of dozen new models as follows:

14-in. rectangular models—14T2, wood table, \$199.95; 14T3, same in blonde, \$219.95; 14C102, mahogany console, \$239.95; 14C103, same in blonde, \$259.95.

16-in. rectangular models: 16T3, mahogany table, \$239.95; 16T4, same in blonde, \$259.95; 16C113, same in mahogany console, \$279.95; 16C116, same, ¾-doors, \$299.95; 16K1, same, full doors, AM-FM-phono, \$449.95; 16K2, same in blonde, \$469.95.

19-in. round models: 19C105, mahogany console, ¾-doors, \$439.95; 19C106, same in blonde, \$459.95. Also shown was 24-in. set, 24C101, mahogany console, doors unpriced, due in fall.

All have 19 tubes, 3 rectifiers, except 19-in. which has 24 & 3, and combinations, 26 & 3.

* * * *

Hallicrafters line of 16 sets is to be shown its distributors at Chicago's Knickerbocker Hotel July 17—no details on prices, etc. available as we go to press. Line includes four 16-in. rect. table models, one of which has AM; four 16-in. rect. consoles, one with AM, another with AM-phono; three 16-in. round consoles, one with AM; three 17-in. rect. consoles, one with AM, another with AM-phono; one 19-in. round console; three 20-in. rect. period console-combinations, all with AM-FM-phono.

Hallicrafters features its "Dynamic Tuner"—printed tuner circuit (Vol. 6:21), which it has been promoting heavily, notably at Furniture Marts. It's in all except top three 16-in. rect. tables. Basic chassis has 17 receiving tubes, 3 rectifiers; sets with AM have 20 & 4; with AM-FM, 24 & 4.

President William Halligan is quoted as saying Hallicrafters is "making a definite bid for more than our normal share of fringe area business. We're going after the more sensitive, longer distance TV markets as we have done in radio communications for so many years."

* * * *

At NAMM Show, Ansley revealed 2 lines—contemporary and deluxe series. Four Contemporary models are 17-in. rect. table \$259, in 18th Century console \$369, Modern \$389, with AM-FM-phono \$495. Six deluxe sets are 16-in. console \$395, in different cabinet \$445, with AM-FM-phono and leather doors \$650, in credenza \$1095; 19-in. console \$495, in credenza with AM-FM-phono \$1195. Contemporary series has 21 tubes, 3 rectifiers; combinations, 28 & 3. Deluxe series has 27 & 3; combinations 40 & 3.

Stewart-Warner showed 10 new TV sets to 250 distributors in Chicago July 14, with leader 14-in. rect. table at \$190. Line goes up to 19-in. console with AM-FM-phono at \$525, includes also 2 models from previous line: 16-in. table at \$260 (down \$20), same in console \$290 (down \$10). General manager E. G. Fossum said shortages and threat of price increase of raw materials "indicate probability of higher list prices in the coming months rather than stable or lower prices." President James S. Knowlson said he thought Korean affair would bring on system of informal priorities of scarce materials, not all-out controls, urged distributors to order enough radio and TV sets so they "don't get caught short."

Starrett's new line of 19 sets starts with \$150 leatherette 12½-in. table and \$170 companion piece in wood. Two 14-in. rect. tables are \$180 in leatherette, \$190 in wood. Four 16-in. rect. tables start with \$200 in leatherette, include \$220 for walnut or mahogany, \$230 for blonde. Four 16-in. round consoles start at \$270 for walnut or mahogany, include \$280 for blonde, \$330 for open face combination. Only 17-in. rect. models are \$370 for mahogany, \$390 for blonde. Five 19-in. consoles run \$340 for open face mahogany, \$430 for same with doors, \$460 for same in blonde, \$500 for combination in mahogany, \$530 for same in blonde. All sets have 16 receiving tubes, 2 rectifiers, except 19-in., 17 & 2.

Atwater, subsidiary of Zenith Home Appliance Corp., big New York distributor, offers 16-in. round console at \$190 as leader and 9 other sets: 12½-in. table, \$150; 14-in. rect. table, \$160; 16-in. rect. table \$180, console \$230, with AM-phono \$300; 16-in. round console \$250, with FM \$260; 19-in. round console \$280, with FM \$340. All have phono jack. Sets have 17 tubes, 2 rectifiers, except those with FM or combinations, 22 & 2.

* * * *

Trad has 5 models in regular line, 4 in higher priced, more sensitive series. Regular line starts with 16-in. leatherette table \$160, wood console \$200, with AM-phono \$300; 19-in. console \$270, with AM-phono \$350. Sets have 18 tubes, 2 rectifiers. Sets with more sensitive chassis are 16-in. console \$270, with doors \$350; 19-in. console \$330, with doors \$380. These have 27 tubes, 2 rectifiers. Remaining in line are Trad's commercial projection sets, but added to them is 19-in. table with remote control \$495.

Video Corp. of America lists 13 sets in its direct-to-dealer line: 14-in. rect. table \$170; 16-in. rect. table \$190, blonde \$200, console \$230, blonde \$240; 16-in. deluxe console \$270, blonde \$290; 17-in. rect. console \$260, blonde \$270; 19-in. console \$300, blonde \$320, with doors \$320, blonde \$340. Chassis has 15 tubes, 2 rectifiers.

Scott, now owned by Meck (Vol. 6:16), is out with popular-priced line: 14-in. rect. table \$200, console \$240; 16-in. rect. table \$250, console \$280; 16-in. Chippendale console, \$385; 19-in. Chippendale console, \$485. These are in addition to 16-in. \$695 console-combination remaining in line. All have 19 tubes, 1 rectifier.

Majestic has added 16-in. table, in leatherette, at \$190 to new line (Vol. 6:20) . . . Brunswick has added 16-in. rect. console with doors at \$240 and 19-in. rect. console at \$300 to new line (Vol. 6:24) . . . Fisher's lone TV is 16-in. Georgian combination at \$995, contains 52 tubes . . . Pathe's line of 6 sets isn't priced. This subsidiary of Air King sells direct to dealers, who set own prices. All are 16-in. rect. consoles.

Sylvania TV-radio sales chief J. K. McDonough announced this week entire TV line (Vol. 6:27) has been sold out . . . Raytheon breaks big ad campaign on new sets Aug. 1 in *Saturday Evening Post*, *Life*, et al.

Some production claims, heard at NAMM show this week: Westinghouse, 250,000 for year, according to Tod Sloan, Sunbury manager; GE, twice 1949 production, according to TV sales mgr. David Davis, quoted in *Retailing Daily* as saying 450,000 this year vs. 230,000 last year, 900,000 next year; Majestic, 100,000 during remainder of this year; Muntz TV (Earl Muntz), 20,000 sets a month remainder of this year; Trans-Vue (R. R. Greenbaum), 40,000 for rest of year; Meck 100,000 first half of this year, more second half.

Sparton has revised prices of some of new line (Vol. 6:25) with 12½-in. table down \$20 to \$170, same in blonde down \$20 to \$175, same in mahogany console down \$30 to \$200, same in blonde down \$30 to \$205 . . . Freed also has revised some prices: 16-in. Hepplewhite console down \$30 to \$399, same in modern or blonde down \$20 to \$429, same in Sheraton down \$30 to \$449; 19-in. console with FM down \$45 to \$549, same in period or blonde down \$30 to \$595 . . . Muntz has cut 16-in. console from \$350 to \$200, has new 19-in. console at \$280, same with AM-FM-phono at \$400.

* * * *

RCA has cut service charges, resulting largely from simpler and easier-to-service chassis in new line (Vol. 6:27). New 90-day contract calls for installation, year's guarantee on parts and picture tube, unlimited service for 90 days, \$5.75 per call thereafter. Cost of this contract runs from \$20 on all 10 & 12½-in. sets with built-in antennas to \$60 for 19-in. and projections with outdoor antennas. New 1-year contract is same with full year's service, charges ranging from \$40 to \$95. If set has radio and phono, \$10 more is charged in 90-day plan, \$15 in 1-year plan.

In announcing reductions in service charges, RCA service v.p. C. M. Odorizzi warned TV industry is facing a critical shortage of trained service technicians. He referred to "fast-approaching servicing crisis in the TV industry" and added, "In many TV areas there are not enough fully-trained servicemen available to handle the demand for installation and service that will come this fall." He reported RCA planned to hold 80 "new chassis" lectures for servicemen in every TV market, with more than 10,000 technicians expected to attend.

All major record makers save Columbia are now in 45rpm camp, with Decca Records and subsidiaries, Coral and Brunswick, this week announcing first releases Aug. 15. Henceforth Decca, too, will record all new single records in both 78 & 45rpm, as well as 33½ records. Innovator of 45 (which it includes in its TV and radio combinations as separate unit from 78-33½ player, whereas most others offer triple speed turntables), RCA now asserts the 45 is solidly established, is offering free sets of records with turntable and TV-radio combination purchases, including "record of the month" free for 6 months.

Juke boxes are due to go 45rpm soon, if deal between RCA Victor and Rudolph Wurlitzer Co. bears fruit. Later, maker of coin-operated phonographs, has put out free conversion kit permitting operator to change juke box from current 78 to 45. RCA will supply, also gratis, 2 dozen 45 records to each coin-machine operator who converts.

* * * *

Operadio Mfg. Co., St. Charles, Ill., has sold its loud speaker manufacturing division and plant at Quincy, Ill. to group of employes and local business men. Company will be known as Quincy Speaker Mfg. Corp.; Stuart Bell, manager since 1946, is new president.

Allied Video Corp., tubemaker, has changed name to Fidelity Tube Corp.; address remains 900 Passaic Ave., E. Newark, N. J.

Some stir was created by headlined reports this week that Signal Corps had placed \$36,000,000 worth of contracts with various companies—but it turns out this was regular weekly release on procurement for last week in June. Orders were heavier than usual because end of fiscal year always sees military letting heavy load of contracts to use up current appropriations. Heaviest order went to Lewyt Corp., Brooklyn, for \$12,348,918 worth of receivers and power supplies, \$178,225 amplifiers and rectifiers. Other contracts over \$1,000,000: Raytheon, Boston, \$3,840,000; Rauland-Borg, Chicago, \$3,196,635; Espey, New York, \$2,854,000; Hallcrafters, Chicago, \$2,206,000; Hubbell & Miller, New York, \$1,880,000; Telegraph Apparatus Co., Chicago, \$1,316,599; Empire Corp., Milwaukee, \$1,290,000. This week, Utility Electronics Corp., Newark, disclosed it had just gotten \$7,000,000 Signal Corps contract for walkie-talkies and 2-way jeep systems.

Gaining greatly increased pertinence by events in Korea is symposium by military and industrial technicians on "Improved Quality Electronic Components," sponsored in Washington recently by IRE, AIEE, RTMA. Transcript of significant talks by such top men as Lloyd Berkner (Carnegie Institute) and Fred Lack (Western Electric) is now available from Trilectro Co., 1 Thomas Circle, Washington (244 pages, \$3.50 postpaid).

Bruno-New York gets 5-p. cover story in July 14 *Tide Magazine*. Article says RCA Victor distributor (it also handles Bendix washers, dryers and ironers, International Harvester refrigerators and freezers) had \$40,000,000 gross sales volume in 1949, expects to hit \$50,000,000 this year (at rate of \$600,000 a month), will have spent \$1,800,000-\$2,000,000 on advertising, gets biggest share of income from RCA Victor line.

National Television Standards Committee is more active than ever on several fronts, chairman W. R. G. Baker reported at press conference at Chicago NAMM show this week: (1) Setting up numerical standards for all 3 proposed color systems. (2) Devising new vhf-uhf allocation to minimize intermingling and oscillator radiation interference. (3) Preparing proposal for introduction of dot-interlacing into present black-and-white system.

More July 1 sets-in-use since June 1 NBC Research Dept. "census" (Vol. 6:25): Kansas City 37,600, up 1800 in month; Johnstown 24,200, up 1100; Davenport-Rock Island 14,130, up 2730; Boston 405,068, up 14,068; Baltimore 178,240, up 5240; Milwaukee 19,044, up 4044; Providence 65,270, up 3070.

Bendix Radio Division, Baltimore, has \$408,781 CAA contract for 44 Very High Frequency Aircraft Direction Finders (VHF-ADF) to be installed in as many commercial airports. First deliveries are scheduled for July 1951.

Trade Personals: Francis K. Rettenmeyer, ex-chief engineer of Federal Radio & Telegraph, formerly with RCA and Bell Labs, joins Philco as executive engineer to assist on govt. and industrial electronics program . . . Milton J. Shapp quits sales rep field to devote fulltime to presidency of Jerrold Electronics, whose Mul-TV antenna system is now being distributed nationally by Philco; M. J. Shapp Co. continues in rep field, with Harry Estersohn and Ken Randall dividing factory groups . . . George F. Bart ex-Gross Distributors Inc. appointed advertising mgr. of Olympic . . . Ben Farmer now sales mgr., Rauland Corp. . . . Dean Deaner, ex-Multiple TV Mfg. Co., new sales mgr., International Television Corp.

Promoting its traveling TV unit, RCA has issued brochure *Looking Forward to Television Eventually?* showing how TV grantees, radio stations, dept. stores, etc. have used unit to build up pre-televasting enthusiasm or identify themselves with TV.

Financial & Trade Notes: Officers' and directors' stock transactions reported by SEC for May (see Vol. 6:22 for April): Richard E. Laux, purchased 1000 shares General Instrument Corp., now holds 1100; Henry Reeve, bought 400 Hazeltine, holds 5400; John D. Grayson, sold 100 shares Magnavox, holds none; M. J. Hickey Jr., bought 25 shares Motorola, sold 275, holds 3055; D. S. Lenfesty, sold 600 Noblitt-Sparks (now Arvin), holds 3400; Robert F. Herr, bought 100 Philco, holds 13,132; John S. Timmons (March), sold 1400 Philco, holds 10,000; Walter A. Buck (with Mrs. Buck), bought 100 RCA, holds 200; John G. Wilson (deceased), bought 150 RCA preferred; Milton D. Block, sold 1000 Sentinel, holds 100; Reuben E. Freeman, sold 500 Sentinel, holds none; Harry G. Sparks, bought 1000 Sparks-Withington, holds 1400; Harold M. Johnston, bought 200 Sparks-Withington, holds 200. In addition, SEC reports these Muter holding following 100% stock dividend May 1: Arthur A. Dailey, 4900 shares; Laurence A. King, 1300; Leslie F. Muter, 100,000; Karl E. Rollefson, 3500; Fred B. Stevens, 2000; Thomas A. White, 11,446.

ABC president Robert E. Kintner sold 3600 more shares of ABC common in June, reducing his holdings to 7000, according to SEC report. Earl E. Anderson, v.p. and director, who sold 6000 shares in April (Vol. 6:22), sold 500 more in June, leaving him 8500.

* * * *

Wilcox-Gay-Majestic Corp. will be name of combination of Wilcox-Gay, Garod and Majestic authorized July 14 by boards of 3 companies headed by Leonard Ashbach, who recently purchased control of Wilcox-Gay (Vol. 6:15) and acquired rights from bankrupt Majestic (Vol. 5:50). Stockholders meeting within 30 days will act on plan whereby Wilcox-Gay will issue new stock to buy Garod and Majestic (owned outright by Ashbach). Additional stock will also be offered to public to provide working capital. Mr. Ashbach said plan has been approved by Wilcox-Gay creditors. New firm will continue producing TVs, radios under Majestic brand, Recordio home recorders, etc.

Avco earnings for 6 months ended May 31 amounted to \$4,804,685 (67¢ per common share) on sales of \$98,223,246. This compares with \$2,566,640 (35¢) profit, \$71,054,898 sales during same period last year. Sales for entire 1949 fiscal year were \$137,398,554, earnings \$4,150,466 (54¢). Sharp increase for first half of fiscal 1950 is attributed mainly to refrigerators, ranges, freezers, farm equipment. TV manufacture did not contribute substantially to earnings for period, president Victor Emanuel reported, but it is expected to get greater emphasis during rest of this year. Productive capacity of Crosley division's Cincinnati plant is being increased.

Raytheon has filed SEC registration for sale of 289,459 shares of its \$5 par common to be offered to stockholders in ratio of one new share for each 5 held. Price and terms not yet disclosed. Principal underwriters are Hornblower & Weeks and Paine, Webber, Jackson & Curtis.

Television Fund Inc. has declared 12¢ dividend, payable July 31 to holders of record July 20—same amount as was paid preceding quarter . . . Packard-Bell directors voted to split 250,300 shares of outstanding capital stock 2-for-1, subject to stockholders approval in August; sales for 3 months ended June 30 exceeded \$3,200,000, profits about \$1.15 per share vs. \$1,442,000 sales and 25¢ per share in same 1949 quarter . . . Arvin Industries (formerly Noblitt-Sparks) had sales of \$11,301,147 for 3 months ended April 2, earnings \$718,496, according to report to N. Y. Stock Exchange.

Industrial Television Inc. offering issue of 200,000 common shares at \$1 to finance increased production.

Motorola second quarter earnings rose to \$2.97 per share on sales of \$34,500,425 vs. \$1.27 on \$19,050,067 sales in same quarter 1949, president Paul V. Galvin reports. For first 6 months of 1950, earnings are \$6.50 on sales of \$70,347,399 vs. \$2.41 on \$34,292,712 for first half 1949.

* * * *

Senate Finance Committee has agreed to defer further action on tax bill pending developments in Korea. Reports indicate Treasury Secretary Snyder asked Senator George (D-Ga.), chairman, to pigeon-hole bill until situation clarifies. Most senators agreed that if Korean campaign gets worse, Administration may have to ask for more, not less, taxes. Some think Wednesday's action probably means bill is dead for this session of Congress. House-passed bill (HR-8920) cut more than \$1 billion in excise taxes (kept 10% on radio, did not include TV), made up losses by increasing corporation taxes, plugging loopholes.

Allocation of AT&T's new Chicago-Omaha microwave for TV, due Oct. 1, will be worked out at regular meeting between network, station and AT&T officials Aug. 7 in New York. Chicago-Omaha connection, linking also Davenport-Rock Island and Ames (Des Moines), will have 2 circuits, both westbound; second to be put in service month after link is completed. (See map, *TV Directory No. 11*.)

—■—

Heavy drops in TV stocks on this week's markets, which came to halt Friday with slight upturns, impelled Chester D. Tripp, president of Television Fund Inc., open end investment trust specializing in electronics shares, to address this letter to stockholders under date of July 13:

"The totally unexpected developments in Korea have wiped out in a few short days nearly half the rise that has taken place in the Dow-Jones Industrials in the last year. This is typical of the action when sudden bad news hits the market, and a study of previous panic declines caused by war news shows that in every case the recovery from the lows has been over 70% of the decline. In the television and electronics group the recovery could be quite startling as this industry's production in war would rise to an almost unbelievable height.

"Lower profit margins on military business can be expected and some increase in the corporate tax rate is likely even if no excess profits tax is imposed. For some companies, the increase in volume will, however, go a long way toward compensating for lower net profit margins. In 1944, the peak year, the government is estimated to have purchased some \$4,600,000,000 of electronic equipment. It is no secret that the military expenditures for research in the field of electronics have been kept at a very high level. Production and mobilization planning has gone on constantly and many concerns could convert to total war production in a fraction of the time taken in World War II. It has been estimated that the electronics industry will produce over \$2 billion worth of equipment in 1950, and that in total war its production would expand at a minimum fivefold.

"From the investor's point of view the important facts are first, that modern warfare is electronics and that total war would mean an enormous increase in the overall rate of production in this industry; second, that the television and electronics group had been capitalizing prospective 1950 earnings at a very low rate and the emotional panic selling in the group has brought the price of many issues to a level which even wartime earnings and dividends could support; finally, and perhaps most significant, that when the would-be conquerors of the world exhaust themselves against the superior strength of our resources and purpose, and we are at peace again, the demand for television sets and electronic devices, vastly improved by the intensive military research, should far exceed anything we have seen to date."

OUTLOOK—FEWER SETS, HIGHER PRICES: For first time since TV's emergence in 1946, you're hearing talk of higher prices at all levels. Nobody has yet upped his published lists, so far as we're informed, and there appears to be no good reason to do so until war orders actually cut into TV production. That hasn't happened yet -- and factories are going full blast, now that vacation periods are over.

When military demands for materials begin to take precedence, it's inevitable that some will have to be diverted from TV-radio -- to what extent, no one can say yet. TV then can no longer enjoy the increasingly large-scale production and distribution facilities of last few years, so that shorter supplies will make for higher prices. As one of the largest manufacturers put it, "TV can only maintain its present low prices on the basis of mass production. They're as low as they can go, right now."

Thus TV to an extent is sharing "panic" market that exists for autos, tires, refrigerators, etc., despite fact that summer is normally its dull season. Distributors of name brands are taking all they can get from factories, dealers are cleaning out distributors, though it's said big dealers are buying much faster than they're selling. Despite poorer summer programs, buyer interest in TV is unflagging.

Supply rather than competition apparently will dictate market rest of this summer and fall, during which flow of instruments should continue fairly heavy pending orders from Washington. Military orders, it must be noted, won't come overnight, and present factory facilities are flexible enough at moment to take care of substantial amount of such new business with disrupting normal lines.

Note: Philco v.p. Fred Ogilby is reported to have told Los Angeles dealers TV prices may be increased before Labor Day, citing critical shortages of components; he recommended they stock 60-90 day supply of sets. W. H. Sahloff, GE receiver division manager, told Syracuse dealers prices probably would go up later this year due to increasing consumer demand. Hallicrafters' Wm. J. Halligan stated July 20 that "prices cannot be expected to hold throughout fall if increased military requirements should bring about a curtailment of normal free procurement operations." And even before Korea, Emerson's Ben Abrams posted "summer sales stimulant" prices guaranteed for only 90 days, saying they'd be raised (Vol. 6:26).

BIG TUBE SIZES STILL QUESTION MARKS: Tube-size confusion (Vol. 6:14) has subsided somewhat, as far as all-glass tubes are concerned. But it's still anyone's guess what will emerge from metal-coned experiments and claims -- guesses that may be rendered academic by war's exigencies. As for receiving tubes, they're still in short supply (Vol. 6:28), may get even tighter despite expanding plant capacity and assurances from glass blowers that there's no bottleneck on their part.

Both ASPC (Kimble) and Corning are now making 14, 16 & 17-in. rectangulars, tapering off on rounds. ASPC added 17-in. this month. Though metal-coned rounds are still coming out in enormous quantities, general feeling of set makers seems to be that their competitive claims will tend to drive 16-in. out as fast as 17-in. production will permit.

The 2 big glass-blowers are still jockeying with 19-in. (ASPC) and 20-in. (Corning); both have samples out, expect production in matter of weeks. Each claims its size has distinct advantages, strong following. Neither has any present plans beyond those sizes, but they're sure they'll make bigger ones when demand arises.

Moderate demand for 14-in., nothing like that for 16 & 17, has many still regarding it as an interim size. Many set makers apparently don't believe it can compete with 16 or 17-in.; they don't consider it big enough jump from 12½-in.

Real speculation is on the big babies -- 21-in. (DuMont, RCA), 22-in. (Rau-

land), 24-in. (GE, Philco, Sylvania), 30-in. (DuMont). It's still too early to conjecture which size, if any, will dominate. Some may never even appear, though Dr. DuMont is excited about his 30-in. (Vol. 6:27-28), will have some out this fall, while both GE and Stromberg promise 24-in. receivers.

Sylvania executive v.p. H. Ward Zimmer predicts 19-in. will be "No. 1" next year, and says that 24-in. "won't be the end, by any means, in size."

What is the end in size? "When you can no longer get the set through doorways," one tube man opines.

* * * *

Spincraft Inc., Milwaukee, one of the 4 metal-cone suppliers (TV Directory No. 11), this week disclosed (to Milwaukee Journal) development of a rectangular stainless steel envelope for TV tube assemblies with 24-in. face. It reported it had orders for 200,000 from unnamed customer -- presumably either GE, Lansdale (Philco) or Sylvania, who alone have indicated they're working on that size. Special spinning machines had to be built to reach full production on new shape by September, it was stated. Company is also making 30-in. tube envelope. Meanwhile, its production of 16-in. rounds is proceeding on basis of 3 shifts a day 7 days a week.

Topics & Trends of TV Trade: Since they're so often mentioned in the same breath—as industries that may have to convert in large part to defense production—it's interesting to note the curious coincidence that, unit-wise, TV receiver industry this year has been closely paralleling automotive production. Dollar-wise, of course, there's an obvious enormous disparity, due to wide gap in unit prices.

First 5 months of 1950, TV receiver output totaled 2,530,000 (Vol. 6:25). Same period, auto industry turned out 2,373,514 passenger cars, 520,181 trucks and buses. Take passenger cars alone (which in 1949 totaled 5,108,841 at factory value of \$6,859,000,000, as against about 3,000,000 TVs valued at some \$550,000,000 at factory); the month-by-month output figures, as released by Automobile Manufacturers Assn., are remarkably close to TV:

January, 487,824 passenger cars, 420,000 TVs; February, 385,361 & 460,000; March, 469,618 & 655,000; April, 455,193 & 525,000; May, 575,518 & 470,000 (Vol. 6:21,25).

* * * *

Some optimistic forecasts for TV, which war emergency may render academic, were released July 19 by National Industrial Conference Board. That important business research organization says TV industry is "over the hump of its production growth" and adds that after freeze "another surge in output may be forthcoming." It reckons TV service is available to 23,000,000 families now. Giving 17,250,000 families as potentially able to buy sets, it figures 9,000,000 in use at end of this year will give more than 50% saturation. If another 6-7,000,000 are sold in 1951, it holds saturation would approach 75%.

Radio-phono-TV classification was leading merchandise group in dept. stores during first 5 months this year, according to Federal Reserve Board study covering 354 stores. The 187 stores having this department enjoyed average gain of 104% over same 5 months of 1949. Second best showing was major household appliances, up 13%; third, furniture and bedding, up 10%.

Writing in July *Proceedings of IRE*, obviously before Korean crisis, veteran Tele-Tech editor O. H. Caldwell estimated \$3 billion retail trade in TV-radio products this year. He figures 6,000,000 TVs will bring \$900,000,000 to manufacturers, \$1.6 billion to retailers; that 12,000,000 radios means \$260,000,000 at factory, \$500,000,000 over the counter; that replacements, accessories and instruments will run \$190,000,000 & \$250,000,000. To this, he would add following sold directly by manufacturers: broadcast, recording and studio equipment, \$200,000,000

(probably high); mobile, airplane, police, taxi radio, \$100,000,000; govt. purchases \$350,000,000 (probably low in view of Korea). It all adds up to \$2.1 billion at manufacturers' level, \$3.1 at retail.

* * * *

Hallcrafters' line of 20 sets (Vol. 6:28), now priced, leads off with 16-in. rectangular table \$200, in better cabinet \$230, with more sensitive chassis \$250, with AM \$270. Consoles are: 16-in. round \$260, in better cabinet \$300, with AM \$330; 16-in. rect. \$280, in blonde \$295, with AM-phono more sensitive chassis \$400; 17-in. rect. \$300, in blonde \$320, with AM \$350, in blonde \$380, with AM-phono \$450, in blonde \$490; 19-in. round \$380. Three 20-in. rect. are in period furniture with AM-FM-phono, \$595.

Big pitch, besides printed circuit tuner, is long distance reception of all but 4 basic 16-in. rect. (2 tables, 2 consoles), all of which are due for delivery in September. They're reported to have 15 tubes, 3 rectifiers, while other sets have 17 & 3. Sets with AM have 20 & 4, those with AM-FM-phono have 24 & 4. Hallicrafters reported it signed \$25,000,000 orders for rest of year at convention.

* * * *

New Motorola line will be shown distributors next Tuesday, July 25, at Chicago's Palmer House, then shown to press Aug. 1 at New York's Waldorf-Astoria. Next day, president Paul Galvin will address N. Y. Society of Security Analysts . . . Besides GE (Vol. 6:28), Stromberg-Carlson also has 24-in. console; it's in cabinet the size of last year's 19-in., is due in fall. Dealers were much impressed with potential for home use when shown at Chicago Music Show last week . . . Emerson's 14-in. walnut bakelite table model 662 has been priced at \$179.95.

Stewart-Warner line introduced July 14 (Vol. 6:28) starts with 14-in. rect. table with leatherette front panel at \$190, includes eight 16-in. rect. models: wood table \$260, console \$290, blonde \$310, console with doors \$330, blonde \$350, 18th Century Sheraton \$360, with AM-FM-phono \$430, same in different cabinet \$500. Only 19-in. is 18th Century console with AM-FM \$525. There are 17 tubes, one rectifier in 14-in. set, 22 & 3 in 16-in., 27 & 3 in 16 & 19-in. combinations.

Hoffman showed 22 new sets to distributors in Los Angeles July 20, all with rectangular tubes. Line comprises 14 & 16-in. tables, in mahogany and blonde; 14, 16 & 19-in. consoles, and 16 & 19-in. console combinations, all in mahogany, blonde or maple. Prices are still to be set.

Sprague Electric Co., North Adams, Mass., major components maker, and **Philips Industries Inc.**, Hartford, have joined on equal backing basis to form **Ferroxcube Corp. of America**, 50 E. 41st St., New York, with Robert C. Sprague, president; John P. Adams, sales v.p.; T. James Reed, mgr. of factory at Saugerties, N. Y. Company will manufacture Ferroxcube, new ferro-magnetic ferrite used as core material in high frequency coils and transformers. Production quantities will be available around Sept. 1. By reducing electrical losses in components, it's claimed, higher efficiency with smaller circuits, more compactness and lower costs are made possible in TV-radio sets, etc. Product was originally developed by Philips of Holland.

Manufacturer **Frank A. D. Andrea** was quoted in *New York Times* July 16 as stating: (1) That he had to pay \$50,000 for supply of resistors which cost only \$20,000 week before. (2) That "one of the largest resistor suppliers in the country increased prices from \$10 to \$18 a thousand . . . No reason was given for the action." (3) That resistors are now on 39-week delivery basis. (4) That Navy had sent out invitations to bid to all component suppliers on a considerable quantity of components and parts and that much of the materials were used in TV production.

Peculiarities of oscillator radiation are being brought to light. **Philco Corp.**, in report on "Measurement of Local Oscillator Radiation," submitted this week to FCC, indicates trickiness of subject. If radiation from receiving antenna is cut down, interference pops up from chassis, even from power cord. Philco report is explanation of how tests are being conducted, does not attempt to establish figures, recommend methods of overcoming problem. FCC feeling, however, is that as more and more work is done on problem, solutions will be found.

Electronics mobilization committee has been formed by Chicago Electronic Parts & Equipment Manufacturers Assn. Chairman is James P. Quam, Quam Nichols Co., other members are: William J. Halligan, Hallicrafters; Jerome J. Kahn, Standard Transformer; John H. Cashman, Radio Craftsmen; S. N. Shure, Shure Bros.; Herbert C. Clough, Belden; H. L. Kunz, Sangamo Electric.

Pacific Electronic Exhibit is scheduled for Sept. 13-15 at Long Beach Municipal Auditorium, sponsored by West Coast Electronic Mfrs. Assn. Following will exhibit sets, tubes, components, etc.: Altec Lansing, Approved Electronic, DuMont, Eitel-McCullough, GE, Hoffman, Hytron, Mattison, North American Philips, National Co., National Union, RCA, Radio Craftsmen, Raytheon, Sylvania, Tech Master, Tung Sol, Sheldon, Westinghouse.

Signal Corps procurement contracts let during July 3-14 totaled \$14,895,830, with \$7,086,500 going to Utility Electronics Corp., Newark, N. J. for radio receivers. Among 21 contracts were those to: Collins Radio Co., Cedar Rapids, \$810,156, radio receivers; Espey Mfg. Co., New York, \$142,313, transmitters; Hallicrafters, Chicago, \$305,234, radio terminal sets; Western Electric Co., New York, \$408,676, teletypewriter sets.

Meck has scheduled 152,000 TVs for last 6 months this year, estimates factory volume of \$22,800,000. This is more than entire 1949 production, president John S. Meck said. Company's supply of components is "ample to meet the production schedule," Meck said.

Tele-tone's new factory at Rahway, N. J., enables it to triple TV production capacity by end of this month. With New York factory, 2500 sets per day are scheduled.

Universal Laboratories Inc. has acquired 69% of stock of Super Electric Products Corp. (transformers, etc.), with plants in Newark and Jersey City.

Trade Personals: **Sanford B. Cousins**, v.p. & gen. mgr. of New England Telephone Co., Aug. 1 becomes gen. mgr. of Bell Laboratories . . . **Frank Folsom**, RCA president, vacationing at Bohemian Grove, Cal. . . **Clarence K. Bagg**, ex-Sylvania TV sales mgr., now director of client marketing-merchandising service, Birmingham, Castelman & Pierce Inc., ad agency . . . **Robert Howard**, ex-Dale Distributing Co, executive v.p., named v.p. & gen. mgr., Admiral-New Jersey; **Daniel L. Jacobs**, TV sales mgr.; **William A. Lake**, appliance sales . . . **Harry S. Gould** resigns as merchandising mgr., John Meck Industries . . . **James Oliver**, ex-L. Ronney & Sons, Los Angeles furniture maker, new sales mgr. of Pacific Mercury Television & Radio . . . **Mitchell Fein** resigns as Starrett sales v.p. . . **Jack A. Kerr**, from GE electronics dept., named New York district mgr., GE receiver division.

Philco is circulating, for showings by its distributors, new movie showing evolution of modern TV set from drafting board to finished product. Titled *The Story of Philco Quality in Mass Production*, sequences start with felling of logs in company's own South Carolina lumber tract, and proceed through making cabinets at Watson-town, Pa. plant; tuners at Croydon, Pa.; CR and receiving tubes at Lansdale, Pa.; finished receivers at Philadelphia and Sandusky, O. Stressed is Philco claim to produce more of its own materials than any other company. The 16mm sound film, 13½ minutes long, was written and directed by Edward Bland, sales promotion dept., produced by WPTZ movie unit.

Nation's biggest AM independent, New York's WNEW believes in making the proverbial hay—took half-page ad in July 16 *New York Times* to boast: "Radio Station WNEW Sells More Television Receivers Than Any Radio Station in New York." Ad copy states that RCA Victor last 4 years bought more time on WNEW than on all New York radio stations combined, that major portion of distributors Bruno-New York's current "Million Proof" promotion is on WNEW.

How to boost TV set sales in rural areas contiguous to TV cities, as recommended by Arvin: Van Dervoort Hardware Co., dealer of Lansing, Mich., has rigged up trailer with line of TV and radio receivers and antenna rigged to jack-knife boom which can be raised or lowered as needed. Thus, on-location demonstrations of TV reception, height of antenna necessary, are provided farm folk. It's selling sets, Arvin reports.

FCC's proposed rules on antenna heights, locations, markings, etc., issued May 24, brought flock of comments and criticisms by July 17 deadline. Among principal comments by broadcasting interests, represented by NAB, TBA, FCC Bar Assn., individual stations: (1) New rules could conceivably turn down applications for towers without full study and hearing. (2) Full, legal hearings and appeals on denials isn't spelled out clearly. (3) Limitations on heights and locations may prevent stations, particularly TV and FM, from providing coverage required by FCC.

Reconstructed White House will have conduit system in walls permitting TV installation in any room, but present contractors (and govt. supervisors) have no plans for TV installations as such. Conduit system isn't for TV alone, is being installed to carry telephone, intercom, etc. Renovation is due to be completed October 1951.

Transit radio, white hope of FM, has national sales of close to \$15,000 this month, Transit Radio Inc. estimated in second anniversary roundup. Transit radio contracts are in effect in 21 cities with 4500 vehicles to be equipped by Sept. 1. Expectation is that national sales in December will reach \$45,000 a month.

Financial & Trade Notes: Why are TV stocks so weak? asks United Business Service for July 17, which goes on to reply:

"One of the most important reasons is the sharp run-up in market price which this group experienced earlier in the year. Also, price cutting has been prevalent in the trade during the dull summer sales season. There are fears that the industry may suffer a diversion of its production from high profit civilian sets to electronic components for the Armed Forces, with a resulting cutback in profits. If an excess profits tax should be enacted, it might fall hard on TV companies, which lack either a large invested capital base or average past earnings of sizable amount. Eventually, these stocks will experience a healthy rebound, but for a while there are likely to be recurrent scares and weakness."

UBS recalls that average earnings of electrical equipment stocks 1942-45 were 80.9% below 1949 earnings. It notes that the radio group dropped 39% between Sept. 1939 and Pearl Harbor, then went up 278.3% between Pearl Harbor and V-J Day.

* * * *

Sidney B. Lurie, of Paine, Webber, Jackson & Curtis, in July 19 report concedes: "No question about it, the TV industry is vulnerable to an *all out* war effort—despite the vastly increased productive capacity at the manufacturing and component parts level." But, he notes no all out effort—yet—and quotes informed industry sources (Vol. 6:28) that military's electronic requirements may not exceed 20% of the industry's output—may even be less—and can be met without any serious cutback in civilian production. He continues:

"Thus, if—as is presently indicated—our new environment is part war and mostly peace, 1950 will be a banner year in television inasmuch as: (1) Seasonally, the best 4 sales months of the year lie ahead—and buyer fears of shortages should mean no difficulty in disposing of the inventory accumulated during the seasonally dull summer months; (2) With the accent of the new fall models on lower prices and bigger screens, a wider consumer market is being tapped—and the over-all public should be tempted by the excellent values; (3) From all indications, the fall months will see bigger and better programs—and improved entertainment will attract the non set owner; (4) New set markets will be opened through the addition of 5 cities in September and 7 more in October to existing network hookups. Thus, while 1950 earnings probably will not be as large as they might have been if the throttle had remained wide open—the figures still could make very pleasant reading.

"Our concern—and it existed before Korea—is not 1950 but 1951 . . . We remain bullish on the nearby trend . . ."

* * * *

Admiral's first-half sales volume rose to \$103,295,848 from \$53,110,405 in same 1949 period, according to July 18 report. Net earnings for first 6 months of 1950 were \$8,485,184, or \$4.24 per share on 2,000,000 shares now outstanding. This compares with \$3,155,689 earnings (\$1.58 per share) for same 1949 period. Sales for second quarter were \$57,004,439, earnings \$4,326,735 (\$2.16) vs. \$29,597,308 sales, \$1,619,472 earnings (81¢) for second quarter 1949.

Imperial Television Mfg. Co.'s William H. Cies reports it has completed new financing (75,000 shares sold to public at \$4) and is now producing cabinets and plywood for cabinets for other set and cabinet manufacturers, plus line of complete TV sets sold under brand name "Imperial." Wood & Cies Distributing Co., now located

at 2034 E. 48th St., Los Angeles, is wholly owned subsidiary, distributing both Imperial and Tel-tone lines in 11 western states. Mr. Cies states he understands his firm is one of 3 largest TV manufacturers in West (presumably after Hoffman and Packard-Bell) as well as one of largest distributors.

Avco which turned in strong 6-month report despite relatively poor showing of its Crosley division in TV (Vol. 6:28), has filed plan with SEC to register additional shares of \$3 par common stock to be exchanged for common stock of Bendix Home Appliances Inc. Basis of exchange will be supplied by amendment. Avco already owns 16% of Bendix (not connected with Bendix Aviation, maker of radios and TVs), and there are 891,290 additional shares of Bendix owned by others. Options are outstanding on 13,300 shares at \$8.50.

Variety professes to know (July 19) that "Paramount is continuing to explore the possibility of ridding itself of its extensive stock interest in DuMont Television by trading the shares to its own stockholders . . . [and] are said to have under consideration a plan for purchase of the American Broadcasting Co. or other radio and TV facilities." Purpose would be "to adjust for changes anticipated in the industry as a result of tele."

FCC really is pushing for earliest possible color decision, with good chance consensus may be reached in 2-3 weeks. Even then, month must be given staff to write decision, have it reviewed by Commission, rewritten, etc.—plus additional time for dissents, separate concurring opinions, etc. Commission met daily on color this week, except for Friday session on routine business. Meanwhile, battle of "you're another" raged between CBS and RCA, with former asking Chairman Coy to ignore RCA's reply brief (Vol. 6:28) on grounds it wasn't legally correct, and latter sarcastically claiming CBS was sore because it wasn't mentioned sufficiently. Hazeltine recommendation that FCC come out with broad decision favoring dot-sequential system (RCA), permit industry to work out details, was turned down by FCC on grounds record was closed, no new evidence could be introduced. On Capitol Hill, Sen. Johnson's committee disclosed Condon Committee Report (Vol. 6:28) is being printed as Senate Document No. 197, available from Supt. of Documents at 20¢.

DuMont has improved film recording, mainly increasing sound quality through new process of printing magnetic sound optically on film. DuMont said also it has improved its New York WABD film projection facilities by modifying video amplifier to improve gray scale, developing light filters to sharpen film image, modifying iconoscope camera to minimize flare. This is latest in series of kine improvements by TV networks (Vol. 6:21, 24).

Nice legal point is before FCC on complaint of WWJ-TV Detroit—that WJIM-TV, Lansing, is picking up its NBC program signals and rebroadcasting them without its permission. *Detroit News* station wants FCC to tell Lansing station to stop. WJIM-TV replied it had permission from NBC to pick up programs; in fact was relaying too with ABC and CBS permission as well as that of their Detroit affiliates WXYZ-TV and WJBK-TV. Legal point seems to be definition of "originating station," which has power to refuse rebroadcast rights. WJIM-TV claims NBC is originator; WWJ-TV claims it is.

Two books due off presses soon are *Radio, Television and Society*, by Charles A. Siepmann, one of authors of FCC's famous Blue Book, to be published by Oxford University Press Aug. 17, and *The Great Audience*, by Gilbert Seldes, onetime CBS-TV, due Oct. 16 from Viking Press.

HALF-YEAR OUTPUT OVER 3,000,000 SETS: In June, set makers weren't holding back production in anticipation of summer slump, but were determined not to get caught short when sales boomed in fall. That much is evident in RTMA's 388,962 total for the 5-week month, up from May's 376,227 but somewhat below March-April highs (TV Directory No. 11). June's successive weekly production: 58,509; 79,404; 86,270; 85,160; 79,619 -- weekly average of about 78,000 being somewhat lower than May (Vol. 6:25) due to some plant vacations.

Hike June figure by 25% to cover non RTMA production and you get more realistic count of 486,000 for month, bringing 6-month total to 3,016,000 (RTMA estimates 3,100,000) and making grand total of postwar TVs 7,016,000. It's obvious that 1950, barring war encroachments, is on way to becoming at least 6,000,000-set year.

Dominance of big tubes is more apparent than ever: 69,067 table models and 66,631 console-consolettes in 12 to 15-in. category; 91,631 table models and 148,874 console-consolettes in 16 to 18-in.; 12,112 sets 19-in. or over; mere 546 under 12-in., 101 projections.

June breakdown by models: tables, 161,303; TV-only consoles or consolettes, 202,290; combinations (with AM and/or FM), 14,812; combinations (with phono), 10,557. Of total, 23,475 could tune FM.

Radio production was also very nice, totaling 1,054,456, compared with May's 900,056. June output included 247,675 battery sets, 270,348 auto.

TRYING TO GAUGE COMPONENTS SHORTAGES: Here's components situation in a nutshell, as gleaned from leading makers of key components:

(1) Pre-Korea, set-producing capacity was almost certain to outstrip production of some components, by a moderate degree.

(2) Hoarding is now knocking that delicate balance out of kilter.

(3) Any govt. stockpiling program of strategic raw materials or components, which might start almost overnight (doesn't need to wait for tooling up, training workers, etc.), would slow down civilian use of components the minute it starts.

(4) Demands for electronic war equipment, even if relatively small at first and slow to start (as seems likely), will obviously cut set production in proportion to their extent.

Hoarding is factor really raising hob right now. Stockpiling could be next big factor. Status of 3 important components, based on thinking of top producers:

(1) Receiving tubes: "Right now," says one of biggest, "there are enough for our needs, but not as many as wanted." In other words, tube and set production are running about neck-and-neck. If any serious shortage is present or imminent, it's due to frantic buying.

RTMA reports 170,375,921 receiving tubes sold during first 6 months, compared with 81,663,213 same 1949 period (see note, p. 5). That record number will be augmented rapidly as new plant capacity comes in. Sylvania will start producing this fall in new Shawnee, Okla. plant; GE is expanding Owensboro, Ky. and Tell City, Ind. plants; RCA is setting up more lines in Indianapolis, adding 126,000 sq. ft. at Harrison, N.J.

Tube status is sized up in few words by this telegram from major producer:

"Present situation receiving tube production very tight. See no price rises because of excess demand except some inequities which exist on a few types. Military orders effect can only be guessed at as presently known requirements are being absorbed. We believe industry will attempt to offset overdemand with more output by creating new facilities and opening wide present facilities."

(2) Resistors: The really critical component, according to one of largest suppliers. He states flatly that shortage of resistors, alone, will limit set production to 3,000,000 during balance of year -- even though set makers are geared to build 400,000-600,000 more.

Anticipated govt. orders for 1950 don't trouble him much. He says military equipment generally doesn't use any huge number; a couple types could use considerable numbers, but it's hard to see how very many of them can be produced this year. TV is "bottomless pit." Each set averages 115 resistors, radio only 23.

Rate of production is now about 75,000,000 monthly; stepped up production should bring total to some 1.3 billion by year's end. Wartime peak 12-month output was 576,000,000. Anxieties over shortages are so great that even jobbers and servicemen, let alone set manufacturers, are loading up. One resistor maker reports even his October production sold out. He's resorted to importing from England, Canada, Denmark. Biggest producers are International Resistance, Stackpole, Allen-Bradley, Chicago Telephone Supply.

(3) Capacitors: No shortage of production capacity to handle both civilian and military demands, as far as latter is ascertainable. That's opinion of one heavy producer. First things that will create shortages in capacitors, he believes, could be raw material and manpower scarcity, rather than plant capacity. Capacitors use aluminum, tin, zinc, etc.

Types of electronic equipment needed by military have important bearing on ability to meet demand for capacitors, he says. It's his impression that types may use smaller proportion of capacitors than equipment did in last war. All in all, he sees no immediate crisis in his line, but reemphasizes that raw material and manpower shortages can develop quickly, foul up any calculation.

PICTURE TUBE PRICES, SIZES, PLANS: TV picture tube situation took some interesting turns this week, as major makers indicated they had sufficient capacity to handle probable military orders (mainly oscilloscopes and radar) without appreciably curtailing civilian supplies. Govt. demands on CR tubemakers, of whom there are now 34 (TV Directory No. 11), are still as indeterminate as they are for rest of industry -- so it's idle to talk conversion yet. For TV, it appears that over-all supply just about balances demand at moment. Meanwhile, these new items can be reported:

(1) General Electric is cutting price of 19-in. metal-coned tubes as of Sept. 1, retroactive to Aug. 1. Formal announcement is due next week, but fact leaked out through several of its customers. Manufacturer price will be \$37.25 (down from \$45), distributor \$41 (from \$49.50), suggested dealer \$51 (from \$62), suggested list \$68 (from \$82.50).

Other major makers of that size, notably DuMont and Sylvania, were taken by surprise, said they haven't any present intention of following suit since demand is still ahead of supply. One even said he was thinking of raising prices! Biggest tubemaker RCA doesn't make own 19-in., gets them on contract from Eimac, and those produced by Rauland are supposed to be used entirely by Zenith.

GE also reveals it's now sampling its 24-in. metal-coned round tubes (Vol. 6:29), but what's done about them depends on customer reaction -- thus far "very favorable." GE still plans pilot run of receivers with this size in September, quantity production in latter October.

(2) Corning Glass revealed developmental design for 26-in. rectangular, with picture area about same as 24-in. round, and is showing it to customers with thought that it may be next step after 20-in. (Vol. 6:29). The 20-in. blanks go into production next month. The 26-in. has 70% deflection, is about 27-in. long, or nearly 1½-in. longer than 24. Corning says it has no idea of bringing out this size this year, has orders for all the 20-in. it can turn out (may run about 20% of total units), and is doing some testing with 24 & 30-in. sizes also. Corning's new blank plant in Albion, Mich. goes into production in mid-Sept., making 17-in. and larger.

(3) Those rectangular metal envelopes for 24-in. tubes we reported last week being made by Spincraft Inc. (Vol. 6:29), turn out to be test models -- being pre-

pared for sampling only. Checking to find who placed reported order for 200,000 of these, we got denials from every major tubemaker, notably DuMont, GE, RCA, Sylvania.

Someone in ad dept. of Spincraft, it develops, gave out data prematurely and erroneously, probably in an excess of zeal. The 200,000 units actually refer to one order for 17-in. rectangular metal envelopes for an unnamed customer (good guess is RCA). Actually, the Spincraft "24-in." is misnomer; diagonal is just about that of a newspaper page (28-in.), which could be laid almost exactly over faceplate.

Note: RCA is now itself spinning envelopes for some of own 16-in. rounds.

SELLING ELECTRONICS TO THE MILITARY: Still worth repeating: You've got to go look for military contracts. Services aren't going to come to you.

Best place to start is Dept. of Defense's Central Procurement Information Office in Pentagon Bldg. There, you'll get pamphlets on how to deal with Army, Navy, Air Force. You will also be directed to proper officials for your products.

It isn't necessary to come to Washington, you can write. Each service also has procurement information office, where you can get more detailed information.

Electronics equipment is bought separately by Army, Navy, Air Force. Your first objective is to get on registered bidders' lists, so you will be sent invitations to bid on your item. (As military buying is stepped up, more contracts will be negotiated directly, but law now requires bids for all items over \$1000.)

If you're a small manufacturer, not geared for prime contract (end product), get on lists anyway so you can learn who gets big contracts. Then you can deal directly with prime contractor for subcontracts.

Each month, Dept. of Commerce publishes Synopsis of Proposed Government Purchases. Monthly, also, is its Consolidated Synopsis of Contract Award Information. They can be gotten from any of Commerce's 42 field offices or from your local trade association or chamber of commerce. Some 2000 organizations now get lists.

Main Army electronics procurement is by Signal Corps, by far largest of all users. Its main procurement office is Philadelphia Signal Depot, 2800 S. 20th St., Philadelphia. That office also handles research and development procurement for Signal Corps labs at Ft. Monmouth, N.J. Handling Signal Corps procurement in Philadelphia is Col. Benjamin Stern. Heading it in Washington is Brig. Gen. A. M. Shearer, with Col. E. V. Elder and Lt. Col. R. C. Angster as assistants.

Army's Corps of Engineers and the Ordnance Dept. also buy specialized electronics equipment. Corps of Engineers procurement office is 226 W. Jackson Blvd., Chicago (Col. Wendell P. Tower). Ordnance Dept. has 14 district offices -- in Birmingham, Boston, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, Rochester, St. Louis, San Francisco, Springfield, Mass. All districts handle all contracts, so you don't have to go to any special one. Don't go to arsenals; they don't buy.

Navy's electronics buying is done primarily by Bureau of Ships, but Bureau of Aeronautics is also heavy buyer of communications-radar, etc. To lesser extent, Bureau of Ordnance also buys electronics equipment. All are in Washington. Capt. W. H. Beltz is electronics chief, Bureau of Ships; Capt. A. S. Born and Lt. Comdr. Mark S. Jones, Aeronautics; Capt. R. L. Adams and Capt. H. P. Weatherwax, Ordnance. Navy also buys replacements, spares at Electronic Supply Office, Great Lakes, Ill.

Air Force electronics procurement office is Air Materiel Command, Wright-Patterson Air Base, Dayton, O. Write attention Services Section, Procurement Division. Air Force also has procurement field offices in 7 major cities and you can get all information from any one of them: Boston, Chicago, Dayton, Detroit, Fort Worth, Los Angeles, New York. Make sure you get Air Force communications equipment catalog on Class 16 items; it lists electronics equipment Air Force uses. Brig. Gen. H. A. Shepherd is chief of Air procurement, with Col. T. J. Kennedy chief and Lt. Col. R. A. Green deputy chief, procurement division. Brig. Gen. P. W. Smith heads Dayton Materiel Command, Lt. Col. F. W. Jarek is chief of electronics procurement.

Warning: In writing, don't address individual officers. They're liable to

reassignment. Address all mail to Procurement Officer. In your initial letter, tell what you make or can make, so that you can be put on right lists.

If you want to know what's in store for industry at large in event of all-out emergency, get copy of "Planning for Emergency Production" from Munitions Board, Pentagon Bldg., Washington 25, D.C.

* * * *

Fullest instructions we've seen on "selling to the armed services" is 8-p. Emergency Report issued by Research Institute of America (Leo Cherne, Leon Henderson) which spells out what to do and where to go in connection with all kinds of contracts. By arrangement, complimentary single copies are available to Television Digest subscribers who request them from Member Relations Division, Research Institute of America, 292 Madison Ave., New York 17, N.Y. Significant is one point stressed: While onus on "5 per centers" continues, there's no reason why firms shouldn't have own Washington representatives. And, as RIA points out:

"A trip to Washington may turn out to be the biggest time-saver. This doesn't mean 'dealing in influence'. It is perfectly legitimate practice to call your product to the attention of the men who buy and use the goods."

Topics & Trends of TV Trade: TV receivers, at least the brand names, are "easier to sell today than last fall or spring." The quotes are from letter from a major distributor, who in turn quotes one of his dealers. This distributor adds: "We're taxed beyond physical capacity to handle the merchandise and orders."

There you have current TV trade picture at local level—except, one big manufacturer cautions, for a few "spotty" situations. This isn't a normal summer, it seems, either in production (see p. 1) or demand. Reasons for boom production and buying aren't hard to find in front-page headlines; yet most of industry would far rather "enjoy" normal summer hiatus than see "scare buying" based on fear of scarcities and higher prices.

First TV manufacturer to announce price increases was Emerson. A few days later, DuMont also announced price rises up to 10% on all current models, effective Sept. 1, national sales mgr. Walter L. Stichel stating they're forced by critical shortages and higher prices of certain parts as well as increased govt. buying. "There is reason to believe," he added, "that in the near future this trend will continue. Though nothing is being left undone to overcome these handicaps, nevertheless production costs have been adversely affected."

Most other top producers, queried by us and trade press, said they have no present plans to hike prices—but there were quite a few medium-sized and small ones who clearly indicated they were preparing to do so. When Emerson's price rise was announced, Admiral's Ross Siragusa came out with strongly worded statement opposing what he called "unwarranted" prices increased on TVs. Said he:

"Cost increases of component parts do not, in our opinion, warrant a price increase at this time and we will maintain our present structure as long as possible. In times such as these, price raises without sound justification are an evil thing, for the TV industry in particular and for all of industry in general. We intend to make every effort to keep our own price structure at a fair level with our costs, no matter what happens."

Meanwhile, factories continued to pour out TVs at maximum pace, geared to capacity after just about all had completed July vacation shutdowns. "We'll keep going until we're stopped," was characteristic remark.

Emerson's new prices were raised as of July 25, upped 3-16% at factory level. President Ben Abrams had forecast higher prices pre-Korea, when new line was announced (Vol. 6:26), but change came sooner than the 90 days he had implied. He said further increases may come later, if supplies become critical and prices of components go up. "Increased requirements on the part of the Government for electronic equipment," he said, "are expected to tax the company's production capacity to the limit." New Emerson prices are:

673, 12½-in. mahogany table \$169.95 (up \$20); 660, same in better cabinet, \$179.95 (up \$10); 664, same in console, \$199.95 (up \$20); 665, console with AM-phono doors, \$299.95 (up \$50); 662, 14-in. plastic table, \$189.95 (up \$10); 661, 16-in. round, mahogany table, \$239.95 (up \$40); 668, same in console, \$259.95 (up \$20); 667, same with half doors, \$299.95 (up \$30); 666, console with AM-FM-phono, doors, \$399.95 (up \$60); 663, 16-in. rectangular mahogany table, \$229.95 (up \$30); 669, 19-in. round mahogany console, doors, \$399.95 (up \$60). Blonde models continue \$10 higher.

* * * *

Motorola's new line of 29 TVs came out this week, emphasizing cabinet styling (for which it has received Fashion Academy Award); featuring, also "good neighbor" shielding to minimize oscillator radiation, improved power transformers, widened band for better picture quality, 3-unit chassis (tuner, power supply, IF strip). Motorola is first to offer 17-in. rectangular in plastic cabinet (\$200); in fact, 19 sets in line are 17-in., and everything is rectangular except for five 19-in. consoles. Here's line:

Three 14-in. models: 14T3, walnut plastic table, \$169.95; 14K1, mahogany wood console, \$239.95; 14K1B, same in blonde, \$249.95. Latter 2 are retained from interim line (*TV Directory No. 11*).

Nineteen 17-in. models: 17T3, walnut plastic table, \$199.95; 17T1, mahogany wood table, \$239.95; 17T1B, same in blonde, \$249.95; 17T2, mahogany table, different cabinet, \$239.95; 17T2B, same in blonde, \$249.95; 17K4, mahogany console, \$249.95; 17K1, mahogany console, different cabinet, \$269.95; 17K1B, same in blonde, \$279.95; 17K2, mahogany console, half doors, \$289.95; 17K2B, same in blonde, \$299.95; 17K3, mahogany console, full doors, \$329.95; 17K3B, same in blonde, \$349.95; 17F5, mahogany console with AM-FM-phono, \$399.95; 17F5B, same in blonde, \$419.95; 17F1, mahogany console, AM-FM-phono, different

cabinet, \$419.95; 17F1B, same in blonde, \$429.95; 17F2, walnut console, Provincial, AM-FM-phono, \$449.95; 17F3B, blonde console, modern, AM-FM-phono, \$469.95; 17F4, mahogany console, period, AM-FM-phono, \$469.95. Latter 3 models are "off-the-floor" consoles. Models 17T1, 17T1B, 17T2, 17T2B, 17K1 & 17K1B are retained from interim line (*TV Directory No. 11*).

Five 19-in. consoles: 19K2, mahogany, \$339.95; 19K2B, same in blonde, \$359.95; 19K3, mahogany, half doors, period, \$379.95; 19K4, mahogany, full doors, traditional, \$399.95; 19K4B, same in blonde, \$419.95.

Two 20-in. consoles with AM-FM-phono: 20F1, mahogany, traditional, \$575; 20F1B, same in blonde, \$600.

Motorola also showed 11 new radio sets, ranging from \$14.95 for table AM to \$229.95 for AM-FM radio-phono.

* * * *

Hoffman features "Silver Circle Tuner," printed circuit developed in own laboratories, used in all but table models. Sets also contain uhf jack. Hoffman sets were priced this week, after being shown to distributors July 20 (Vol. 6:29). Here's line of 22 sets, all using rectangulars:

Five 14-in. models: 631, mahogany table, \$199.95; 630, same in blonde, \$219.95; 871, 872, 870, mahogany, maple or blonde console, \$279.95.

Eleven 16-in. models: 635, mahogany table, \$259.95; 634, same in blonde, \$269.95; 877, same in mahogany console, \$339.95; 878, 876, same in maple or blonde, \$349.95; 867, same in mahogany console, better cabinet, \$379.95; 868, 866, same in maple or blonde, \$389.95; 951, same in mahogany console combination, \$479.95; 952, 950, same in maple or blonde, \$489.95.

Six 19-in. models: 891, mahogany console, \$439.95; 892, 890, same in maple or blonde, \$449.95; 961, same in mahogany console combination, \$550; 962, 960, same in maple or blonde, \$575.

All TV-only sets have 18 tubes, 2 rectifiers; 16-in. combinations, 21 & 2; 19-in. combinations, 23 & 3.

* * * *

Packard-Bell showed new line of 8 TV models to distributors last weekend in Los Angeles, featuring all consoles on casters and with full doors. All sets have slanted safety plate to minimize outside reflections. Leading is 12½-in. mahogany table \$200, with remainder of line comprising: 16-in. rect. mahogany table \$220, in blonde \$230, in walnut or mahogany console \$260, in blonde \$275, in walnut or mahogany period console \$300, in blonde or maple \$315, in walnut or mahogany console with AM-FM-phono \$400, in blonde or maple \$420, in walnut or mahogany console with AM-FM-phono with more sensitive chassis \$450, in blonde or maple \$470; 19-in. round walnut or mahogany console \$380, in blonde or maple \$395, in walnut or mahogany console with AM-FM-phono \$500, in blonde or maple \$525.

Bruno-New York, RCA distributor, is reported to have sold entire fall allocation of TV receivers . . . New RCA line (Vol. 6:28) drew 102,000 visitors to Exhibition Hall in Radio City week of July 16, is still crowding them in . . . RCA Victor Distributing Corp. as of Aug. 1 acquires properties of Bickford Brothers Co., hitherto its distributor in Buffalo-Rochester areas, will operate it as company-owned branch (as in Chicago, Detroit, Kansas City) with present employes retained and Earle Hart as gen. mgr.

Capehart-Farnsworth new line will be shown when distributor convention is held in Fort Wayne, Aug. 17-18. New York distributors Rogovin & Jacobs will hold dealer showings in Park Sheraton Hotel, Aug. 23-24.

Raytheon has appointed Graybar, Philadelphia, as TV receiver distributor for that area; also for Washington, Baltimore, Wilmington, Reading, Lancaster, Harrisburg, Allentown . . . Raytheon's new New York area distributor is E. B. Latham & Co., whose Ernest B. Latham has been appointed TV sales mgr.

DuMont breaks first of series of Norman Rockwell 4-color "family ad" series in Aug. 7 *Life Magazine*. Ads are based on oil paintings by noted artist, follow "Greatest Joys Are Shared" theme, will be carried in color also in next week's *Saturday Evening Post*, in black and white in other magazines.

Stromberg-Carlson guaranteeing all parts and tubes (including CR) for one year on whole TV line; warranty costs \$5 for 16 & 17-in. models, \$7.50 for 19-in. Stromberg also has guaranteed distributors current prices on all receivers through next Dec. 10.

Sightmaster has new 19-in. console in hand decorated Chinese cabinet, \$595 (with Sightmirror \$635).

Federal Housing Authority has ruled TV sets can't be included as integral part of cost of house when valuation is submitted for mortgage purposes. In New York, Retail TV & Appliance Dealers committee hoped decision will throw cold water on bulk sales to builders, like that of Admiral to Levittown (Vol. 6:11, 18).

RCA Victor raised prices of 45rpm records this week from 65¢ to 75¢ (4¢ tax extra) . . . Zenith's E. F. McDonald is reported to have told stockholders July 25 there would be new record with speed between 10 & 33½rpm, but didn't name maker. Trade was inclined to discount this. Zenith new Cobramatic player has variable speed regulator, covering 10-85rpm (Vol. 6:27).

TV impact on toy business indicated at Toy Guidance Council's preview of latest toys in New York this week. Included were Hopalong Cassidy chairs, Roy Rogers chuck wagons, Howdy Doody puppet, ukeleles, toy TV cabinet with screen that changes pictures.

Trade Personals: James D. Secrest becomes secretary-gen. mgr. of RTMA Aug. 1, succeeding Bond Geddes, who retires as executive v.p. after 23 years of service; Secrest is an ex-Washington newspaperman, has been with RTMA last 5 years . . . Ralph R. Batcher, New York consultant, succeeds L. C. F. Horle as chief engineer of RTMA Engineering Dept.; latter, onetime IRE president, is retiring after 15 years service with RTMA . . . Jack Haizen, ex-v.p. Dynamic Electronics, New York, named executive v.p., Olympic of Chicago Inc.

June receiving tube sales totaled 32,480,668, up from 29,706,500 in May and 13,923,885 in June of last year, RTMA reports. First six months totaled 170,375,921, more than double 81,663,213 sold in same 1949 period, and auguring almost certain production in excess of 350,000,000 this year since factories are expanding and producing on accelerated basis. RTMA breakdown for June shows 25,-985,896 tubes sold for new sets, 5,351,709 for replacements, 1,041,907 for export, 101,156 to govt. agencies.

FCC told industry it isn't satisfied with FM oscillator radiation limitation (50 uv/m at 100 ft.) termed "desirable goal" by RTMA committee after latter investigated interference to air navigation around Crawfordsville, Ind. (Vol. 6:27). Commission says such limitation is desirable as temporary relief for situation there, but finds it inadequate for long-term, nation-wide standard; CAA agrees. Both FCC and CAA complain that industry came up with recommended limitation but has still done nothing about putting it into effect in Crawfordsville.

Financial & Trade Notes: Zenith, which ended fiscal year last April 30 with \$99,210,746 sales and \$5,268,001 (\$10.70 per share) net profit (Vol. 6:26), will have better July 31 first quarter than last year "by a reasonably large margin" despite 2-week vacation shutdown. So executive v.p. & treasurer Hugh Robertson reported to stockholders July 25. April 30 quarter sales were \$34,014,000 (Vol. 6:25).

President E. F. McDonald added that Zenith TV-radio receivers are now being allocated to distributors because demand exceeds supply, and that "the international situation may cause us to change over some of our production to govt. orders."

Added plant facilities for TV-radio have been made available through dropping of \$20,000,000 auto radio business, which McDonald said yielded only small profit, plus new plant with 180,000 sq. ft. "Barring the international situation," he stated, "the outlook for the future has never been brighter."

Comdr. McDonald said company is being swamped with orders for its Lazy Bones remote control for TV (Vol. 6:27), reported Phonevision station on Field Bldg. will be completed Sept. 1, tests to begin Oct. 1.

* * * *

Sylvania mid-year report attributes major part of its gains to soaring demand for TV and components, with picture and receiving tubes hitting new high records as orders continue to exceed demand. June was largest month of year for new business.

Sylvania reports sales of \$61,086,101 for 6 months ended June 30, up 23% over \$49,665,548 for same 1949 period. Second quarter sales were \$31,738,190, up 40% from \$22,556,653 for same 1949 period. Net income for 6-month period was \$2,259,453 (\$1.41 per share) vs. \$1,555,067 (93¢) on common outstanding June 30, 1949. Net income for second quarter 1950 was \$1,033,609 (64¢) vs. \$378,252 (19¢) in second quarter 1949; this is after deducting dividends of \$1 a share on \$4 cumulative preferred.

* * * *

DuMont reports sales advanced 45%, profit 57% in first 24 weeks ended June 18, 1950 compared with corresponding 1949 period. Sales were \$26,786,000 vs. \$18,487,000; profit after taxes and all charges (including network losses) were \$2,797,000, or \$1.16 per share on 2,358,466 A & B common shares, compared with \$1,780,000 (83¢) on 2,057,465 common shares outstanding as of June 19, 1949. Since March 26, DuMont has sold 250,000 Class A common shares, and 6245 shares of preferred on June 18 were converted into 6869 shares of Class A common. As of that date, there were 2,358,466 A & B common shares outstanding and 137,661 shares of preferred which are presently convertible into 1.1 Class A for each share of preferred. DuMont directors have authorized application to New York Curb Exchange for listing of Class A common.

* * * *

Hytron consolidated statement for 6 months ended June 30 (including subsidiary Air King) shows \$14,602,327 sales and \$1,158,121 net profit. This compares with \$6,011,979 and \$247,977 for same 1949 period.

Allied Electric Products Inc., of which Sheldon Electric Co. is tube-making subsidiary, reports sales for 6 months ended June 30 were \$2,724,473, compared with \$839,266 for same period 1949. For 12 months ended June 30, sales were \$4,295,613 vs. \$1,669,690 in previous 12 months.

Corning Glass Works reports \$44,884,110 sales, \$6,585,318 net profit (\$2.44 per share) for first half of 1950 (calendar period Jan. 1 to June 18), which compares with \$33,394,302 sales, \$2,502,592 (89¢) profit for comparable 1949 period.

Despite total wartime taxes running to maximum of 80%, as well as limitation orders and restrictions, virtually all the TV companies which are established leaders today were helped tremendously by World War II, reports Television Shares Management Co.'s Edgar N. Greenbaum Jr. Firm is distributor for Television Fund Inc. investment trust. Mr. Greenbaum continues: , ,

"It may not necessarily follow that history will repeat itself, but with the electronics industry being a major part of the backbone of our defense and offense, it is difficult to arrive at any conclusion other than one that a war-like economy will make the large companies even larger and in some cases make 'big ones out of little ones.'

"The following 4 companies, though chosen at random, are representative of what happened during the war years, and in most cases the growth in both sales and total assets is truly amazing, not only between 1941 and 1949, but up to 1946, at which time hostilities had ceased only one year."

Admiral			Philco		
	Sales	Total Assets		Sales	Total Assets
1941	\$ 9,399,024	\$ 1,557,478	1941	\$ 77,073,676	\$28,580,723
1946	36,139,851	12,818,986	1946	121,596,621	64,915,035
1949	112,004,251	30,237,149	1949	214,884,206	83,819,970

Motorola			Zenith		
	Sales	Total Assets		Sales	Total Assets
1941	\$17,631,500	\$ 6,216,509	1941	\$23,876,688	\$10,784,316
1946	23,201,107	14,004,117	1946	39,566,963	19,680,517
1949	81,803,358	30,231,989	1949	99,210,746	32,723,871

RTMA doesn't intend to set up mobilization committee during "partial mobilization" period, is pinning its members' responsibilities on 29-member Electronic Industry Advisory Committee, established jointly in 1948 by Munitions Board and National Security Resources Board. Informal meeting of some IAC members took place last week (Vol. 6:29), with full committee meeting planned within next 2-3 weeks. Under consideration is enlargement of committee to include some major manufacturers (notably Admiral, DuMont) not now represented. Present IAC comprises: F. R. Lack, Western Electric, chairman; Benjamin Abrams, Emerson; A. A. Berard, Ward Leonard; Dr. W. R. G. Baker, GE; Max F. Balcom, Sylvania; E. W. Butler, Federal; Robert W. Carter, Carter Motor Co.; Monte Cohen, F. W. Sickles; A. Crossley, Electro Products Laboratories; R. O. Driver, Wilbur B. Driver Co.; H. A. Ehle, International Resistance; Ray C. Ellis, Raytheon; Walter Evans, Westinghouse; Frank M. Folsom, RCA; Paul V. Galvin, Motorola; G. M. Gardner, Wells-Gardner; W. J. Halligan, Hallcrafters; Robert F. Herr, Philco; W. P. Hilliard, Bendix (resigned); H. L. Hoffman, Hoffman Radio; J. J. Kahn, Standard Transformer; John Kruesi, American Lava; W. A. MacDonald, Hazeltine; H. L. Oleson, Weston; A. D. Plamondon Jr., Indiana Steel; R. C. Sprague, Sprague Electric (RTMA president); Arthur E. Thiessen, General Radio; C. A. Warden Jr., Superior Tube; G. E. Wright, Bliley.

Far from being silenced, as they were during World War II, radio amateurs will have important role in emergency defense projects now in "planning and concept" stages. Hence this quote in July 29 *Wall Street Journal* is particularly interesting; it's by Wm. J. Halligan, president, Hallcrafters, big producer of amateur equipment: "We've had an amazing pickup in orders on 'ham' radio sets (transmitters and receivers) since 2 weeks following the outbreak of the Korean war. With our plans for doubling 'ham' set production this year over 1949 and increasing our TV output, we intend to boost our employment from 1700 to 2200 in September. So far, we haven't encountered any difficulty getting help."

American Phenolic Corp. reports profit for 6 months ended June 30 was \$457,811 (\$1.14 per share) vs. \$325,530 (81¢) for same 1949 period.

HIGHER SET PRICES—PLUS EXCISE TAX: First TV "casualties" of the war:

(1) Price structures, markedly downward since early last year due to plentiful demand and mass production, definitely and sharply have reversed that trend -- with such companies as Philco, Stromberg-Carlson, Tele-tone, Zenith this week following action of DuMont & Emerson in raising prices, while smaller producers like Tele King, Trav-Ler, Mercury and others are reported doing same.

(2) TV's immunity from 10% radio excise tax is now apparently a lost cause -- Treasury Secretary Snyder this week asking (and almost immediately securing) Senate Finance Committee approval of that new levy in pending revenue bill on plea that "television is now a strong competitor with alternative forms of entertainment, such as radio, motion pictures, and professional sporting events, all of which are subject to the Federal excise tax."

* * * *

Reasons for price hikes, which with 10% excise tax may raise some sets as much as 20%, were fairly well stated by Philco, whose average is 7% across board:

"When Philco introduced its new TV and radio lines in June, price reductions averaging about 25% were put into effect in anticipation of expected declines in material costs and the savings that would accrue from a very large increase in TV production this fall. It is now evident that these cost savings cannot be realized, and the company is therefore forced to rescind...prices on the current lines [which] still show a reduction of approximately 18% as compared with the old line."

Stromberg raised prices \$5 to \$20 on 8 of its 18 sets, Tele-tone \$10 to \$30 on 9 of its 20, Zenith \$10 to \$20 on 6 of its 22 (for details, see Topics & Trends, p. 3). Last week's hikes by Emerson ran 3-16%. DuMont's was flat 10% (Vol. 6:30).

All echo facts that factory savings at "running rates" are now out the window; that promised reductions by suppliers have not materialized; that, instead, costs have gone up on many items. Philco's James Carmine, however, sees some balm in fact that TVs are about only major appliances that have shown consistent downward scale of prices, whereas higher prices have been order of day in most other fields.

An RCA spokesman, asked if prices are likely to go up, said it depends on over-all costs, which depend on so-called "program pricing." If some models have to be cut down, due to war demands, present pricing will be thrown out of kilter. Cost items are mounting, one by one, he said. "If steel, tin, copper, aluminum are allocated, it means trouble."

Motorola president Paul Galvin attributed price increases -- his company announced line and prices only last week (Vol. 6:30), so presumably took into account higher costs -- to scaling down of production volume estimates on which earlier prices were based. Admiral's Ross Siragusa took strong stand against price rises (Vol. 6:30), but his company this week revoked added discounts up to 2% given distributors 3 weeks ago (Vol. 6:27).

* * * *

As for excise tax, out of which Govt. says it will derive \$42,000,000, it was apparent on Capitol Hill that industry-labor forces had little chance of stopping it this time -- though RTMA steering committee under chairman A. M. Freeman (RCA) was busy in Washington this week trying to get public hearing. TV tax was added along with one on freezers and increase in jukebox tax. House cuts on other excises are all rejected by Senate Committee in view of Korean emergency.

Industry position is that TV sales should not be stifled now, what with increasing costs already raising set prices and need for having as many sets-in-use as possible during emergency. RTMA letter to Senate committee notes that industry has

had no Senate hearing; TV is already under competitive handicap (freeze); interim revenue bill is no place to eliminate "competitive inequalities" (referring to Mr. Snyder's argument that TV be taxed because radio, amusements, etc. are taxed). NAB, which opposed the tax before House committee, has also written letter of protest to Senate committee. The broadcasters' spokesman, in writing Senator George, committee chairman, called TV "more than a means of entertainment" and noted: "It is the only medium for communication of ideas which offers immediacy, sight, sound, and motion."

Senate Finance Committee is considering House-passed tax reduction bill (HR-8520), which omitted TV tax after Mr. Snyder had first asked for it last spring but House Ways & Means Committee had voted it down twice, 14-11 and 14-10 (Vol. 6:15,18,23). Now, in current war climate, slim chance is seen that House conferees will again reject it. When Senate committee is finished with bill, possibly this week end, it goes to Senate for passage, then to House-Senate conference committee.

EXPANDED PLANT IS TUBE ANSWER: One of the Big Eight receiving tube producers (Vol. 6:28) is National Union, whose president Kenneth C. Meinken offers an additional slant -- and very pertinent one -- on receiving tube shortages (Vol. 6:30) in letter he has given us permission to quote:

"There is no question of a doubt in my mind that radio receiving tubes will be in short supply. This is due to several factors; mainly, the increased standards of quality required by the manufacturers...

"Radio receiving tubes were originally designed for radios of all types which had very low voltages. With the introduction of TV, of course, these voltages were more than tripled, which meant that electrically and mechanically these tubes had a greater load to carry. Therefore, in their manufacture greater exactness had to be employed, which decreased speed of production. Tube manufacturers are increasing their facilities but this cannot be accomplished for another 12 or 18 months.

"If the military suddenly imposed upon the civilian production the added requirements of radio receiving tubes, and correspondingly cut civilian production for TV and radio, all tube manufacturers would have to expand their facilities in order to produce the correct types for military users. It is my opinion that the first step the Government should take is to immediately expand machinery and production facilities for all tube manufacturers. This would insure fulfillment of requirements for military defense and for civilian production, and safeguard the morale and information given to the American people. Planning for added facilities is the best insurance for national defense.

"There is no doubt in my mind, disregarding govt. orders, that prices of tubes would normally be increased for very basic reasons. Tubes are not selling any higher today than a little more than 10 years ago; while it is true we have learned the techniques for increasing our production to offset added cost by labor, costs in the tube industry have increased approximately 150%. This also holds true for materials, administrative, selling and advertising expenses while there has not been a corresponding increase in tube prices."

AS PAUL GALVIN SIZES THINGS UP: Motorola's president Paul Galvin put his finger on TV trade situation, as of today and near future, when he told New York Society of Security Analysts Aug. 2:

"Our least difficult task in the coming months will be selling our sets. What we will have to concentrate upon will be the problems of maintaining a sufficiently steady volume of production to keep our dealers supplied."

Almost any major manufacturer could say exactly the same thing. The veteran Mr. Galvin's company is generally given 4th ranking among TV producers (after Admiral, Philco, RCA, each claiming first). It has always been an important govt. contractor, so that some of his other remarks also bear repeating -- particularly as they relate to his prediction of "high level of production from now through the holiday season":

"I am not overlooking the international situation and the present Korean conflict, but there are certain basic facts about our economy today which lend sup-

port to the belief that output can continue. It seems apparent that there will be a need for this nation to maintain high production in all of industry in order to keep people at work and the lifeblood of our economy flowing.

"Measured in terms of the country's annual turnover of approximately \$250 billion, the \$10 to \$20 billion expenditures now visualized to carry on the Korean war is relatively small, and should have an effect on industry in direct proportion to its share of annual national turnover. The effect, therefore, of this relatively small shift in economy, should be reflected in a correspondingly small shift in the nation's industry.

"But, even if the electronics industry were to be shifted over to war production, we know from World War II experience that this would take a considerable period. In the last war, it required 7 months or more to make the switch.

"At this time, the Government has barely begun to take the first initial steps in determining what will be needed and in what quantities. This will take time, after which still more time will be needed to decide who is to make what, to buy the materials, tool for new jobs and get production lines rolling.

"Only two other things, other than the widely known parts shortages, are likely to disturb the radio and TV production picture during the next few months. One of these is the allocation of steel, the other the reimposition of credit controls. But, measured by the standards of many other industries, TV and radio use a relatively small proportion of steel output. I think it is to be expected, barring 100% war effort, that we will continue to receive such limited quantities.

"If more rigid credit restrictions are imposed, our dealers' jobs will be a little more difficult. But I am confident that this is a complication which we can overcome by aggressive promotion and training of sales personnel."

Topics & Trends of TV Trade: Squeeze of higher prices, shortages, excise tax, new credit controls must inevitably take their toll at retail level—but general feeling in TV-radio trade is that it will nevertheless be able to sell all merchandise available this fall-winter. At any rate, distributors and dealers are signing for all they can get; and, currently, unseasonal rush for receivers has been prompted by news that adds up to an impulse to buy now.

Another Regulation W, administered by Federal Reserve again, seems inevitable in view of war situation. Fact that 70% of TVs are sold on installment basis (Vol. 6:24) indicates importance of that item.

There's lot of guesswork how stringent controls will get. The usually well-informed *U. S. News*, for example, notes that a \$200 TV set that can now be bought for \$20 down and \$5.90 per month may require \$40 down and \$9.69 per month. That periodical, discussing prospective cuts in output of civilian demand, also reckons present annual production rate of 7,000,000 TVs will be cut to 4,500,000, and radios from 11,000,000 to 7,000,000.

Industry still anticipates 3,000,000 output last half of this year (to add to 3,000,000-plus produced first 6 months; Vol. 6:30). But July figures may loom small, when made known in 2-3 weeks, which will be due entirely to vacation shutdowns. First July week, reported by RTMA auditors, for example, showed less than 10,000 output—but it must be remembered that most plants, including the top producers, were shut down first 2 weeks in July.

* * * *

Philco was biggest of firms announcing raises in prices this week. Philco prices went up \$10 to \$55 as of July 31, covering whole line. New lists are as follows (amount of increase in parentheses); for description of each set, see Trade Report, Vol. 6:25:

12½-in. models: 1207, \$169.95 (\$20); 1208, \$189.95 (\$20); 1231, \$229.95 (\$30); 1282, \$289.95 (\$20).

14-in. rectangulars: 1443B, \$219.95 (\$20); 1443M,

\$239.95 (\$20); 1443L, \$259.95 (\$20); 1443X, \$279.95 (\$20); 1443XL, \$299.95 (\$20); 1443PW, \$359.95 (\$20); 1443PM, \$379.95 (\$20); 1443PL, \$399.95 (\$20).

16-in. rounds: 1601, \$219.95 (\$20); 1602, \$259.95 (\$20); 1604M, \$269.95 (\$20); 1604L, \$289.95 (\$20); 1606, \$269.95 (no change); 1634M, \$299.95 (\$20); 1634L, \$319.95 (\$20).

17-in. rectangulars: 1836M, \$359.95 (\$10); 1836L, \$379.95 (\$10); 1838, \$449.95 (\$20); 1870, \$379.95 (\$20); 1872, \$429.95 (\$30); 1874M, \$479.95 (\$30); 1874L, \$499.95 (\$20); 1875, \$549.95 (\$50); 1876, \$599.95 (\$25). Model 1835, 17-in. rect. console, at \$299.95, has been discontinued.

20-in. rectangulars: 2134, \$429.95 (\$30); 2136, \$479.95 (\$20); 2138, \$575 (\$50); 2175, \$695 (\$45); 2176, \$750 (\$55).

* * * *

Stromberg-Carlson raised prices Aug. 2 on 8 of its new 18-set line (Vol. 6:26), average under 5%. Here are the new prices (increase in parenthesis): Model 116TM Mercury, 16-in. rect. table, \$269.95 (\$10); 116TDM Treasure Chest, same with doors, \$289.95 (\$10); 116TDA, same in blonde, \$299.95 (\$10); 116CM Provincial, 16-in. round console \$339.95 (\$10); 116CA & 116CF, same in blonde and maple, \$349.95 (\$10); 116CDM Chippendale, same with doors, \$395 (\$5); 17RPM Kenwood, 17-in. rect. console combination, \$585 (\$10); 119CM Empire, 19-in. console, \$429.95 (\$10); 119CDM Georgian, same with doors \$499.95 (\$5); 119RPM 18th Cent., same in combination, \$695 (\$20).

Zenith raised prices \$10 to \$20 on 6 models of new line of 22 sets (Vol. 6:27), effective Aug. 1. These are new prices (amount of increase in parenthesis): H2329R, 16-in. rect. leatherette table, \$239.95 (\$10); H2352R, same in wood console, \$299.95 (\$10); H2438R, 16-in. round console, \$299.95 (\$20); H2449E, same in blonde, \$319.95 (\$20); H3267R, console combination, \$469.95 (\$20); H3475R, same in different cabinet, \$525 (\$25).

Tele-tone jumped prices from \$10 to \$30 on 9 of its 20 new sets (Vol. 6:27), effective July 31. These are the new

prices (amount of increase in parenthesis): Model 322, 14-in. rect. plastic table, \$149.95 (\$10); 323, same in mahogany plastic, \$169.95 (\$20); 318, same in wood table, \$179.95 (\$20); 324, 16-in. rect. table, \$199.95 (\$20); 335, same in console, \$219.95 (\$20); 325, same in console, \$239.95 (\$20); 325, same with half doors, \$279.95 (\$30); 328, 19-in. console, \$339.95 (\$20); 327, 17-in. console combination, \$369.95 (\$30).

Starrett has lowered prices on 7 models, raised them on 3, added 2 new ones to line of 19 shown at NAMM show (Vol. 6:28). Here are new lower prices (reduction in parenthesis): 16-in. mahogany console, \$249.95 (\$20); same in blonde, \$259.95 (\$20); same with AM-phono, \$319.95 (\$10); 17-in. rect. console, \$349.95 (\$20); same in blonde, \$369.95 (\$20); 19-in. console with doors, \$399.95 (\$30); same in blonde, \$429.95 (\$30). Prices raised (increase in parenthesis): 19-in. console, \$349.95 (\$10); same with AM-FM-phono, \$525 (\$25); same in blonde, \$550 (\$20). New sets are 16-in. walnut console with AM-phono, \$299.95; 19-in. walnut console with AM-FM-phono, \$499.95.

* * * *

Warning that TV manufacturers "can seriously injure the entire future of their industry by raising prices this year" was issued Aug. 2 by John Meck. He thought "unjustified" increases during shortage period ahead, combined with tighter credit regulations, would "take TV out of reach of the great mass of the market . . . limited number of sets available will go to high-income families and tend to make TV a rich man's toy. TV's amazing growth the last 2 years has been due to its reaching the 50% of the people who earn less than \$3000 a year." He said he will try to retain present prices of his Meck and Scott receivers as long as possible.

CR Tubes Notes: Neither DuMont nor Sylvania, for present at least, is following lead of GE in reducing prices of 19-in. metal-coned tubes (Vol. 6:30) . . . I-T-E Circuit Breaker Co. reported sampling 24-in. metal envelopes . . . DuMont has received delivery of first 21-in. envelopes for rectangular metal-coned tubes, but does not plan use in own sets, or production for tube customers, before end of year . . . Another 17-in. rectangular tube manufacturer is GE, which has started making them (Model 17BP4-A) at its Buffalo and Syracuse plants; it's third rectangular type to be made by GE, others being 14 & 16-in., also glass.

Among larger military contracts for electronics equipment announced by Commerce Dept. for 3 weeks ending Aug. 3: Bendix, \$10,592,614, radio components and spare parts; Collins Radio, \$1,465,073, radio test equipment; Federal, \$1,057,909, radio direction finders; Transducer Corp., Boston, 638,802, radar training sets; Federal Telecommunication Laboratories, \$424,841, antenna assemblies; Sperry Gyroscope, \$338,449, airspeed control systems & \$156,182 beam guidance systems; Western Electric, \$202,681, wave and power meters; Espey, \$1,734,569, radio terminal sets; GE, \$2,019,578, detector sets.

Crosley showed new TV line to distributors at Civic Opera House, Chicago, this weekend, said it won't announce line or prices until press showing in New York Aug. 30.

Trade Personals: Jack L. Hobby, ex-Capehart-Farnsworth, appointed Andrea advertising-sales promotion mgr. . . . Si Newman, ex-Starrett, now national sales mgr., Regal . . . J. H. Chrysler now GE tube divisions representative, Minneapolis . . . John K. Koepf, ex-WLW, Procter & Gamble and Storer stations, has joined RTMA as asst. to gen. mgr. James Secrest . . . George Hakim, Stars & Stripes (Africa) veteran, recently with George N. Kahn agency, joins DuMont as asst. adv. mgr. . . . Ray Durst, Hallicrafters executive v.p., back from tour of Europe.

Financial & Trade Notes: CBS nearly doubled profit for first half of 1950, compared with same period 1949—in fact, appears to be headed for record earnings year. For 26 weeks ended July 1, net income was \$3,182,070 (\$1.85 a share) on gross from all sources of \$60,276,582. This compares with \$1,709,391 (\$1) profit on \$52,885,319 gross for corresponding 1949 period and \$2,228,237 (\$1.33) profit on \$48,816,986 for corresponding 1948 period. For all 1949, CBS net income was \$4,184,079 (\$2.44) on \$105,197,580 gross (Vol. 6:13).

RCA's gross income of \$248,093,813 for the first half of this year (compared with \$187,257,987 same period last year) leaves little doubt total 1950 income will hit half billion dollar mark. Net profit of \$20,961,643 (\$1.397 per share on 13,881,016 shares of common outstanding) for 6 months of 1950 compares with \$10,122,049 (\$.616) first 6 months last year. Gross income for second 1950 quarter was \$121,414,808, net \$9,725,412 (\$.644) vs. \$94,930,159 & \$4,189,965 (\$.245) for same period 1949, \$127,369,550 & \$11,236,231 (\$.753) first quarter 1950 (Vol. 6:18). RCA volume, about 60% attributed to TV, now running at rate nearly quadruple \$128,000,000 level of prewar 1940.

Raytheon's new offering to stockholders (Vol. 6:28) went out this week—289,459 shares of common at \$6.75 a share, stockholders having rights up to Aug. 14 to buy one new share for each 5 held. With issue, outstanding shares will total 1,736,753. Proceeds go into working capital. This week, also, Raytheon disclosed its consolidated income statement for fiscal year ending May 31, showing \$59,533,260 sales, \$935,413 (49¢ per share) net profit vs. \$56,360,460 and \$946,211 (49¢) for preceding year.

Hoffman Radio achieved all-time high 6 months ended June 30, reporting \$11,229,000 sales, \$930,279 profit (\$2.19 per share). No comparable 1949 period is reported due to internal changes, but half-year figure compares with \$11,987,000 sales, \$1,276,036 profit (\$3.01) for full year 1949. President H. L. Hoffman advised stockholders, in letter this week, company will deliver some \$6,000,000 worth of equipment to Air Force and Navy remainder of this year.

Muter Co. reports net income of \$525,883, or 88¢ per share on 592,000 capital shares for 6 months ended June 30, compared with \$163,378, or 28¢ on 296,000 shares outstanding for same 1949 period—latter profit-per-share adjusted to account for 100% stock dividend of May 1950.

National Union reports \$5,600,874 sales, \$528,557 profit before taxes for half-year ended June 30 vs. \$3,677,038 & \$10,873 same period last year. Quarter ended June 30 accounted for \$3,115,127 sales, \$218,174 profit before taxes vs. \$2,013,244 & \$102,503.

Tung-Sol reports \$12,834,508 sales, \$1,460,592 (\$4.27 per share) profit for 6 months ended July 1 vs. \$6,747,968 sales, \$290,391 (69¢) profit in corresponding 1949 period. Dividend of 50¢ per common share was paid Aug. 1.

Webster-Chicago sales were \$7,907,740, earnings \$734,913 (\$2.54 per share) for 6 months ended June 30, compared with \$5,174,953 sales, \$366,708 (\$1.26) earnings for same 1949 period.

Packard-Bell reports \$3,200,218 sales, \$289,855 profit for quarter ended June 30 vs. \$1,442,848 gross, \$64,873 profit same period last year.

Motorola will sell \$130,000,000 worth of merchandise during calendar 1950, compared with \$81,000,000 last year, president Paul Galvin reported last week. Defense orders will not change total appreciably, he said, as volume lost in civilian output would shift to govt. production, already quite high. He sees no reason to cut output below present capacity of 110,000 TVs per month on 2-shift basis.

EXCISE TAX FOR SURE, OUTPUT ZOOMS: Faint hope that TV might escape 10% excise tax (Vol. 6:31) was pretty well dispelled this week when Senate Finance Committee decided against requested hearing on grounds House Ways & Means Committee (which voted down the tax, pre-Korea) had already heard industry's case. On Capitol Hill, it was quite evident TV would be put in same boat as radio, taxed 10% since before last war.

Industry's effort now is mainly directed toward assuring that TV isn't unduly penalized in final wording of over-all tax bill (H.R. 8520); that TV and radio components are not taxed separately; that distribution pipelines should not be taxed when bill goes into effect. Practice followed previously on excise taxes is that they fall solely on factory inventory, do not touch stock in distributor warehouses or on dealer shelves.

Tax bill would become effective first of month following President's signature -- unless that's less than 10 days away, in which case it goes into effect first of following month. To become effective Sept. 1, bill would have to be signed not later than Aug. 21, seen quite unlikely at moment. (Same bill includes increased corporation tax up from 38 to 45%). Proposed excess profits tax seems out of picture until next session of Congress, which convenes in January.

* * * *

Even before threat of revival of 10% excise, in haste to fulfill distributor-dealer demands, beat looming shortages and stockpile for fall-winter trade, the TV-radio factories began pushing production. First 2 July weeks are traditionally vacation shutdown periods for most producers (Vol. 6:20), and RTMA reports only 8672 and 37,646 TV receivers, respectively. But third week zoomed to 123,912, which is highest ever for any single week -- next highest having been 116,680 in fifth week of March (Vol. 6:17). Final July figures are due from RTMA next week. It should be remembered, too, that RTMA figures represent only about 75% of entire industry.

Note: During same periods, radio production also went up, RTMA reporting 38,897 first week, 123,037 second, 266,401 third.

TV FACTORY & MARKET STORY AS OF NOW: Call it panic buying or what you will, there's no doubt Mr. John Q. Public does well to buy his TV set now -- while there still are sets. For the fact still remains (1) that higher costs and the prospective 10% excise tax (Vol. 6:31) have definitely reversed downward trend in prices; (2) that factory and dealer shortages, already being felt, seem certain to become more acute; (3) that fall-winter telecast programs are so promising that anyone who has any intention of buying a TV and can afford to, yet still holds back, is plain foolish. Same factors prevail in radio, too.

This isn't mere ballyhoo, for manufacturers and dealers alike would prefer normal and ordinary patterns of demand geared to output. As prudent business men, they'd be better off without any panic rush. In TV-radio, whose normal productive limits for rest of year can be pretty well calculated, that's especially true. Industry will be lucky to turn out another 3,000,000 TV sets during second half 1950 -- and we heard one manufacturer say he'd "trade next year for total of 3,000,000." That was 1949 total; it's also number turned out first 6 months of 1950 (Vol. 6:30).

As for radios, expected to run to 10,000,000 this year, it's freely forecast that they'll be cut back in favor of more lucrative TV production.

* * * *

Several more companies raised prices this week: Air King, Bendix, Freed, Muntz, Raytheon, Atwater -- making well over dozen, large and small, who have done so in recent weeks (Vol. 6:30-31). You'll find details in Topics & Trends columns.

Up and coming Majestic (see Financial Notes) reported it was revising prices

within week, but on Aug. 10 its president Leonard Ashbach warned dealers against scare buying, urged industry to police itself. He did say, though: "We do not deny there are components shortages...but there is plenty of merchandise to go around."

GE said it's "watching rising cost situation closely but has no definite plans to increase TV prices in the immediate future." Westinghouse replied in much same vein. Other top producers, like RCA and Admiral, say their situation is unchanged; they're not upping prices -- not yet, at least. Others like Motorola (Vol. 6:30) and Olympic & Sentinel (see p. 3) came out late with new models and priced them accordingly.

* * * *

Even aside from prospective war orders, with their inevitable impact on civilian production, some shortages are becoming so serious that DuMont had to shut down partially several days this week due to unavailability of certain receiving tubes. Muntz closed down Chicago plant (old Howard factory) one afternoon this week when it ran out of electrolytic condensers.

Illustrative of acuteness of receiving tube shortage, DuMont actually is shipping some sets without certain miniatures -- notably the 6AU6, 6AH6, 6TH -- on theory that it's much easier for distributors and dealers to buy them in small numbers than for factory to get them in 6 & 7-figure quantities. This could conceivably become a new sort of "allocation" gauge. Earlier, Admiral field men were instructed to comb its distributors and dealers for certain tubes in short supply.

Tele-tone president S. W. Gross told Aug. 11 Wall Street Journal that lack of tubes is beginning to slow production, added: "Planned fall increases in production are now out the window and we'll be happy to hold what we've got. We even have our sales force out beating the bushes for tubes and other scarce parts. We don't know what to do with the new plant now." New Tele-tone plant at Bayway, N. J., was due to start Sept. 5.

There's still talk of black and gray market in materials and components, but still no open charges. Medium-sized set maker told us that wood and hardware for his TV cabinets had gone up \$18 to \$28 per unit this week, for phono motors 90¢. Among some smaller companies, practice of trading and bartering (even borrowing) of components is said to have assumed considerable proportions.

* * * *

That TV sets are selling as fast now as during busiest seasons, is indicated in retailer reports from almost every TV area. The authoritative Retailing Daily for several weeks has carried local stories reporting heavy buying in anticipation of shortages, prices, taxes, new credit controls. Some of its headlines tell eloquent stories: Baltimore TV Sales Continue at Top Speed...TV Sales in Milwaukee Running 300% Over Year Ago...Dallas 3 Weeks Video Sales Reported 'Unseasonably' Good...TV Sales Soar in Bridgeport, New Haven...Philadelphia Video Set Sales Up 15-25% Despite Lack of Sets...Possible TV Tax Stimulates Sales Activity in Chicago...Note Terrific Minneapolis TV Sales Rise...High Los Angeles Sales Threatened by Shortages.

Trade Personals: Rear Admiral C. A. Rumble, USN ret., since 1945 head of electronics branch, Chief of Naval Operations, joins Erie Resistor Co. as Washington mgr. . . . E. H. Ulm, ex-sales engineer, Sylvania electronics div., named mdsg. mgr. . . . T. R. Mathews promoted to distributor mgr., TV radio div., Stromberg-Carlson . . . George D. Hulst, ex-RCA and Tung-Sol, recently in patent dept. of DuMont research div., promoted to mgr. of DuMont special projects lab, electronic parts div. . . . Fred S. McCarthy, ex-Philco and Sampson, new sales promotion mgr., Westinghouse TV-radio div. . . . Leonard Ashbach, president of Majestic-Garod and Wilcox-Gay, reported to be backer of disc jockey Jack Eigen's new night club (taking over former Beach Club at 54th & Madison, New York) to be known as Jack Eigen's Room . . . Harry P. Weston, ex-v.p., Graham-Paige Corp., new executive v.p., Reeves Soundcraft Corp. . . . Larry Offenbecker, ex-Hotpoint Inc., new Scott Radio adv. mgr.

That the 12½-in. tube is about to vanish, as did 7 & 10-in., is abundantly clear in June tube sales figures released by RTMA. Of 566,942 total, 505,941 (89%) were 14-in. or over. (Seems about time RTMA started reporting number of each size 14-in. and up.) There were only 58,116 (10.2%) in 12½-in. category; 276 in 10-in.; 2443 in 7 & 8½-in.; 128 projections. Factory value aggregated \$15,054,810. Total was below May's 599,667 (Vol. 6:27).

"Phonevision will ultimately far exceed the total box office of all the motion picture theatres in the United States," stated Zenith's E. F. McDonald this week in press statement replying to TOA consultant Nathan L. Halpern's pessimistic economic data in speech before Southern California TOA last month (Vol. 6:30). McDonald averred Halpern was "indulging in wishful thinking," had estimated "a ridiculously low figure" for Phonevision's income. Zenith president also took occasion to chide producers for not renting him films for Oct. 1 Chicago experiment.

Topics & Trends of TV Trade: New lines from Olympic and Sentinel, and more companies announcing price increases (see p. 1), featured week's news from the TV manufacturers. In addition, Tele King informed us it has not changed prices, as we reported (Vol. 6:31) but will have new line with new prices at end of August.

Though prices are now on upswing, it's significant to note that average factory price of TV sets first 5 months of this year (well before Korea) had dropped to \$170.79 from \$217.29 for same 1949 period. This is based on most authoritative source. Monthly breakdown for 1950 follows (corresponding 1949 figure in parentheses): January, \$163.77 (\$217.20); February, \$176.06 (\$220.49); March, \$174.99 (\$218.58); April, \$168.81 (\$225.54); May, \$170.31 (\$205.64). Same source, incidentally, disclosed 31.4% of all receivers sold those 5 months were TVs, representing 76.5% of TV-radio manufacturers' dollar volume.

Average TV set price of \$273 (retail) first 6 months 1950, compared with \$378 same 1949 period was reported this week by Electrical Assn. of Philadelphia. It reported 150,912 units sold at \$41,259,511 retail first half of year vs. 78,548 units at \$29,736,905 same 1949 period.

* * * *

Olympic showed line of 18 sets, of which 9 are new, to distributors at New York convention this week. Spokesman said company hopes to turn out 1200 a day by end of August, plans extensive national advertising campaign using magazines for first time. Full line:

12½-in. models: DX214 Governor, mahogany table, \$179.95 (reduced \$40); DX214B, same in blonde, \$189.95 (reduced \$40); DX215 Vanderbilt, same in mahogany console, \$239.95 (reduced \$50); DX215B, same in blonde, \$259.95 (reduced \$50). Sets have 21 tubes, 2 rectifiers.

16-in. rectangulars: 755 Challenger, mahogany table, \$219.95; 752 Riviera, same in mahogany or blonde deluxe cabinet, \$239.95; 762 Riviera, same with special chassis, \$249.95; 753 Monte Carlo, mahogany console, \$289.95; 753B, same in blonde, \$304.95; 764 Broadmoor, same in mahogany console with doors, \$319.95; 764B, same in blonde, \$339.95; 766 Catalina, mahogany console with AM-FM-phono, doors, \$449.95; 766B, same in blonde, \$469.95. Sets have 17 tubes, 2 rectifiers.

16-in. rounds: DX621 El Dorado, mahogany console with AM-FM-phono, \$499.95; DX621B, same in blonde, \$519.95; DX621C Shangri La, same in hand-painted Chinese console, \$569.95. Sets have 21 tubes, 2 rectifiers.

19-in. rounds: DX932 Diplomat, mahogany console, \$369.95; DX931 President, same with doors, \$399.95 (reduced \$80).

* * * *

With Columbia Records now making 45rpm records, all major record makers are now turning out 3-speed—in keeping with phono manufacturers whose turntables have been 3-speed for last 6-9 months. Last of holdouts (Vol. 6:28), Columbia announced it is testing 2 popular recordings on 45 rpm in several markets. Meanwhile, scuttlebutt about new record with speed between 10 and 33 1/3 rpm, first mentioned by Zenith's E. F. McDonald at stockholders meeting 2 weeks ago (Vol 6:30), got verification this week when Wagner-Nichols Co, 150 W. 56th St., New York (Robert Wagner, president), announced it planned library of "talking books" on 14rpm records as well as 78 & 33 1/3rpm.

Sentinel announced new line of 5 models at end of series of distributor meetings Aug. 7. Models are: 420-TVM, 16-in. rect. table, \$239.95 (blonde \$249.95); 423CVM, same in console, \$289.95 (blonde \$299.95); 421CVM, same with doors, \$329.95 (blonde \$349.95); 428CVM, 19-in. console, \$359.95 (blonde \$399.95); 425CVM, same with doors, \$429.95 (blonde \$449.95). All have 18 tubes, 2 rectifiers.

Air King upped prices \$10 to \$30 on 8 of its 10 new sets (Vol. 6:26). These are the new prices (increases in parentheses): 12T2, 12½-in. walnut table, \$169.95 (\$20); 12T1 same in mahogany, \$179.95 (\$20); 12C1, same in console, \$219.95 (\$30); 14T1, 14-in. rect. table, \$199.95 (\$20); 16M1, 16-in. rect. metal table, \$199.95 (\$10); 16T1, same in mahogany, \$239.95 (\$10); 16C1, same in console, \$279.95 (\$20); 718, same in console with doors, \$329.95 (\$30). Air King also prices Model 16K1, 16-in. rect. console with AM-FM-phono, at \$399.95, and has added year's warranty on parts—\$3 for 12½-in., \$4 for 14-in., \$5 for 16-in., \$7 for 19-in., \$9 for combinations.

Bendix raised prices \$20 Aug. 7 on 3 of its new 9-set line (Vol. 6:25). New prices: 16-in. rect. table \$240, console \$280, console with doors \$300. Bendix has ceased 12½-in. production, will end 14-in. Aug. 21, intends to change from 16-in. rect. to 17-in. rect. early in fall, from 19-in. rect. to 20-in. rect. late in fall.

Freed prices on four 16-in. models went back to June 14 list, when reductions were effected; they're now up \$20-\$30. Prices of 19-in. models are retained. These are new prices (increases in parentheses): 55, mahogany Hepplewhite console, doors, \$429.50 (\$30); 54, same in modern console, \$449.50 (\$20); 56, same in blonde, \$449.50 (\$20); 68, same, Heirloom Sheraton console, \$479.50 (\$30).

Muntz raised prices \$50 to \$100 on 4 of its 5-model new line (Vol. 6:28), has discontinued 12½-in. \$130 table. Here are new prices (increases in parentheses): M31, 16-in. walnut table, \$219.95 (\$50); M32, same in console, \$259.95 (\$60); M33, 19-in. walnut console, \$349.95 (\$70); M34, same with AM-FM-phono, \$499.95 (\$100). Muntz hopes to reach 22,000 sets per month by September, sold more sets in July than last December.

Packard-Bell reports it's increasing only one item in new 8-model line (Vol. 6:30), namely table model No. 2101, upped \$10. "No further increases will be made unless the cost of raw materials and components increase so sharply that present prices do not enable us to operate profitably," said sales mgr. Kenneth R. Johnson.

Raytheon jumped prices from \$10 to \$30 on its new line (Vol. 6:27) effective Aug. 4. These are the new prices (amount of increase in parentheses); for descriptions of sets see *TV Directory No. 11*: 12½-in. models: M1106, \$189.95 (\$10); C1104, \$239.95 (\$20). 16-in. round: C1602, \$299.95 (\$20). 16-in. rect.: M1403, \$239.95 (\$10); M1404, \$249.95 (\$10); M1402, \$259.95 (\$10); C1401, \$289.95 (\$20); C1615, \$299.95 (\$20); C1616, \$319.95 (\$20); RC1618, \$425 (\$25); RC1619, \$439.95 (\$10). 17-in. rect.: C1715, \$309.95 (\$20); C1716, \$329.95 (\$20); RC1718 \$435 (\$25); RC1719, \$449.95 (\$10). 19-in. rect.: C1901, \$399.95 (\$20); C1902, \$419.95 (\$20); RC1905, \$600 (\$20). 20-in. rect.: C2001, \$429.95 (\$30); C2002, \$449.95 (\$30); RC2005, \$625 (\$30).

Trav-Ler boosted prices on 6 of its 9 new sets (Vol. 6:25). Here are new prices (increases in parentheses): 16-in. rect. leatherette table, \$179.95 (\$30); same in mahogany, \$199.95 (\$20); same in console, \$229.95 (\$30); same in console with doors, \$299.95 (\$30); same with AM-phono, \$329.95 (\$30); 16-in. round console, \$279.95 (\$30).

* * * *

National Electronic Distributors Assn. has nearly 100 firms signed for exhibits at its Cleveland convention and show, Aug. 27-31. Convention meetings will be in Hollenden Hotel exhibits open Aug. 29 in Cleveland auditorium. Most of sessions will be technical, but Monday opening meetings will include address by Sylvania president Don Mitchell on "Building for the Future."

Multiple Television Mfg. Co. has new 16-in. console \$270, in console with doors \$300; 19-in. table \$329, in console \$370, console \$399, commercial model \$499.

Financial & Trade Notes: Plan for merger of Wilcox-Gay with Majestic, new company to be known as Wilcox-Gay-Majestic Corp., will be placed before Wilcox-Gay stockholders at meeting Aug. 22 in Charlotte, Mich. It's proposed to increase present capital stock of 1,250,000 shares of \$1 par value to 1,750,000; to authorize additional 1,600,000 no par value shares with equal voting and earnings rights; to approve acquisition by Wilcox-Gay of Majestic (wholly owned by Leonard Ashbach) by issuing in exchange therefor 500,000 shares of Wilcox-Gay \$1 par stock and 1,600,000 no par stock; to authorize sale of an additional 500,000 shares of \$1 par to public at estimated \$2 net to company.

Mr. Ashbach recently became president and chairman of Wilcox-Gay (Vol. 6:15,16,28) after Majestic acquired 100,000 shares for \$100,000, Dr. E. Mayer resigning as president but remaining on board, Frank C. Painter remaining as secretary and board member, Chester M. Wilcox also remaining on board; and the following additional Majestic directors elected: Benjamin R. Ross, G. Frank Langford, Louis Silver, Harold Ashbach, Arthur Homans.

Notice to stockholders dated Aug. 1 shows Wilcox-Gay net worth of \$42,257 (or about 7¢ per share), its income statement for 5 months ending May 31 showing loss for period of \$377,093 (on sales of \$1,498,337); 1949 net operating loss was \$755,761, 1948 loss was \$483,607. Majestic earnings statement for 9 months ended May 31 showed sales of \$7,076,527, net income of \$231,132; and consolidated balance sheet of Majestic (with Garod subsidiaries) shows net worth of \$931,711.

Wilcox-Gay board approved plan July 14, and statement signed by Mr. Ashbach and Mr. Painter notes benefits: "Wilcox-Gay, in acquiring Majestic, obtains an old established company with some 650 employes, with an annual sales volume of approximately \$10,000,000 and a company that has operated at a profit over a period of many years. The added working capital which would be acquired through the sale of additional stock to the public should make it possible to increase the annual sales to \$20,000,000, including not only our regular line of radio and TV receivers and recording devices, but also U. S. Army contracts for electronic devices."

* * * *

Among officers' and directors' stock transactions reported by SEC for June (see Vol. 6:28 for May): Earl E. Anderson, sold 500 shares ABC, now holds 8500; Robert E. Kintner, sold 3600 ABC, holds 7000; Dee S. Lenfesty, sold 200 Arvin, holds 4800; S. B. Withington, bought 1000 Avco, holds 1000; William A. Bles bought 15,000 (options) Avco, holds 20,000; Edwin R. Palmer, bought 200 Bendix Aviation (May purchase), holds 400; Dr. W. R. G. Baker, bought 100 GE, holds 1000; Richard A. O'Connor, sold 203 Magnavox (May sale), holds 65,412; Laurence A. King, bought 300 Muter Co., holds 1600; William Gammell Jr., sold 200 Raytheon, holds 14,558; Raymond E. Carlson, bought 200 Tung Sol, holds 772; Louis Rieben, bought 300 Tung Sol, holds 11,111.

Scott Radio, now owned by Meck, will probably exceed \$500,000 sales for June-August quarter, as against \$604,900 for entire previous fiscal year, president John Meck told stockholders meeting this week. Gross profit for quarter is expected to exceed \$40,000. Sales ran \$79,000 in June, \$156,000 in July, expected to run \$300,000 in August.

Avco has offered to exchange 2 shares of its common stock for each common share of Bendix Home Appliances Inc., and is mailing prospectus to Bendix stockholders as soon as SEC registration statement is filed. Avco is already largest stockholder in Bendix, recently acquiring 167,500 shares, or 16% of stock outstanding (Vol. 6:29).

Dividend Notes: Avco has placed common stock on quarterly instead of semi-annual dividend basis, has voted initial quarterly payment of 15¢ a share payable Sept. 26 to stock of record Sept. 8; last semi-annual payment May 25 was 20¢, total in 1949 was 30¢ . . . Hytron declared 10¢ dividend payable Sept. 15 to stock of record Aug. 29; same amount was paid June 15 . . . Sparks-Withington has authorized 10¢ dividend on common payable Oct. 5, first since similar payment in December 1948 . . . *Wall Street Journal* quotes analysts as indicating Motorola dividend will be raised before end of year; currently, it's 37½¢ quarterly, up from 25¢ quarterly rate in 1949, with year-end extras last 2 years. Dividend action is expected about Sept. 12.

Aerovox earnings for first 6 months of 1950 are reported at \$1,220,745 (\$3.52 per share, after allowing for full conversion of preferred into common) vs. \$233,167 (67¢) for same 1949 period. Sales for first half of year were \$10,800,000 vs. \$2,500,000 for same 1949 period, and it's expected year's volume will run between \$20,000,000 & \$25,000,000, compared with \$8,753,340 in 1949. Orders for capacitors and other components have required 500 more employes since last spring and by fall another 500 will be on payroll, making 6000 in all—3500 of them in New Bedford (Mass.) plant.

RCA has arranged through Lehman Brothers to sell privately \$40,000,000 of its notes to investing institutions, this borrowing being additional to placement of \$60,000,000 notes in May 1949. Additional funds will be used for working capital. All notes are 3%, payable May 1, 1974.

GE is not only expanding its Owensboro, Ky., and Tell City, Ind., receiving tube plants by adding total of 134,000 sq. ft. of space and new equipment, but its electronics dept. has purchased Illinois Cabinet Co., Rockford, Ill., supplier of TV-radio cabinets. GE has been part owner since 1947. President Oscar M. Lindgren continues as gen. mgr. . . . Belmont's new plant addition in Oelwein, Ia., 88x260 ft. and costing \$90,000, will be ready for TV assembly lines in October, will add 120 to present payroll of 240 . . . Sarkes Tarzian new tuner plant at K & Erie Sts., Philadelphia, will triple old space, permit 500% increase in production.

Fourteen pages devoted to TV articles and pictures in August *House Beautiful* suggest how, when, what to buy, offer tips on installation, decorating, enjoying TV, do's-don'ts for televiewers. Articles also: (1) Note that more than half sets now in use are table models, but trend is toward consoles. (2) Estimate 98% sets being sold are direct view, but hint reversal to projection. (3) Warn buyers "you will soon want a larger screen than the one you bought." (4) Point out that half new-set service requests are unnecessary. (5) Deny that TV is bad for eyes or causes more strain than "movies, reading, sewing, or driving a car" (Cornell's Dr. Milton Berliner).

"Business Report Card" of *Wall Street Journal* Aug. 1 tallies 321 firms whose quarterly net profits of \$1,122,704,155 as of June 30, 1950, were 31.8% above preceding quarter, 46.5% ahead of same quarter 1949. Among them, 11 electrical and radio firms (unnamed) represented \$66,474,749 net profits as of June 30, up 12.9% from March quarter, up 60.2% from June 1949 quarter.

More than 300 apartments in 3 buildings covering square block in Chicago can be fed by Jerrold Mul-TV central antenna installed atop 3500 block, Lake Shore Drive. Initially, 45 apartments signed up at \$55 installation charge plus \$10 a year for service.

Capchert-Farnsworth reports contract let for expanded factory facilities in Fort Wayne, new \$250,000 structure increasing TV and radio-phono area by 58,000 sq. ft.

160,147 TVs MADE IN LAST JULY WEEK: Furious pace of TV-radio production is indicated by RTMA estimate that fourth July week's output reached high peak of 160,147 units, up from third week's previous record of 123,912. Coming in wake of first week's mere 8672, second's 37,646 (due to vacation shutdowns), total of more than 330,000 compares with 486,000 in 5-week June (Vol. 6:30) and 470,000 in May (Vol. 6:25). It also indicates output for first 7 months of this year of approximately 3,430,000. These figures are all projections from RTMA auditor reports (Haskins & Sells), so as to embrace whole industry; RTMA member totals with breakdowns by models and tube sizes, etc. aren't due until next week. Projected July figures for radio also are high: 38,897 first week, 123,037 second, 266,401 third, 294,183 fourth -- total of 722,518. It's expected August will surpass all previous months, including 5-week March's record 655,000 (Vol. 6:17).

PRICES CONTINUE TRENDING UPWARD: It's becoming increasingly doubtful whether top producers like Admiral, GE and RCA can continue to hold their TV-radio price lines in face of mounting costs and the abnormal production factors (including 10% excise tax) that are developing even before Uncle Sam makes known his electronic needs. This week, Emerson (for second time), Westinghouse and Majestic also raised prices, as did several smaller producers (for details, see items on p. 3). And it's quite likely others are doing so without benefit of publicity.

Thus in last few weeks many of best known producers have posted price increases generally ranging \$5 to \$30 per TV set, a few higher (Vol. 6:30-32). Those announcing increases to date: Air King, Andrea, Bendix, DuMont, Emerson, Freed, Majestic, Muntz, Packard-Bell, Philco, Raytheon, Starrett, Stromberg-Carlson, Tele-tone, Trav-Ler, Westinghouse, Zenith.

Radios, too, are going up -- but raises are relatively small; Emerson, for example, this week tacked \$1-\$10 on lists for 12 models, \$20 on one radio-phono. Hallicrafters added \$10 to prices of 8 communications type receivers.

New Crosley and Capehart-Farnsworth lines are latest released by majors -- former with 23 models, latter 13 (for available details, see Topics & Trends).

* * * *

Increases are usually attributed to shortages of components, particularly receiving tubes (Vol. 6:28, et seq), as well as higher prices for short materials and cries of hoarding and gray markets. Shortages are real, creating erratic production lines in some of the biggest and best-managed plants, which are finding they sometimes cannot complete an assembly due to lack of tubes, capacitors, etc.

Since prices are largely based on schedules of production, slowdowns or stoppages for any reasons will affect best laid plans for amortizing tooling costs, utilizing labor most efficiently, allocating costs per unit, etc. At the moment, production is at highest rate in industry's history (well over 150,000 per week) but there's many a line that ends with "some sets minus something," to quote a leading manufacturer. "Scarcities of components have hindered production continuity and have therefore adversely affected production costs," was way Emerson's Ben Abrams put it.

Sets for market are plentiful, right now, with inventories higher than ever before, it's said. Public isn't breaking down doors to buy, but landrush is seen after Labor Day when the facts of the excise tax and a probable new Regulation W sink into buyers' consciousness. Right now, sales are abnormally high for the season; but the great demand for sets is from distributors and dealers eager to stock up for big fall-winter market and to hedge against inevitable war-born shortages.

Bound to suffer by tightening TV conditions is private-label business, for most such manufacturers also produce for own brand-names and are inclined to feed

their own distributor pipelines first. Also certain to find the going hard are the big mail order and retail chains, like Sears Roebuck, Montgomery Ward, Spiegel, and the dept. store buying groups; they're reported already feeling the pinch of short supply and of inability to beat brand-name prices much.

Radio production may be cut down by tightening TV supplies, though some of bigger companies say "somebody has to make radios" and they don't intend to let radio schedules decline this year. Seen almost certain to fade from scene is 12½-in. picture tube (as did 7 & 10-in.); that size represented only about 10% of June CR output (Vol. 6:32), probably is running less now. Some 30 manufacturers have 12½-in. in present lines, 24 have 14-in. rectangulars. But it looks like these will be dropped in favor of 16-in. and larger -- and don't be surprised if RCA drops the three 12½-in. jobs in its present line.

* * * *

Retailing Daily's B. H. Hellman, reporting Aug. 16 on New York trade, notes that many customers who planned to buy next fall are buying now, which "tends to put a cap on the fall boom." New York stores for most part, he notes, are backlogged on orders for major brands, especially 16-in., are quoting prices as at delivery time due to current increases. "Despite short supplies of major brand units, most retail outlets have refused thus far to fill in with secondary or unknown lines," writes Mr. Hellman. "Several times in the past, stores were burned when they took on such lines during shortage periods, only to find that they had to be dumped when things eased up. As a result, sets manufactured by small and medium-sized producers are in good supply at present, although there are indications that if parts shortages continue, distributing sources will begin competing heavily for these units also."

Topics & Trends of TV Trade: One effect of shortages developing in brand-name lines is the curtailment and cancellation of advertising schedules, mainly at local levels—meaning mostly newspaper cooperative advertising. Magazine schedules, contracted on long-term basis, are already whooping up fall-winter lines and will probably continue to do so for some time. But prospects for the huge local splashes planned for this fall—TV and radio as well as newspapers—are dimming.

RCA Victor distributors, for example, are not going all-out on dealer cooperative newspaper advertising, as at first planned, though big pitch for 45rpm players and records will continue. Bruno-New York, biggest RCA distributor, is reported to want 4 times number of receivers it can get from factory, and Raymond Rosen Co., Philadelphia distributor, tells its dealers the shortage is "overwhelming." Hence their RCA co-op advertising will be largely institutional in character.

On the other hand, Motorola still has big advertising plans (Vol. 6:32), and it looks as though TV-radio manufacturers will continue this fall to be among leading tele-casting-broadcasting sponsors. Majestic's new line is being launched with sizeable newspaper, radio and TV campaigns, ad mgr. Joseph G. DeVico stating that company does not intend to curtail dealer co-op advertising because "we consider it an obligation to the dealer to provide him with the ammunition to help sell our product, and also to permit him to continue his advertising during shortage periods when merchandise is not easily available."

Advertising TVs via TV and radio has never figured much in Zenith schedules, but it's announced in Buffalo that Joseph Strauss Co., Zenith distributor, has undertaken on own to sponsor 37 J. Arthur Rank films ("none over 4 years old") via WBEN-TV.

* * * *

Capehart-Farnsworth's new line, shown to distributors at Fort Wayne this week, comprises 13 models designed by engineering v.p. Antony Wright, featuring new

CX-33 chassis and cabinet styling. All are 16 & 17-in., save one 19-in. combination at top of line at \$850. Lists start at \$280 for 16-in. table. Capehart also is bringing out 7 new radios, all AM-FM-3 speed consoles, ranging from \$230 to \$395. The Capehart TV models, all mahogany unless otherwise indicated:

16-in. rectangular 321-M Nantucket, table, \$279.95; 321-B Bedford, same in bisque, \$289.95; 3012-M & 3012-B Blackstone, console, \$319.95 & \$339.95; 322-M Monmouth, 18th Century console with half-doors, \$339.95; 325-F New Englander, French Provincial console with full doors, cherry wood, \$399.95; 327-M Ticonderoga, 18th Century console with AM-3 speed, \$550.

16-in. round: 332-M & 332-B Chicagoan, mahogany & bisque console, \$349.95 & \$369.95; 323-M Georgetown, 18th Century mahogany console with full doors, \$379.95; 324-M William Penn, 18th Century console with full doors, \$399.95.

17-in. rectangular: 320-M Spinet, console on legs, \$299.95; 324-M Virginian, 18th Century console with full doors, \$389.95; 328-M Saratoga, 18th Century console with AM-FM-phono, \$650.

19-in.: 337-M New Amsterdam, 18th Century console with AM-FM-3 speed, \$850.

* * * *

With nearly everybody of consequence now committed to 45rpm recordings (Vol. 6:32), RCA will shortly cut \$2 off price of its self-amplified 45EY unit to \$27.95 and will begin making a similarly priced unit from same molds for Decca trademark. Decca also will market plug-in attachment like RCA's for \$12.95, and a radio-phono table model at \$59.50. Meanwhile, RCA is launching big newspaper, radio, TV ad campaign Sept. 27 to promote 45rpm, with magazine advertising kicking off in Life Oct. 2. It will also introduce new Model 45EY3, self-contained portable, to list at \$34.95; and a children's Model 45EY15, with Disney decalcomanias, to sell for \$29.95. RCA is doubling 45rpm record production at Canonsburg, Pa., plant, which now has 100 presses turning out 70,000 records daily.

Latest of the majors to come out with new TV line, Crosley is still holding back details pending dealer meetings over next few weeks—but it's learned that it has 23 new TV models, 9 new radios. Hitherto lagging in TV, Crosley is pitching for one of top positions, has tripled productive capacity to be able to turn out 60,000 sets per month. But, like others, it's meeting certain components difficulties, including even such items as decorative brass.

Crosley's low end of each size is \$189.95 for 12½-in. TV-only walnut console; \$229.95 for 16-in. mahogany table; \$469.95 for 17-in. AM-3 speed in blonde (also top of line); \$399.95 for 19-in. mahogany console. There's also superior-styled 19-in. console at \$449.95. Its radios range from \$19.95 table to \$259.95 radio-phono console. Only FM item in line is one AM-FM table at \$59.95.

At recent distributors' meeting, orders were taken for \$68,000,000 worth of TVs, radios and white goods such as ranges, freezers and refrigerators for August, September, October shipments—3½ times volume for same 1949 months. Distributors tried to place 50% more than their allotments, according to W. A. Bles, sales v.p.

* * * *

Emerson's second price boost covers entire line, runs \$10-\$30, is effective Aug. 21. These are new prices, the increases in parentheses being from last prices reported in Vol. 6:30 (for description of sets, see *TV Directory No. 11*): 12½-in. models: 673, \$189.95 (\$20); 660, \$199.95 (\$20); 664, \$229.95 (\$30); 665, \$329.95 (\$30). 14-in. rect.: 662, \$199.95 (\$10). 16-in. rect.: 663, \$249.95 (\$20). 16-in. round: 661, \$259.95 (\$20); 668, \$289.95 (\$30); 667, \$329.95 (\$30); 666, \$429.95 (\$30). 19-in.: 669, 429.95 (\$30). Blonde models continue \$10 higher.

Westinghouse hiked prices on 8 of its 11 new sets (Vol. 6:25) from \$10 to \$30. New prices (increases in parentheses) are: Model H624T16, 16-in. rect. plastic table, \$219.95 (\$20); H624TB16, same with console base, \$249.95 (\$20); H626T16, 16-in. rect. mahogany table, \$249.95 (\$10); H628K16, 16-in. round mahogany console, \$299.95 (\$20); H627K16, same with doors, \$329.95 (\$30); H629K16, same in blonde, \$325 (\$25); H633C17, 17-in. rect. console with AM-FM-phono, doors, \$469.95 (\$20); H634C17, same in blonde, \$489.95 (\$20). Prices of 12½ & 14-in. models remain unchanged, nor were 10 radio models affected. But two table radios were raised \$2, one \$1, and AM-FM-phono console was hiked \$30, blonde \$20.

Majestic raised prices \$5 to \$20 on its new line (Vol. 6:20), effective Aug. 15. These are the new prices (increases in parentheses): Model 120, 12½-in. leatherette, plastic front, \$149.95 (\$10); 121, 12½-in. mahogany table, \$174.95 (\$5); 141, 14-in. rect. mahogany table, plastic front, \$189.95 (\$10); 142, 14-in. rect. mahogany table, \$209.95 (\$10); 1400, same in console, \$239.95 (\$10); 162, 16-in. rect. leatherette table, \$199.95 (\$10); 160, 16-in. rect. mahogany table, \$239.95 (\$10); 1600, same in console, \$269.95 (\$10); 1605, 16-in. round mahogany console, \$279.95 (\$10); 1610, same with doors, \$319.95 (\$20). Near capacity production is reported now underway at both Brooklyn and Charlotte, Mich. (formerly Wilcox-Gay) plants.

Andrea also has increased prices, its Mayfield 16-in. table with FM now listed at \$329.95, blonde \$342.45, both up \$10; Sutton console with FM at \$439.50, blonde \$466.50, both up \$20; Fleetwood 16-in. console with FM-phono \$529.50, blonde \$561.50, both up \$30.

Starrett has lowered prices on 2 models, raised them on 5, of which 2 had been cut previously (Vol. 6:31), and has added one new model to line. Here are new lower prices (reduction in parentheses): 17-in. rect. mahogany console with doors, \$329.95 (\$20); same in blonde, \$349.95

(\$20). Prices raised (increase in parentheses): 12½-in. leatherette table, \$159.95 (\$10); same in mahogany, \$179.95 (\$10); 16-in. round mahogany console, \$269.95 (up \$20 to original list price); same in blonde, \$279.95 (up \$20 to original list); 16-in. round mahogany console with AM-phono, \$339.95 (\$20, up \$10 from original list). New set is 19-in. blonde console at \$369.95.

* * * *

New Electronic Parts Manufacturers Assn. is being formed, headed by Charles C. Koch, president of Merit Transformer Co., Chicago, with Washington attorney J. Gerald Mayer and Alfred P. Hirsch, president of Micamold Radio Corp., Brooklyn, as vice presidents. Group has no connection with Assn. of Electronic Parts & Equipment Manufacturers which this week elected Rockwell M. Gray, Rauland-Borg Corp., Chicago, as chairman; John H. Cashman, Radio Craftsmen, vice chairman; reelected Helen S. Quam, Quam-Nichols, treasurer; reelected Kenneth C. Prince, executive secretary and counsel. Founders of new EPMA say that there's no competition with AEPPEM; that they'll represent parts manufacturers while latter comprises sales managers who sell to jobbers; that number of companies belong to both. Nor do they have quarrel with RTMA, they say, pointing out that their problems differ from end-product makers. Membership is said to number 40-50 at present. Temporary headquarters is 1010 Vermont Ave., NW, Washington, D. C.

* * * *

Mahogany console bases that include radios and record players, designed to convert table TVs into console combinations, are being offered by Madisco Inc., 2029 No. 6th St., Philadelphia (Fred Robin, president), which also is regional distributor for Majestic. They're available in 15, 18 & 21-in. widths. One base with pull-out drawer will list at \$29.95, without drawer \$19.95. Complete base with 3-speed phono using any TV's amplifying system lists at \$44.95, with self-contained amplifier \$49.95. Model with radio-phono is \$69.95. Six-inch speaker and 3-tube amplifier are used.

Reeves Soundcrafts' president Hazard E. Reeves and associates have acquired control of Cinerama Process from corporation formerly controlled by Laurence S. Rockefeller and Time Inc. Fred Waller and W. French Githens will continue as chief executive officers, with new offices at 304 E. 44th St., New York. Process is based on "peripheral vision" projection on a large curved screen to give third dimensional effect without artificial visual aid.

RCA has surrendered to public domain 3 of its well-known trade-marks: Iconoscope, eye of TV camera; Kinescope, receiver picture tube; Acorn, miniature radio tube used in portables. "Now that TV has become established," said president Frank Folsom, "RCA finds gratification in the fact that the industry uses these names in a generic and descriptive manner."

Among Signal Corps contracts for electronics equipment announced by Commerce Dept. this week, for week ending Aug. 12: Motorola, \$951,737, radio sets (1180 units); Espey, \$726,909, radio terminal sets (104 units) and radio relay sets (61).

GE's 1,000,000th picture tube was turned out Aug. 16 during ceremonial at Buffalo plant; Dr. W. R. G. Baker predicted 9,000,000 sets in use by year's end [industry figures indicate 10,000,000 or more].

Standard Coil Products Inc., Chicago, has sued Automatic Mfg. Corp., Newark, in Federal court for southern New York district, alleging TV tuner patent infringements.

Financial & Trade Notes: Philco achieved highest sales and profit for any similar period in its history during 6 months ended June 30, reporting \$147,012,000 sales, \$6,672,000 net income (\$3.86 per common share). This compares with \$103,267,000 sales & \$1,998,000 profit (\$1.08) in same 1949 period and \$124,617,000 sales & \$4,215,000 profit (\$2.68) in same 1948 period. During all 1949, Philco's sales were \$214,884,000, profit \$5,691,796 (\$3.17).

Philco's 1950 second quarter sales were \$67,525,000, profit \$2,598,000 (\$1.49) vs. \$50,261,000 & \$1,083,000 (59¢) same period last year. During second quarter, it absorbed costs of developing and starting production of its new line of receivers (Vol. 6:25), besides defraying complete expenses (estimated at \$1,000,000) of 5000 distributor-dealer delegates at its big Atlantic City June convention (Vol. 6:24). President Wm. Balderston, in report dated Aug. 14, stated company now operates separate facilities for govt. contracts in radar, electronics and thermal fields and is in position to increase govt. work substantially while maintaining high civilian volume.

From high Philco sources, it's learned that no cut-backs are in prospect—except as may later be dictated by govt. needs—and that company still expects to turn out 600,000 TVs last 6 months of this year, making 1,000,000 for year.

* * * *

Television Fund Inc., investment trust, proposes to change its name to Television-Electronics Fund Inc. at stockholders meeting Sept. 8. This week, reporting that as of Aug. 10 the corporation had 476,172 shares of common stock outstanding, letter from president Chester Tripp to stockholders stated:

"There is little question that the investing public has overstressed the TV aspects in the picture while neglecting the tremendous importance of other electronics in warfare . . .

"Companies in the TV and electronics group offer an ideal combination. While the dynamic expansion in home TV might be slowed by a period of active rearmament, more stable world conditions would permit the industry to resume full-scale production of civilian goods. In the meantime, although pre-tax margins will be lower on govt. contracts and higher taxes will reduce the percentage brought down to net, these factors in many cases may be offset to a large extent by increased volume.

"Our studies and investigations show clearly that the industry's volume will continue to rise, and that military demands for electronic equipment—including to a greater degree than generally appreciated, TV—may result in an expansion of productive capacity as well as more intensive use of present facilities."

Stockholdings in Television Fund's portfolio as of July 31 are listed as follows (for April 30 holdings, see Vol. 6:19): Electronics Other Than TV (24.56%)—American Bosch 9000, Bendix 3000, Consolidated Engineering 2000, Cutler-Hammer 7000, Fairchild Camera 2000, General Precision Equipment 1000, IBM 1100, Minneapolis-Honeywell 6500, Remington Rand 7000, Sperry 3000, Webster-Chicago 3000. Primarily TV (16.1%)—Admiral 4200, DuMont 'A' 6600, Emerson 8000, Motorola 5000, Philco 6000, Trav-Ler 1000, Zenith 1000. TV & Electronics (36.72%)—Aerovox 2000, ABC 6000, American Phenolic 2000, CBS 'A' 7600, Corning Glass 2000, Fansteel 4000, GE 6000, Hazeltine 1000, I-T-E Circuit Breaker 1000, LaPointe-Plascomold 5000, Malloy 1000, Muter 4800, Oak Mfg. 6000, Owens-Illinois 4000, Pittsburgh Plate Glass 1000, RCA 14,500, Raytheon 4000, Sprague 2000, Stromberg-Carlson pfd. 200, Television Associates Inc. 2400, Westinghouse 8700. Miscellaneous (22.62%)—AT&T 1000, Capitol Records 3000, Decca

5000, Disney 5000, Eastman 5000, Federal Enterprises Inc. 2000, Hammond Instrument 1000, Joslyn Mfg. 2000, Loew's 6000, Otis Elevator 5500, Reliance Electric 2500, Haloid Co. 1000, Time Inc. 3000, 20th Century-Fox 5000, United Specialties Co. 2500, Warner Bros. 2000.

Total equities of \$4,937,812.50 plus \$101,000 U. S. treasury notes plus \$141,494.42 cash and receivables add up to total net assets of \$5,180,306.92, as against \$6,082,747 last April 30 and \$2,780,795 at end of October 1949.

* * * *

Standard Coil Products Inc., Chicago tuner maker, has filed with SEC for public offering of 367,000 shares of \$1 par common (representing 25% of holdings of 3 top officials owning all 1,470,000 outstanding shares). Company reports 1949 sales of \$16,594,626 and profit of \$2,571,779 vs. 1948 sales of \$3,348,408 and loss of \$45,711. For first 6 months this year, sales ran \$16,038,859, profit \$3,135,393 (\$2.13 per share).

Raytheon stockholders bought 282,433 shares of the 289,459 offered at \$6.75 (Vol. 6:28,31), leaving only 7026 to be taken up by underwriters headed by Hornblower & Weeks and Paine, Webber, Jackson & Curtis—so no public offering will be made.

Trav-Ler reports net income of \$575,055, or 91¢ per common share, for 6 months ended June 30, no comparison available for same period last year. Sales were \$6,391,244 vs. \$2,200,511 for same 1949 period. Set production will be almost doubled after Sept. 1 due to new plant addition at Orleans, Ind.

Arvin Industries Inc. (formerly Noblitt-Sparks) reports net profit of \$936,357 (\$1.05 a share) for quarter ending July 2, compared with \$454,913 (51¢) corresponding period last year. Quarter ended April 2 showed net profit of \$718,496 (81¢) vs. \$502,067 (56¢) same period last year.

Sparks-Withington and subsidiaries report profit of \$459,083 (48¢ per share) for year ending June 30 (after loss of \$67,938 due to devaluation of Canadian dollar) vs. profit of \$25,709 preceding year.

Oak Mfg. Co. reports net profit of \$1,179,334 (\$2.62 per common share) for 12 months ending May 31 vs. \$776,437 (\$1.73) for preceding fiscal year.

Dividend Reports: Philco put dividends on \$3 annual basis this week, declaring 75¢ quarterly payment Sept. 12 to holders of record Aug. 29; regular quarterly 93¾¢ will be paid on "A" preferred Oct. 1 to holders of record Sept. 15 . . . DuMont declared interim dividend of 25¢ on common, payable Sept. 20 to holders of record Sept. 8 . . . Magnavox declared 25¢ on common payable Sept. 15 to holders of record Aug. 25; also 25¢ on "A" cumulative preferred, payable Sept. 1 to holders of record Aug. 15.

Trade Personals: Joseph Kattan, Emerson Radio Export Corp. v.p., adds duties of distribution mgr. for parent company . . . Matthias Little newly elected president of Quam-Nichols, succeeding James P. Quam, now chairman . . . Norman J. Cooper, ex-Stewart-Warner, new Hallcrafters national service mgr. . . Sol Predeger, Majestic purchasing chief, elected v.p. . . Wm. H. Rinckenbach, ex-Philco, joins Capehart-Farnsworth as sales research mgr. . . J. Grayson Jones, chief engineer, elected v.p. of Conrac Inc. . . Harry J. Noznesky named sales v.p. of Bowers Battery, Reading, Pa. . . Scott Radio elects L. M. Sandwick, mdsg. mgr., and R. C. Freytag, asst. to president John Meck, as vice presidents . . . C. J. Werner, ex-Diversey Corp., named Motorola traffic mgr.

Ray. Rice, 49, since 1945 Raytheon publicity chief, World War II major on staff of Gen. Omar Bradley, died Aug. 18 in New York Hospital of heart ailment.

MORE TV PRICES UP, RADIOS SHORT: Admiral raised TV prices average of 8.7% this week end -- and on Monday RCA will announce lists up about 8% on its entire line of 18 sets. This week, also, GE and Hoffman hiked 2 sets each in their extensive lines, and Stewart-Warner announced across-the-board increases. It's more than likely Motorola will follow, which would mean that all top producers and many smaller ones will have raised all or part of their lines during last few weeks (Vol. 6:33).

[For details of latest increases, see Topics & Trends, p. 4.]

What this portends for fall-winter market, added to now apparently inevitable 10% manufacturers' excise that in itself will add anywhere from 6-10% at retail level, is anybody's guess. At moment, set makers can sell everything they can produce -- and belief prevails new programs, added network cities, more staying-at-home after Labor Day can only spell continued high demand for available merchandise, even at higher prices.

Biggest headache for most TV-radio makers seems to be how to supply pipelines with enough radios as well as TVs. Larger radio producers like Emerson, GE, Motorola, Philco, RCA, Westinghouse and Zenith all say orders are running far ahead of shipments. Smaller companies like Trav-Ler and Jewel are producing at capacity. Emerson, Philco and Westinghouse raised radio prices recently along with TVs. RCA hiked 7 table models \$2 to \$5, five radio-phono consoles \$10 to \$20, held line on 14 others, including all portables. Admiral's new radio lists hike table and portable radios \$2 & \$3, table radio-phono \$20.

GE says it plans no increase in its 25 radio models -- not as of this writing, at least. Motorola says it's "studying" both radio and TV price structures.

For obvious reasons, all are favoring non-TV areas with radio shipments, often to bitter annoyance of TV-area distributors-dealers -- for radio demand is high in TV areas, too; highest, in fact, because they generally have largest populations. Demand for large radios is notably high -- "out of this world," as one of biggest set makers put it. This one indicated he would let production of some units "run out," cut down a few lower-priced units in favor of higher priced sets.

Most set makers favor TV for available components, and some were unprepared for resurgent demands for radios. Even with Quincy, Ill. plant devoted entirely to radios, with 50% more production scheduled this year than last, Motorola says it can't meet demand. In over-all production and industrial mobilization picture, TV and radio are in same boat.

SET & TUBE OUTPUTS AT PEAK RATES: Shortages notwithstanding, TV-radio industry from all indications is maintaining peak-production levels reached in latter July -- for RTMA statistics committee disclosed Friday that first August week showed 159,755 TVs, 276,264 radios. These are projected estimates for whole industry, not merely RTMA members. They compare with 160,147 TVs, 294,183 radios in last week in July (Vol. 6:33), or just after vacation shutdowns.

January-to-July sales of receiving tubes, certain types of which are now real bottleneck, reached 191,503,938 units (149,276,662 shipped to manufacturers for new sets). Total shipments compare with 198,753,295 for all 1949. Vacation-month July tube shipments were 21,128,017, of which 14,600,533 went for new sets.

High receiving tube figures show what TV has done to expand military electronics potential. Present rate means at least 325,000,000 output this year, whereas peak war year (1944) had shipments of only 125,765,945. By this year's end, currently expanding capacity appears certain to surpass 350,000,000, possibly 400,000,000 -- and with war orders expected for this key item, we've even heard goal of 600,000,000 mentioned for next year.

Note: Though some receiving tubes are in short supply, there seems to be

little or no complaint of shortages of CR picture tubes. There are only 8 major receiving tube makers (Vol. 6:28), but 35 make cathode rays (TV Directory No. 11). Latters' capacity, plus glass bulb and metal-cone availabilities, far outweighs any prospective war orders.

* * * *

June TV set shipments to dealers, 289,000, brought 6-month 1950 total to 2,612,000, RTMA reported this week. Total shipped compares with estimated 3,114,000 produced in same period. Difference was accounted for by manufacturers' and distributors' inventories and sets in transit. Breakdown of shipments, by counties, covers 38 states and D. C.

PLENTY OF BRASS, PLENTY OF KNOW-HOW: Since this war emergency requires plenty of electronics materials and know-how, it's a happy circumstance for both Govt. and industry that civilian TV-radio manufacturing and communications are literally honey-combed with "electronic veterans" of World War II's civilian as well as military establishments.

Hence appointment of IT&T president Maj. Gen. Wm. Henry Harrison, to head new National Production Authority in Dept. of Commerce, a sort of "little WPB" that will handle priorities and allocations of most basic materials, is a particularly fortunate one for industry in general and electronics in particular. He's a man of tremendous ability and capacity and great integrity -- a "truly great American," as described by top figure in electronics, who worked closely with him during last war.

Gen. Harrison will hold office of Under Secretary of Commerce. His formal appointment pends passage by Congress of defense production bill, but it's definite. He already has started work in Washington, has selected Manly Fleischman, ECA consultant and wartime OPA asst. general counsel, and George Wilde, a New England banker, to aid in preliminary plans.

Gen. Harrison's office will fix priorities (Division of Program Determination) and allocate materials (Division of Industrial Relations) with various industry and labor committees as advisors. It's part of President Truman's plan to have each govt. agency have own setup, rather than one centralized agency; however, if greater emergency occurs all can be pulled together into another WPB. Commerce has biggest function under present plans.

Former v.p. and chief engineer of AT&T, Gen. Harrison in 1940 joined Wm. Knudsen in govt. and became production chief of OPM. In June 1942 he was commissioned a colonel, then promoted to brigadier general in post of director of procurement, Services of Supply. In July 1943, he was made major general in charge of Signal Corps procurement and distribution, handling all radio-electronics requirements of Army and Air Force. He has been IT&T president since 1948.

* * * *

Quick survey of former top brass now in electronic industry executive posts, all presumably available for Uncle Sam's services if needed, shows RCA and IT&T particularly heavy on military men. There are some, too, who held key civilian jobs during last war, e.g.: Western Electric v.p. Fred R. Lack, who was director of Army, Navy Electronics Production Agency; RCA president Frank Folsom, chief of Navy procurement; Raytheon v.p. Ray C. Ellis, chief of WPB Radio-Radar Div.; Frank H. McIntosh, Washington consulting engineer, asst. director of WPB Radio-Radar Div.

FCC Comr. E. M. Webster, as commodore, was director of all Coast Guard communications. RCA chairman David Sarnoff, as brigadier general, was consultant on communications to Allied Supreme Command, serving mostly overseas. RCA Victor v.p. & general manager Rear Adm. Walter Buck was former Paymaster General and chief of Navy Bureau of Supplies and Accounts.

Elsewhere on the manufacturing side, all officers on retirement lists: Commodore Jennings B. Dow, ex-asst. chief of electronics, Bureau of Ships, is now Hazeltine executive v.p.; Capt. David R. Hull, now Raytheon, held same post, as did Hazeltine's Capt. Dan Shea. Rear Adm. Stanley F. Patten is now assistant to Allen B. DuMont. Commodore John B. Small, former administrator, Civilian Production

Agency, is executive asst. to Emerson president Benj. Abrams. Raytheon v.p. & secretary Col. Paul F. Hanna was communications dept. chief, GHQ, AFPAC. Erie Resistor's new Washington manager Rear Adm. C. A. Rumble was electronics chief, Naval Operations. Maj. Gen. James A. Code Jr., now Automatic Electric Co., was asst. Chief Signal Officer. Zenith's Col. John Howland (Annapolis graduate) was Signal Corps materiel planning control officer. RCA engineering products v.p. Col. W. W. Watts was Signal Corps parts procurement director.

In civilian communications are many more retired officers: AT&T v.p. & secretary Brig. Gen. Carroll O. Bickelhaupt; Western Union v.p. Rear Adm. Joseph R. Redman, former Chief of Naval Communications; Maj. Gen. Harry C. Ingles, former Chief Signal Officer, now president, RCA Communications; Rear Adm. Thos. P. Wynkoop, president, Radiomarine Corp. of America; Capt. George Shecklen, USCG, executive v.p., Radiomarine Corp.; Maj. Gen. George L. Van Deusen, president RCA Institutes; Maj. Gen. Samuel M. Thomas, executive v.p., RCAC New York district.

IT&T family has these additional executives, all retired top brass: Fleet Adm. William F. Halsey, chairman, All America Cables & Radio; Rear Adm. Ellery W. Stone, president, American Cable & Radio Corp.; Adm. Luke McNamee, chairman, Mackay Radio & Telegraph Co.; Lt. Gen. Pedro A. del Valle, USMC, president, IT&T of South America; Brig. Gen. Alfred W. Marriner, IT&T director of aviation; Maj. Gen. Roger B. Colton, president, Federal Telecommunications Laboratories; Brig. Gen. Peter C. Sandretto, asst. technical director, Federal Telecommunications Labs.

There are many others throughout the related industries -- particularly holders of Army colonel and Navy captain ranks. In the broadcasting field are quite a few: CBS president Wm. S. Paley and vice presidents Lawrence Lowman and Adrian Murphy held colonelcies. Ex-Chief Signal Officer, Maj. Gen. Frank S. Stoner, is now a broadcast consulting engineer heading Seattle office of Weldon & Carr. Brig. Gen. Edward L. Munson, ex-chief of Army Pictorial Service, is now director of NBC Film Division. Comdr. Mortimer Loewi, head of DuMont Network, was in Bureau of Ships.

Noteworthy, too, is fact that RTMA president Robert C. Sprague is an Annapolis graduate, Hallicrafters' Wm. J. Halligan a graduate of West Point.

NO SHORTAGES OF PARTS FOR SERVICING: Though some components are tight in receiving set factories, with grey market purchases commonplace, there's no immediate threat of serious shortage of replacement parts for TV-radio servicing. RTMA president Robert C. Sprague so reported Aug. 25 after spot check in New York City, where Better Business Bureau and others had reported complaints. Distributors generally stated they're well stocked with replacement parts for TV requirements, though many have been allocating certain components due to unusual dealer demands. Allocations, he said, were brought on by small minority of dealers and servicemen trying to hoard receiving tubes, resistors, antennas, condensers -- and even picture tubes.

Despite heavy demands from manufacturers, regardless of large military requirements in offing, supplies are available for normal requirements for set servicing elsewhere as well as New York, said Sprague, whose Sprague Electric Co. is major producer of capacitors. "I am confident most dealers and servicemen, along with the distributors, are trying to treat the public favorably and avoid hoarding," he stated. "However, a few unscrupulous dealers, if permitted to do so, could create shortages of components whose full production is required to meet normal requirements of manufacturers and distributors."

Note: On own payroll, with assent of RTMA directors and reorganization committee chairman Max Balcom, president Sprague has had New York industrial consultant Percy H. Crane visiting and spot checking RTMA members to learn their needs, gripes and ideas for strengthening RTMA. Sprague himself was elected as sort of interim president pending possible selection of a permanent paid president (Vol. 6:23), dividing time between his own business in North Adams, Mass. and RTMA Washington offices. Crane suggestions may have bearing on his recommendations to board, which meets next Sept. 18-20 in New York's Hotel Roosevelt. Balcom's reorganization committee will probably meet just before that.

Topics & Trends of TV Trade: Details of price increases ordered by Admiral, RCA and others, in wake of those previously imposed by score of other set makers (Vol. 6:33), reveal no startlingly large boosts. Most unit hikes are \$10, \$20 or \$30—forced by effect of materials shortages on previously planned production schedules. Set makers say competitive prices were pushed so low earlier this year that they think public will not balk at relatively modest reversal of trend, point to exceptional current demand for high-priced models as indicating price may not be dominant factor in fall market.

* * * *

New RCA prices are generally \$20 and \$30 higher per unit, though one is raised only \$10 and top of line item is up \$55. All 18 models are increased, effective Aug. 28. Twelve radio models are also increased—7 table units \$2 to \$5, all 5 radio-phonos \$10 to \$20. Prices are held on 14 radio models, including portables and 45rpm table models. Following are new TV prices (increases in parentheses); for descriptions of sets, see *TV Directory No. 11*:

12½-in. models: 2T51, \$179.95 (\$20); 2T60, \$209.95 (\$20); 2T81, \$329.95 (\$30).

16-in. models: 6T53, \$219.95 (\$20); 6T54, \$249.50 (\$10); 6T64, \$279.50 (\$20); 6T65, \$299.50 (\$20); 6T72, \$329.50 (\$30); 6T74, \$359.50 (\$30); 6T75, \$369.50 (\$20); 6T76, \$389.50 (\$30); 6T84, \$459.50 (\$20); 6T86, \$525 (\$30); 6T87, \$575 (\$25).

19-in. models: 9T57, \$349.50 (\$20); 9T77, \$425 (\$35.50); 9T79, \$450 (\$25); 9T89, \$750 (\$55).

* * * *

Admiral raised prices \$20 to \$50 on 23 of its 24 TV units (Vol. 6:25), effective Aug. 24. Only item spared was 12½-in. table Models 12X11 & 12X12 which continue at \$169.95 in ebony plastic and \$179.95 in mahogany plastic. Whole list averaged an increase of 8.7%, distributor cost went up 6.9%, average discount up 1%. These are the new prices (increases in parentheses); for description of sets, see *TV Directory No. 11*:

14-in. rectangular: Model 34R15, \$329.95 (\$30); 34R16, \$349.95 (\$30).

16-in. rectangular: 16R12, \$229.95 (\$30); 26R12, \$249.95 (\$20); 36R45, \$399.95 (\$20); 36R46, \$419.95 (\$20); 36R37, \$465 (\$20).

16-in. round: 26X55, \$299.95 (\$30); 26X56, \$309.95 (\$30); 26X57, \$319.95 (\$30); 26X65, \$329.95 (\$30); 26X66, \$349.95 (\$30); 26X67, \$369.95 (\$30); 26X75, \$349.95 (\$40); 26X76, \$369.95 (\$40).

19-in. round: 29X25, \$429.50 (\$30); 29X26, \$449.50 (\$30); 29X17, \$475 (\$30); 39X35, \$549.50 (\$50); 39X36, \$569.50 (\$50); 39X25, \$645 (\$50); 39X26, \$665 (\$50); 39X17, \$725 (\$50).

Admiral's table radios went up \$3 each to \$17.95, \$19.95 & \$22.95; one portable went up \$3 to \$32.95, another \$2 to \$36.95. Radio-phonos table went up \$20 to \$89.95.

* * * *

GE price increases apply to only 2 of its 17 models (Vol. 6:28), are effective Aug. 28. Model 16C113, 16-in. console, is hiked from \$279.95 to \$299.95; Model 16K1, 16-in. AM-FM-phonos console, from \$449.95 to \$469.95. Prices of 25 radio models are unchanged.

Stewart-Warner raises 14-in. table model \$35 to \$225; 16-in. table \$10 to \$269.95; 19-in. console \$25 to \$550. Ten other sets, all 16-in., are variously raised \$10 to \$35.

Hoffman hikes prices of 2 of its 14-in. table models (out of 22-model line; Vol. 6:30): Model 630, blonde, up \$0 to \$229.95; 631, up \$20 to \$219.95.

Details and prices of Crosley's new line of 23 models (Vol. 6:33) were disclosed this week, along with fact that 12½-in. models have 17 tubes & 2 rectifiers, 17-in. combinations have 27 & 4, all others 20 & 3. Chief innovation is so-called "Versa-tv", matching combination consisting of 3 separate units: 17-in. TV, radio-phonos, record-storing base. Receiver is table model Model 11-42MU that lists at \$249.95, but prices on radio-phonos and base cabinet have not yet been set. The line:

Three 12½-in. sets: Model 11-461WU, walnut console, \$189.95; 11-441MU, mahogany console, \$199.95; 11-471BU, blonde console, \$219.95.

Six 16-in. rectangular: 11-459MU, mahogany table, \$229.95; 11-465WU, walnut console, \$269.95; 11-445MU, mahogany console, \$279.95; 11-475BU, blonde console, \$299.95; 11-447MU, mahogany console, doors, \$369.95; 11-477BU, blonde console, doors, \$389.95.

Two 16-in. round: 11-446MU, mahogany console, \$319.95; 11-476BU, blonde console, \$339.95.

Eight 17-in. rectangular: 11-442MU, mahogany table, \$249.95; 11-472BU, blonde table, \$259.95; 11-453MU, mahogany console, \$329.95; 11-483BU, blonde console, \$349.95; 11-460MU, mahogany console, doors, \$379.95; 11-470BU, blonde console, doors, \$399.95; 11-444MU, mahogany console, AM-phonos, doors, \$449.95; 11-474BU, blonde console, AM-phonos, doors, \$469.95.

Four 19-in. round: 11-443MU, mahogany console, \$399.95; 11-458MU, mahogany console, half-doors, \$429.95; 11-484BU, blonde console, half-doors, \$449.95; 11-454MU, mahogany Penrod console, \$449.95.

* * * *

New Capehart models (Vol. 6:33) with CX-33 chassis contain 20 tubes, 2 rectifiers; combinations, 22 & 3 . . . Magnavox has new 16-in. rectangular console, Biltmore, at \$259.50 . . . International Television reports 4 new 16-in. rectangular at \$250 to \$330, one 19-in. console at \$350.

Bendix has advised dealers all 14-in. rectangular models have been discontinued; however, 16-in. rectangulars will continue until 17 & 20-in. are available . . . Sightmaster has new 19-in. blonde console called Tropicana at \$495, available with Sightmirror at \$535.

IUE-CIO finally won out over left-wing UEW in RCA Camden plant this week, when NLRB certified former as sole bargaining agent. UEW had protested May 18 election, which IUE had won 2857-to-2532, claiming that IUE, RCA and NLRB had influenced voting.

DuMont raised wage rates for production, maintenance and clerical workers in its New Jersey plants 10¢ an hour, or \$4 per week, effective Sept. 11. Increase means starting rate for unskilled workers of \$1.10 per hour, will add about \$1,000,000 to payroll.

* * * *

American Radio & Television Inc., North Little Rock, Ark. (Vol. 6:20), formerly Americana Furniture Inc., specializing in Bevelacqua designs, clarifies its position in this letter from G. J. Sliter, secy.-treas.: "We are not affiliated or a subsidiary of Artkraft Mfg. Corp., of Lima, even though many of our stockholders, officers and directors are also officers, stockholders and directors of Artkraft. Our president, Mr. Trubey, is also president of the Baltimore Porcelain Steel Corp. We are making private labeled radio-phonograph combination sets for Allied Stores Corp., Mercantile Stores, Interstate Dept. Stores, National Dept. Stores, Aimcee . . ." Emerson has revealed it's making AM-FM chassis for Americana, and latter states it's producing TV-radio cabinets only for Motorola. Despite previous reports, it has not yet gone into TV sets.

Financial & Trade Notes: Wilcox-Gay stockholders this week approved plan whereby that company acquires Majestic Radio & Television Inc. and its subsidiary Garod Radio Corp., while president-chairman Leonard Ashbach will become controlling stockholder of newly formed Wilcox-Gay-Majestic Corp. Merger was authorized essentially as proposed (for details, see Vol. 6:32), and it was left to directors to arrange details of new public stock offering. Meanwhile, H. Everett Smith, v.p. of Marine Midland Trust Co., New York, was elected to Wilcox-Gay board, and Mr. Ashbach was authorized to negotiate for acquisition of an additional plant in Los Angeles area.

Mr. Ashbach stated after Aug. 22 meeting that combined output of Brooklyn and Charlotte, Mich. plants may enable company to increase allocations of its TV, radio and phonograph items to distributors, although "both plants are already oversold for the balance of this year."

* * * *

Tele-tone this week offered 100,000 shares of \$10 par Class A cumulative and convertible at \$10 a share, and 135,000 previously outstanding \$1 par common at \$5.50, through underwriters headed by Sills, Fairman & Harris Inc. Proceeds from Class A will be used for working capital and for new plant, including factory at Elizabeth, N. J. Company will also acquire all stock of Rico Television Corp., table radio set manufacturer in Porto Rico, supplier of Tele-tone. After financing, capitalization will comprise 100,000 shares of Class A and 425,000 shares of outstanding common. Sales for 4 months ended April 30 were \$6,375,602, net earnings \$262,297.

Hoffman Radio directors this week voted to recommend split of its common shares outstanding on basis of 1½ for one, subject to stockholders' approval; they also voted to pay cash dividends henceforth on quarterly basis . . . Stromberg-Carlson declared regular quarterly dividend of 50¢ on preferred stock payable Oct. 1 to stock of record Sept. 9 . . . Stewart-Warner declared 25¢ dividend Oct. 7 to stock of record Sept. 15. . . Aerovox declares 100% stock dividend Oct. 18 to stock of record Oct. 4, subject to stockholder approval Oct. 3, and also declared 20¢ cash dividend.

New York Curb Exchange Aug. 23 authorized listing of 1,945,829 shares of Class A DuMont common, heretofore traded over-the-counter. Of total authorized, 145,253 shares are reserved for issuance upon the conversion of the 5% cumulative preferred.

Bendix Aviation reported consolidated net income of \$12,028,179 (\$5.71 per share) for 9 months ended June 30, compared with \$4,967,129 (\$2.35) comparable previous period. Net for June quarter was \$4,735,575 (\$2.23), compared with strike-caused \$176,269 deficit same 1949 period.

Stewart-Warner sales were \$33,649,039 first half of 1950, up 20.7% from \$27,875,957 same period 1949. Net profit was \$1,884,833 (\$1.45 per share) vs. \$796,564 (62¢) for same 1949 period. Second quarter sales were \$18,098,523, up from \$15,550,516 first quarter and \$13,169,802 same quarter last year. Net profit second quarter was \$1,122,157 (86¢) vs. \$392,272 (30¢) in June 1949 quarter.

Avco Mfg. Corp., holding company for Crosley, has acquired stock control of Bendix Home Appliances (Vol. 6:29, 31) through ownership of more than 50% of outstanding stock on basis of 2 Avco for one Bendix. Latter has no connection with Bendix Aviation, which produces TVs and other electronics equipment.

General Instrument Corp. reports net income of \$258,810 (53¢ per share) for quarter ended May 31 compared with loss of \$187,840 for same 1949 period.

"Our Next Frontier . . . Transoceanic TV," by RCA Chairman David Sarnoff, is to appear in Sept. 12 *Look*, on stands Aug. 29. He asserts that inter-continental transmissions are nearer than most people think, and that "the prospect promises more for real understanding among all peoples, for making human brotherhood a reality, than perhaps anything since the invention of the printing press." Two possibilities for accomplishing task, he says, are: (1) "radio air lift" chain-of-planes relaying to each other across ocean, and (2) laying of coaxial cable.

Another survey conducted for John Meck by Philip Lesly Co., Chicago, concludes that more than 30% of families owning TVs are considering buying second set, leading Mr. Meck to remark: "We must raise our sights by at least 30% over original estimates of the saturation that represents the market potential. It also means a larger volume of replacement." Survey in Chicago area showed 10-in. size owned by 38.5%, 12½-in. by 32.4%, 16-in. by 17.6%, 7-in. by 4.4%, 19-in. by 2.75% of set owners. Asked what picture size they would want on next set, replies were 46% for 16-in., 16.3% for 19-in., 12.2% for 12½-in.

FCC seems dissatisfied with technical quality of many TV stations' signals, particularly with regard to interlacing. After counting number of lines in pictures submitted as part of proof of performance, FCC engineers concluded some stations' transmissions are so poorly interlaced as to give half normal vertical resolution much of the time. Some consultants put blame on inefficient monitors from which pictures are photographed. Commission has written number of stations, asking for explanation.

Meeting on oscillator radiation (Vol. 6:8-31) between 2 RTMA committees and FCC staff has been scheduled in Washington Sept. 12, at request of RTMA. Committees R-15 (radio interference, K. A. Chittick, RCA, chairman) and R-6 (FM receivers, J. E. Brown, Zenith, chairman) have presumably accumulated sufficient data to warrant coming to FCC with recommendations. RTMA groups plan preliminary meeting Sept. 11.

By-product of atomic energy development, radioactive gas, will be used by ABC-TV to detect leaks in transmitter coaxial lines in its 5 stations, beginning with WJZ-TV, New York, when new 5-station multiple antenna is completed atop Empire State Bldg. (Vol. 6:27). Non-toxic gas will be mixed with nitrogen; leaks will be tracked down with Geiger counters.

FCC's form letter to color inventors went to Fred W. Schule, Central Square Bldg., Cambridge, Mass., this week. In response to Schule's statement he has new color system, FCC said it would be glad to get full details.

FCC wants sample uhf tuners from anyone making them, asking they be sent to Laurel, Md., labs for tests. So far, it has written directly to DuMont, GE, Philco, RCA.

* * * *

Trade Personals: Lee E. Pettit, GE, appointed chairman of RTMA advertising committee, succeeding Stanley Manson, Stromberg-Carlson; H. F. Guenin, RCA Victor, is vice chairman; V. S. Mameyeff, Raytheon, renamed chairman of export committee . . . Warren Frebel, ex-Meck, joins Majestic as purchasing agent . . . J. William Costello, ex-GE Supply, joins Capehart-Farnsworth as sales promotion mgr. . . RCA president Frank Folsom was White House caller Friday.

Munitions Board's Electronic Industry Advisory Committee (Vol. 6:30-33) this week set up its first subcommittee for studying critical components. It covers power tubes, comprises: H. J. Hoffman, Machlett, chairman; J. A. McCullough, Eitel-McCullough; Sam Norris, Amperex; G. W. Henyan, GE; C. E. Burnett, RCA.

Network Accounts: Chesterfield will divide sponsorship of *Arthur Godfrey & His Friends* on CBS-TV when it returns Sept. 27, Wed. 8-9, Toni taking first quarter hour, Pillsbury second 15-min.; previously Chesterfield sponsored whole show . . . Philip Morris Oct. 2 replaces *Candid Camera* with Horace Heidt show on CBS-TV, Mon. 9-9:30 . . . Camels Oct. 10 starts Vaughn Monroe on CBS-TV, Tue. 9-9:30 . . . Kellogg Co. Oct. 2 starts *Tom Ranger, Space Cadet* on CBS-TV, Mon. 6:45-7 . . . Lever Bros. Oct. 5 starts video version of *Big Town* on CBS-TV, Thu. 9:30-10 . . . Bymart Inc. (Tintair) Oct. 18 starts unnamed mystery drama on CBS-TV, Wed. 9-9:30 . . . Buick has purchased Wed. 9-10 on CBS-TV as of Jan. 3, when Tintair show and Embassy Cigarettes' *The Web* will be moved to new times . . . International Latex (Playtex girdles) Sept. 18 starts *Look Your Best*, beauty hints, on CBS-TV, Mon. & Fri., 3:30-4; Wed. show will be sustaining . . . Dodge Oct. 1 starts *Showtime U.S.A.*, variety, on ABC-TV, Sun. 7:30-8 . . . Packard returns *Holiday Hotel* to ABC-TV Sept. 14 with Don Ameche replacing Edward Everett Horton, Thu. 9-9:30 . . . Exquisite Form Brassiere Inc. Sept. 29 starts *The Robbins Nest*, with Freddie Robbins m.c., Fri. 11-11:15 p.m. . . General Mills due to start *The Erwins*, with Stuart Erwin, on ABC-TV Oct. 21, Sat. 7:30-8 . . . Nestle Co. (candy) Sept. 17 starts *Take a Chance* on NBC-TV, Sun. 10-10:30 . . . Minute Maid Corp. first purchaser of 5-min. segment of *Kate Smith Show*, participating, starting Sept. 25 on NBC-TV, Mon. thru Fri. 4-5; takes Thu. 4:30-4:45 . . . Motorola and still-unnamed household appliance company have signed with NBC-TV as 2 of 3 sponsors due to alternate new variety show planned for Wed. 8-9, starting Oct. 4.

* * * *

Personal Notes: Edward R. Borroff, ex-ABC v.p., appointed sales mgr. of Westinghouse Radio Stations Inc., handling both TV-radio; offices shortly to be moved from Philadelphia to Washington . . . Benjamin Margolis, asst. to CBS controller E. L. Saxe, appointed CBS-TV sales service mgr. as of Sept. 1, replacing Hermiao Traviesas, who joins BBDO's TV dept. . . . Robert Fryer, asst. to Worthington Miner, promoted to CBS-TV casting director, succeeding Eleanor Kilgallon, resigning to open own consulting service . . . Charles M. Higgins, ex-MBS and Outdoor Advertising Inc., joins William Weintraub Inc. as account executive on newly acquired Blatz Beer account (TV-radio only) . . . Coincident with C. H. Cottington taking charge of TV-radio at Erwin, Wasey in New York, Richard L. Eastland becomes TV director, Keith B. Shaffer (from KMBC, Kansas City) radio director, Ray Simms continues as TV-radio timebuyer . . . Tom Hicks, ex-radio-TV director of Fletcher D. Richards Inc., joins Geyer, Newell & Ganger as executive TV-radio producer . . . James Kovach, NBC radio operations mgr., new NBC-TV Production Services Dept. operations coordinator . . . Joe Herold, technical director of WOW, Omaha, and gen. mgr. of WOW-TV, and Russ Baker, WOW-TV production mgr., have resigned; future plans were not announced . . . Ed Driscoll, film director of WHAS-TV, Louisville, left Aug. 18 for active duty with Marines, succeeded by Libby Higgins, his asst. . . . Frank Kratokvil, chief of FCC monitoring branch, promoted to asst. chief of field engineering & monitoring div., succeeding late L. C. Herndon . . . Frank Fletcher and John H. Midlen, Washington radio counsel, have formed partnership of Fletcher & Midlen, Munsey Bldg., as of Sept. 1. . . . John H. Reber, program mgr., promoted to sales mgr. of WNBTV, New York. . . Frank P. Fogarty new gen. mgr. of WOW Inc., Omaha; was v.p. of local wholesale grocery firm and onetime manager of Omaha Chamber of Commerce.

Station Accounts: Co-op sponsors currently placing or planning TV thru local dealers, as reported this week by BAB, include Dayton Rubber Co. (tires & tubes), Thor Corp. (washers & ironers), Magnavox Co. (TVs & radios), Belton Hearing Aid Co., Canada Dry Ginger Ale Co. . . . Philco distributors also placing TV film spots . . . Time Inc. to test TV as stimulant to *Life* newsstand sales with topical film spots in Baltimore, Richmond, Schenectady, Wilmington, thru Young & Rubicam . . . Owens-Corning Fiberglas Corp. (for marquisette curtains) doubling TV schedule, thru Fuller & Smith & Ross, Cleveland . . . Seven retail grocery chains using daytime on 4 Los Angeles area stations, spending estimated \$7500 weekly, reports *Printers' Ink* . . . Capitol Records reported planning to use TV-radio in fall sales promotion campaign . . . Milwaukee Gas Co. on WTMJ-TV and Oil Heating Assn. of Baltimore on WMAR-TV examples of new local utilities attracted to TV medium . . . WCBS-TV, New York, reports House of Meyers (houseware appliances) has signed for *Variety Quiz* from Aug. 13, Wed. 11:10-11:55 p.m.; station also has added spots for Levi-Strauss & Co. (Levis & western sportswear), thru Honig Cooper Co., San Francisco; Vick's Vaporub, thru BBDO; Ladies Home Journal, thru BBDO; Vitalis, thru Doherty, Clifford & Schenfeld . . . Picture Craft Co., Decatur, Ill., using 10-min. weekly demonstration of simplified method of oil painting, on WMAR-TV Baltimore . . . Among sponsors currently using or reported planning to use TV [all agencies N. Y. unless otherwise stated]: American Steel Wool Mfg. Co., thru Needham & Grohmann (WNBTV); Anthracite Institute, thru J. Walter Thompson (WNBTV); Supak & Sons Mfg. Co. (snow suits & sportswear), thru Friend-Sloane Adv. (WABD); Stahl-Meyer Inc. (Ready to Eat Meats), thru Dowd, Redfield & Johnstone (WABD); Hickok Mfg. Co. (men's belts, jewelry, etc.), Kastor, Farrell, Chesley & Clifford (WOR-TV); A. O. Smith Corp. (gas burners), thru Cramer-Krasselt Co., Milwaukee (WTMJ-TV & KSD-TV); Quinlan Pretzel Co., thru Lynn Fieldhouse Co., Philadelphia (WCAU-TV); Skinner Mfg. Co. (macaroni & spaghetti products), thru Bozell & Jacobs, Omaha; Glenwood Range Co., thru Alley & Richards, Boston.

Either an existing network or all comers will carry telecasts of World Series, Gillette having landed rights for total \$975,000—\$200,000 for TV, \$175,000 for AM. DuMont had bid \$800,000 for TV rights, with Chevrolet as prospective sponsor, but Gillette exercised option. Gillette's radio outlet is MBS, which has no TV network, but joint deal means only TV stations definitely lined up as yet are its stockholder-owned WOR-TV, New York; WGN-TV, Chicago; WNAC-TV, Boston. Gillette and MBS also had 1949 rights, for TV portion of which \$200,000 was paid, games being offered all stations on no-pay basis. First TV rights in 1947 went for \$65,000.

Better use of privately-owned TV microwave relays became possible this week when AT&T came through with two new arrangements: (1) Permitted, as of Aug. 24, private relays to use their own audio facilities as well as video. Previously, AT&T supplied all audio lines. (2) Permitted, as of Sept. 7, hooking up of private relays into AT&T facilities at any practicable point. Previously, AT&T would allow private relays to interconnect only wherever there were TV transmitters or studios.

Uhf propagation measurements in Ft. Wayne area will be conducted for next 90 days by Westinghouse, under STA granted by FCC this week. Transmissions in 505-511 me band will comprise 5-kw pulses fed into 10-ft. parabola (gain of 50) on 453-ft. WOWO tower. Last year, Westinghouse made similar study in Pittsburgh (Vol. 5:42,50).

MORE ABOUT PRICES, SHORTAGES, TAXES: Roll call of TV manufacturers hiking prices continued to swell this week -- with Arvin, Crosley, Magnavox, Motorola, Sparton and Sylvania releasing new lists, and GE getting ready to do so when it became strike-bound. Most increases are across-the board, big Motorola's prices up \$20 to \$50. Crosley's \$10-\$20 hikes come only few weeks after release of its new models and prices to distributors Aug. 7 (Vol. 6:34). Magnavox added \$10 to \$20 on only 5 of its 22 models. GE's changes were under consideration just week after announcing it was hiking only 2 models (Vol. 6:34). [For available details of latest price increases, see Topics & Trends, p. 2-3.]

Roster of companies formally announcing price increases is virtually a Who's Who of TV-radio, now includes all top-ranking producers, and there are probably lesser ones who have hiked prices without any announcement. Thus far, we've reported (Vol. 6:30 et seq) price rises by following:

Admiral, Air King, Andrea, Arvin, Bendix, Crosley, DuMont, Emerson, Freed, GE, Hoffman, Magnavox, Majestic, Motorola, Muntz, Packard-Bell, Philco, Raytheon, RCA, Starrett, Sparton, Stewart-Warner, Stromberg-Carlson, Sylvania, Tele-tone, Trav-Ler, Westinghouse, Zenith.

* * * *

Most factories are still turning out TVs at top speed, believed to be maintaining over-all output rate of about 160,000 units per week (Vol. 6:34). But as if to aggravate already tight components situation, particularly in receiving tubes, GE's Tell City, Ind. tube plant struck last Tuesday, forcing "furlough" of some 3000 workers at its Syracuse TV-radio plants. Then IUE-CIO strike spread to Syracuse and other GE plants, and was on at week's end. A prime tube supplier, GE was forced to suspend deliveries to its customers.

Shortage of certain receiving tubes also is forcing DuMont to continue shipping completed receivers without them -- and there was talk that others were doing likewise, including Capehart-Farnsworth. Method is reported fairly successful, with distributors-dealers picking up tubes in local markets. Some manufacturers are still combing the hustings for tubes and other parts, offering higher prices and depleting local replacement supplies.

That factor has led some local dealers and servicemen to take issue with RTMA president Sprague's statement (Vol. 6:34) that there's no serious shortage of replacement parts. Mr. Sprague, of course, was considering component makers' output and allocations for replacement needs, probably didn't take sufficient cognizance of gray market activity. "In their haste to knock out as many sets as possible," a New York dealer ruefully told Retailing Daily, "the manufacturers are ignoring the part of the industry that keeps those sets working."

With respect to higher cost of materials, few will tell what they're paying to get scarce stuff -- but Trav-Ler's president Joe Friedman told Wall Street Journal: "Steel we should be getting for \$90 is costing us as much as \$320 a ton. We haven't even been able to get all we need at that price. Receiving tubes and resistors are also very tight. It's gotten to be a free for all with whoever is willing to pay the highest price getting the scarce items."

Another larger producer said he was hard-pressed to balance inventory, fore-saw "mad scramble for materials of all descriptions, even wood, just like after the war." Steel situation is bad, he said, and it looks like copper will get worse.

* * * *

Senate passed tax bill (H.R. 8920) Sept. 1 without changing wording of provision putting 10% excise on TVs (Vol. 6:34). Final chance to revise wording now is

in House-Senate conference on bill. Industry has been trying to eliminate headaches involved in tax on components as well as end products; in fact, Sen. Williams (R-Del.) for Sen. Martin (R-Pa.) and Sen. Myers (D-Pa.) had proposed revision, but in rush of final Senate night session it wasn't reached. There's still hope for revision when conference committee meets -- which won't be until Sept. 11 when House resumes after Labor Day recess. Bill must be signed by President by Sept. 21 to become effective Oct. 1.

Topics & Trends of TV Trade: They cheered when RCA's H. F. Bersche, tube renewal sales chief, painted a grand and glorious statistical picture of the future of electronics distribution at Cleveland convention this week of National Electronic Distributors Assn. But his roseate forecasts, written before Korea set off America's huge mobilization program, were frankly academic—for war orders, military demands for technicians, shortages of critical materials seem bound to throw his figures askew.

It was a painstaking research job, though, that merits summation since it shows what's happening in electronics distribution now, what might have happened next 5 years, what may yet happen when we revert again to normal civilian economy. This is essence of what Bersche told 2100 NEDA conventioners:

(a) There will be 125,000,000 home and auto radios in use in 1955, compared with 85,000,000 in 1949 and 93,000,000 in 1950. At average 6½ tubes per set, 1955 should see 800,000,000 receiving tubes in use.

(b) 38,000,000 TV sets in use by 1955 vs. 3,800,000 in 1949, 10,000,000 in 1950. At 20 receiving tubes per set, that means 700,000,000 such tubes—plus the 38,000,000 picture tubes in use.

(c) Add another 162,000,000 tubes for mobile, amateur, broadcast and industrial users—and you have 1.7 billion total tubes in use.

(d) 1955 replacement market, therefore, would be 150,000,000 receiving tubes, 5,000,000 picture tubes, having \$1 billion sales volume. This year's replacement market is 60,000,000 receiving tubes, 350,000 picture tubes, \$360,000,000 sales. (Replacement is figured at 10-15% of total tubes in operation.)

(e) 130,000 servicemen will be needed in 1955, compared with estimated 65,000 now practicing. TV alone will require 75,000, estimated on basis of 4-hours-a-year maintenance per set.

(f) 1000 telecasting stations by 1955 should be spending \$300,000,000 on replacements of tubes and parts, compared with \$3,000,000 spent by 100 stations in 1949.

(g) 2600 electronics distributors and branches should be operating in 1955 vs. 1900 this year, 500 in 1938, 200 in 1934.

Bersche speech was highlight of big NEDA convention, Aug. 28-31, which was featured by eager demand for products and which elected following new officers: Arthur C. Stahlman, Ithaca, N. Y., president; Dahl Mack, Scranton, Pa., first v.p.; A. W. Greeson Jr., Greensboro, N. C., 2nd v.p.; Hoyt Crabtree, Dallas, secy.; Max Epstein, New York, treas.

* * * *

How electronic industry's postwar expansion has occurred under impetus of TV's growth, was cited by RCA's Gen. Sarnoff in Aug. 28 speech before Veterans of Foreign Wars. He disclosed these figures: 425 manufacturers in electronics in 1940, 1200 today; \$500,000,000 value of industry's peacetime products in 1939, today's rate \$2.5 billion. Should war come, he said military strategists, even across the seas, could view battles no matter where fought (referring doubtless to aerial TV methods just getting

under way when last war ended). He even posed this eerie and unwelcome prospect: "It is within the range of possibility that the public will watch the action on battlefields while sitting at home in front of television sets."

* * * *

Crosley price increases run from \$10 to \$20 on all 24 models in new line (Vol. 6:34), became effective Aug. 30. At press conference in New York that day, gen. mgr. John W. Craig said Crosley has tripled TV production since first of year, can turn out 60,000 TVs a month if components are available, will spend \$14,000,000 on advertising of its TV, radio and white goods lines next 12 months—plus dealer co-op advertising amounting to \$5,000,000. Orders for deliveries through October, white goods as well as TV-radio, ran \$100,000,000, according to sales chief W. A. Bles.

"Our current ratio of TV receivers to radio sets is 60-40," Mr. Craig told newsmen. "We are going to put all available tubes in TV. Then what is left over will go into radio." New price list:

12½-in., each up \$10: Model 11-461WU, walnut console, \$199.95; 11-441MU, mahogany console, \$209.95; 11-471BU, blonde console, \$229.95.

16-in. rectangular, each up \$20: 11-459MU, mahogany table, \$249.95; 11-465WU, walnut console, \$289.95; 11-445MU, mahogany console, \$299.95; 11-475BU, blonde console, \$319.95; 11-447MU, mahogany console, doors, \$389.95; 11-477BU, blonde console, doors, \$409.95.

16-in. round, each up \$20: 11-446MU, mahogany console, \$339.95; 11-476BU, blonde console, \$359.95.

17-in. rectangular, each up \$20: 11-442MU, mahogany table, \$269.95; 11-472BU, blonde table, \$279.95; 11-453MU, mahogany console, \$349.95; 11-483BU, blonde console, \$369.95; 11-460MU, mahogany console, doors, \$399.95; 11-470BU, blonde console, doors, \$419.95; 11-444MU, mahogany console, AM-phono, doors, \$469.95; 11-474BU, blonde console, AM-phono, doors, \$489.95.

19-in., each up \$20: 11-443MU, mahogany console, \$419.95; 11-458MU, mahogany console, half-doors, \$449.95; 11-484BU, blonde console, half-doors, \$469.95; 11-454MU, mahogany console, \$469.95.

Model 11-459MIU, 16-in. rect. table, previously unreported, was raised \$20 to \$249.95.

* * * *

Magnavox raised prices on 7 of its 27 TV models, only 2 of its 11 radio-phonos—latter \$20 each. New lists are effective Sept. 7, as follows (increases in parentheses):

MV315 Biltmore, 16-in. rect. mahogany consolette, \$279.50 (\$20); MV215 Metropolitan, 16-in. rect. mahogany table \$269.50 (\$20), blonde \$279.50 (\$20); MV33F Playhouse, 16-in. rect. mahogany consolette, \$329.50 (\$31), blonde \$339.50 (\$20); MV26 Shoreham, 16-in. round consolette, mahogany or maple, \$329.50 (\$31); MV41 Cosmopolitan, 16-in. round mahogany console with doors \$359.50 (\$20), blonde \$369.50 (\$20); MV78 Contemporary, 16-in. rect. mahogany TV-radio-phono, \$475 (\$15.50), blonde \$495 (\$15.50).

Motorola hiked prices \$20 to \$50 on entire line of 29 TVs (Vol. 6:30), effective Sept. 1. New prices (increases in parentheses):

14-in. rect.: 14T3, walnut plastic table, \$189.95 (\$20); 14K1, mahogany wood console, \$259.95 (\$20); 14K1B, same, blonde, \$269.95 (\$20).

17-in. rect.: 17T3, walnut plastic table, \$219.95 (\$20); 17T1, mahogany wood table, \$259.95 (\$20); 17T1B, same, blonde, \$269.95 (\$20); 17T2, mahogany table, different cabinet, \$259.95 (\$20); 17T2B, same, blonde, \$269.95 (\$20); 17K4, mahogany console, \$269.95 (\$20); 17K1, mahogany console, different cabinet, \$289.95 (\$20); 17K1B, same, blonde, \$299.95 (\$20); 17K2, mahogany console, half-doors, \$329.95 (\$40); 17K2B, same, blonde, \$339.95 (\$40); 17K3, mahogany console, full doors, \$359.95 (\$30); 17K3B, same, blonde, \$379.95 (\$30); 17F5, mahogany console, AM-FM-phono, \$429.95 (\$30); 17F5B, same, blonde, \$449.95 (\$30); 17F1, mahogany console, AM-FM-phono, different cabinet, \$449.95 (\$30); 17F1B, same, blonde, \$469.95 (\$40); 17F2, walnut console, Provincial, AM-FM-phono, \$479.95 (\$30); 17F3B, same, modern blonde, \$499.95 (\$30); 17F4, mahogany console, period, AM-FM-phono, \$499.95 (\$30).

19-in.: 19K2, mahogany console, \$369.95 (\$30); 19K2B, same, blonde, \$389.95 (\$30); 19K3, mahogany console, half-doors, period, \$429.95 (\$50); 19K4, same, traditional, full doors, \$449.95 (\$50); 19K4B, same, blonde, \$469.95 (\$50).

20-in. rect.: 20F1, mahogany console, AM-FM-phono, traditional, \$625 (\$50); 20F1B, same, blonde, \$650 (\$50).

* * * *

Sylvania raised prices \$10 to \$30, effective Aug. 31, on 23 sets of new line (Vol. 6:27), also substituted four 17-in. rectangular models for previous 16-in. rectangular sets, dropped one 12½-in. model. Prices of 7 radios were raised \$2 to \$3. New TV prices (increases in parentheses):

12½-in.: Model 246, mahogany table, \$199.95 (\$10); 245, console, \$229.95 (\$10); 128, console combination, \$319.95 (\$20). Company plans to drop 12½-in. when current inventory is exhausted.

14-in. rect.: 4120M, mahogany table, \$209.95 (\$20); 4130W, same, walnut console, \$249.95 (\$20); 4130M, same, mahogany, \$259.95 (\$20); 4130B, blonde, \$269.95 (\$20).

16-in. rect.: 6110X, mahogany table, \$249.95 (\$20); 6120W, same, walnut, more sensitive chassis, \$259.95 (\$10); 6120M, same, mahogany, \$269.95 (\$10); 6120B, same, blonde, \$279.95 (\$10); 6130W, same, walnut console, \$309.95 (\$10); 6130M, same, mahogany, \$319.95 (\$10); 6130B, same, blonde, \$339.95 (\$20).

16-in. round: 1110X, mahogany table, \$219.95 (\$20); 247, console, \$299.95 (\$20); 090, same, doors, \$339.95 (\$20).

19-in. round: 5130W, walnut console, \$409.95 (\$10); 5130M, same, mahogany, \$429.95 (\$10); 5130B, same, blonde, \$459.95 (\$10); 5140M, same, mahogany deluxe console, \$479.95 (\$10); 5140B, same, blonde, \$509.95 (\$10); 5150M, same, AM-FM-phono, \$675 (\$30). Models 5140M & 5140B were originally priced at \$539.95 & \$559.95 respectively (Vol. 6:27) but were cut in mid-July.

Four new 17-in. rect. sets are: 7140W, walnut console, doors, \$359.95; 7140M, same, mahogany, \$369.95; 7150M, same, AM-FM-phono, \$479.95; 7160B, same, blonde, \$509.95. All 16-in. rect. will be replaced by 17-in. rect. as tubes become available.

* * * *

Sparton boosted prices \$10 to \$30 on 14 of 21 new sets (Vol. 6:25) effective Sept. 1. These are new prices (increases in parentheses):

16-in. rectangular: Model 5025 Belmar, mahogany

table, \$249.95 (\$10); 5026, same in blonde, \$254.95 (\$10); 5029 Gorham, mahogany table, \$269.95 (\$10); 5030, same in blonde, \$274.95 (\$10); 5076 Lynbrook, mahogany console, \$299.95 (\$20); 5077, same in blonde, \$309.95 (\$20); 5079 Ardmoor, same, mahogany, doors, \$319.95 (\$20); 5080, same in blonde, \$329.95 (\$20); 5088 Westraont, same with AM-FM-phono, mahogany, \$419.95 (\$20); 5089, same in blonde, \$429.95 (\$20); 5082 Nassau, same, different cabinet, mahogany, \$459.95 (\$20); 5083, same in blonde, \$469.95 (\$20).

19-in. round: 5085 Carnegie, mahogany console, doors, \$429.95 (\$30); 5086, same in blonde, \$439.95 (\$30).

Sparton now producing 500 TVs a day.

* * * *

Arvin raised prices \$10-\$30 on entire line (Vol. 6:25), dropped 4 models held over from 1950, including its one 10-in. set. New prices (increases in parentheses):

8½-in.: 4080T, metal table, \$129.95 (\$10).

12½-in.: 2123TM, mahogany table, \$169.95 (\$20); 2121TM, same, better cabinet, \$189.95 (\$20); 2126CM, console, \$199.95 (\$20); 2120CM, same, better cabinet, \$219.95 (\$20); 2124CCM, console, AM-FM-phono, \$299.95 (\$20).

16-in. rectangular: 2161TM, mahogany table, \$239.95 (\$20); 2164CM, console, ¾ doors, \$299.95 (\$20); 2164CB, same in blonde, \$319.95 (\$30); 2162CCM, console, AM-phono, 18th Century, \$379.95 (\$30).

16-in. round: 2160CM, mahogany console, \$269.95 (\$20); 2160CB, same in blonde, \$279.95 (\$20); 4162CM, same in better cabinet, more sensitive chassis, \$349.95 (\$20); 4162CB, same in blonde, \$369.95 (\$30).

Models dropped: 4081T, 8½-in. green metal table, \$119.95; 3100TM, 10-in. mahogany table, \$199.50; 3120, 12½-in. console with more sensitive chassis, \$279.95; 3160CM, 16-in. console with more sensitive chassis, \$349.50.

* * * *

DuMont's recently announced 10% increase (Vol. 6:30) actually ranges from \$20 to \$55 and covers only 9 of its 17 sets (Vol. 6:29). It's made effective Sept. 5 instead of Sept. 1, as originally proposed. In releasing new lists on the 9 models, DuMont stated other models will have new prices later. These are DuMont's new prices (increases in parentheses):

17-in. rectangular: Brookville, modern console, FM-phono-jack, \$389.95 (\$30); Burlingame, same with doors, \$429.95 (\$30); Revere, same in Colonial, \$439.95 (\$40); Tarrytown, console, AM-FM-phono, mahogany, \$630 (\$55).

19-in. round: Ardmore, modern console, FM-phono-jack, \$439.95 (\$40); Westerly, same with doors, \$489.95 (\$30); Mount Vernon, same in Georgian, \$499.95 (\$20); Hanover, same in Hepplewhite, \$589.95 (\$25); Sherbrooke, same, 18th Century, AM-FM-phono, \$745 (\$50).

* * * *

Among larger military contracts for electronics equipment announced by Commerce Dept. for week ended Aug. 30 (all let through Signal Corps, Philadelphia): Sperry Gyroscope, \$4,000,000, radar sets (214 units); Federal Telephone & Radio Corp., \$3,250,000, radio sets (no. units not given); Western Electric, \$400,000, radio sets (535 units); RCA, \$270,000, radio sets (10,291 units); Lewyt Corp., \$200,000, radio sets (1130 units).

New Westinghouse TV-radio division main plant will be in Metuchen, N. J., where 50-acre tract has been acquired for construction of 400,000-sq. ft. factory due for completion April 1, 1951. Present Sunbury (Pa.) plant, employing about 3000, will continue. Plans are to triple TV manufacturing capacity.

Financial & Trade Notes: John Meck Industries has filed SEC registration statement covering its first public offering—150,000 shares of common, to be marketed through group headed by Otis & Co., Cleveland. Offering price will be set on or about Sept. 19. Capitalization will then comprise 552,850 shares of common, Meck and family now owning all 402,850 shares outstanding. Firm also owns 131,600 of 419,000 shares of Scott Radio, and holds option to buy additional 80,920 at \$1.75. Registration statement shows Mr. Meck's salary \$25,000 plus 10% of annual net up to \$100,000; as president of Scott, he receives \$10,000 plus 5% of annual net.

Emerson Radio reports consolidated net earnings of \$3,559,827 (\$2.02 per share) for 39 weeks ended Aug. 5, compared with \$2,256,718 (\$1.28) for corresponding period year earlier. Net is figured on 1,759,610 shares now outstanding, whereas there were 800,000 shares outstanding July 30, 1949.

Packard-Bell stockholders have approved 2-for-1 stock split, were told at meeting last week that, based on results for first 10 months, sales for fiscal year ending Sept. 30 can be estimated at more than \$13,000,000, profit more than \$1,100,000 before taxes. This compares with \$5,436,585 sales, \$183,630 profit for preceding fiscal year. In anticipation of increased military procurement, company has set up military production dept. headed by Col. David Miller, ex-chief of contracts and negotiation, materiel, AAF western district; Commodore A. V. Spriggs, USN ret., ex-director, Electronics Office, Chief of Naval Operations; John Krause, ex-Philco phonograph dept. chief.

Graybar Electric Co., wholly owned by employes, has applied to SEC for registration of 72,000 shares of \$20 common stock to be offered to employes on basis of one share for each \$175 of annual salary, with top executives entitled to 150% more, general dept. heads 100% more. No underwriters are involved in plan, which will increase outstanding shares to 503,204, and proceeds go into general fund. Registration statement discloses Graybar last year paid \$158,456 to president A. H. Nicoll, \$106,655 to v.p. G. F. Hessler.

Dividend reports: Bendix Aviation declared quarterly dividend of 75¢ plus special of \$1 on common, both payable Sept. 30 to stock of record Sept. 9; last quarterly was 50¢, and year-end extra of \$1.50 was paid last December . . . Collins Radio declared dividend of 50¢ payable Sept. 15 to stock of record Sept. 8 . . .

Tele-tone stock offering (Vol. 6:34) was reported oversubscribed first few days of sale . . . Avco chairman Victor Emanuel announces \$2.25 cumulative convertible preferred now convertible into 6.05 shares of common; at time of issue, it was set at 5.88 shares.

We erred seriously in Vol. 6:33, in reporting Remington Rand arrangement with CBS to produce "Vericolor" industrial TV apparatus, when we stated Remington Rand was reported about to be sold to General Aniline & Film Co. Actually, Remington Rand has been negotiating with Alien Property Custodian to acquire General Aniline & Film Co. We deeply regret the inadvertent error.

Haydu Brothers reports acquisition of second plant, to be located in Los Angeles and produce TV picture tubes. Plant in Plainfield, N. J. will continue making electron guns for CR tubes and assembling antenna rotators . . . National Electronics Inc. will double production of industrial tubes when in November it adds 5000 sq. ft. to its 6000-ft. plant in Geneva, Ill.

Maj. Edwin H. Armstrong, FM inventor, quiescent for quite some time, came out with characteristic blast this week, on subject of oscillator radiation (Vol. 6:34). In letter to RTMA engineering chief Dr. W. R. G. Baker, with copies to FCC, he charged that it's a "disgrace to the engineering profession" to have problem come up in FM and TV after it had been solved and forgotten 2 decades ago in AM. He recommended that RTMA be careful to "do its own engineering [for] if it does not do this, it will find its engineering being conducted for it by some government bureau, perhaps on a lower plane of competence . . ." Charging that large part of industry is violating rules known 20 years ago, he submitted report of tests made June 23, 1949, showing that an RCA FM receiver (8X71) radiated 50 times as much as a Zenith model (7H822). Then he lambasted Motorola "for a correspondingly bad example in the engineering of television sets." He commended FCC Chairman Coy for bringing problem into open.

Plans for "Iron Curtain" receivers to be smuggled into communist-dominated areas to pick up Voice of America radio programs (Vol. 6:31) have been submitted to State Dept. by Emerson, GE, Pilot, RCA. House has appropriated \$2,860,000 for purchase and distribution of some 200,000 sets, expected to cost up to \$15 each. Senate has yet to act on measure.

Promotion-minded Admiral has spectacular new electric sign atop Mandel-Lear Bldg. on Water St., Chicago, overlooking Michigan Blvd. It's 75 ft. high, 104 ft. long, simulates 5 rockets rushing skyward, each bursting 3 times per minute with 2,000,000 candlepowers of light apiece. It's said to have cost \$250,000.

DuMont is plugging its new Inputuner, continuous tuncr providing FM as well as TV, both for new sets and for replacement in existing sets. Designed to be interchangeable with most switch-type tuners, unit sells for \$13 to manufacturers, \$17 to distributors, \$25.50 to dealers, \$42.50 list.

Trade Personals: Crosley's John W. Craig named chairman, Philco's Leslie E. Woods vice chairman of RTMA Industrial Relations Committee; Standard Transformer's J. J. Kahn reappointed chairman of Membership Committee; Capehart-Farnsworth's W. H. Rinkenbach new chairman of Market Research Committee . . . Walter Ostman named Philco division mgr., Pacific-Mountain area, headquartered in San Francisco, succeeding Tom Kirby, now Pittsburgh . . . L. E. Record named division engineer, G. F. Callahan staff assistant, GE cathode ray tube div. . . . Arthur W. Rhinow, ex-Federal sales-adv. director, now business mgr. of Protestant Radio Commission . . . Henry Jasik, antenna specialist, Airborne Instruments Laboratory, named delegate-at-large to International Scientific Radio Union assembly in Zurich, Switzerland, Sept. 11-12.

Maj. Gen. S. B. Akin, Army Chief Signal Officer, who was Gen. MacArthur's signal officer in World War II, left Aug. 31 for Korean fighting front to inspect signal equipment, signal troops, communications. Accompanying him were Col. James S. Willis, chief of development, Army General Staff; Col. D. G. McBride, chief of communications & electronics div., Army Field Forces headquarters; Dr. Albert Tradup, military electronics specialist, Bell Labs.

FCC Comr. George Sterling will speak at banquet last day of Sept. 13-15 Pacific IRE annual convention in Long Beach, Cal. He'll also be chairman of TV symposium during afternoon same day. Other panel members: James McLean, Philco; Cameron Pierce, ABC; Merrill Trainer, RCA; Robert Sanders, Hoffman.

Full Text of

FCC Report on Color Television Issues

Adopted Sept. 1, 1950, and Released as FCC Public Notice No. 50-1064

Including Separate Opinions by Commissioners Hennock, Hyde and Jones

(Omitting only Appendices listing hearing witnesses and exhibits and Annex to Comr. Jones' "dissent in part")

Including full text of

Notice to Manufacturers for Further Proposed Rule-Making Regarding 'Bracket Standards'

(FCC Public Notice No. 50-1065—See Page 24)

TABLE OF CONTENTS

Subject	Paragraph No.
I. Introductory	
A. General Description of Proceedings	1
B. Prior Consideration of Color Television by the Commission	7
C. Color Phase of Instant Proceedings	22
II. Description of the Three Systems	
A. General	26
B. The CTI System	36
C. The CBS System	41
D. The RCA System	45
III. Evaluation of the Three Systems	
A. General	54
B. Flicker, Motion Continuity, and Allied Effects	
1. General	55
2. The CTI System	62
3. The CBS System	65
4. The RCA System	69
C. Brightness-Contrast	
1. General	72
2. The CTI System	73
3. The CBS System	74
4. The RCA System	76
D. Superposition of Color Images	
1. General	77
2. The CTI System	79
3. The CBS System	81
4. The RCA System	83
E. Color Fidelity	
1. The CTI System	85
2. The CBS System	86
3. The RCA System	87
F. Resolution	
1. General	88
2. The CTI System	89
3. The CBS System	90
4. The RCA System	91
G. Picture Texture (Structural)	
1. General	92
2. The CTI System	93
3. The CBS System	94
4. The RCA System	97
H. Susceptibility to Interference	
1. General	98
2. The CTI System	99
3. The CBS System	100
4. The RCA System	101
I. Adaptability and Convertibility	
1. General	102
2. The CTI System	104
3. The CBS System	105
4. The RCA System	107
J. Equipment Considerations	
1. The CTI System	108
2. The CBS System	111
3. The RCA System	115
IV. Conclusions	
A. General	120
B. The CTI System	127
C. The RCA System	132
D. The CBS System	140

* * * *

Separate Views of Commissioner Hennock	Page 20
Separate Views of Commissioner Hyde	Page 21
Separate Opinion of Commissioner Jones	Page 22
Text of FCC Proposal Regarding 'Bracket Standards'	Page 24

In the Matters of Amendment of Section 3.606 of the Commission's Rules and Regulations. } Docket Nos. 8736 and 8975

Amendment of the Commission's Rules, Regulations and Engineering Standards concerning the Television Broadcast Service. } Docket No. 9175

Utilization of Frequencies in the Band 470 to 890 Mcs. for Television Broadcasting. } Docket No. 8976

FIRST REPORT OF COMMISSION (Color Television Issues)

I. INTRODUCTORY

THIS Report deals with the issues relating to color television raised in the above-entitled proceedings. The hearings with respect to these issues were held before the Commission *en banc*, commencing on Sept. 26, 1949 and closing on May 26, 1950. Pursuant to the Commission's Notice of May 10, 1950, the parties were permitted to file Proposed Findings and Conclusions on or before June 26, 1950, and replies thereto by July 10, 1950. Proposed Findings and Conclusions, and Replies were filed by Color Television, Incorporated (CTI), the Columbia Broadcasting System, Inc. (CBS), and the Radio Corporation of America (RCA). Paramount Television Productions, Inc. and Chromatic Television Laboratories, Inc., jointly filed Proposed Findings and Conclusions and a Reply as *amicus* pursuant to the Commission's letter of May 31, 1950.

A. General Description of Proceedings

1. These proceedings include not only the issues relating to color television but comprehend a general study and review of the existing commercial television service which occupies 12 channels in the frequency band 54 Mcs. to 216 Mcs. (the Very High Frequency Band, or VHF) and a review of the status of television experimentation and development in the experimental frequency band 470 to 890 Mcs. (the Ultra High Frequency Band, or UHF) with a view to opening this portion of the spectrum for regular television operations. The existing television service is based on rules and regulations, engineering standards, and a table of channel allocations adopted by the Commission in 1945. Since that time the commercial television service

This Supplement is published for its subscribers by Television Digest; extra copies \$2 each.

has expanded rapidly from 6 stations on the air in 4 cities, to 106 stations rendering television program service in 65 cities. Since that time, also, over 30 experimental operations have been conducted in the UHF band.

2. The current hearings had their inception in two proceedings instituted by the Commission on May 5, 1948. The first proceeding (Dockets 8736 and 8975) was initiated by the Commission's Notice of Proposed Rule Making of May 5, 1948 (FCC 48-1569).¹ This Notice related to the 12 VHF channels and proposed an amendment of the television allocation table to provide a redistribution of the 12 VHF television channels to the various cities and communities throughout the United States. In general, the 1945 allocation table provided assignments for the 140 metropolitan districts; the Notice of Proposed Rule Making proposed to make additional assignments in some of these metropolitan districts and to provide assignments for some communities not previously covered. During the hearings held in this matter in June and July, 1948, evidence was adduced concerning tropospheric and other types of interference which made it appear probable that the mileage separations provided between co-channel and adjacent channel stations in the existing allocation table and in the Commission's proposed amendments, were not sufficient to permit stations in many areas to provide interference-free service to a reasonably large area. As a result, the Commission, after a public conference on Sept. 13 and 14, 1948 on the subject, adopted its so-called freeze order of Sept. 29, 1948 (FCC 48-2182) under which television applications were placed in the pending file to await the outcome of the current hearings. This was done in order to give the Commission the flexibility required to carry into effect the lessons to be learned from the forthcoming proceedings. It would obviously have served no useful purpose to have conducted these proceedings if the Commission in the meantime had continued to license television stations in accordance with the old standards, for any change in allocations which would be indicated by the proceedings could be carried out only at the price of excessive dislocation to existing operations.

3. The second proceeding instituted by the Commission on May 5, 1948 (Docket 8976) was intended primarily to obtain the fullest information available in the present state of the television art upon the development of transmitting and receiving equipment for use in the UHF band (470 to 890 Mcs.), for either monochrome or color television, and to consider any proposals for the utilization of this band for commercial television broadcasting.² The initial hearing on this phase of the proceedings was held Sept. 20 to 23, 1948. It was the consensus of those industry experts who testified at this hearing that color television was not yet ready for commercialization.

4. The scope of the proceedings as set forth in the Notice of Proposed Rule Making and the Order, adopted May 5, 1948, was enlarged by a Notice of Further Proposed Rule Making (FCC 48-2256), adopted Oct. 14, 1948, entitled "Amendment of the Commission's Rules, Regulations and Engineering Standards Concerning the Television and Frequency Modulation Broadcasting Services" (Docket 9175). This notice set up a series of engineering conferences for the purpose of undertaking a general review of the rules, regulations and engineering standards in the VHF television service.

5. On Nov. 30 to Dec. 3, 1948, the Commission's staff conducted the informal engineering conferences referred to in the preceding paragraph. At this conference, an *Ad Hoc* Committee was appointed composed of engineering experts from the Commission, other government agencies, and the industry, for the purpose of studying VHF propagation

¹ Docket 8736 was instituted by Notice of Proposed Rule Making issued January 20, 1948 (FCC 48-126) proposing to amend the television allocation table to carry out a tentative agreement with Canada with respect to border allocations. Docket 8736 was consolidated with Docket 8975 on May 5, 1948.

² Docket 8976 was instituted by the Commission's order of May 5, 1948 (FCC 48-1570) which dealt with the frequency band 475 to 890 Mcs. However, the Commission's order of May 25, 1949 (FCC 49-729) added Issue 5 with respect to whether the band 470-500 Mcs. should be allocated to multi-channel broad band common carrier mobile radio operation, and revised the caption of the proceedings to include 470 to 890 Mcs.

factors. This Committee, after six months of study, submitted a report to the Commission shortly before June 8, 1949. The data and conclusions in the *Ad Hoc* Committee's Report were utilized by the Commission in instituting the present phase of the television hearings by the issuance on July 11, 1949 of a Notice of Further Proposed Rule Making (FCC 49-948) in which the Commission proposed a substantial revision of the VHF allocation table, as well as other matters discussed in the following paragraph.

6. On July 11, 1949, the Commission issued a comprehensive Notice of Further Proposed Rule Making (FCC 49-948) based upon a study of the previous proceedings to date. In this notice, the Commission proposed an extensive revision of its Rules and Regulations and Standards of Good Engineering Practice relating to separation of stations, service areas of stations and allocation principles. In particular, an extensive revision of the allocation table was proposed, based upon the utilization of the 12 VHF channels and also 42 UHF channels; the Notice proposed that the same standards be utilized on these UHF channels as on the VHF channels. Interested persons were also invited to submit comments concerning the utilization of color television under certain prescribed conditions. Finally, interested persons were given an opportunity to offer comments or evidence on such matters as allocation of frequencies in the band 470-500 Mcs. for multi-channel broad band common carrier mobile radio operation; "polycasting"; "stratovision"; and provision for non-commercial educational television broadcast stations in the UHF. As has previously been indicated this Report deals only with the color phase of these proceedings. Subsequent reports will cover the other phases of these proceedings.

B. Prior Consideration of Color Television by the Commission

7. Before proceeding to a discussion of the color phase of the instant proceedings, a brief history of prior action by the Commission in this field is included as useful background. The question of color television has been before the Commission on several occasions, although it was not until 1946 that a formal proposal for the adoption of standards for commercial operation of a color television system was presented to the Commission. Color television systems were first considered by the Commission in a public hearing on Jan. 27, 1941 when the Commission received evidence concerning the Interim Report of the National Television System Committee (NTSC) covering television standardization in the VHF band (Docket 5806). Panel 1 of the NTSC analyzed five American color television systems, all of which were intended to operate in a 6-megacycle channel.³ Of particular interest to these proceedings is the CBS System No. 3 which was demonstrated in August, 1940, and utilized 343 lines, 60 frames and 120 fields, with mechanical filter discs or drums at the transmitter and receiver. Panel 1 noted that other color television systems were in existence, but were not analyzed because they were broad band and would not work in a 6-megacycle channel. Of particular interest in this category is the RCA System G which was described as a "three-channel, three color additive system consisting essentially of an independent chain of equipment (RMA standards) for each of the three colors, including a separate kinescope of proper screen color for each, with optical combination of the three images." RCA had demonstrated its system to the Commission in February, 1940.

8. On Feb. 27, 1941, the Commission issued a public notice setting forth alternative standards for both monochrome and color television. The hearing on this proposal was held March 20-24, 1941 (Docket 5806). The Report of the NTSC submitted to the Commission in that hearing stated as to color television:

The NTSC believes that, although color television is not at this time ready for commercial standardization, the potential importance of color to the television art requires that—

(a) A full test of color be permitted and encouraged, and that

³ Four of these systems were variations of the CBS system, with differences in lines, frames and type of interlace principally; the fifth was a General Electric 2-color system, using dichromatic filter discs, with the odd lines always in one color, and the even lines always in another color.

(b) After successful field test, the early admission of color transmissions on a commercial basis co-existent with monochromatic television be permitted employing the same standards as are herewith submitted except as to lines and frame and field frequencies. The presently favored values for lines, and for frame and field frequencies for such a color system, are, respectively, 375, 60, and 120 * * *⁴

On May 3, 1941 the Commission issued its "Report on March 20, 1941 Television Hearing" (Mimeo. 49851). On the same day it released its Order, dated April 30, 1941, in which the first commercial television rules and regulations, and television standards, were adopted. As to color television, the Commission's Report stated:

The three-color television demonstrated by the Columbia Broadcasting System during the past few months has lifted television broadcasting into a new realm in entertainment possibilities. Color television has been known for years but additional research and development was necessary to bring it out of the laboratory for field tests. The three-color system demonstrated insures a place for some scheme of color transmissions in the development of television broadcasting.

The NTSC proposals provide that color television be given a six-month field test before standardization and commercialization. The Commission finds this requirement necessary. However, immediate experimental color program transmissions are encouraged.

The standards proposed by the NTSC provide for most of the improvements held out as readily possible a year ago for monochrome transmissions (black and white pictures). These standards fix the line and frame frequencies at 525 and 30, respectively. The 525 lines provide for greater detail in the pictures transmitted than the 441 lines advocated a year ago. They give substantially equal resolution and more fully exploit the possibilities of the frequency bands allocated for television. Different line and frame frequencies will likely be required for color transmissions. This, however, is a matter for future consideration after color transmissions have been adequately field tested. * * *

The Commission is requesting the industry to provide the necessary test data as to both color transmissions and synchronizing signals within the six-month period following the beginning of commercial operation.

9. The Commission's Order adopted transmission standards for monochrome—525 lines, 30 frames, and 60 fields—with the following footnote:

The presently favored values for lines and for frame and field frequencies for experimentally field testing color transmissions are, respectively, 375, 60 and 120;

and further provided that "on or before Jan. 1, 1942, the licensees of television broadcast stations shall submit to the Commission complete comparative test data on color transmissions, with recommendations as to standards that may be adopted by the Commission for color television."

10. At a public hearing before the Commission, held on April 9, 1942 (Docket 5806), NTSC testified that it had submitted a report on color television to the Commission; and that it was felt that the demands of the national emergency had prevented the industry's proceeding with color television experimentation to the extent that would have been possible in normal times and as a result definitive conclusions could not be presented.

11. Testimony on color television was again presented to the Commission in the 1944-1945 general allocation proceeding (Docket 6651). In that hearing, which was held from Sept. 28 to Nov. 2, 1944, the Radio Technical Planning Board (RTPB) recommended to the Commission that "adequate standards for color television for a six-megacycle channel cannot be established at this time" but stated that, "this action was taken without prejudice to the continuation of experimentation in color television in such channels." It further recommended that:

Provision should be made at this time for higher frequency channels in which experimentation and development may be conducted looking toward an improved service which may include color, higher definition and any other improvements which may occur. It is recommended that the channels be twenty megacycles wide, but that no other standards be established for them at this time.

12. In the 1944-1945 hearing, witnesses for CBS discussed the utilization of the UHF band for high definition monochrome and color television, and stated that their experimentation looked toward widening of the present 4-megacycle video band to 10 megacycles, requiring a total channel width of 16 megacycles, to be utilized for 735-line

monochrome transmissions and 525-line color transmissions. An RCA witness took the position that "the primary purpose of going to higher frequencies and wider bands should be to obtain adequate color television with at least as much detail as now obtained in black and white."

13. The Proposed Report of the Commission, issued Jan. 15, 1945, and the Final Report of the Commission, issued May 25, 1945 in Docket 6651, in general, reaffirmed the standards for monochrome in the VHF band. The UHF band was allocated to television experimentation for the purpose of developing color television and high definition monochrome television. The Final Report contained the following statement concerning the UHF band:

As was pointed out in the proposed report, the Commission is still of the opinion that there is insufficient spectrum space available below 300 megacycles to make possible a truly nation-wide and competitive television system. Such a system, if it is to be developed, must find its lodging higher up in the spectrum where more space exists and where color pictures and superior monochrome pictures can be developed through the use of wider channels. In order to make possible this development of television, the Commission has made available the space between 480 and 920 megacycles for experimental television. The time which may elapse before a system can be developed to operate on wider channels on these ultra-high frequencies is primarily dependent upon the resourcefulness of the industry in solving the technical problems that will be encountered. In this portion of the spectrum it is contemplated that the Commission will license the entire band between 480 and 920 megacycles for experimental television and will not designate any particular channels. Applicants desiring to operate in this portion of the spectrum should consult with the Chief Engineer as to the exact frequency band they should utilize.

The Commission repeats the hope expressed in its proposed report that all persons interested in the future of television will undertake comprehensive and adequate experimentation in the upper portion of the spectrum. The importance of an adequate program of experimentation in this portion of the spectrum cannot be over-emphasized, for it is obvious from the allocations which the Commission is making for television below 300 megacycles that in the present state of the art the development of the upper portion of the spectrum is necessary for the establishment of a truly nation-wide and competitive television system.

14. The Commission was requested for the first time to promulgate commercial standards for color television in a petition filed by CBS on Sept. 27, 1946. The CBS proposal requested the commercialization of color television in the UHF band, using a field sequential system with 525 lines and 144 fields, and utilizing wide band channels of 16 megacycles. The hearing on this proposal was held between Dec. 3, 1946 and Feb. 13, 1947. Demonstrations on the record of the CBS proposed system were held on Jan. 27 and 28, 1947.

15. Although the CBS system was the only one formally proposed to the Commission for adoption, RCA advanced for consideration a simultaneous system, disclosed to the public on Oct. 31, 1946. Testimony was taken concerning this system and a demonstration on the record of this system was held on Jan. 29, 1947. In the RCA simultaneous system each picture was scanned simultaneously in three colors, the three images were transmitted simultaneously on three video channels, and the images were combined optically at the receiver to produce a single color picture. Each of the three color pictures could have the same number of lines, frames and fields and the same standards as monochrome transmissions. As demonstrated, however, the system used a total channel of 14.5 megacycles, including 4-megacycle video bands for the green and red channels, and a 1.3 video bandwidth for the blue channel. Since the green signal was transmitted on the same standards as monochrome, except for the UHF carrier, the RCA color transmissions could be received on existing monochrome receivers in monochrome, provided a UHF converter was utilized. RCA mentioned the "mixed highs principle" as having "excellent promise of providing still further reduction in band width requirements."

16. As already indicated, RCA did not propose adoption of standards covering its system. Its purpose in disclosing the system was stated by Dr. C. B. Jolliffe, Executive Vice President in Charge of RCA Laboratories, as follows:

Again I wish to emphasize that the simultaneous color system is not disclosed at this time for the purpose of requesting adoption of standards for its operation. Under normal circumstances

⁴The Report of the NTSC recommended for commercial monochrome standards 525 lines, 30 frames, 60 fields, and a 6-megacycle channel.

it would not have been publicized until development had progressed to a more advanced stage.

It has become necessary, however, to describe this system in order to show that a superior system of color television is possible which is compatible with existing monochrome television and which can be adopted later without loss to the public and the broadcasters who have had enough faith in television to invest in the present excellent system.

The basic principles are established beyond question, although the engineering details are yet to be worked out. This will require some time, as Mr. Kell will explain, but the end result will be an excellent and practical system introduced without penalty to the existing service and without jeopardy to the investment of public and broadcasters in black-and-white television.

17. The CBS system was supported at the hearing by Zenith Radio Corporation and Cowles Broadcasting Company. Denial of the CBS petition was urged by RTPB Panel 6 (on Television), RMA, RCA, Philco, DuMont and Television Broadcasters Association.

18. The "Report of the Commission" (Mimeo. 5466), issued March 18, 1947, denied the CBS petition, saying, in part:

Before approving proposed standards, the Commission must be satisfied not only that the system proposed will work but also that the system is as good as can be expected within any reasonable time in the foreseeable future. In addition, the system should be capable of permitting incorporation of better performance characteristics without requiring a change in fundamental standards. Otherwise, the danger exists that the standards will be set before fundamental developments have been made with the result that the public would be saddled with an inferior service, if the new changes were not adopted, or if they were adopted, receivers already in the hands of the public would be rendered useless.

Judged by the foregoing test, the Commission is of the view that the standards for color television proposed by Columbia Broadcasting System should not be adopted. In the Commission's opinion the evidence does not show that they represent the optimum performance which may be expected of a color television system within a reasonable time. The Commission bases this conclusion on two grounds. In the first place, the Commission believes that there has not been adequate field testing of the system for the Commission to be able to proceed with confidence that the system will work adequately in practice. Secondly, the Commission is of the opinion that there may be other systems of transmitting color which offer the possibility of cheaper receivers and narrower band widths that have not yet been fully explored. Both grounds will be discussed in greater detail further on in the report.

19. In its Report, the Commission called for further experimentation in the color television field:

Two specific problems, in the Commission's opinion, should be carefully examined. In the first place, there should be further experimentation looking towards the development of low cost television receivers. A large portion of the radio spectrum has been allocated to television. The demand for space in the spectrum from other radio services is very keen and it is not possible to satisfy all requests. The objective of television heretofore mentioned of bringing news, education, culture and entertainment to large numbers of people cannot be carried out unless television receivers are manufactured and sold at a price which the average family can afford to pay.

Secondly, further experimentation should be conducted along the line of finding methods of transmitting color television over narrower channels. Under the Columbia proposals, each television channel would be 16 megacycles wide. That means that the band 430 to 920 megacycles would accommodate but 27 channels. It was the Commission's hope in allocating the band 480 to 920 megacycles for television that in this band it would be possible to provide for a truly nationwide competitive television system. The evidence before the Commission shows that 27 channels may not ultimately be enough to provide for a truly nation-wide competitive television system. Every effort must, therefore, be made to narrow the band width required for color television. It should be emphasized that narrowing the band width should not be at the expense of picture brightness, picture detail, color fidelity, or other features of television performance. The objective should be a narrower band width while retaining and even improving the quality of television performance.

At the hearing there was much testimony concerning the desirability of a system which would permit present television receivers, simply by adding a converter, to receive in monochrome, the broadcasts of stations broadcasting color programs in the 480 to 920 megacycle band. This so-called principle of compatibility, it is urged, will encourage manufacturers of black and white equipment to proceed at full pace, will enable the public to buy receivers with confidence that they will not be rendered obsolete, and will not impede the development of color television. The Commission is of the opinion that compatibility is an element to be considered, but that of greater importance, if a choice must be made, is the development of the best possible system, employing the narrowest possible band width, and which makes possible receivers capable of good performance at a reasonable price.

The Commission is of the opinion for the reasons which have been discussed that the petition of Columbia Broadcasting System

should be denied. In reaching this decision, the Commission does not desire to minimize in any way the advances that have been made in the development of color television. On the contrary, the Commission is of the opinion that Columbia Broadcasting System, Dr. Goldmark and the people who have worked under him are to be commended for their continuing interest in the field and for the great strides they have made in this field in so short a period. The Commission, however, cannot escape the conclusion that many of the fundamentals of a color television system have not been adequately field tested and that need exists for further experimentation along the lines noted above. It is hoped that all persons with a true interest in the future of color television will continue their experimentation in this field in the hope that a satisfactory system can be developed and demonstrated at the earliest possible date.

20. Color television was again explored by the Commission in the hearings held in these proceedings on Sept. 20 to 23, 1948, when the state of the television art in the UHF band was considered (Docket 8976). The Commission's order instituting this hearing contained the following issues:

3. To obtain full information concerning the state of development of transmitting and receiving equipment for either monochrome or color television broadcasting, or both, capable of operating in the band 475 to 890 Mc.

4. To obtain full information concerning any proposals for the utilization of the band 475 to 890 Mc., or any part thereof, for television broadcasting and the standards to be proposed therefor.

21. In the Sept. 20, 1948, UHF hearing, the Joint Technical Advisory Committee (JTAC), sponsored by the Radio Manufacturers Association and the Institute of Radio Engineers, presented a report on the "Utilization of Ultra-High Frequencies for Television" and submitted the following conclusion as to UHF color television:

Item 3 of the issues and questions before this hearing * * * states that information is requested on the use of ultra-high frequencies for color television. The JTAC reports that no proposals for standards for commercial operation of a color television system have been made to it. A letter from Mr. Adrian Murphy (Annex 16) outlines but does not propose two color television systems.⁵ The JTAC is of the opinion, based on evidence submitted to it by various subcommittees of the RMA and IRE, that it is impracticable to set up commercial standards for color television in the present state of the art.

The fact remains that even though the ultimate color service cannot be specified at this time, nothing should now be done that would prevent a later allocation of color channels. It is important, therefore, to consider the effect of an interim allocation of UHF channels to a 6-megacycle monochrome service on the eventual establishment of a color service.

If such interim 6-megacycle allocations are to be made, and if such channels are later to be converted to a color service, it is important to consider the bandwidth relationships of the two services.

* * * * *

In view of these facts (i.e., the difficulties in converting 6-megacycle uhf monochrome to wider band uhf color), the JTAC comes to the conclusion that it will be difficult, both in theory and practice, to provide for a conversion from uhf monochrome assignments to uhf color assignments. The JTAC believes, therefore, that any assignment of monochrome service to uhf channels would represent a permanent removal of the space so occupied from that available for any other service.

C. Color Phase of Instant Proceedings

22. As mentioned above, the color phase of the instant proceedings was instituted by the Commission's Notice of Further Proposed Rule Making (49-948), issued July 11, 1949. While in this notice the Commission did not propose specific amendments to its rules and standards looking toward the commercialization of color television, in Appendix A to the Notice the Commission described the conditions upon which it would consider proposals for a change in transmission standards on Channels 2 through 55 looking toward the establishment of color television. Paragraphs II-B and C of Appendix A stated in this connection:

B. The Commission will give consideration to proposals for a change in Transmission Standards on channels 2 through 55 looking toward color television or other television systems. Any such proposal shall:

1. Be specific as to any change or changes in the Transmission Standards proposed; and

2. Shall contain a showing as to the changes or modifications in existing receivers which would be required in order to enable them to receive programs transmitted in accordance with the new standards.

C. It is proposed to consider changes in Transmission Standards for Channels 2 through 55 only upon a showing in these proceedings that:

⁵ Mr. Murphy is a CBS vice-president.

II. DESCRIPTION OF THE THREE SYSTEMS

A. General

1. Such system can operate in a 6-megacycle channel; and
2. Existing television receivers designed to receive television programs transmitted in accordance with present transmission standards will be able to receive television programs transmitted in accordance with the proposed new standards simply by making relatively minor modifications in such existing receivers.

23. Pursuant to the above notice, comments relating in whole or in part to color television were filed by the Joint Technical Advisory Committee (JTAC); the Radio Manufacturers Association; the Radio Corporation of America; the Columbia Broadcasting System, Inc.; Color Television, Incorporated; Charles Willard Geer; Leon Rubenstein; Philco Corporation; and Allen B. DuMont Laboratories, Inc. Webster-Chicago Corporation and American Television, Inc., also were made parties to the hearing upon their request. Celomat Corporation was permitted to testify in the hearing on its own behalf. CBS, CTI and RCA were the only parties who appeared as proponents of their own color television systems. The technical characteristics and performance of these three color television systems will be described hereafter.

24. The hearing on the color issues was held before the Commission *en banc* commencing Sept. 26, 1949 and ending May 26, 1950—a total of 62 hearing days, covering 9,717 pages of transcript. The hearing was held in two phases, the first of which ended on Nov. 22, 1949, at which time the hearing was continued to Feb. 6, 1950.⁷ The second phase commenced on Feb. 20, 1950 and ended on May 26, 1950. During the intervening period, the parties conducted field tests of color television systems pursuant to the Commission's "Notice Concerning Field Test Programs and Further Testimony," adopted Nov. 21, 1949 (FCC 49-1547). The hearings were held in Washington, D. C., except for the second comparative demonstrations of the CBS, RCA and CTI color television systems which were held on Feb. 23, 1950 at the Commission's Laboratories at Laurel, Maryland; the CBS demonstration of horizontal interlace held on April 26, 1950 at the CBS Laboratories in New York City; and the CTI demonstration held on May 17, 1950 at San Francisco, California. In all, 53 witnesses testified and 265 exhibits were offered. A list of the witnesses and a description of the exhibits are attached as Appendices A and B.

25. During the course of the hearing, the following demonstrations were conducted on the record of the proceedings:

(a) On Oct. 6 and 7, 1949, CBS demonstrated its color system at the Carlton Hotel, Washington, D. C.

(b) On Oct. 10, 1949, RCA demonstrated its color system at the Washington Hotel and the Wardman Park Hotel, Washington, D. C.

(c) On Nov. 21 and 22, 1949, a comparative demonstration was conducted at Temporary "E" Building, Washington, D. C., showing the operation of the CBS color system, the RCA color system, and conventional DuMont monochrome television receivers. At this demonstration, the Commission demonstrated a conventional Bendix television receiver equipped with the automatic adapter invented by members of the Commission's staff.

(d) On Feb. 20, 1950, CTI demonstrated its color system at the Statler Hotel, Washington, D. C.

(e) On Feb. 23, 1950, a second comparative demonstration was conducted showing the operation of the CBS color system, the RCA color system, and the CTI color system, at the Commission's Laboratories at Laurel, Maryland.

(f) On April 6, 1950, RCA demonstrated its trichromatic (three-color) receiving tubes at the Trans-Lux Building, Washington, D. C.

(g) On April 26, 1950, CBS demonstrated its horizontal interlace at the CBS Laboratories in New York City.

(h) On May 17, 1950, CTI demonstrated its color system at the St. Francis Hotel, San Francisco, California.

⁶ Radio Manufacturers Association has changed its name to Radio and Television Manufacturers Association.

⁷ On motion of certain parties, the CTI demonstration was extended from Feb. 6 to Feb. 20, 1950, and the second comparative demonstration was extended from Feb. 8 to Feb. 23, 1950 (See Commission's Order Extending Date of Second Comparative Demonstration, adopted Dec. 8, 1949, FCC 49-1622).

26. In order better to understand the technical operation of the three color systems which have been proposed in these proceedings, it is useful to have a brief general description of how the present monochrome television system works and a discussion of some of the fundamental aspects of color television which are common to all three systems. It should be noted that many of the technical features of television systems are not capable of accurate description except in very technical terms or complicated formulae; these would not be intelligible to other than scientists or engineers. In order to make this Report as useful and understandable as possible to the public and interested persons with no specialized training, we have simplified the description considerably and have attempted to compare the operation of television systems to well-known techniques in the interest of understandability. This method, of course, does not have the precise accuracy of the more technical description but it will aid in understanding the technical problems involved. Those interested in the more technical aspects of the systems will find such material in the record.

27. A television picture originates in the television camera where an electron beam scans an image of the scene to be transmitted in a series of lines from left to right and top to bottom. The electron beam in the process of scanning generates signals which vary in amplitude in proportion to the relative lightness or darkness of the area in question. As the scanning beam reaches the right hand end of each line, it snaps back to the left hand of the scene and scans another line. This process is repeated until the scene has been scanned from top to bottom. At this point the scanning beam snaps back to the left hand top of the picture and starts the scanning process all over again.

28. From the above, it might appear that the lines are scanned consecutively; and, indeed, in the early experimental days of television this was done. However, it was soon discovered—and this was one of the fundamental developments in early television—that certain advantages could be gained at the expense of only relatively minor disadvantages by scanning alternate lines.⁸ Thus, the electron beam scans line 1, skips a line, scans line 3, skips another line, scans line 5, and so on to the bottom of the picture, scanning only the odd lines. The electron beam then snaps back to the top of the picture and scans all the even lines. This process is known as "line interlace" or "vertical interlace."

29. At the receiver the process set forth above is repeated. The signals which have been generated by the scanning beam at the camera are received on an antenna connected with the receiver. At the receiver there is also an electron beam which operates in the same fashion as and in step with the one in the camera. The light and dark portions of each line are reproduced on the face of the tube to correspond to the original scene by the action of the electron beam in varying the amount of light generated on the face of the tube in proportion to the amplitude of each signal as generated at the camera.

30. In the preceding paragraph, mention was made of the fact that the electron beam at the receiver is in step with the scanning beam at the camera; this is indispensable if a picture is to be achieved. This result is accomplished by means of synchronizing pulses which are generated at the station by means of a synchronizing generator and are transmitted along with the signals already referred to. For the purposes of this description there are horizontal synchronizing pulses and vertical synchronizing pulses. The horizontal synchronizing pulse comes at the beginning of each line. Its function is to make sure that the electron beam snaps back to the position on the left at the correct time. The vertical synchronizing pulse comes at the beginning of each field—i.e. each time the electron beam has scanned from the top of the scene to the bottom—and is designed to assure that the electron beam will

⁸ The explanation for this is set forth in Paragraph 32, below.

snap back to the position at the top of the picture at the appropriate time. During the time that the electron beam is in the process of being snapped back at the end of each line or field, appropriate blanking pulses are transmitted which are designed to black out the electron beam in order to obscure the retrace of the scanning beam.

31. Television reproduction is somewhat similar to the operation of motion pictures. In motion pictures a rapid succession of still pictures is projected on the screen. If the pictures are projected rapidly enough, the eye through the persistence of vision, sees the result as an uninterrupted image. In television, the process also makes use of the persistence of vision in a similar fashion except that the individual pictures are formed by a rapidly moving electron beam instead of the entire scene being shown at once.

32. There remains for discussion the ascertainment of the number of lines and number of fields per second in the present television system. A system should have a sufficient number of lines to portray the finer vertical detail in the picture. A sufficient number of fields per second is desirable for two reasons. In the first place, in order to have smoothness of motion portrayed, the fields must succeed each other at a rapid rate. If the rate is too slow, the motion will be jerky. In the second place, a high field rate is necessary in order to avoid flicker. If the field repetition rate is too low, annoying flicker is apparent unless the picture is very dim. By increasing the field rate, it is possible to have pictures of adequate brightness with no flicker.⁹

33. However, fundamental laws of physics must be reckoned with in establishing standards for lines and fields per second. A television station broadcasts on a channel 6 megacycles wide. Under our present standards about 4 megacycles of video information can be utilized for the picture. Within a 4 megacycle band must be accommodated adequate lines for vertical detail, horizontal detail (usually expressed in terms of lines also) and field repetition rate.¹⁰ Any number of combinations of these variables may be utilized within a 4-megacycle band but in choosing a combination, care must be used to make sure that the result is a balanced picture with adequate detail and a sufficient number of fields per second to make possible smoothness of motion and adequate brightness of pictures without objectionable flicker. The values which the Commission has adopted for black and white television are 525 lines per picture, 30 frames per second, and 60 fields per second. With this combination the horizontal resolution in terms of lines is 380.¹¹ To express the same result in another manner, the present standards provide for a horizontal synchronizing pulse rate—the number of times per second a horizontal synchronizing pulse is required to snap back the electron scanning beam—of 15,750 (525 x 30) and a vertical synchronizing pulse rate of 60. As has already been stated, any one of the above values can be changed but when this is done a change in one or more of the other values is automatically required if a 4-megacycle band is utilized.

34. Thus far, we have described generally the operation of monochrome television. So far as color television is concerned, in theory it is accomplished in the same way as monochrome television except that each picture is sent three times, once in each of the three primary colors utilized—red, green and blue. These primary components

may be transmitted simultaneously, as they are in color movies, or sequentially at a sufficiently rapid rate so that the persistence of vision causes the eye to blend them together. All of the systems proposed in this hearing are sequential systems; the major differences lie in the scanning patterns and the rate at which the primary colors are changed. The larger the area continuously sent in one primary the less rapidly will the color changes occur. The scanning pattern and the color switching rate determine the apparatus requirements and the success of maintaining the illusion of continuity. The Columbia system is a field sequential system, in which the colors are changed between each field 144 times per second, and color pictures are transmitted at a rate of 24 per second. The CTI system is a line sequential system, in which the colors are changed between each scanning line at a rate of 15,750 times per second, and color pictures are transmitted at a rate of 10 per second. The RCA system is a dot sequential system, which involves a color change between elemental picture areas along each scanning line, and a switching rate of about 11 million times per second. Color pictures are transmitted at a rate of 15 per second.

35. It would appear from the foregoing that a video channel three times the width of the monochrome channel would be required for color television. However, by means of certain band-saving devices or by a change in one or more of the factors set forth in Paragraph 33, or by a combination of both methods, each of the proponents has devised a system that is designed to work in a 6-megacycle channel. These processes are described in detail later on in this Report in connection with each of the systems.

B. The CTI System

36. It is difficult to make an adequate description of the CTI system because it was frequently changed during the course of the hearing, technical witnesses for CTI were not in complete agreement, and some of the more complicated points were never clearly expounded by CTI. We have, however, endeavored to make as complete and accurate a description as possible.

37. As has already been indicated, the CTI system is a line sequential system. In this system, scanning is at the same rate as in the monochrome system—15,750 lines and 60 fields per second. The system derives its name from the fact that as the scanning of each line is completed, the color is changed. Thus, line 1 is scanned in red, line 3 in green, line 5 in blue, line 7 in red, and so on to the bottom of the picture. This completes a field and the scanning beam snaps back to the top of the picture where the even lines are then scanned in the same fashion. Thus, at the end of the second field, all of the lines have been scanned once, but each line will have been scanned in but one color. In order for each line to be scanned in each color, it is necessary to change the initiation of the color scanning between fields. Otherwise, in field 3, line 1 would be scanned in red again, line 3 in green, line 5 in blue, and so on. It is thus necessary to provide, for example, that in field 3, line 1 be scanned in green and in field 5, in blue. This change in the initiation of the color scanning insures that each line is scanned in each of the three primary colors. As a result, it takes six complete fields within which all lines are scanned in all colors. Thus, in this particular system, 10 color pictures are completed each second.

38. If a uniform change in the initiation of color scanning—such as is described in the preceding paragraph—were utilized, a serious line crawl would be apparent across the image. Several sequences of non-uniform shifts were demonstrated by CTI in an effort to minimize line crawl. One of the earlier shifts was called the single shift and resulted in scanning each picture line in only two of the three primary colors. This shift was abandoned by CTI in favor of a double shift. Several variants of the double shift were described by CTI witnesses. The most recent form of double shift and the one presently urged by CTI was demonstrated in San Francisco on May 17, 1950. It is called the interlaced shift. In this system, the order of scanning is changed from the normal pattern where odd

⁹ The relation between the field repetition rate and flicker explains the importance of line interlace discussed in Paragraph 28. Experience has shown that so far as large area flicker is concerned, doubling the field rate with interlace is comparable to doubling the frame rate without interlace. Thus, for a given flicker threshold, line interlace requires only one-half of the scanning speed, and thus for a given amount of picture detail requires but one-half as much band width. This makes possible more effective channel utilization.

Flicker can also be reduced by the utilization of tubes with long persistence phosphors as explained in paragraphs 58-60.

¹⁰ In addition, the necessity of allowing time for vertical and horizontal blanking prevents the continuous use of the band width for transmission of picture detail.

¹¹ This is the approximate theoretical capacity of the system, ignoring blanking time. The present standards provide that 82 to 86 percent of the line scanning time may be used for horizontal blanking and 5 to 8 percent of the lines are lost during vertical blanking.

lines are first scanned and then even lines, so that the odd lines are scanned in three successive fields, then the even lines are scanned in three successive fields, and so on. The color sequence scanning is so arranged that adjacent lines are not scanned in the same color in successive fields and the progression of color from line to line is revised at intervals not in excess of three succeeding fields. Ten complete color pictures per second result from the interlaced shift. An additional synchronizing pulse is required during the vertical blanking period for the operation of the color shift.

39. The apparatus with which CTI demonstrated its system may be briefly described as follows: At the transmitting end there is a single camera tube, upon the surface of which the optical system projects three primary color images of the scene, side by side—red, green and blue. The electron beam starts scanning at the left which is in the red area. This portion of the tube responds only to red components and as the electron beam scans through this red portion, it generates signals which vary in amplitude in proportion with the relative intensity of the red components. It takes 1/15,750 of a second to complete line 1—the time required under our present standards for the scanning of one line. At the expiration of this time, the scanning beam enters the green area and since the electron beam scans at a sloping angle, the beam is now at line 3. This line is scanned in green in 1/15,750 of a second. The scanning beam then enters the blue area at line 5 and scans this in blue in 1/15,750 of a second. The electron beam then snaps back to the left hand side of the picture to scan line 7 in red, and so on until one field is completed in 1/60 of a second. The process is then repeated for successive fields. At the receiver, a similar scanning process is employed in connection with a cathode-ray tube having three vertical bands of color primary phosphors—red, green and blue. A suitable optical system is employed to superimpose the three color images on a viewing screen.

40. All of the synchronizing signals, horizontal and vertical, employed in the case of monochrome are also utilized in the CTI system; there are also additional synchronizing signals discussed above. The CTI color receiver must be so constructed that it does not react to each horizontal synchronizing pulse in the same manner as a monochrome receiver. If it did, the scanning beam would be snapped back to the left hand of the picture when the first pulse is transmitted—at 1/15,750 of a second. However, at that moment the scanning beam has only traversed the first third of the tube's surface—the red portion—and must still scan across the green and blue surface. Accordingly, appropriate circuits are required to make sure that the scanning beam is snapped back only after every third horizontal pulse. This can be accomplished by appropriate counting circuits or by adding an appropriate pulse during the blanking period of each third horizontal pulse.

C. The CBS System

41. In the CBS system scanning is accomplished in the same manner as in the present system. First, all of the odd lines are scanned and then the even lines, and so on. The effect of color is achieved by the fact that when the odd lines are scanned in the first field, they are scanned in red; the even lines of the second field are scanned in blue; the odd lines of the third field are scanned in green; the even lines of the fourth field are scanned in red; the odd lines of the fifth field are scanned in blue; and the even lines of the sixth field are scanned in green. Thus, it takes six complete fields to produce one complete color picture. The fact that the color is switched at the end of each field gives the CBS system its name, field sequential system.

42. The CBS system does not utilize the same scanning standards as does monochrome television. Instead of 525 lines the CBS system has 405 lines. The theoretical horizontal resolution in terms of lines is reduced from 380 lines to 205. A field rate of 144 per second is employed instead of 60, and 24 complete pictures per second result

rather than 30. Under the CBS system the horizontal synchronizing rate is 29,160 per second¹² as compared with 15,750 per second for black and white, and the vertical synchronizing rate is 144 per second as contrasted with 60 per second for black and white.

43. During the latter stages of the hearing, CBS offered testimony concerning the utilization of horizontal interlace in its system as a means of improving horizontal detail; it did not offer horizontal interlace as a proposal. A demonstration of this process was held on the record in New York City on April 26, 1950. In this system, each line is broken up into picture elements with blank spaces in between. In the first field, alternate dots are sampled for the odd lines; in field two, alternate dots are sampled¹³ for the even lines. The blank spaces are filled in by successive fields. It thus takes 12 fields to produce a complete color picture and as a result 12 complete color pictures per second occur. However, even with horizontal interlace, color switching in the CBS system occurs after each field, the horizontal interlace being used to increase the horizontal resolution.

44. The apparatus utilized by CBS to demonstrate its system can be described as follows: At the camera a rotating disc containing segments of red, blue and green filters is inserted between the lens and the tube. The disc rotation is coordinated with the field scanning rate of 144 per second. In the 1/144 of a second that the red filter is in front of the tube, all of the odd lines are scanned. Since the filter transmits red components, the scanning beam generates signals that vary in amplitude in proportion to the varying intensity of the red components of the scene being transmitted. The same process is repeated for each field. At the receiver a rotating disc with colored segments is placed in front of the cathode-ray tube. When the receiver is turned on and the motor attains its full speed, the color disc may or may not be in proper step with the disc at the camera. If the colors are false, as indicated by skin tones or other obvious color faults, the viewer presses a button to place the disc in step. This may require one or two pushes of the button. Once the correct color position is attained, the synchronizing pulses automatically keep it correct. The scanning at the receiver repeats the process at the camera end, and a color picture results. At the New York demonstration, CBS also demonstrated a projection receiver somewhat similar to that employed by CTI. In addition, at the Laurel demonstration, it demonstrated a receiver which automatically chose the correct color. This requires an extra synchronizing signal to insure correct color phase.

D. The RCA System

45. It is difficult to make an accurate description of the RCA system because it involves new and complex techniques, many of which were never clearly expounded during the hearing. We have, however, endeavored to make as complete and accurate a description as possible.

46. The RCA system unlike the other two systems involves a change in the scanning method utilized under the present system. As will be recalled, under the present system the electron beam scans a line continuously from left to right, skips a line, scans another line, and so forth until the end of the field. The lines that were not scanned during the first field are then scanned in the second field. This is line interlace and the process is retained in the RCA system. What RCA has done is to add a process called dot interlace. As the name implies, dot interlace is accomplished by scanning each line in a series of dots rather than continuously. As illustrated in the table below, during the first scanning field, the odd numbered lines are scanned in order. Colored dots are laid down in order along line 1 as shown. Next, line 3 is scanned with a displacement for each color dot shown. The remaining odd

¹² This figure is derived as follows: Each complete picture per second has 405 lines. Each of the 24 complete color pictures is composed of three 405 line pictures made up of red, blue and green components. Thus, $405 \times 24 \times 3 = 29,160$.

¹³ A description of sampling is set forth in Paragraph 51 in connection with the RCA system.

lines are scanned in order. This scanning of the first field takes place in 1/60 of a second.

47. During the second field, the even lines are scanned, first line 2 with the colors laid down as shown, then line 4, and so on. The dot pattern laid down during the third field is shown by the lower diagram where the odd lines are scanned in succession. During the fourth field, the even lines are again scanned in succession with the color dot pattern shown. Thus, the odd lines are scanned during the first field, but dots of the same primary color are separated by spaces. The even lines are scanned during the second field, again with spaces between like color dots. During the third field, the odd lines are again scanned but with the color dots displaced so that the spaces are filled. The even lines are scanned during the fourth field, with the color dots displaced to fill in the spaces left during the second field scanning. Four scanning fields are required to completely cover the picture area, with all spaces filled, with say, green dots. Simultaneously, the area is being covered with red dots and with blue dots. Since there are 60 fields per second, it may be said that there are 15 complete color pictures per second.

Line	1st Field	Line	2nd Field
1	G R B G R B	1	
2		2	B G R B G R
3	B G R B G R	3	
4		4	G R B G R B
5	G R B G R B	5	
6		6	B G R B G R
Line	3rd Field	Line	4th Field
1	B G R B G R	1	
2		2	G R B G R B
3	G R B G R B	3	
4		4	B G R B G R
5	B G R B G R	5	
6		6	G R B G R B

Combining the above lines, dots and fields into one table, we have the following representation of a complete color picture (the numbers in the table refer to fields):

Line	G	B	R	G	B	R	G	B	R	G	B	R
1	1	3	1	3	1	3	1	3	1	3	1	3
2	4	2	4	2	4	2	4	2	4	2	4	2
3	3	1	3	1	3	1	3	1	3	1	3	1
4	2	4	2	4	2	4	2	4	2	4	2	4
5	1	3	1	3	1	3	1	3	1	3	1	3
6	4	2	4	2	4	2	4	2	4	2	4	2

48. Scanning is accomplished in the following manner: The RCA color camera consists of three separate camera tubes, each of which is capable of response to 4 megacycles. In front of these tubes is an optical system consisting of dichroic mirrors and lens. The dichroic mirrors are so constructed that each one reflects only one of the three primary colors—green, blue, red. The light reflected by each such mirror falls upon the photosensitive surface of one of the three camera tubes. Each of the camera tubes has applied to it the same horizontal and vertical scanning pulses from a common synchronizing generator. The electron scanning beams in the three tubes thus scan the entire scene simultaneously and generate separate signals. Of course, the signals generated by the scanning beam in the green tube vary in amplitude in proportion to the relative intensity of the green components of the picture being scanned and similarly for the blue and red cameras.

49. Thus, three signals are derived from the camera tubes, each with a response out to four megacycles. Since these signals must be transmitted in a 4-megacycle video band, some method must be devised of combining or merging these signals for purposes of transmission. To understand how this is done, a discussion of the so-called mixed-highs principle is necessary.

50. As was set forth above, each of the three camera tubes in the RCA system is capable of response out to four megacycles. Where a picture being scanned does not have fine detail, the full response of 4 megacycles is not neces-

sary. Coarse detail can be transmitted by a camera with a much narrower response—e.g., 2 megacycles. The response between 2 and 4 megacycles is necessary for fine detail. During the hearings RCA presented evidence designed to show that the human eye is not at all sensitive to fine detail in color; that the physiology of the eye is such that it can distinguish colors only in coarse detail; for example, the eye can recognize color in a piece of colored string but cannot in the case of a single strand of colored thread held at any appreciable distance from the observer. RCA testified that it devised a system whereby the coarse detail of the picture (e.g. from 0-2 megacycles) is transmitted in color whereas the fine detail in each of the colors (e.g. from 2-4 megacycles) are "mixed" together and transmitted as black and white pictures. The two signals are then transmitted together and give a color picture composed of the low frequency components (0-2 megacycles) for each of the three primary colors and the mixed highs (2-4 megacycles) as black and white.

51. It is claimed that the above process has saved band width. Instead of 12 megacycles being required to transmit three 4-megacycle signals, the requirement is reduced to eight megacycles—2 megacycles for each of the 3 low frequency color signals and 2 megacycles for the mixed highs. Of course, even 8 megacycles are too much for the 4-megacycle band available. RCA endeavors to save the rest of the space by a process known as dot interlace which involves color sampling. Part of the band saving comes from the fact that it requires four fields instead of two in order to completely scan the picture area once as illustrated in paragraphs 46 and 47. The rest of the apparent band saving comes from permitting a certain amount of cross talk (dilution of color and contrast) in the picture. Each of the 3 signals passes through appropriate electrical filters. These filters separate the low frequency components (0-2 megacycles) out of each of the three color signals. The low frequency color signals are sent to an electronic commutator or sampler. The remaining high frequency components are combined into mixed highs. The sampler operates as an automatic high speed valve that opens and closes at a rate of approximately 11 million times per second. The three color signals enter the sampler. The sampler is so arranged that each 3.6 millionth of a second the sampler opens the valve to the green, red and blue signals in sequence and permits that portion of the particular color signal to pass through to a so-called adder circuit. Thus, instead of transmitting the entire 2-megacycle component for each of the 3 colors, a dot sample is taken at regular intervals. The sampling sequence and the method of dot interlace for the samples taken in successive fields have been described in paragraphs 46 and 47.

52. The mixed highs are also fed into the adder circuit, referred to in the preceding paragraph. The appropriate synchronizing signals¹⁴ are added at this point also and all the signals are then sent to the transmitter.

53. The apparatus utilized by RCA to demonstrate its system has already been described so far as the camera is concerned. The receiving apparatus demonstrated at the original October demonstration consisted of projection receivers, and direct view receivers employing two or three color tubes and dichroic mirrors. The two-tube dichroic mirror receiver, showing two-color television, was not demonstrated again and an RCA witness testified that "the need for a two-color process will be pretty much sub-merged" when a tri-color tube is developed. Likewise, the projection receivers were not exhibited again after the original demonstration, and until the April 6, 1950, demonstration all receivers shown by RCA contained dichroic mirrors and three cathode-ray tubes. At the April 6 demonstration, two models of a direct view color tube were demonstrated—one with three electron guns and the other with a single electron gun. RCA described these tubes as

¹⁴ In addition to the usual horizontal and vertical synchronizing pulses, an extra synchronizing pulse, consisting of a burst of the sampling frequency, is added after each horizontal pulse during the blanking period. Its purpose is to keep the color sampler at the receiver and the one at the transmitter in step with each other.

follows: In each model the screen of the tube consisted of 117,000 groups with 3 primary color phosphor dots in each group. Between the electron gun and the screen was a mask with 117,000 holes in registry with the dot groups. On the tube with three guns the signals were applied to the three guns in the same manner as to three separate kinescopes. The angle of arrival from each gun was so arranged that each beam hit the hole in the mask in such a way as to line up correctly with the appropriate dot of color phosphor. In the one-gun model the signals were applied to the gun sequentially and the beam was rotated by appropriate deflection circuits keyed to the sampler to insure the correct angle of arrival at the holes in the mask. An RCA witness testified that it was part of the RCA development program to increase the number of picture dots in the tri-color tube with a view to doubling them. The tri-color tubes demonstrated provided a picture about the size of a 14-inch monochrome tube, but RCA testified that there was no reason why a larger tri-color tube could not be made.

III. EVALUATION OF THE THREE SYSTEMS

A. General

54. In the preceding section of this Report, we had a description of each of the three proposed color systems. In this section of the Report we will evaluate the three systems under each of 9 headings. It should be recognized that when a composite picture is segmented for the purpose of analysis, there is inevitably some overlapping in the categories and some of the characteristics that are included under one heading could just as well have been included under a different heading. The evaluation of the three systems is based upon the testimony and evidence in the record and upon the observations which the Commission had an opportunity to make at the demonstrations held on the record. In making this evaluation consideration is given to each of the systems as demonstrated in these proceedings and also to potentialities for improvement which may be inherent in the systems, based upon developments disclosed in the record.

B. Flicker, Motion Continuity, and Allied Effects

1. General

55. There are three subjects which are covered by this heading: large area flicker, small area flicker, and continuity of motion. Large area flicker is a problem in television as in motion pictures. The problem arises from the fact that appearance of motion is achieved by a rapid succession of pictures thrown on the viewing surface. The pictures themselves are illuminated on the viewing surface, but during the period that a picture is being changed the viewing surface is dark. If the rate of change of pictures is too slow, noticeable flicker appears on the screen which is very annoying to the viewer and the brighter the picture the more annoying the flicker. Thus, a fast repetition rate is important to eliminate flicker. The rate must be high enough so that a picture of adequate brightness is possible; the higher the repetition rate the brighter the picture which can be viewed without flicker. In monochrome television a repetition rate of 60 fields per second is employed.¹⁵

56. Small area flicker is a problem for television but not for motion pictures. In motion pictures a complete still picture is transmitted as a whole, but in television adjacent lines on the face of the tube are scanned during different fields as a result of line interlacing and this gives rise to interline flicker. In dot interlace television systems there is, in addition, inter-dot flicker. Both are considered under small area flicker.

57. The problem of continuity of motion has two aspects. First, in order to achieve smoothness of motion and avoid jerkiness, the picture repetition rate must be sufficiently high so that the persistence of vision in the eye creates the

¹⁵ The ability to observe flicker varies from person to person. It is affected by the amount of illumination in the room, the high-light brightness of the picture, the field rate, the luminosity in case of color, the relative duration of light to darkness, and also by the ratio between the picture height and the distance of the viewer from the screen.

illusion of smooth motion. The second aspect of the problem deals with the ability of the system to portray moving objects. Where a moving object is being scanned, it is apparent that it will be in a slightly different position in each of successive fields. There is a tendency for moving objects to be smeared and for detail to be lost. The faster the field repetition rate, the better the results that can be expected with respect to continuity of motion.

58. In order to understand the potentialities for improvement in the three systems so far as flicker is concerned, an understanding of the decay nature of phosphors is necessary. The phosphor utilized on the receiving tubes in television receivers has the property of being illuminated when hit by the electron scanning beam. The illumination remains for a time after the scanning beam has moved on, but shortly thereafter the illumination ceases. This cessation is not abrupt but gradual; hence the expression, the "decay" characteristics of phosphor. "Slow decay phosphors" and "long persistence phosphors" are correlative terms and are used interchangeably in this Report.

59. In practice, the phosphors presently utilized are fast decay phosphors. It can readily be seen that by utilizing slow decay phosphors, there is a good deal of room for reducing the flicker problem without increasing the field rate, or conversely to reduce the field rate and permit an increase in resolution. This is due to the fact that slow decay phosphors by their nature increase the time that the tube face is illuminated and decrease the time that it is dark. Since flicker is produced by the alternation of light and dark time on the viewing surface, anything that decreases the amount of dark on the viewing surface has an effect so far as flicker is concerned similar to increasing the repetition rate. There has been no incentive for the utilization of slow decay phosphors in our present system since the repetition rate is high enough to provide adequate brightness without flicker even when fast decay phosphors are used.

60. There was testimony in the record concerning long persistence phosphors and a demonstration of one such phosphor was held on the record in the CBS Laboratory in New York on April 26, 1950. The tri-color tubes shown at the RCA demonstration of April 6, also had long persistence phosphors. While the Commission is anxious to see further testing conducted, we are nevertheless able to find on the basis of this record that long persistence phosphors are practical and can be taken into account in considering the potentialities of the systems under consideration.

61. During the hearing frequent reference was made to receiver storage tubes. A storage tube is a specialized long persistence tube. It has the property that once it has been illuminated, it will retain that level of illumination until replaced by a different level of illumination; the change is instantaneous. If such a tube were developed for use in home television, it would reduce flicker substantially since it would shorten the blackout period on the viewing screen. However, no demonstration was made of such a tube nor was any evidence offered that such a tube has been developed, or could be developed within the foreseeable future. Accordingly, we are unable on this record to take storage tubes into account in arriving at our decision.

2. The CTI System

62. As has been indicated, the susceptibility of a television system to large area flicker depends on the number of fields per second. The CTI system has a field rate of 60 per second, the same as the present television system and should have about the same performance characteristics on this score when showing black and white pictures. So far as color pictures are concerned, insufficient evidence was offered as to whether the flicker characteristics are the same as for black and white pictures. There was no flicker observed at any of the demonstrations on the record but it should be noted that the pictures had very low illumination.

63. There is a problem in the CTI system so far as small area flicker is concerned. In all of the demonstra-

tions there was a most noticeable line crawl or jitter, which seriously marred the quality of the transmitted picture. The line crawl apparently results from the fact that there is a relatively low line repetition rate in each of the primaries and the eye thus tends to follow each line down. As was pointed out above, line crawl is inherent in a line sequential system where the shift in initiation of colors is uniform. The purpose of the various shifts developed by CTI was to eliminate the problem, but they did not accomplish this purpose. Although the last shift demonstrated—the interlaced shift—may have reduced line crawl somewhat, it still remains to a prominent degree. This line crawl or jitter was noticeable even with the very low level of picture illumination that CTI was able to produce on its projection receiver. Since line crawl is a flicker phenomenon, it can be expected to be intensified with increased brightness. This turned out to be the case at the San Francisco demonstration where the CTI color transmissions utilizing the interlaced shift were received on a 3-tube, dichroic mirror type of receiver. This receiver produced higher brightnesses than the other CTI receivers and, as was to be expected, the line crawl was more noticeable. It can be expected that the development of tubes with long persistence phosphors would reduce the line crawl but to what extent is not known since no demonstration has been held and line crawl may very well be an inherent defect of the CTI line sequential system. Moreover, it should be noted that if the phosphor was of long enough persistence to eliminate the problem of line crawl, the effect on color fidelity and the portrayal of objects in motion would have to be carefully evaluated.

64. So far as continuity of motion is concerned, the CTI system produces no more than 10 color pictures per second. No problem was evident at the demonstrations as to continuity of motion but such demonstrations involved only pictures of low illumination.

3. The CBS System

65. The CBS system has a field repetition rate of 144 per second. However, the primary color repetition rate is 48 per second. It is this latter figure that is utilized in assessing the susceptibility of the system to large area flicker in color pictures. Why this is so can be illustrated by the situation where a scene is being scanned that has large areas of green in it—or any other single primary. When the field containing the green components is on the screen, the tube will be illuminated. The tube face will be relatively dark thereafter until the green field appears again in 1/48 of a second. Thus, in effect there is a repetition rate of 48 per second so far as flicker is concerned under the circumstances described above.¹⁶

66. CBS testified that the flicker in its disc type receiver became noticeable at 24 foot lamberts¹⁷ (for a 7 to 1 viewing distance) and that flicker did not become objectionable until a higher figure of brightness was reached. Flicker is a physiological phenomenon that varies from person to person and hence is not capable of exact measurement. However, on the basis of the record, the Commission is able to find that flicker is not objectionable on the CBS disc type receiver up to highlight brightnesses of from 20 to 30 foot lamberts. The present black and white television system with a field rate of 60 has a flicker threshold many times that of the 24 foot lambert figure mentioned above, although there is serious doubt as to whether such highlight brightnesses are used by the public.¹⁸ If

¹⁶ When a black and white picture is shown, the susceptibility to flicker would probably be less than for a color picture.

¹⁷ A foot lambert is the unit for measuring the brightness of light reflected from a surface.

¹⁸ The only testimony on this subject was given by John V. L. Hogan, Vice-Chairman of JTAC, testifying as a witness for CBS, and T. T. Goldsmith of DuMont. Hogan's testimony was based upon a survey in stores of 75 new receivers of various makes which showed that only 0.7 of 1% of such sets had a highlight brightness reading of between 28 and 30 foot lamberts; the largest percentage was between 18 and 20 foot lamberts; and the average was 17. Goldsmith testified on direct examination that he had measured DuMont receivers and that 120 foot lamberts were typical. On cross examination, he testified that the average was 50 foot lamberts. The Commission does not believe that there is sufficient evidence in this record upon which to base a finding as to the level of brightnesses at which sets are operated in the home. Nor

tubes with long persistence phosphors were utilized, it would be possible to increase brightness several fold with no flicker problem. A CBS witness testified that brightness could be increased to more than 100 foot lamberts without flicker, but it is not possible to predict the exact extent of such improvement without further testing. It should be noted, however, that there is a limitation on the use of very long persistence phosphors with a disc type receiver. To illustrate, when a field is scanned in red, the red filter is in front of the tube. In the next 1/144 of a second, the blue filter is in front of the tube. If there is still any substantial illumination left, it will merge with the illumination from the blue signal.

67. No problem of small area flicker was observed at any of the demonstrations on the record. However, if horizontal interlace were utilized, a certain amount of small area flicker might appear which can best be described as dot motion or twinkle. Since it is a flicker phenomenon, tubes with long persistence phosphors should minimize the problem. The magnitude of this flicker cannot be ascertained without further study.

68. As to continuity of motion, no problem was experienced at any of the demonstrations on the record.

4. The RCA System

69. The RCA system has 60 fields per second and its performance as to large area flicker is the same as the present system, so far as black and white pictures are concerned. So far as color pictures are concerned, insufficient evidence was offered as to whether the flicker characteristics are the same as for black and white pictures. There was no flicker observed at any of the demonstrations on the record, but it should be noted that the pictures had very low illumination.

70. At the demonstrations on the record small area flicker in the form of dot motion or twinkle has been observed. How serious a problem this is cannot be entirely ascertained at this time since the RCA demonstrations produced only a dim picture. With increase in brightness of the picture to the level necessary for home use, the effect will be accentuated, although it is possible that this effect may be overcome or minimized by the utilization of tubes with long persistence phosphors. The extent of such improvement cannot be determined without further testing. If the phosphor is of long enough persistence to reduce substantially the above defects, the effect on color fidelity and the portrayal of objects in motion would have to be carefully evaluated.

71. As to continuity of motion, no problem was observed at any of the demonstrations on the record with the low level of illumination present in the picture.

C. Brightness-Contrast

1. General

72. Under the preceding heading we discussed the problem of brightness as it related to the question of flicker. In this part brightness will be considered from the point of view of adequacy—is the picture bright enough so as to give a sufficient contrast range¹⁹ and so as to be capable of being viewed under normal home viewing conditions? There is no precise ratio for satisfactory contrast; it is a matter of choice with the individual viewer. In general, the wider the contrast range the better, since there is more flexibility for reproducing shades of gray in black and white pictures and shadings of color in a color picture. Based upon the demonstrations on the record, a contrast ratio of 30 to 1 for color pictures produces a very satisfactory picture.²⁰ However, with receivers operating in

is it necessary that we do so because, as will be pointed out below (Paragraph 74) 20 to 30 foot lamberts are sufficient for disc type receivers and long persistence phosphors make higher brightnesses without flicker possible on other types of receivers.

¹⁹ The contrast range is determined by the ratio of brightness between the brightest and darkest portions of a picture. The brightest portion of the picture is determined by the amount of illumination which is produced by the scanning beam. The darkest portion is determined by the amount of light which the tube surface will reflect; the light in general comes from illumination in the room where the picture is being viewed.

²⁰ So far as black and white pictures are concerned, it is possible that a higher contrast range is required since color by its nature gives contrast to a picture.

normally lighted rooms with brightnesses of the order indicated in the Hogan testimony, a much lower contrast ratio is achieved. The Commission has no reason to believe that these pictures are not satisfactory to the viewers.

2. The CTI System

73. At none of the demonstrations did any of the CTI receivers possess sufficient brightness. The highest measured brightness for a CTI receiver was 4 foot lamberts, although an RCA type of receiving equipment employing three tubes with dichroic mirrors was able to produce a brighter picture at the San Francisco demonstration. The CTI pictures were so dim that all CTI demonstrations had to be conducted in a room that was virtually dark. It should be noted that the failure to produce brighter pictures is undoubtedly due in large measure to the particular type of apparatus used and there is no reason to believe that the CTI system is incapable of generating much brighter pictures. However, as has already been indicated, higher brightnesses complicate the problem of line crawl which is already serious even at the low level of illumination demonstrated by the CTI system.

3. The CBS System

74. The amount of brightness which can effectively be utilized is determined by the flicker level. This figure is 20 to 30 foot lamberts on CBS disc receivers. The maximum figure achieved for a disc receiver at a demonstration on the record was 22 foot lamberts. We are of the opinion that the color picture so produced is bright enough and has sufficient contrast range to be entirely adequate for use in the home under normal viewing conditions. Indeed, the CBS demonstrations were the only ones that were conducted in a lighted room and during one of the demonstrations a light from a 300-watt lamp was thrown directly on the face of the receiver without seriously affecting the quality of the picture. This is possible because the disc operates as a two-way filter so far as illumination in the room is concerned; that is, any light that is reflected from the tube which originates in the room must pass through the disc on its way to the tube and the light that is so reflected must pass through the disc again on its way out. By way of illustration, if the disc utilized permits 10% of the light to pass through, filtering out 90%, it would be possible to view a 20-foot lambert picture on the CBS disc receiver in a room with an illumination of 67 foot lamberts and still retain a contrast ratio of 30 to 1.²¹

75. As was pointed out previously, higher brightness without flicker are possible in the CBS system by the utilization of tubes with long persistence phosphors. Tubes with long persistence phosphors cannot be utilized on disc receivers without a problem of color contamination, and the disc would not be present to serve as a filter. The viewer could have a neutral density filter on his receiver to improve contrast in the same way as on a black and white receiver.

4. The RCA System

76. At none of the demonstrations on the record did any of the RCA color receivers produce sufficient illumination for ordinary home use. Indeed, all of the RCA demonstrations on the record were conducted in a room with virtually no illumination. While equipment can undoubtedly be developed that will produce higher brightnesses, there is some doubt—which can be resolved only by further testing—as to whether the duty cycle of the RCA system will permit much higher brightnesses on the tri-color tube. Moreover, the RCA system has difficulty in maintaining adequate contrast, particularly in small areas. This defect appears to be due to the use of the mixed highs principle, cross talk and to the efforts made to smooth out the dots as much as possible so as to avoid the appearance of dot structure in the picture.

²¹ For a 20-foot lambert picture, the reflected light cannot exceed 2/3 of a foot lambert on a 30 to 1 ratio. If the ambient illumination at the receiver is 67 foot lamberts, this is reduced to 6.7 foot lamberts on the way through the disc to the tube and this in turn is reduced to 0.67 foot lamberts on the way out through the disc.

D. Superposition of Color Images

1. General

77. There are three subjects covered by this heading: registration, color breakup, and color fringing. The problem of registration arises from the fact that since color television involves the transmission of three separate pictures in different colors, which are then combined into one color picture, it is apparent that the three separate pictures must have the same size and shape and must appear to lie directly one over the other if a satisfactory picture is to result. As can be seen, this must be so both for the electrical and optical components of each of the three pictures. When this is successfully accomplished, the pictures are said to be in "register" or the "registration" is satisfactory. Otherwise, registration is not satisfactory and both resolution and color fidelity are adversely affected.

78. Color breakup may occur when the eye moves while watching a color picture and causes the viewer to see the separate primary colors. It is caused by the fact that successive fields occupy slightly different positions on the retina of the eye. Color fringing appears in the form of fringes along the edge of objects and it usually occurs when a rapidly moving object is televised in color.²²

2. The CTI System

79. There is a severe registration problem at the camera and receiver. At the camera end the optical system must be so adjusted and maintained that the image being transmitted falls upon the three separate color bands of the tube in exactly the same relative position. Moreover, each color band must be so constructed and maintained that it will cause the electron scanning beam to generate signals of exactly the same linearity as the other two bands. For example, if an object an inch square were being scanned, if one band produced signals that reproduced the object as $\frac{7}{8}$ of an inch, the second band an inch, and the third band $1\frac{1}{8}$ inch, it is obvious that reduction in resolution and color distortion would result. At the receiver end, the same precise adjustments must be made. It is exceedingly difficult to construct equipment which is as precise and uniform in response as required for accurate registration. It is even more difficult to maintain the precision as time goes along, for the electrical component parts age. The difficulty of securing accurate registration is illustrated by the fact that there was evidence of faulty registration at every one of the CTI demonstrations held on the record. And this occurred when the equipment was in control of trained technicians. The results would undoubtedly be much worse if the receivers were in a home, operated by untrained people, and had not been adjusted to optimum operating conditions just prior to the demonstration but had been in operation for a substantial period of time with no service adjustment.

80. Color breakup has not been observed at any of the demonstrations on the record; it does not appear to be a problem in a line sequential system. Color fringing has likewise not been observed so far as moving objects are concerned but line interlace causes color fringing on nearly horizontal lines of other than primary colors. In addition, an effect similar to color fringing was apparent due to misregistration.

3. The CBS System

81. The CBS system is not troubled by other than minor registration problems either at the camera or receiver. These minor problems arise from power supply hum, stray fields, and vibration but they are easily cured. The reason why no fundamental registration problem exists is that only a single tube is utilized both at the camera and disc type receiver; the field sequential system is the only one that can do so.²³ Hence, the response of the scanning beam is the same for each color and each field. At none of the demonstrations on the record did the Commission observe any evidence of misregistration.

²² An effect similar to color fringing is caused by misregistration.
²³ As will be pointed out later, if a tri-color tube is developed which can be utilized without the disc, it will have to have correct registration built into it to be capable of use.

82. Color breakup and color fringing were observed at the demonstrations on the disc receivers. The use of tubes with long persistence phosphors should minimize color breakup at the receiver. Color fringing, moreover, will still occur due to the use of the color disc at the camera.

4. The RCA System

83. Registration, both electrical and optical, is a severe problem both at the camera and receiver. At the camera this is due to the fact that three separate pick-up tubes are utilized. The optical system must be so adjusted and maintained that the image being scanned falls upon the three tubes in exactly the same relative position. Moreover, three separate electrical signals of exactly the same linearity must be generated. Even if equipment is originally constructed that could meet this test, it is extremely doubtful that such precision could be maintained. The rate of deterioration is likely to differ for each of the three tubes. The same problems are also present on the three tube receiver. RCA demonstrated a receiver employing a single tri-color tube in which it was claimed correct registration was built into the tube.²¹ It should be noted, however, that all of the demonstrations on the record, there was evidence of faulty registration. This was also true of the demonstration on April 6 where the tri-color tube was shown. Of course, such misregistration may have been the fault of the camera rather than the receiver since a mis-registered picture results if there is misregistration in either the optical or electrical aspects of the camera or receiver. Hence, even if the tri-color tube does have correct registration built into it, misregistration results at the receiver unless misregistration is corrected at the camera. The problem has not been solved by RCA at any of the demonstrations on the record when only indoor equipment was utilized. The problem by its nature is bound to be far more difficult in the case of outdoor pickups and RCA has not demonstrated any outdoor pickup camera. RCA did testify that a single tri-color tube could be developed for the camera which would have correct registration built into it. No such tube was demonstrated nor was there any testimony that one had been constructed. It is difficult for the Commission to see how the RCA system could utilize such a tube even if one were constructed. The principle of mixed highs upon which RCA relies so heavily requires by its very nature a simultaneous camera pickup of 3 color signals.

84. There should be no problem of color breakup or color fringing due to motion in the RCA system. However, faulty registration of pictures observed at the demonstrations produces an effect similar to color fringing.

E. Color Fidelity

1. The CTI System

85. At all of the demonstrations on the record, CTI had difficulty with color fidelity because of faulty registration. There was also difficulty in accurately reproducing skin tones. Moreover, the low levels of illumination at which the pictures were shown rendered difficult a judgment as to the quality of the color fidelity.

2. The CBS System

86. The color fidelity of the CBS system as demonstrated on the disc receiver has been of a uniformly high quality. No determination can be made on the record as to whether receivers utilizing a direct view tri-color tube can achieve the same uniform high quality of color fidelity as disc receivers. This is due to the fact that there is no evidence in this record that color phosphor surfaces have been developed to the point where they produce colors as accurately as a filter, and also because a tube utilizing separate color phosphors loses the advantage of the use of a single viewing surface for all three colors.

3. The RCA System

87. At all of the demonstrations on the record, RCA had difficulty producing a color picture with adequate color

²¹ See Paragraph 53.

fidelity.²² The difficulty undoubtedly arises from several factors which are part of the RCA dot sequential system. In the first place, registration is most difficult to maintain and when misregistration occurs there is color contamination and a loss in resolution. In the second place, color control is exceedingly difficult to maintain. A time error of only 1/11,000,000 of a second in the sampler, results in the wrong color being transmitted or received. In the third place, the utilization of mixed highs, cross talk, and the fact that the colored dots are larger than a single picture element appear to prevent the production of color detail in small areas over the entire picture. In the fourth place, the fact that the three primary color images are scanned on three separate surfaces at the camera, makes it exceedingly difficult to obtain uniform sensitivity for all colors over the whole picture area. The result was that color fidelity of a high quality was not consistently achieved at any of the demonstrations on the record and in particular there was no real success in correctly reproducing skin tones. All of these difficulties will undoubtedly be aggravated on outdoor pickups as will be more fully explained in paragraph 118. So far as the tri-color receiving tube is concerned, the RCA picture also suffers from the limitations as to color fidelity which are involved in the use of color phosphors rather than filters.

F. Resolution

1. General

88. Since a television picture is scanned line by line, it is apparent that the more lines per second that are scanned, the finer the vertical detail that can be portrayed. Hence, one of the methods commonly utilized to measure the definition capabilities of a system is geometrical resolution—the number of lines which the system can provide. In practice, resolution is determined by readings on a test pattern; vertical resolution is read on the horizontal wedges and horizontal resolution on the vertical wedges. These test patterns are principally of use in reading resolution of a black and white picture. For color pictures, an adequate test pattern must still be developed with wedges and lines in color. Besides resolution there are other factors which enter into the apparent definition of a picture, such as contrast, sharpness of the picture, etc. However, these are subjective factors and unlike resolution are not susceptible of ready measurement. Nevertheless, they are important and are the subject of consideration under the next heading. Moreover, color itself gives realism to pictures, affords better contrast, and thus improves apparent definition.

2. The CTI System

89. In theory the resolution of the CTI system should approach that of the present system. This has not been the case, for at none of the demonstrations on the record did CTI produce a picture which could compare in resolution with black and white television. The reason for this lies in the faulty registration which has been observed at each demonstration and in the line crawl which is present in the system.

3. The CBS System

90. The CBS system produces 405 lines per picture as compared with 525 lines per picture for the present system. Hence, as is to be expected, the vertical resolution of the CBS picture is below that of the present system. The use of 144 fields per second, with a resulting line scanning rate of 29,160 per second, results in a loss of horizontal resolution. There is a reduction in vertical resolution by 23% and horizontal resolution by 46% as compared with the present system. By utilizing horizontal interlace and retaining the horizontal scanning rate suggested by CBS, the vertical resolution would still be reduced by 23% but the horizontal resolution would be approximately the same as monochrome. Further testing is required in order to determine whether this increase can be achieved in practice.

²² Although there is some testimony that at times the color fidelity of the RCA picture was adequate, this was achieved either at a special demonstration not on the record or sporadically on the record.

4. The RCA System

91. Although the RCA system produces lines at the same rate as the black and white system, its resolution even in theory is not equal to that of the present system for all types of scenes. The vertical resolution should approach that of the present system but the horizontal resolution ranges between 67% and 100% of the present system. This is probably due to cross talk and the use of mixed highs. Moreover, if in the scene being scanned there are two adjacent areas of different colors which are of equal intensity, no mixed highs would be generated and in this type of situation the horizontal resolution could be reduced to as little as 33%. Finally, in practice, the RCA resolution has suffered from the misregistration which has been present at each of the demonstrations on the record.

G. Picture Texture (Structural)

1. General

92. Under the previous headings we have described the several qualitative aspects of a color television picture seriatim. Under this heading we will evaluate the over-all quality of the picture.

2. The CTI System

93. It is difficult to make a final judgment as to the picture texture of the CTI system since virtually all of the pictures were shown on a projection receiver at low levels of illumination. Projection receivers by their very nature produce "soft" pictures as compared with direct view receivers. However, in the CTI system line structure is prominently apparent in areas of red and green primary colors and line crawl is visible over the entire picture.

3. The CBS System

94. At all of the demonstrations on the record, the CBS picture compared favorably with the present system so far as contrast, sharpness of picture, and freedom from line structure are concerned. As above stated, the geometrical resolution of the CBS picture was inferior to a picture under the present standards.

95. During the course of the hearing there was a good deal of discussion concerning "crispening" in the CBS system, whereby apparent definition is improved by making the picture appear sharper. Crispening circuits do have the capacity of producing sharper pictures. While their use may not be limited to any one system, no demonstration of crispening was had with any of the other systems, and, accordingly, it is not possible to determine what the extent of improvement for these systems would be. Moreover, it is doubtful whether crispening can be utilized by a system employing horizontal interlace.

96. If horizontal interlace were utilized on the CBS system, the picture texture could be affected thereby. Dot structure or twinkle could appear in the picture. CBS testified that this could be avoided in its system utilizing horizontal interlace. Satisfactory proof of this point requires further testing.

4. The RCA System

97. The RCA picture has a "soft" quality when compared to pictures of the present system. This is probably due to the difficulty in maintaining contrast, particularly in small areas. Picture texture was also marred at all of the demonstrations on the record by the visibility of dot structure at distances at which the lines begin to be unresolved. RCA testified that the dot structure could be minimized by the use of electrical filters, but no demonstration of this process was made on the record. Moreover, it appears to the Commission that if the dots are smoothed out, the consequences are likely to be a loss in resolution or contrast, or in both.

H. Susceptibility to Interference

1. General

98. The quality of a television picture can be marred not only by inherent defects but also by interference. The sources of interference include not only television signals from other stations on the same or adjacent channel but

also ignition systems, diathermy, oscillator radiations from other receivers, etc. So far as co-channel interference is concerned, a process known as offset-carrier operation gives promise of reducing the effects of interference. The process will be fully explored in subsequent phases of this hearing but enough evidence was introduced on the subject in the color phase of the hearing to warrant consideration so far as susceptibility of the three systems to interference is concerned.

2. The CTI System

99. In general, the CTI system appears to have the same susceptibility to interference as the present system. However, no evidence was introduced concerning offset-carrier operation on this system. There is some reason to believe that the CTI system would not derive as much benefit from offset-carrier operation as would black and white television or the other two color systems because there is likely to be a coarse beat between system line structure and offset line structure.

3. The CBS System

100. The CBS system has about the same susceptibility to interference as the present system for both normal operation and offset-carrier operation. If horizontal interlace is utilized, the system may be susceptible to oscillator radiation and other forms of continuous wave interference. CBS testified that its system with horizontal interlace would not be susceptible to this type of interference but had no demonstration which proved the point. The Commission believes that further testing is necessary before the CBS contention can be accepted.

4. The RCA System

101. With the exception noted below, the RCA system has about the same susceptibility to interference as does the present system, both for normal operation and offset-carrier operation. The exception is in the case of oscillator radiation and other forms of continuous wave interference where a greater susceptibility to interference exists than for the present system or the other two color systems. This is caused by the presence of the sampler synchronizing pulse and the color subcarrier which are not present in the black and white system or the other two color systems. A demonstration of oscillator radiation such as would be received from other television receivers not only caused severe interference to the picture but under certain conditions upset color synchronization so that color control was lost.

I. Adaptability and Convertibility

1. General

102. The Commission's Notice of Further Proposed Rule Making in these proceedings provided that proposals for changes in transmission standards so as to provide for color television would be considered only if a showing were made, inter alia, that:

Existing television receivers designed to receive television programs transmitted in accordance with present transmission standards will be able to receive television programs transmitted in accordance with the proposed new standards simply by making relatively minor modifications in such existing receivers.

It is not entirely clear from a reading of the language itself as to whether the above requirement is directed to the changes in existing receivers necessary to enable them to receive color programs in black and white, or in color, or in both. However, it does appear to be clear from a reading of the above provision in the context of the entire notice that it covered both requirements. In a proceeding involving a possible change of standards where several million receivers were already in the hands of the public, it was obviously important to ascertain the changes that would be required to enable existing black and white receivers to continue receiving pictures in black and white and also the changes necessary to enable them to receive the new color pictures in color. The parties themselves must have construed the notice in the same way since they addressed themselves to both facets of the problem.

103. At the hearing, some dispute developed concern-

ing the appropriate words to be utilized in describing each facet of the problem. In order that there should be no ambiguity as to the meaning of the words as utilized in this Report, the word "adaptability" will be utilized to cover the changes that are required to enable existing receivers to receive a black and white picture from color transmissions, and the word "convertibility" will be utilized to cover the changes that are necessary to enable existing receivers to receive color transmissions in color. The word "compatibility" covers the specialized case of adaptability where no change whatsoever is required in existing receivers in order to enable them to receive a black and white picture. No correlative term is employed so far as convertibility is concerned since no system was proposed where existing receivers without making any changes whatsoever could receive color transmissions in color.

2. The CTI System

104. No change whatsoever is required in existing receivers in order to enable them to receive a black and white picture from CTI color transmissions. However, the picture so received is substantially inferior in quality to a regular black and white picture. This is due to the prominent line structure, jitter, and line crawl which are present in the CTI system. As to convertibility, CTI does not contend that as a practical matter existing receivers can be converted to receive color transmissions in color.

3. The CBS System

105. Existing receivers are unable to receive a black and white picture from CBS color transmissions without making some changes in the receivers to enable them to handle the different vertical and horizontal scanning rates. These changes may be made either by rewiring the circuits, or by attaching an external adapter. CBS presented evidence from manufacturers experienced in the field indicating that the retail price of external adapters, exclusive of installation charges, would range from \$32 to \$50, and that adaptation may be accomplished by rewiring the circuits at a somewhat lower price; automatic switching from 525-line monochrome to 405-line CBS transmissions could be effected at an additional cost of about \$5 to \$15.²⁶ Testimony was also introduced concerning the adaptation by the Commission's laboratory of four conventional 7-inch and 10-inch receivers. Parts for the conversions—at a cost level somewhere between retail prices and manufacturer's prices—ranged from about \$4 to \$12, the higher figure including automatic switching; labor and installation costs would be extra. Philco gave a list price of \$45 to \$50 for an external adapter, with other changes in the receiver and various unitemized costs bringing the total cost to between \$75 and \$100; and DuMont estimated the total cost to be between \$100 and \$125. The Philco and DuMont estimates appear to be unreasonably high in the light of the cost of the parts required for adaptation, and seem to have been based on the replacement of major parts rather than on the minimum necessary changes.²⁷

106. Existing receivers can be converted to enable them to receive CBS color transmissions in color by the addition of an adapter to change the scanning rates and a rotating color filter disc; a magnifying lens may also be added to increase the picture size. Based upon evidence offered by independent manufacturers called as CBS witnesses, the retail price of adapting and converting an existing 7-inch tube receiver to CBS color to provide a 10-inch picture (magnified) would range from \$95 to \$130. Likewise, a 10-inch tube set could be adapted and converted to provide a 12½-inch picture (magnified) for from \$110 to \$150, and a 12½-inch set to provide a 16-inch picture (magnified) for from \$125 to \$170. Since the rotating disc must be placed in front of the cathode-ray tube, some existing re-

ceivers with doors or recessed tubes would, in practice, be difficult to convert. As will be explained in Paragraph 111, on receivers with direct view tubes larger than 12½ inches, the color picture will be reduced to 12½ inches unmagnified or up to 16 inches magnified. Philco and DuMont indicated that the cost of conversion would be much higher than indicated above but the Commission is unable to accept their estimates for the reasons set forth in the preceding paragraph.

4. The RCA System

107. No change whatsoever is required in existing receivers in order to enable them to receive a black and white picture from RCA color transmissions. However, the picture so received is somewhat inferior to present black and white pictures which may be due to the appearance of dots in the picture and to misregistration at the camera. So far as convertibility is concerned, no practical converter was demonstrated at any of the demonstrations on the record.

J. Equipment Considerations

1. The CTI System

108. At the present time, apparatus in the CTI system is limited to projection receivers. In black and white television, projection receivers have not had widespread acceptability in the market. The CTI receiver is bound to be more complex than present receivers principally because of the difficulty of maintaining image registration. The control for this purpose is very critical and in its present stage is beyond the capabilities of the average viewer under normal home viewing conditions, as is evident from the fact that even trained technicians were unable to maintain accurate registration throughout any one of the demonstrations that were held on the record.

109. At the station, no change is required in the transmitter or antenna to broadcast CTI color. Extensive changes are required in the camera and associated studio equipment. Based upon CTI's estimates the cost of converting a single existing studio camera chain is about \$7,000. Moreover, this equipment is likely to be quite complex since very critical tolerances must be achieved and maintained if registration is to be accurate. This means complex and expensive equipment to begin with; costly maintenance work to keep the critical parts of the equipment in perfect operating condition; and frequent replacement of expensive tubes when they start to deteriorate at an uneven rate. These difficulties are the ones that will be encountered in studio equipment. So far as equipment for outdoor pickups is concerned, none was demonstrated by CTI. The difficulties here are even more pronounced than for studio equipment since such equipment must be capable of being moved about from one spot to another and it is subjected to varying conditions.

110. So far as networking is concerned, no special problems are presented. The present inter-city facilities of common carriers are either radio relays which are capable of a 4-megacycle response or coaxial cables which are capable of a 2.7 megacycle response. CTI color programs can pass over either type of facility. Of course, a CTI color program which is transmitted over a 2.7 megacycle cable suffers a reduction in horizontal resolution in the same way as does a black and white picture.

2. The CBS System

111. At the present time, the apparatus in the CBS system is limited to projection receivers or to color pictures (unmagnified) of approximately 12½ inches on a direct view tube in a disc type receiver. The limitation on direct view tubes in disc receivers arises from the fact that the diameter of the disc must be at least twice that of the tube. It is not practical to have a disc much larger than 26 inches in diameter in the home. Receivers can be made with tubes larger than 12½ inches and the full surface of the tube can be utilized to view black and white pictures; the disc folds aside when black and white pictures are being received. For such larger tubes, the picture must be reduced to no more than 12½ inches when a

²⁶ The figures quoted in this paragraph refer to external adaptation for existing receivers. The cost of building the necessary additional circuits into a new receiver at the factory to permit it to receive CBS transmissions is substantially lower.

²⁷ For example, the DuMont estimate included the following items: Sweep conversion unit, \$80, different yoke and transformer, \$15, and service charge, transportation, etc., \$25. Philco did not supply a similar cost breakdown as applied to its estimates.

color picture is being viewed. Of course, the viewer may, if he chooses, utilize a magnifying lens to increase the 12½ inch picture to 16 inches. Magnifying lenses have not been popular in black and white receivers since they severely restrict the viewing angle and are susceptible to annoying specular reflections from lights in the room. According to testimony of manufacturers called as CBS witnesses, new combination black-and-white and CBS disc-type color receivers could be sold at a retail price of approximately \$200 for a 7-inch tube magnified to 10 inches, and approximately \$300 for a 10-inch tube magnified to 12½ inches. DuMont testified that a new combination black-and-white and CBS disc receiver, using a 12-inch tube (without magnification) could sell for \$500 to \$600 based on an annual production of 100,000, compared to \$329 for a DuMont black-and-white set of similar quality.²⁸

112. The operation of the CBS disc type receiver is relatively simple. Since CBS proposes that the present monochrome standards be retained for black and white pictures, a manual or automatic switch is necessary to handle the monochrome standards for black and white pictures and the CBS standards for color pictures. When the viewer desires to tune in a color program, he turns a switch which operates the adapter and also turns on the motor which turns the disc. As soon as the motor reaches full running speed, the viewer presses a button that is designed to make sure that the particular color filter in front of his tube is the same color as the one before the camera; this can be done by inspection. One or two pushes of the button are necessary for this purpose.²⁹ When this is done, nothing further need be done. As can be seen, color control is quite simple and it is not at all critical. The color switching is accomplished at the relatively slow rate of 144 times per second, and hence receivers for the CBS system are relatively simple. Since two different standards of transmission are provided under the CBS proposal for black and white and color, it is apparent that broadcasters cannot readily change from color to black and white or vice versa (e.g. a black and white program with color commercials) during the course of a program.

113. At the station, no change is required in the transmitter or antenna. The camera and associated equipment do require changes and CBS submitted evidence that an existing studio camera could be converted for \$3,622 and that CBS had bought a new color camera chain from RCA for approximately \$27,000. The use of the disc in the camera presents no problem since camera tubes are relatively small in diameter. The color controls in the CBS camera are not critical and CBS successfully demonstrated on the record outdoor pickups as well as studio performances.

114. So far as networking is concerned, CBS color pictures can be transmitted over the radio relay or coaxial cable. The coaxial cable reduces the horizontal resolution in the same manner as black and white pictures.

3. The RCA System

115. At none of the demonstrations on the record was a practical RCA home receiver shown. The projection receivers shown at the first demonstration were withdrawn by RCA and not resubmitted. The direct view receiver consisting of dichroic mirrors and three kinescopes is so bulky, so complex, and so expensive that it could not be seriously considered for home use. The controls are so critical that even trained technicians were unable to main-

²⁸ RMA Exhibit 408, entitled "Time Availability and Cost of Apparatus Necessary for Color Television", consists of replies by various manufacturers to a letter from Dr. W. R. G. Baker, Director of RMA Engineering Department, which he sent to all 54 members of the RMA Set Division. Dr. Baker testified that "I didn't recommend that they (the Commission) give serious consideration to this exhibit, if I remember rightly. I said this was a very rough approximation and I explained in detail why." The Commission has not given this exhibit serious consideration not only because of Dr. Baker's statement, but also because no supporting data were submitted with respect to the above cost estimates, and most of the manufacturers submitting estimates did not appear to testify concerning them and were not available for cross-examination.

²⁹ See Paragraph 44 for reference to automatic color phasing shown at the Laurel demonstration.

tain correct registration and color fidelity throughout a single demonstration on the record.

116. RCA showed a tri-color tube at the demonstration on the record held Apr. 6, 1950. Even at that demonstration, there was evidence of faulty registration, although it does not appear whether such misregistration was due to the receiver or camera, or both. Since color control is extremely critical in the RCA system, there can be no assurance that the fault does not exist at both ends. Moreover, there is no assurance on the record that the tube is an assured fact.³⁰ The tube was demonstrated towards the close of the hearing and has had very little field testing. It has not been made available to other parties or to the Commission's laboratory for study. An RCA witness testified that the tube would cost about 50 to 100 percent more than black and white tubes of similar size at the same relative stage of development; no data were submitted in support of this estimate. Finally, as demonstrated, the tube developed insufficient illumination, it had an inadequate number of dots, and it had a serious moire pattern in it.

117. In any event, RCA color receivers are expected to be more complex than receivers of the other two systems. Since a time error of only 1/11,000,000 of a second adversely affects color fidelity (see Paragraph 87), many of the components must be built to a very critical tolerance. Moreover, since RCA utilizes a subcarrier of 3.6 megacycles for the purpose of carrying its color information, receivers must be built with a band pass of at least 3.6 megacycles. Many of the cheaper receivers today are built with a band pass narrower than 3.6 megacycles. Early in the proceedings RCA demonstrated projection and direct view color receivers. An RCA witness testified that a 10-inch direct view three tube set would cost between \$650 and \$800; a 7-inch by 9½-inch projection receiver would cost between \$550 and \$700; a 15-inch by 20-inch projection receiver would cost between \$800 and \$1000; and a two color direct-view 10-inch receiver would cost between \$400 and \$550. As was indicated above, the projection receivers and two-color receivers shown at the first demonstration were not demonstrated again by RCA. With respect to receivers containing a tri-color tube, an RCA witness testified that the set itself aside from the tube was likely to be between 25 to 50 percent more expensive than a black and white receiver of the same size and character, and that the tube itself was likely to be between 50 and 100 percent more expensive than black and white tubes of similar size.

118. At the station no change is required in the transmitter or antenna. Extensive changes are required in the camera and associated equipment. RCA admitted that existing camera equipment cannot be converted. It estimated that the cost for new RCA color studio camera equipment would be \$54,440. This would include one camera chain, the necessary 3-image orthicons, a pedestal, a friction head, a flag burst generator, crystal standard, power supply and cabinet rack, a color monitor, and power supplies for the monitor. An additional color camera would cost \$26,750. Moreover, the equipment is likely to be very complex since extremely critical tolerances must be achieved and maintained. This means complex and expensive equipment to begin with. It also means costly maintenance work to keep the critical parts of the equipment in precise operating condition and frequent replacement of expensive tubes when they start to deteriorate at an uneven rate. The difficulties are compounded so far as outdoor pickup is concerned, which RCA did not demonstrate on the record. Outdoor equipment must be capable of being moved around from spot to spot and is subjected to varying conditions.

119. So far as networking is concerned, radio relays have a response to 4 megacycles and would handle RCA color transmissions. The coaxial cable has a response of 2.7 megacycles and, accordingly, RCA color transmissions

³⁰ RCA testified that within 60 to 90 days from May, 1950, it expected to have developmental model color receivers using the tri-color tube available for field tests; during September, 1950 5 or 6 such receivers would be produced each week from a pilot assembly operation. Factory production at a weekly rate of 200 receivers would begin by June, 1951, if RCA standards were adopted, and by the end of 1951, the rate would be 1000 per week.

come through the coaxial cable as black and white pictures with reduced horizontal resolution. At the April 6, 1950, demonstration on the record, RCA simulated a color transmission over the coaxial cable by utilizing a frequency limiting circuit. To accomplish this, the signal was originally sampled at a 3.6 megacycle rate and then before going into the circuit that simulated the cable, it was resampled at a 2.4 megacycle rate. When it comes off the cable, it is again resampled at the 3.6 megacycle rate. In the demonstration, a color picture was received, with reduced horizontal resolution. This process would require extra terminal equipment on the cable not required for CTI or CBS color transmissions. Further testing on the cable itself is required before a final judgment can be made.

IV. CONCLUSIONS

A. General

120. The testimony and demonstrations in these proceedings leave no room for doubt that color is an important improvement in television broadcasting. It adds both apparent definition and realism in pictures. It opens up whole new fields for effective broadcasting, rendering life-like and exciting scenes where color is of the essence—scenes which in black and white television are avoided or, if telecast, have little appeal.

121. Because color is such a fundamental improvement in television, the Commission is of the opinion that in establishing standards, a system must be chosen that produces a satisfactory color picture and is capable of operating through apparatus that is simple to operate in the home and is cheap enough in price so as to be economically available to the great mass of the American purchasing public. The Commission is of the firm opinion that it would not be in the public interest to establish a television system where only black and white receivers are cheap enough for the great mass of the American people and color television is available to those who can afford to pay luxury prices.

122. In order for a color system to be considered eligible for adoption, it must meet the following minimum criteria:

a. It must be capable of operating within a 6-megacycle channel allocation structure.

b. It must be capable of producing a color picture which has a high quality of color fidelity, has adequate apparent definition, has good picture texture, and is not marred by such defects as misregistration, line crawl, jitter or unduly prominent dot or other structure.

c. The color picture must be sufficiently bright so as to permit an adequate contrast range and so as to be capable of being viewed under normal home conditions without objectionable flicker.

d. It must be capable of operating through receiver apparatus that is simple to operate in the home, does not have critical registration or color controls, and is cheap enough in price to be available to the great mass of the American purchasing public.

e. It must be capable of operating through apparatus at the station that is technically within the competence of the type of trained personnel hired by a station owner who does not have an extensive research or engineering staff at his disposal and the costs of purchase, operation, and maintenance of such equipment must not be so high as unduly to restrict the class of persons who can afford to operate a television station.

f. It must not be unduly susceptible to interference as compared with the present monochrome system.

g. It must be capable of transmitting color programs over inter-city relay facilities presently in existence or which may be developed in the foreseeable future.

123. It should be noted that the above criteria do not include compatibility. The Commission is of the opinion that if a satisfactory compatible system were available, it would certainly be desirable to adopt such a system. Compatibility would facilitate for the broadcaster the transition from black and white broadcasting to color broadcasting and would reduce to a minimum the obsolescence problem of present receivers. However, as will be developed

more fully later on in this Report, no satisfactory compatible system was demonstrated in these proceedings and the Commission is of the opinion, based upon a study of the history of color development over the past ten years, that from a technical point of view compatibility, as represented by all color television systems which have been demonstrated to date, is too high a price to put on color. In order to make these systems compatible, the alternatives have been either an unsatisfactory system from the standpoint of picture quality, or a complex system, or both. A complex color system will have such formidable obstacles in its path that there is no assurance it would be acceptable to the American public. The Commission is compelled to reach the conclusion that no satisfactory compatible color system has been developed.

124. The receiver aspect of compatibility, moreover, is merely a temporary problem which will decrease progressively each year once receivers are built incorporating new standards. Based upon an assumption of 7,000,000 sets in the hands of the public at the present time, the problem of compatibility would be diluted each year depending on the annual rate of production. It is not possible to forecast what the annual rate of production would be, but, by way of illustration, if sets were continued to be manufactured at the present rate of production (e.g. five to six million sets a year) then one year after the adoption of an incompatible system approximately 40% of the receivers in the hands of the public should be capable of receiving these signals without any change whatsoever—they will have been built that way.³¹ The percentage will become progressively larger each year. So far as owners of existing receivers are concerned, if they make no change, they will still be able to receive programs broadcast in accordance with present monochrome standards—there will undoubtedly be such for several years after a decision—or they can spend the relatively minor amount of money necessary to adapt their sets and thus be able to receive all programs in black and white or they can spend a slightly larger amount and get color programs in color. It would not be in the public interest to deprive forty million American families of color television in order to spare the owners of seven million sets the expense required for adaptation.

125. The criteria set forth in Paragraph 122 likewise do not include any reference to convertibility or adaptability. Much of the reasoning applicable to compatibility applies likewise to convertibility or adaptability. While there is some doubt as to whether some of the color systems proposed here meet the test of adaptability and convertibility (as defined in Paragraph 103) contained in our Notice of July 11, 1949, no objection was raised by the Commission or any of the parties to the consideration of any of the color systems proposed herein and no objection is raised in any of the Proposed Findings or Replies. Accordingly, the three systems are considered on the merits.

126. During the hearing evidence was introduced to show the patent position which is held by RCA in the television field, and one of the parties urged the Commission to reject the RCA system in order to encourage competition and avoid monopoly. The Commission recognizes that if a monopolistic patent position exists in the radio field, it would tend to discourage fundamental research by other companies and would tend to foster concerted action on the part of the patent licensor and its licensees, which could result in control of receivers sold to the public. However, on the record in these proceedings we do not believe that we are called upon to make a decision as to whether RCA does have a monopolistic position in the radio field, as urged by some, or merely one of leadership, as contended by RCA, because the decision as to whether the RCA system should or should not be adopted is based solely on a consideration of the system on the merits. If the Commission should find that a monopolistic situation

³¹ The Commission is aware that some manufacturers expressed a reluctance to build sets for an incompatible system if it is approved by the Commission. We believe that an informed public would demand receivers that are capable of getting programs from all television stations in the area and that the manufacturers would build such receivers.

does exist or such a situation should develop, appropriate proceedings can be instituted under the anti-trust laws or the Commission can seek from Congress legislation to prevent the building of monopolistic patent structures in the radio field, or both.

B. The CTI System

127. The Commission is of the opinion that the CTI system falls short of the criteria we have established for a color system. In the first place, the quality of the color picture which the CTI system produces is not at all satisfactory. There is a serious line crawl problem and the picture texture is not satisfactory. These defects were clearly evident at the demonstrations on the record at the low levels of illumination there used. With the higher illuminations that would be required for home viewing, the defects would be more pronounced. Improvements in apparatus will in all probability not eliminate these defects since they appear to be inherent in the CTI line sequential system.

128. In the second place, there is great doubt as to whether CTI even qualifies on what it claims to be one of its principal advantages—compatibility. There is a serious degradation in quality of the black and white pictures which existing receivers get from CTI color transmissions. While the Commission would not rule out an otherwise satisfactory color system merely because some degradation resulted in the black and white pictures which existing sets would receive from the color transmissions, a serious problem would be presented where the degradation is as substantial as in the case of the CTI system.

129. In the third place, the equipment utilized by the CTI system is unduly complex. At the receiver, image registration control is so critical that it is entirely unlikely that the average person could successfully operate it. At the station end, the equipment is likewise so complex that even though trained personnel would be available, it is most doubtful that they could maintain the equipment in the precise operating condition that is necessary for the system for a regular broadcast operation. This difficulty will be particularly onerous in the case of outdoor pickup equipment which is subject to much harder use and rougher handling than studio equipment. CTI did not demonstrate any outdoor pickup equipment.

130. In the fourth place, CTI did not offer sufficient evidence on which a finding could be based as to whether the system is unduly susceptible to interference. While the evidence introduced does indicate that the system has approximately the same susceptibility to interference as the present monochrome system so far as normal operation is concerned, no evidence was offered concerning offset carrier operation and there is reason to believe that the CTI system would not derive as much benefit from offset carrier operation as the present monochrome system or the other two color systems.

131. So far as networking is concerned, CTI color transmissions are capable of being relayed over both coaxial cable and microwave relays.

C. The RCA System

132. The RCA system also falls short of the criteria set forth above. In the first place, the color fidelity of the RCA picture is not satisfactory and it would obviously not be in the public interest to adopt as standard a color system which does not produce a satisfactory color picture. At none of the demonstrations on the record could RCA consistently produce pictures with adequate color fidelity. The inability accurately to reproduce skin tones is a particularly serious handicap. There appears to be no reasonable prospect that these difficulties in the RCA system can be overcome, because of misregistration, mixed highs, cross talk between picture elements, and criticalness of color control implicit in a system where a time error of 1/11,000,000 of a second results in color contamination.

133. In the second place, the texture of the color picture is not satisfactory. At all of the demonstrations the quality of the picture was marred by misregistration and also

to a certain extent by dot structure. Indeed, even on the score of compatibility the quality of black and white pictures which existing sets receive from RCA color transmissions is somewhat degraded because of dot structure and misregistration at the camera; however, the black and white picture remains of reasonably good quality. Moreover, the RCA color picture has a "soft" quality, probably due to the difficulty in maintaining contrast, particularly in small areas. It is difficult to see how these defects can be eliminated. Correcting misregistration in the RCA system is an exceedingly difficult task as has already been indicated. Smoothing out the dot structure can mean losing resolution or contrast, or both. Poorness of contrast, particularly in small areas, appears to be the price of mixed highs, cross talk, and dots which are larger than single picture elements.

134. In the third place, the receiving equipment utilized by the RCA system is exceedingly complex. The Commission would certainly not consider adopting a system which was limited to receivers of the dichroic mirror type demonstrated on the record. These receivers are so bulky, so complicated, so difficult to operate, and so expensive that it is inconceivable that the public would purchase them in any quantity. RCA did demonstrate a receiver using a direct view tri-color tube towards the end of the hearing but the Commission is not satisfied that the tube solves the problem of complex receivers. The tube was not demonstrated until late in the proceedings and has had very little field testing. It has not been available to other parties or the Commission's laboratory for the purpose of checking its operation. As demonstrated, the tube had an inadequate number of dots, produced insufficient illumination, and had a serious moire pattern in it. There is no assurance that the tube will not be unduly expensive, for while an RCA witness testified that the tube would cost 50 to 100 percent more than black and white tubes of corresponding size, no data were submitted in support of this estimate. Finally, even though the tube is developed, there is no assurance that the receivers will not continue to be unduly complex and difficult to operate. Since a time error of 1/11,000,000 of a second results in color contamination, it is difficult to see how color control can be simplified to a sufficient extent for home use.

135. In the fourth place, the equipment utilized at the station is exceedingly complex. There is no assurance that satisfactory commercial type equipment can be built because at not a single demonstration on the record was accurate registration maintained throughout the demonstration. Moreover, there is such great difficulty in maintaining the equipment in the precise operating condition which the system entails that it is extremely unlikely that the job could be done by an organization that does not have an extensive staff of research personnel and engineers at its disposal. The type of trained personnel which is generally available to the average station could hardly be expected to handle such a difficult job. The above difficulties will be particularly onerous in the case of outdoor pickup equipment which is subject to much harder use and rougher handling than studio equipment. RCA did not demonstrate any outdoor pickup equipment.

136. In the fifth place, the RCA color system is much more susceptible to certain kinds of interference than the present monochrome system or the other two color systems. A demonstration of oscillator radiation such as would be received from other television receivers not only caused severe interference to the picture but under certain conditions upset color synchronization so that color control was lost.

137. So far as networking is concerned, RCA color transmissions can be handled by inter-city relays with 4-megacycle capacity but there is not adequate assurance on this record that color pictures can be transmitted over the 2.7 megacycle coaxial cable facilities. On this point, the common carriers who testified at the hearing indicated that they are progressively increasing the percentage of their inter-city facilities which are represented by microwave relays. Moreover, the coaxial cable is capable of

being modified to accommodate 4 megacycle television transmissions. The Commission expects the common carriers to have 4 megacycle facilities for all television programs as soon as possible so that the public will not be required to accept network programs which are substantially degraded in horizontal resolution.

138. Finally, the RCA system has not met the requirements of successful field testing. The system introduces entirely new techniques into broadcasting, principally dot sampling and the use of mixed highs. Extensive field testing is required before a final answer can be given as to the value of these techniques. The Commission is still of the same view today as it was in March 1947 when it rejected the former CBS color system—a much simpler system and one which had more field testing than the RCA system. At that time, it stated:

Before approving a new system of television it is indispensable that there be an adequate program of field testing. Receivers and transmitters must be subject to numerous tests over a long period of time and at a diversified set of locations and operating conditions so that operation under average home conditions is closely approximated. Without such field testing, there is no assurance that all fundamental defects have been eliminated. There is a great difference between the performance of a system in a laboratory with trained personnel and its operation in the home by the average citizen. In the history of electronics there have been developments which looked promising in theory and even in operation in the laboratory but which revealed such fundamental defects when subjected to adequate field testing that they had to be abandoned entirely.

RCA has not successfully shown that its equipment is simple enough to be operated by the average individual; the testimony of a trained expert that it can be done is not a satisfactory substitute.

139. In ruling out the RCA system, the Commission has not overlooked the testimony of the many radio manufacturers who directly, and through their trade association, endorsed the dot sequential system. The Commission is aware that of necessity it must rely to a great extent upon industry experts for data and expert opinion in arriving at decisions in the field of standards; our own facilities are too limited to gather much of the data. However, the responsibility for decision is that of the Commission and we cannot feel bound to accept recommendations and expert opinions when we find from a study of the record that the record supports different conclusions. Moreover, the testimony of many of the parties was not based on field testing conducted by them or upon an analysis of field testing made by others but were simply recommendations and expert opinions of a general nature. In weighing these recommendations and expert opinions we cannot overlook the fact that many of these same parties offered recommendations and expert opinions of the same kind as the basis of their advocacy in the 1946-1947 hearing of the simultaneous system—a system which never survived field testing.

D. The CBS System

140. This leaves for consideration the CBS system. In the Commission's opinion, the CBS system produces a color picture that is most satisfactory from the point of view of texture, color fidelity and contrast. The several demonstrations on the record included a wide variety of subject matter both in the studio and out of doors and the picture which resulted was in each case entirely suitable for home viewing purposes.

141. Receivers and station equipment are simple to handle. They have been subjected to use in widely diversified circumstances and no difficulty has been encountered. The receivers are simple and when produced on a mass marketing basis, should be within the economic reach of the great mass of purchasing public.

142. The susceptibility to flicker in the CBS system is greater than in the present monochrome system but in the Commission's view the brightnesses that have been achieved on disc receivers are adequate for home use and the evidence concerning long persistence phosphors shows that there is a specific method available for increasing brightness on non-disc receivers with no objectionable flicker. The CBS system is subject to color fringing or

color breakup under certain circumstances. This is not a serious obstacle for two reasons. In the first place, many viewers after awhile tend not to see these defects. This is evident from a comparison of the little amount of comment on this subject in this hearing, compared to the 1946-1947 hearing. In the second place, these effects occur rather infrequently and many of them can be minimized by programming techniques. When they do occur, they are no more annoying to the viewer than stroboscopic effects in motion pictures.

143. The CBS system has less geometric resolution than the present monochrome system but the addition of color more than outweighs the loss in geometric resolution so far as apparent definition is concerned. Of course, owners of receivers which have adapters but which are not built for color will receive only a black and white picture from CBS color transmissions—a picture which will not have color to compensate for the loss in resolution. However, this is a matter of choice for the viewer; he can have color if he so desires. Moreover, the black and white picture he receives from CBS color transmissions is still an acceptable picture; the degradation is of the order involved when black and white pictures are transmitted over the coaxial cable. There appears to be no alternative to some degradation in the quality of the black and white picture from color transmissions since even the so-called compatible systems suffer from the same failing.

144. At the present time, the CBS system is, as a practical matter, limited to projection receivers or direct-view tubes of no greater size than 12½ inches (which can be magnified to 16 inches). Projection receivers have not had widespread public acceptability and the trend in direct-view receivers is to tube sizes larger than 12½ inches. The tri-color tube demonstrated by RCA is not limited to 12½ inches and RCA witnesses as well as other witnesses agreed that the tri-color tube could be utilized on the field sequential system. The Commission has no doubt that this is so, if the tube is successfully developed. However, at the one demonstration on the record when such a tube was shown—the RCA demonstration of Apr. 6, 1950—the pictures were not in correct registration. It was not possible to determine whether the registration difficulties were at the camera or in the tri-color tube, or both. Since accurate registration has proved exceedingly difficult to achieve at the receiver as well as at the camera in the RCA system, the Commission is unable to conclude on the basis of this record that a successful tri-color tube has been devised with correct registration built into it. Moreover, the RCA tube as demonstrated had inadequate resolution, insufficient brightness, and a serious moire pattern in it. Finally, we are not certain that the color fidelity of a tri-color tube is of sufficiently high quality for a broadcast service.

145. Since there was no demonstration on the record of a direct view tri-color tube on the CBS system, the record does not contain a definitive answer as to whether direct-view tubes larger than 12½ inches are possible with the CBS system. Thus two difficult courses of action are open to the Commission. The first course of action is to reopen the record and to have a demonstration on the record wherein a tri-color tube or other technique for displaying large size direct-view pictures could be tried out on the CBS system. The second course of action is to adopt a final decision now promulgating color standards on the basis of the CBS system with the confidence that since the radio industry has succeeded in creating much larger tube sizes than those demonstrated in 1941 when standards for black and white television were adopted, they would succeed in building apparatus that would eliminate the present limitation in the CBS system as to size of direct view tube.

146. The advantage of the first course of action is that the Commission would not be compelled to speculate as to an important basis for its decision but would have a definitive answer on the basis of which to act. The disadvantage is that it would postpone a final decision and hence would aggravate the compatibility problem. The time already devoted to this hearing has magnified the

problem. The advantage of the second course of action is that it would bring a speedy conclusion to the matters in issue and would furnish to manufacturers a real incentive to build a successful tri-color tube as soon as possible. A real competitive advantage would accrue to the company that succeeded in bringing out such a tube. The disadvantage is that the Commission's determination on an important part of its decision would be based on speculation and hope rather than on demonstrations.

147. Three other matters present the Commission with the same difficult choice between the two courses of action referred to above. Two developments were demonstrated in this hearing which hold real promise for increasing definition both in color and black and white pictures. One is horizontal interlace and the second is the efficacy of long persistence phosphors in reducing flicker, thus providing the means for decreasing the field rate and increasing the number of lines in the picture. Both of these techniques require further testing and, if successful, may make desirable additional changes in the field and line repetition rate.

148. The third matter we refer to is the possibility of new color systems and improvements in existing color systems which have been informally called to our attention since the hearings closed. Of course, these are not matters of record and cannot be relied on in reaching a decision unless the record is reopened. In considering these developments the Commission is aware that the institution of these proceedings stimulated great activity in the color field and that since fundamental research cannot be performed on schedule, it is possible that much of the fruit of this research is only now beginning to emerge. On the other hand, the Commission cannot overlook the obvious fact that one of the easiest methods of defeating an incompatible system is to keep on devising new compatible systems in the hope that each new one will mean a lengthy hearing so that eventually the mere passage of time overpowers the incompatible system by the sheer weight of receivers in the hands of the public.

149. The answer as to which course of action to choose depends on whether a method exists for preventing the aggravation of the compatibility situation if a final decision is postponed. If there is no method to accomplish this, the Commission believes that a final decision should not be delayed and that the CBS color system should now be adopted. This would be consonant with our action in launching black and white television in 1941. On the basis of this record, the CBS color system is at least as fully developed as was the black and white system in 1941. However, if there is a method whereby aggravation of the compatibility problem can be avoided, we would feel more confident in postponing a decision so that a definitive resolution could be had of the matters set forth in the preceding paragraphs.

150. The answer to this question rests with the radio manufacturing industry. Existing television receivers are built to operate on transmission standards that have a horizontal synchronizing rate of 15,750 and a vertical synchronizing rate of 60. As a practical matter, the oscillators on receivers that accomplish the synchronization are built so that this response is broader than the specific figures set forth above. For example, if the horizontal synchronizing rate were 15,000 or 16,000, the receiver could accommodate itself to the change; there are controls on the front or back of the receiver that can be adjusted to operate on any figure within the assumed bracket 15,000 to 16,000. The same is true for the vertical oscillator. It is obvious that if the bracket within which the receiver could operate were as high as 29,160 for the horizontal oscillator and 144 for the vertical oscillator,³² it would be capable of receiving CBS color transmissions in black and white simply by the adjustment of controls already on the receiver. Moreover, such a receiver would be capable of handling the different synchronizing rates that might be later adopted by the Commission for modification of the existing black and white, or CBS field sequential color, or

both, as a result of further tests with horizontal interlace and long persistence phosphors.

151. In order to accomplish this purpose, the Commission simultaneously with the release of this Report is issuing a Notice of Proposed Rule Making providing for bracket standards in the present monochrome system. These bracket standards provide for a television composite video signal of substantially the type and proportion now employed in monochrome, but with the number of lines variable from 15,000 to 32,000 per second, and number of fields ranging from 50 to 150 per second.³³ Receivers built to incorporate such bracket standards would be equipped with a manual or automatic switch to select instantaneously between two sets of standards falling within the above ranges, one of which will be the present monochrome standards, and the other the CBS proposed standards. The receiver would produce pictures of equivalent size, geometrical linearity and brightness on each of the two positions of the switch. Interested persons are given until Sept. 29, 1950, to submit comments. In addition, manufacturers are requested to submit a statement as to whether if the bracket standards are adopted they would, commencing with the effective date of the order adopting the bracket standards as final—30 days after publication of the order in the Federal Register—build all their television receivers so as to be capable of operating within the above brackets. If, on the basis of the comments submitted, the Commission is able to adopt the bracket standards as final without a hearing and if the Commission receives assurances from a sufficient number of manufacturers to insure that such bracket standards will be incorporated in the great majority of television receivers, then we will be in a position to postpone a decision in this proceeding since we will have the time to explore more fully the matters set forth above, confident in the knowledge that adequate provision has been made to prevent aggravation of the compatibility question. If the bracket standards cannot be made final without a hearing or if assurances are not received from a sufficient number of manufacturers concerning their plans for incorporating bracket standards in their receivers, the Commission will not feel free to postpone a decision, for every day that passes would aggravate the compatibility problem. In that event, a final decision would be issued adopting the CBS color standards.

152. One of the proponents of a color system in these proceedings is a substantial manufacturer of television receivers. One of the companies which has informally advised the Commission that it has developed a new color system is also a substantial manufacturer of television receivers. Two other parties in this proceeding are in the same category. Finally, the Radio and Television Manufacturers Association, a party in these proceedings, is a trade association whose membership comprehends a very large part of the television manufacturing capacity in this country. Within this group lies the answer as to whether the status quo on compatibility will be maintained if the Commission postpones the issuance of a final decision at this time. The Commission proposes to afford this group an opportunity to indicate to the Commission this answer by means of the procedure set forth in the previous paragraph.

153. If, pursuant to the procedure set forth in Paragraph 151, bracket standards are adopted as final and a decision as to the color phase of these proceedings is postponed, the Commission will issue a second Notice of Proposed Rule Making proposing that color standards be adopted on the basis of the CBS field sequential system. The same bracket standards set forth for black and white television in the previous paragraph would also be proposed for color television. In addition, interested persons would be invited to conduct field tests with respect to horizontal interlace for use in both black and white and color television so that specific proposals based upon such field testing could be presented to the Commission for its con-

³³ The Notice provides that if the brackets are adopted, television broadcasters will continue, until further order of the Commission, to broadcast in accordance with present standards—15,750 lines per second and 60 fields per second.

³² See Paragraph 42.

sideration. Also, provision would be made for any person to propose a color system different from the field sequential color system proposed in the Notice by complying with the procedure set forth in Paragraph 154.

154. A special procedure would be established with respect to submission of comments addressed to the second Notice. Any person desiring to submit comments in favor of or in opposition to the Notice, or who desired to submit proposed amendments could do so by Jan. 5, 1951. Oppositions or replies could be filed by Jan. 22, 1951. If any person desired to propose a color system different from the field sequential color system described in the Notice, he would be required to deliver representative receiver apparatus to the Commission's laboratory at Laurel, Maryland, by Dec. 5, 1950, and by that same date he would be required to have a signal on the air in Washington, D. C., for the purpose of demonstrating his system. He would also be required to conduct a series of demonstrations during the period from Dec. 5, 1950, to Jan. 5, 1951, to which the Commission would be invited. No color system would be considered eligible for any consideration by the Commission unless all of the above requirements were strictly complied with and unless the tests conducted during the period from Dec. 5, 1950, to Jan. 5, 1951, showed to the Commission's satisfaction that, in its judgment, the system had a reasonable prospect of satisfying all of the criteria for a color television system set forth in Paragraph 122.

155. It is apparent that the procedure described in Paragraphs 151-154 could necessitate a reopening of the record.

SEPARATE VIEWS OF COMMISSIONER HENNOCK

I agree with the majority of the Commission that more time is desirable before making a final decision of the very difficult question confronting us in this proceeding. I also feel that in order to gain that time it is imperative that the problem posed by the great number of black and white receivers in the hands of the public which are unable to receive transmissions under the standards proposed for the most promising of the color systems we have considered, be contained at its present level. I therefore concur fully in the decision to issue a Notice of Proposed Rule Making concerning bracket standards. In the event that we do not receive sufficient assurance that this protection for future investors in television receivers will be built into sets hereafter produced, I would adopt field sequential color standards.

However, I cannot agree that in the event that bracket standards are adopted a tentative determination to adopt an incompatible color system should be made. Such a decision would, I believe, be premature. I agree with the majority that neither of the compatible systems considered in this proceeding could be authorized at the present time. Still, the improvement which took place during the course of the hearings, a relatively short time when compared to the previous course of television development, was impressive. There are many indications that intense effort is being exerted to overcome the difficulties inherent in compatible color systems. Off-the-record developments by Hazeltine, General Electric, Color Television, Inc., and RCA may be bringing us a little closer, if not near, to the realization of a practical compatible color system. In any event we should work toward that end with all our energy until the last possible moment, and not foreclose the possibility of its achievement until convinced that it is a practical impossibility.

I realize that the concept of compatibility as used in this Report is not identical with that set forth in the Notice of Further Proposed Rule Making issued in this proceeding on July 11, 1949. It has, however, in my opinion become evident since that time that the effect on our present VHF television service caused by the adoption of any system which is not compatible as defined in this Report would be very serious. The problems which it would pose for the present set owner and the broadcaster should loom

This would be done if CBS desired to demonstrate its system with a direct view tri-color tube or other technique of displaying large size direct view pictures. In that event the Commission would be prepared to give CBS every assistance possible in securing the use of tubes or other equipment. The Commission would not expect that at the demonstration CBS should show a commercial type of equipment or equipment that was fully developed. What would be expected would be a detailed description of the equipment, an opportunity for the Commission's laboratory to examine such equipment, and a demonstration that was sufficiently successful so as to form the basis for a reasonable judgment that it would be possible to have color pictures of adequate color fidelity and resolution with no artificial limitation on the size of direct view tubes.

156. A hearing could also be required if an appropriate proposal were made concerning horizontal interlace or if a color system were proposed which fully meets the conditions set forth in the previous paragraphs. If the record is reopened for any one or more of the above purpose, the Commission's order will specifically prescribe the issues as to which further evidence will be taken and no evidence will be received concerning any other matter.

157. Simultaneously with the issuance of this Report, the Commission is also issuing a Notice of Proposed Rule Making providing for bracket standards in the present monochrome system and a notice setting the date of Oct. 2, 1950, for commencement of hearings with respect to the general issues in these proceedings.

large in our thinking, and we should do our best to avoid them if possible.

The most direct effect of the adoption of incompatible color standards on the present set owner would be an immediate or eventual diminution of television service, or alternatively, the necessity of making an additional expenditure to maintain the usefulness of his set. To the extent that the proposed field sequential standards are utilized the present set owner would be unable to make use of his receiver. Although color broadcasts may be restricted to "fringe" time in the beginning, there must eventually come a time when there are sufficient new or adapted sets in the hands of the public that color would be broadcast during the more choice hours. At that point the present set owner would be forced either to buy a new set,¹ adapt his present set if that is practicable, or give up virtually all television service. I feel that there is a moral obligation on this Commission to insure that valuable programming service will continue to be rendered to present set owners, both day and night, for a reasonable period, e.g., three to five years, without the necessity for making any expenditure to change their sets.

Although the record in this proceeding indicates that many sets may be adapted for \$32 to \$50, it is also clear that other sets might require more expensive changes to be enabled to receive field sequential color broadcasts even in black and white. The problems posed by the necessary servicing of such installations have not been fully explored—many sets may have to be returned to the factory, sufficient properly trained service personnel may not be available, and the cost of labor for even a home installation may greatly increase the difficulty of adaptation. And it must be remembered that with all this the set owner may have an additional gadget to place on his receiver, the receiver will probably be more complicated to operate, and the geometric resolution of the picture he receives will be reduced without the compensating advantage of color.

¹ I include the possibility of converting present sets for the reception of color broadcasts in color with this alternative. The change required would be quite extensive, and there is considerable question in my mind whether this course would prove popular even with the owners of sets which could be so converted. This would be true of the compatible systems as well, but in their case only those who felt that color was worth the additional expense would have to change their receivers.

The magnitude of these problems is tremendous when it is realized that estimates indicate that almost 7 million sets were in use on Aug. 1, 1950, and that there will be 10 million in the hands of the public by the end of the year.

Incompatibility will also pose a serious problem for the broadcaster, and its effects will very likely be felt by all television viewers. To the extent that there are receivers in the hands of the public which are unable to receive field sequential color broadcasts, every program broadcast under those standards entails a loss of audience for the broadcaster. Our broadcasting system is dependent for its economic existence upon advertising revenue, and the advertising value of a broadcast varies directly with the number of people which it can reach. The decision to produce a program in color will be a difficult one for the broadcaster to make if it means that the program will thereby become less saleable. The transition to color must, when viewed in this light, be long and difficult. With compatibility any program could be produced in color without loss of audience, and a great impetus would

be provided for the purchase of new color receivers.

Color television is, I feel, a great forward step, with untold potentialities for the improvement of television for education and industry as well as entertainment. But it has been decided by this Commission that the most desirable course to follow would be to allow more time for the development of all color systems, including the CBS field sequential system. In view of this fact, and the fact that the problems posed by incompatibility will be frozen at their present level, I feel that every encouragement should be given the development of a compatible color system. It would be improvident, in my view, to allow only as little as three months for such a significant and difficult development to take place. I therefore feel that the date of final decision in this matter should be postponed until June 30, 1951. I do agree with my colleagues in their evaluation of the present state of the relative development of the various proposed systems so that if by that time no significant change has occurred, I would vote for the adoption of the field sequential system.

SEPARATE VIEWS OF COMMISSIONER HYDE

I fully concur with the findings, with Paragraph 120 to 143 inclusive of the conclusions of the majority, and with the proposal to adopt bracket standards. However, I am of the firm opinion that, based upon such findings, a final decision should be issued forthwith adopting standards for the CBS color system for the cogent reasons set forth in the mentioned conclusions with which I concur, and for the following additional reasons:

First—the fact that the operation of the CBS field sequential system with a direct view tri-color tube has not been demonstrated to the Commission, does not, in my opinion, preclude a final decision at this time. I am confident that acceptable tri-color tubes will be developed in the not too distant future and that the skill and ingenuity of the electronics industry will resolve the technical difficulties still to be overcome. Further, and in accord with the views of the majority, I believe that the normal competitive forces which would be released by the final adoption of a system at this time, would hasten the development of tri-color tubes. Moreover, the unanimous opinion of the expert witnesses representing both proponents and opponents of the CBS system, who testified on this point, was to the effect that such tri-color tubes would be usable by a field sequential system. This minimizes the “speculation and hope” referred to by the majority and makes the usability of such an ultimately developed tube by a field sequential system a virtual certainty. In addition, during the interim period required to develop an acceptable tri-color tube, color television would be available to those desiring it, through the use of disc or projection equipment.

Second—I am of the opinion that such dislocation and inconvenience as will necessarily be caused by the introduction of a color system, would be minimized by definitive action now. Such dislocation and inconvenience would be magnified by the absence of final action during the period of indecision, the length of which cannot be precisely determined at this time. Purchasers of new sets who would have had the option of obtaining color sets immediately, if they so desired, will now be forced to elect either to purchase a set which will require conversion to color, or to await final action at some future undeterminable date. Manufacturers would have been able to devote their full television research facilities and energies towards the further improvement of one proven and accepted system meeting all of the criteria set forth in Paragraph 122 of the conclusions, instead of dissipating them in further attempts to surmount difficulties which may be inherent in non-field

sequential systems, such as those shown to exist in the systems demonstrated in this proceeding. Broadcasters would have been able to begin immediate experimentation with color programming techniques, assured of a progressively growing audience during the period of transition.

Third—although I agree with the majority that the adoption of bracket standards will minimize further aggravation of the existing problem of compatibility, the majority discards too lightly the fact that the important problem of convertibility to color will be progressively worsened by each day of delay, and with each set manufactured.

Fourth—I am in full agreement with the majority's fear, as expressed in Paragraph 148 of the conclusions, that “one of the easiest methods of defeating an incompatible system is to keep on devising new compatible systems in the hope that each new one will mean a lengthy hearing so that eventually the mere passage of time overpowers the incompatible system by the sheer weight of receivers in the hands of the public”. The past history of these proceedings clearly shows that the danger feared by the majority of the possibility of unwarranted and costly delays hindering the introduction of color television is all too real. I am, therefore, of the opinion that the surest method to obviate the risk of unnecessarily delaying color would be to make a final determination at this time.

However, despite our differences as to methods to be used to achieve our aim, I am confident that all the Commissioners and the responsible members of the industry are as eager as I to terminate these proceedings with the adoption of a system meeting all of the mentioned criteria set forth in Paragraph 122 of the conclusions, and to expedite the use and enjoyment of color television. Accordingly, I hope that the fears expressed by the majority and by me will not be realized, and that industry will cooperate with the Commission in reaching the goal by not requesting unnecessary or unwarranted delays. Such delaying tactics would receive the short shrift they merit at the hands of the full Commission, in accord with avowed views of the majority as specifically set forth in Paragraphs 154 to 156 of the conclusions. Although, as I have heretofore stated, I am in favor of a final decision now, the Commission by majority vote has selected a different procedure for the termination of these proceedings. Accordingly, I concur especially with those conclusions which place stringent limitations on the reopening of the record and which restrict the issues and scope of the further proceedings in the event the record is reopened.

SEPARATE OPINION OF COMMISSIONER JONES DISSENTING IN PART

I certainly join in all the findings and the conclusions up to and including paragraph 143, unanimously adopted by the Commission. These findings and conclusions establish that CBS is the superior color system and the only system ready for adoption. The reasons for my dissent from the majority's action are:

1. I dissent because there is a fundamental disagreement between the majority and myself. Stated as succinctly as possible, that fundamental disagreement between us is that I am for color *now*. Whatever the protestations or words of the majority, their action on this day is most certainly *against* color *now*.

2. Two systems, RCA's and CTI's, claimed at the beginning of the hearing to be fully compatible and to render a high standard of performance. They failed on both accounts throughout 9700 pages of record and in the individual and comparative demonstrations held over an eleven-month period.

3. The third system, CBS's, fully complied with the Commission's Public Notice of May 1949 and its formal proposal of July 1949 commencing these proceedings. CBS successfully demonstrated on the same record and in the individual and comparative demonstrations during the same period that it was adaptable—that satisfactory black and white pictures could be received from CBS color signals with minor modifications on existing sets at relatively minor cost.

4. The Commission unanimously finds that CBS field sequential color is superior to RCA dot sequential color and CTI line sequential color.

5. As a system, CBS now fully complies with the criteria unanimously adopted by all seven Commissioners and described in paragraph 122.

6. The Commission unanimously has said about CBS color, and I heartily agree, that it produces a color picture that is most satisfactory from the point of view of "texture", "color fidelity" and "contrast". Receivers and station equipment are simple and easy to operate. It has found that the CBS picture "is bright enough and has sufficient contrast range to be entirely adequate for use in the home under normal viewing conditions". It has concluded that despite the fact the CBS system has less geometric resolution than standard monochrome, "the addition of color more than outweighs the loss in geometric resolution so far as apparent definition is concerned". It has found that compared to present commercial black and white television, interference factors are substantially the same. As a matter of fact, the Commission expressly states: "On the basis of this record, the CBS color system is at least as fully developed as was the black and white system in 1941"—when standards were set for commercial black and white set operation. The obvious question naturally poses itself: Why, if these things are true, do the majority not adopt final standards for field sequential color? In assigning "reasons" for not adopting final standards for field sequential color, the majority has invented new hurdles for color to jump when the old hurdles have been overcome.

7. The majority promises that these hurdles will be cancelled in thirty days if the industry does not build bracket standards into a substantial number of black and white television receivers produced hereafter. Thus the majority abandons its power to now decide the color question on the merits—after it has found that field sequential color is superior and is ready now. It lets the television industry decide whether we will have field sequential color thirty days from now or whether we will wait until January 1951, or perhaps throw the system out completely.

8. The Commission says "if a satisfactory compatible system were available, it would certainly be desirable to adopt such a system"; that based upon a study of the history of color development over the past ten years, "from a technical point of view compatibility . . . is too high a price to put on color". Nevertheless, it abandons its op-

portunity to finalize on the successful incompatible system in favor of a possible decision by any one in the television industry to try any other color system.

9. In view of the consistent record of the industry thwarting color for ten years,¹ the Commission gambles with the only proponent who has advanced a successful system of color television these ten long years. Although the majority claims that the status quo will be maintained by a promise of the industry to build bracket standards into a substantial number of new black and white receivers, color still is not being fostered commercially and only black and white is being fostered. The majority says "one of the easiest methods of defeating an incompatible system is to keep on devising new compatible systems in the hope that each new one will mean a lengthy hearing so that eventually the mere passage of time overpowers the incompatible systems". In its attempt to relieve the compatibility problem, during the period of more delay, the majority overlooks the fact that because the percentage of sets capable of receiving CBS color signals in black and white goes up, color is not promoted one iota.

10. The majority decides: A demonstration of the direct-view tri-color tube with the CBS system is *unnecessary* if a substantial percentage of black and white receivers hereafter produced do not contain bracket standards. If such sets do contain bracket standards, the majority avoids finalization because it wants such a tube demonstrated.

11. The majority decides more information on horizontal interlace is unnecessary if a substantial percentage of black and white receivers hereafter produced do not contain bracket standards. If they do, the majority again avoids finalization because, it says, it wants to know more about horizontal interlace. But it has found that the apparent definition of CBS color pictures is already satisfactory without horizontal interlace. So why wait?

12. The majority decides that it need not further consider the development of long persistence phosphors if a substantial percentage of black and white receivers hereafter produced do not contain bracket standards. If they do, the majority again avoids finalization because it wants to know more about long persistence phosphors. The Commission, however, as a part of this decision would force the industry to adopt bracket standards in black and white receivers without requiring any further proof or field testing of long persistence phosphors. Why, therefore, shouldn't we treat color in the same way?

13. We either need more information concerning direct-view tri-phosphor color tubes, long persistence phosphors and horizontal interlace, or we do not, irrespective of what the industry position is. Since the Commission will finalize CBS color if the majority of the manufacturers refuse to build bracket standards in a substantial majority of black and white sets hereafter produced, then it necessarily follows that the findings of fact amply support such action right now.

14. I agree with the majority that we ought to propose the adoption of bracket standards. I do not, however, believe that consideration of these standards should be permitted to delay a final color decision.

15. Had the Government thrown its weight against the public's desire to buy and play with crystal sets, against receivers with morning glory loud speakers and howling signals, on the theory that radio should not be commercialized until superheterodyne and FM were invented, the tycoons of television would be dwarfs today and the radio industry would be but a feeble voice in America. Today we have a color system that has long since passed the howling speaker and crystal set stage. All of the Commissioners have agreed that the field sequential system is as good as black and white was in 1941 when commercial standards were set. Every proceeding must come to an end sometime. The Commission has tested the opinions

¹ See the Annex to this opinion.

of the whole industry in the crucible of exhaustive public hearings. It has determined those positions that have been unsound, lacking in imagination, and based upon fear of competition of color with black and white television. The impurities of engineering and economic thought have been burned out by the findings and conclusions to which I adhere. The industry should examine carefully the refined ore so that it may align itself with the public interest. The Commission, on the other hand, should by final

decision now cut the Gordian knot which has bound color television for ten years.

Editor's Note: Appended to Mr. Jones' opinion is Annex totaling 80 single-spaced typewritten pages, presented as "a study of the disgraceful treatment of the field sequential system by the industry from 1940 to date." It is omitted for space reasons.

Notice to Manufacturers

FCC Proposal Regarding 'Bracket Standards'

(Full Text of FCC Public Notice No. 50-1065, Adopted Sept. 1, 1950)

SECOND NOTICE OF FURTHER PROPOSED RULE MAKING

1. Notice is hereby given of further proposed rule making in the above-entitled matters.

2. The Commission proposes to amend Part 3, Subpart E, of its Rules and Regulations ("Rules Governing Television Broadcast Stations") and Sections 1 and 2 of its Standards of Good Engineering Practice Concerning Television Broadcast Stations, in accordance with the "First Report of the Commission (Color Television Issues)" (FCC 50-1064) issued in these proceedings simultaneously with this Notice. Because of the size of the Report, it is not attached to this Notice, but copies of the Report are available on request at the offices of the Commission. However, for information of interested persons, paragraph 151 of that Report, relative to the adoption of bracket standards, is quoted, as follows:

151. In order to accomplish this purpose, the Commission simultaneously with the release of this Report is issuing a Notice of Proposed Rule Making providing for bracket standards in the present monochrome system. These bracket standards provide for a television composite video signal of substantially the type and proportion now employed in monochrome, but with the number of lines variable from 15,000 to 32,000 per second, and number of fields ranging from 50 to 150 per second.³³ Receivers built to incorporate such bracket standards would be equipped with a manual or automatic switch to select instantaneously between two sets of standards falling within the above ranges, one of which will be the present monochrome standards, and the other the CBS proposed standards. The receiver would produce pictures of equivalent size, geometrical linearity and brightness on each of the two positions of the switch. Interested persons are given until Sept. 29, 1950, to submit comments. In addition, manufacturers are requested to submit a statement as to whether if the bracket standards are adopted they would, commencing with the effective date of the order adopting the bracket standards as final—30 days after publication of the order in the Federal Register—build all their television receivers so as to be capable of operating within the above brackets. If, on the basis of the comments submitted, the Commission is able to adopt the bracket standards as final without a hearing and if the Commission receives assurances from a sufficient number of manufacturers to insure that such bracket standards will be incorporated in the great majority of television receivers, then we will be in a position to postpone a decision in this proceeding since we will have the time to explore more fully the matters set forth above, confident in the knowledge that adequate provision has been made to prevent aggravation of the compatibility question. If the bracket standards cannot be made final without a hearing or if assurances are not received from a sufficient number of manufacturers concerning their plans for incorporating bracket standards in their receivers, the Commission will not feel free to post-

³³ The Notice provides that if the brackets are adopted, television broadcasters will continue, until further order of the Commission, to broadcast in accordance with present standards—15,750 lines per second and 60 fields per second.

pone a decision, for every day that passes would aggravate the compatibility problem. In that event, a final decision would be issued adopting the CBS color standards.

3. The amendments proposed by this Notice provide for bracket standards as follows:

a. The scanning line frequency shall be within the bracket 15,000 to 32,000 per second.*

b. The field frequency shall be within the bracket 50 to 150 per second.*

In other respects the transmission standards would not be changed by this Notice.

4. On or before Sept. 29, 1950, any interested person who is of the opinion that the amendments proposed in Paragraph 3 of this Notice should or should not be adopted, or should not be adopted in the form set forth, may file a written statement setting forth his comments or proposed amendments.

5. All manufacturers of television receivers are requested by the Commission to submit comments in accordance with Paragraph 4 of this Notice, and to include in such comments an affirmative statement as to whether such manufacturers would, commencing with the effective date of the adoption of bracket standards,** design and manufacture all their television receivers so that:

(a) Such receivers would be capable of operating within the brackets set forth in Paragraph 3 of this Notice;

(b) Such receivers would be equipped with a manual or automatic switch so as to be able to select one of the following two sets of standards:

(i) 15,750 lines per second and 60 fields per second.

(ii) 29,160 lines per second and 144 fields per second.

(c) Such receivers would be capable of producing monochrome pictures of equivalent size, geometric linearity and brightness on each of the above two sets of standards.

6. In accordance with Section 1.754 of the Commission's Rules and Regulations, an original and 14 copies of such written statement shall be filed with the Commission.

7. Authority to issue the proposals herein is vested in the Commission by Sections 4(i), 301, 303(a), (b), (c), (d), (e), (f), (g), (h) and (r) of the Communications Act of 1934, as amended.

* Until further order, television stations shall utilize the following standards: the number of scanning lines shall be 15,750 per second, and the number of fields shall be 60 per second.

** An order of the Commission adopting the bracket standards would become effective 30 days after its publication in the Federal Register.

ADDING TO THE TV PRICE SPIRAL: Any way you look at it, FCC's "color scheme" would inevitably force another increase in prices of TV receivers -- another in a series of increases that have already occurred and are likely to occur. This is clear not only from preliminary cost estimates of proposed adapters and converters (see story on pages 4-5 of first section) but from other more immediate factors:

(1) Shortages of components and rising costs, causing interrupted production lines, coupled with prospect of war production, have already led to imposition of price increases by all manufacturers of any consequence. Six companies announced further hikes this week, 3 going into second round. And, illustrating acuteness of shortage situation, DuMont was forced to shut down receiver production entirely this week, awaiting supplies. Others say they're operating nip and tuck, on day to day supply basis -- simply hoping for best.

(2) 10% manufacturers excise on TVs must be passed on to customer, probably will amount to 6-10% at retail when put into effect, probably Oct. 1 (Vol. 6:34-35).

(3) Oscillator radiation, which set makers are attacking seriously, must inevitably cost money to eliminate -- and no one thinks it can be done cheaply. This is proving to be one of TV's most irksome problems (Vol. 6:23).

(4) UHF may be with us soon -- if FCC so decrees after upcoming freeze hearings -- and that could mean further adaptation and/or conversion if vhf-uhf channels are assigned to same areas. That, too, can't be done on the cheap.

Add the imposition of FCC's "bracket standards," involving like-it-or-not costly adapters to future and existing sets; take into account higher costs of color TV sets themselves -- and you face a spiraling of prices that may throw TV purchasing back to 1946-47, when sets were commonly regarded as "rich man's plaything".

* * * *

Air King, Tele-tone and Zenith announced second price increases this week. And Hallicrafters, Olympic and Sentinel were added to list of 28 firms previously announcing hikes (Vol. 6:35). All gave higher components costs, shortages and interruptions to production as reasons. [For details, see Topics & Trends, p. 3.]

DuMont's Labor Day week of 4 days saw complete shutdown of receiver plant, but not CR tube production. Set production is due to resume next week, when sufficient stockpile of scarce items may assure no further interruption for awhile. Whether DuMont will continue to ship without some tubes, isn't stated; most manufacturers take dim view of method, think whole set must be tested on 'hot line' -- one even asserting: "Shipping without tubes is like shipping cars without engines."

* * * *

Intended frankly as brake on buying, new Regulation W was announced Friday by Federal Reserve Board, effective Sept. 18. Among other things, it requires 15% down payment, with no more than 18 months to pay, on TVs, radios and other appliances now often sold with only 10% or no down payments and 2 years or more maturity. Items selling for less than \$100 are exempt from down payment requirements, but must be paid off within the 18-month time limit. And as we went to press, President Truman was preparing to make another fireside chat Saturday night explaining home front mobilization, including plans to allocate scarce materials, give priority to defense contracts, finance defense plant expansions, control inventories, discourage hoarding, etc.

* * * *

Note: Feverish rate of current production is indicated by industry figures for first 3 August weeks (projected from RTMA). They show 159,755 TV sets produced first week, 175,609 second, 179,032 third -- total of 514,396. Radios numbered 276,264, 330,554, 299,689 -- total 906,507.

NEW PICTURE TUBES DUE IN FALL-WINTER: First of the big tubes (above 20-in.) to appear in sets is likely to be DuMont's 30-in. (Vol. 6:12,21,27,28). Dr. DuMont expects to have them in "fair amount" of receivers by October or November, consoles only. His own sets will take all he can make, he says.

Prospect of military orders hasn't interrupted plans for 30-in., says DuMont, pointing out that huge units will also have number of military applications -- radar, classroom instruction, etc.

Except for 30-in., work on new tubes seems most heavily concentrated on new 17 & 21-in. metal-coned rectangulars, with tough production problems fairly well licked. RCA has already sampled 17-in., but large-scale production and delivery isn't expected until December. RCA hasn't yet decided what next larger size will be, but it's definitely planning one in 21-to-23-in. range -- nothing bigger now.

Sylvania expects to sample 17 & 21-in. in about 60 days, make deliveries during first quarter 1951. DuMont intends to have 17-in. out before end of year, 21-in. a little later.

Production of 24-in. is less definite. GE is "going ahead with plans" (Vol. 6:19), but doesn't indicate when 24-in. sets will appear. Sylvania reports that mobilization uncertainties have slowed its 24-in. plans. DuMont doesn't intend to make anything between 21 & 30-in.

* * * *

Production of glass blank makers Corning and American Structural Products Co. is currently as follows:

Corning: Making 12½-in. only for replacement and for Philco's special shape (Vol. 6:25); 14-in. rectangular volume small, "almost obsolete,"; 17-in. rectangular is the big item, with 16-in. rectangular and round fast fading; 19-in. round output small; 20-in. rectangular production just beginning; 24-in. rectangular in planning stage, production probable, but not until next year; no other sizes contemplated.

ASPC: No 12½-in.; 14-in. rectangular running about 10% of total, with "re-
vival of interest in it during last month"; 16-in. rectangular accounts for almost all the rest, with 17-in. deliveries just starting; 19-in. rectangular still indefinite as far as actual production dates concerned; no firm plans for still larger sizes; no rounds have been made for 3 months.

Glass makers have no fears of raw material shortages, although there has been some trouble getting soda ash because of a strike. Even metal cone tubemakers don't seem worried about steel shortages. However, it's generally agreed steel would run short before glass, if mobilization went into high gear.

Trade Personals: Scott W. Donaldson, deputy asst. Secretary for the Air Force, Sept. 15 joins Tele King as v.p.; he's former sales mgr. for A. S. Aloe Co., St. Louis (hospital & surgical supplies), later was asst. to Surplus Property Administrator . . . Robert S. Bell, v.p. & asst. gen. mgr., promoted to executive v.p. of Packard-Bell . . . B. L. Bethel, ex-Zenith, Bendix, Muter and Stewart-Warner, named v.p. in charge of purchasing for John Meck Industries . . . Harold R. Terhune, ex-RCA Victor, joins Mycalex Tube Socket Corp. as v.p. in charge of standards dept. . . . John M. Miller Jr., principal TV receiver engineer, promoted to chief engineer of Bendix TV-radio research and engineering dept.

One newspaper page that folds over into 16, offering daily TV schedules for following week, plus editorial commentaries and "full page" ads opposite, is new wrinkle in publication of advance TV program schedules started in *Washington Post Sun.*, Sept. 3. Section is called *TV Week*. Readers are instructed how to fold and trim, so that 5½x7½-in. "booklet" is made handy for daily reference. First issue had 8 "full-page" ads, mostly dealers, plus "cover" picture and back-page house ad.

RTMA Parts Division chairman R. G. Zender, Lenz Electric Mfg. Co., has appointed 1950-51 section chairmen as follows: G. O. Benson, Premax, antenna; K. E. Rollefson, Muter, ceramic capacitor; Edwin I. Guthman, coil; W. Myron Owen, Aerovox, fixed capacitor; D. S. W. Kelly, Allen-Bradley, fixed resistor; R. L. Triplett, instrument & test equipment; Jay H. Johnson, Johnson & Hoffman, metal stampings & metal specialties; S. N. Shure, phonograph cartridges, pickups & microphones; H. E. Moon, General Industries, record changers & phono-motor assemblies; Lester W. Tarr, Cinch Mfg., socket; Matt Little, Quam-Nichols, speaker; Wm. H. Welsh, speaker parts; W. R. McLeod, King Labs, special products; W. S. Parsons, Globe-Union, switch; L. S. Racine, Chicago Transformer, transformer; S. L. Gabel, Superior Tube, tube parts; Russell E. Cramer Jr., Radio Condenser, variable condenser; Victor Mucher, Clarostat, variable resistor; John S. Miller, Cornish Wire, wire; Roy S. Laird, Ohmite, wire wound resistor & rheostat.

Western Merchandise Mart's winter market has been set for Feb. 5-9 inclusive, combined with Western Gift, Toy & Housewares Show.

Topics & Trends of TV Trade: Probably epitomizing the reaction of TV distributors to FCC color report, is this missive received from Richard S. Levy, of W. Bergman & Co., Philco distributor for Buffalo area, representing second generation management, engineering-graduate type of distributor who follows main trends more closely than ordinary run of merchandiser. His note was mailed Sept. 1, same day report was released, so represents an instant reaction:

"We think the mountain has gone through mock labor to produce a mouse. The pro-CBS leanings are disturbing from a common sense standpoint. What will 100,000-plus TV owners here do—"wait and see" again before spending money for modification? And will our lone telecaster or future telecasters wait until an audience develops from new sets (possibly made by reluctant manufacturers) or modified by a cautious public?

"I dread the thought of starting the cycle all over again, when we really should know better."

If these reactions are typical, they represent a lot of grass roots influence. There are an estimated 1500 distributors, 30-40,000 dealers (Vol. 6:8)—besides 7,500,000-plus set owners now. And there will very likely be 10-, 000,000 sets in homes by year's end when volume of adapted sets, let alone color sets, will still be insignificant—regardless what FCC, CBS or manufacturers do.

* * * *

TV-radio manufacturers are again major sponsors of network TV programs, as new fall-winter schedules start this month—with NBC-TV having most sponsors but CBS-TV having more actual time sold in that classification. On NBC-TV are: Admiral, *Lights Out*, Mon. 9-9:30 on 53 stations; Crosley, *Saturday Night Revue*, 10-10:30 segment on 46; Emerson, *The Clock*, alternate Fri. 9:30-10 on 31; Philco, *TV Playhouse*, Sun. 9-10 on 60; RCA, *Kukla, Fran & Ollie*, Mon. & Fri. 7-7:30 on 55. In addition, Motorola is reported to have signed for every fourth Wed. 8-9 starting Oct. 4.

On CBS-TV are: GE, *Fred Waring Show*, Sun. 9-10 on 44 stations (resumes Sept. 24); Magnavox, *Magnavox Theatre*, alternate Fri. 9-10 on 17 (starts Sept. 15); Sylvania, *Beat the Clock*, Fri. 10:30-11 on 20 (starts Sept. 29); Westinghouse, *Studio One*, Mon. 10-11 on 45.

On ABC-TV are: Admiral, *Stop the Music*, Thu. 8-8:30 on 29 stations; Philco, *Don McNeill Show*, Wed. 9-10 on 39 (starts Sept. 13). And on own network, DuMont sponsors *Morey Amsterdam Show*, Thu. 9-9:30 on 45. Many other manufacturers, of course, are using local radio and TV spots, with Hoffman making extensive use of both media.

* * * *

Olympic hiked prices on 6 of its 17 sets \$10 to \$20. The new prices (increases in parentheses) are as follows; for description of sets see *TV Directory No. 11*:

16-in. rectangular: Model 762 Riviera, \$269.95 (\$20); 753 Monte Carlo, \$299.95 (\$10); 753B, \$314.95 (\$10); 764 Broadmoor, \$329.95 (\$10); 764B, \$349.95 (\$10).

19-in. round: DX932 Diplomat, \$389.95 (\$20).

* * * *

Sentinel raised prices \$10 on 2 sets, \$20 on remaining 7 models in new line (Vol. 6:32). New prices (increases in parentheses):

16-in. rectangular: Model 420TVM, \$259.95 (\$20); 423CVM, \$299.95 (\$10); 423CVB, \$309.95 (\$10); 424CVM, \$349.95 (\$20); 424CVB, \$369.95 (\$20).

19-in. round: 428CVM, \$379.95 (\$20); 428CVB, \$399.95 (\$20); 425CVM, \$449.95 (\$20); 425CVB, \$469.95 (\$20).

For description of sets, see *TV Directory No. 11*.

Zenith boosted prices \$10 to \$55 on all sets, including 6 of those raised month ago (Vol. 6:31). New prices are as follows (amount of increase in parentheses); for description of sets see *TV Directory No. 11*:

12½-in. (all up \$10): H2227R, \$189.95; H2227E, \$199.95; H2226R, \$209.95; H2250R, \$249.95; H2255E, \$269.95.

16-in. rectangular: H2329R, \$249.95 (\$10); H2328R, \$259.95 (\$10); H2352R, \$319.95 (\$20); H2353E, \$329.95 (\$20).

16-in. round: H2438R, \$319.95 (\$20); H2449E, \$339.95 (\$20); H2439R, \$359.95 (\$10); H2437R, \$379.95 (\$20); H2437E, \$399.95 (\$20); H3267R, \$489.95 (\$20); H3475R, \$549.95 (\$25); H3469E, \$599.95 (\$50).

19-in. round: H2447R, \$429.95 (\$30); H2445R, \$479.95 (\$30); H3477R, \$695 (\$45); H3478E, \$750 (\$55).

* * * *

Tele-tone increases cover 18 of 21 sets, with hikes of \$10 to \$60. This follows first increases on 9 out of 12 sets of regular line month ago (Vol. 6:31). Following are new prices (increases in parentheses); for description of sets see *TV Directory No. 11*:

14-in. rectangular: Model 322, \$169.95 (\$20); 323, \$179.95 (\$10); 318, \$189.95 (\$10); 314, \$199.95 (\$20).

16-in. rectangular: 335, \$239.95 (\$20); 325, \$259.95 (\$20); 325R, \$309.95 (\$40); 326, \$299.95 (\$20); 326R, \$349.95 (\$50); 330, \$249.95 (\$20); 310, \$349.95 (\$10); 331, \$369.95 (\$20); 332, \$369.95 (\$20); 333, 369.95 (\$20).

17-in. rectangular: 336, \$219.95 (\$30); 327, \$399.95 (\$30). 19-in. round: 329, \$349.95 (\$60); 328, \$369.95 (\$30).

* * * *

Halicrafters raised prices \$4 to \$40 on 14 of 18 sets. New prices (increases in parentheses) are as follows; for description of sets see *TV Directory No. 11*:

16-in. rectangular: Model 810, \$239.95 (\$40); 815, \$259.95 (\$10); 811, \$279.95 (\$10); 805, \$289.95 (\$10); 806, \$299.95 (\$4).

16-in. round: 822, \$319.95 (\$20); 818, \$339.95 (\$10).

17-in. rectangular: 870, \$319.95 (\$20); 871, \$339.95 (\$20); 820, \$359.95 (\$10); 821, \$389.95 (\$10); 860, \$459.50 (\$10); 861, \$499.50 (\$10).

Only 19-in., 880, was boosted \$20 to \$399.95.

* * * *

Air King raised prices \$10 to \$30 on 4 sets in line for second time in month (Vol. 6:32) and for first time on 2 other models, also discontinued 12½ and 14-in. production. New prices (increases in parentheses) follow; for description of sets, see *TV Directory No. 11*:

16-in. rectangular: Model 16M1, \$219.95 (\$20); 16T1, \$249.95 (\$10); 16C1, \$299.95 (\$20); 718, \$349.95 (\$20); 16K1, \$429.95 (\$30).

19-in. round: 19C1, \$379.95 (\$20).

* * * *

New private label TV with AC-DC, for New York's reported 400,000 families with direct current power, has been put on market by Raytheon distributor Colen-Gruhn Co. Bearing name "Gotham Visionaire", line of 12½-in. sets consists of table at \$240, console \$270, period console with doors \$340. Sets are made by Harold Shevers Inc.

Sears Roebuck's fall-winter catalog lists 2 new Silver-tone sets—16-in. rectangular in mahogany table, \$220; same in console with AM-FM-phono, \$350. Reduced was 16-in. rect. in metal table from \$210 to \$180.

Two of larger military contracts for electronics equipment announced by Commerce Dept. for week ended Sept. 5 (both let through Signal Corps, Philadelphia): Sperry Gyroscope, \$242,356, electron tubes (2824 units); Transmitter Equipment Mfg. Co., Inc., New York, \$192,928, radio terminal sets (23 units).

Joint Electronics Industry Committee, top level group of 22 formed to advise on industry's part in defense mobilization (Vol. 6:32), added 4 members at New York meeting Sept. 5: John W. Craig, Crosley; Allen B. DuMont; Harry A. Ehle, International Resistance; H. L. Hoffman, Hoffman Radio. Organizational meeting in office of Western Electric's Fred Lack designated him officially as chairman, with these aides: John L. Sullivan, ex-Secretary of Navy, counsel; H. G. Beauregard, of Sullivan's Washington law office, secy.; Commodore J. K. Richards, executive director of National Security Industrial Assn., treas.; Patterson Humphrey, NSIA communications specialist, asst. treas. Headquarters are in Mr. Sullivan's Washington office, 804 Ring Bldg.

FCC's color report brought into being unusual organization. Assn. of Tele-Viewers, 1737 DeSales St. NW, Washington, issued widely published press release Friday, stating: "The need for the [association] has been brought into sharp focus by the recent announcement of the FCC's contemplated decision to authorize a non-compatible color TV system which, it is feared by the ATV, will relegate the present TV audience of 25,000,000 to 'second class tele-viewing.'" First job, it said, was to get FCC to reopen hearing to get testimony from public. Handling public relations is Charles E. V. Prins, formerly public relations director of Office of Defense Transportation, now on his own. He identified 4 of 7 board members of "non-profit educational" group as follows: John M. Carmody, ex-Administrator, Federal Works Agency, now consultant; H. D. Cleveland, chairman of John S. Emery Inc., New York shipping firm; J. Hobart Hutchinson, financial secretary of IBEW-AFL's local in Chicago (its largest—15,000 members), with dominance in Admiral, Rauland and Webster-Chicago plants, among others; George L. Shields, independent Hollywood film producer. Organization was "spontaneous," says Prins, but impression given is that he's guiding light. He insists group has no connection with industry. RTMA and RCA say they never heard of group. In Washington offices of IBEW, Lawson Wimberly, asst. to president, had no knowledge of ATV. He said both CBS and RCA had tried to get IBEW to intervene in color squabble, but union refused. Prins said group has enough finances "to do what we're doing. But we may accept memberships from public later, at nominal fee."

"Who's Kid'n Whom?" heads managing editor Earl Lifshy's column in Sept. 5 *Retailing Daily*, in which he takes strong issue with RTMA president Robert C. Sprague's assertion that there are enough parts for replacement market (Vol. 6:34-35). "There are just not enough tubes and components available (or in sight) to take care of both the record TV production and the servicing requirements of sets already sold," said Lifshy. Manufacturers, he says, are choosing to use scarce supplies for new sets, not replacement—and he warns they may wake up later "with a belly-full of irate customers."

Pacific Electronic Exhibit in Long Beach (Cal.) Auditorium, Sept. 13-15, has more than 120 exhibitors, including such TV and radio set producers as DuMont, GE, Hoffman, RCA, Westinghouse. Most others are component makers. During same dates, Pacific IRE convention meets—with more than usual interest in banquet speech and TV symposium to be conducted by FCC Comr. George Sterling, during which he inevitably will be asked questions on FCC color decision. On panel are: James McLean, Philco; Cameron Pierce, ABC; Merrill Trainer, RCA; Robert Sanders, Hoffman.

Motorola earnings for full year 1950 may exceed \$14 a share under present tax rates, according to C. F. Wagner, of Shearson, Hammill & Co.

Financial & Trade Notes: International Resistance Co., largest of resistor manufacturers, reports sales of \$4,629,646 for period Jan. 1 to June 25, 1950 and profit of \$417,447 or 45¢ per share on 896,297 common shares outstanding. This compares with \$3,086,287 sales and \$169,465 profit (17¢ on 755,419 shares) for equivalent 1949 period. Increase in common resulted from 2-for-1 conversion of preferred. President Ernest Searing stated firm is expanding facilities to meet increasing demand, having arranged for 3½% loans up to \$1,200,000 from two local banks for expansion and working capital.

Olympic sales for 6 months ended June 30 reached record total of \$7,702,377 vs. \$3,400,128 in same 1949 period, and came within 20% of \$9,609,672 total for all 1949. Profit for first 6 months this year was \$479,135, or \$1.44 per share on the 322,974 shares of common outstanding at June 30, as against \$162,959 (49¢) for same period last year. Present plans are for output of 100,000 TV sets during last 6 months of year, but president Adolphe Juviler says military orders and "growing stringency" in components may preclude this goal.

General Instrument Corp. has called stockholders meeting Oct. 2 to authorize increasing authorized common from 700,000 (486,858 issued) to 1,500,000 shares as preliminary step in providing for long-term financing program. Plans are to acquire Midwest factory. For 4 months ended June 30, sales were reported at \$7,304,909 vs. \$3,057,643 for same 1949 period; net income after all taxes \$343,100 vs. loss of \$204,266 for same 1949 period.

Collins Radio Co. sales were \$12,400,000 for fiscal year ended July 31 vs. \$9,675,000 in preceding year. Subject to audit, net profits are estimated at \$400,000 vs. \$290,605. President Arthur A. Collins reports company has backlog of \$45,000,000 in govt. and civilian orders, compared with \$21,000,000 on July 31, 1949 and \$25,000,000 as of Jan. 31, 1950.

Cornell-Dubilier sales for 9 months ended June 30 were \$19,432,514, net income \$970,148 or \$2.15 per share on 423,485 common shares outstanding after allowing for preferred dividends. Comparative figures for same 1949 period are unavailable. For 6 months ended March 31, net income was \$554,823 (\$1.21) on \$10,167,358 sales.

Dividends: Admiral regular quarterly dividend of 25¢ is payable Sept. 30 to stock of record Sept. 18 . . . Arvin (formerly Noblitt-Sparks) dividend of 50¢ is payable Sept. 30 to stock of record Sept. 18; this is equal to 75¢ on old shares, a 50¢ stock dividend having been paid July 6 . . . Corning Glass regular quarterly 25¢ dividend is payable Sept. 30 to stock of record Sept. 19 . . . Muter, quarterly dividend of 15¢ is payable Sept. 30 to stock of record Sept. 15.

Radio Condenser Co. Ltd., Toronto subsidiary of Trenton manufacturer, plans new \$250,000 factory which when completed next March will employ 200 in manufacture of TV tuners, variable condensers, etc. . . . Packard-Bell has awarded contract for new \$200,000 building to be completed in November; it will add 50,000 sq. ft., adjoining present 54,000-ft. factory in Los Angeles.

TV set maker Earl Muntz, once Los Angeles used car dealer, has announced plans to produce new auto capable of 140mph and selling for about \$5000. Muntz Car Co. Inc. has been chartered in Illinois, with authority to issue 2,000,000 shares of no par common stock, initial financing to come from 275,000 shares at \$1 each.

Television-Electronics Fund Inc. is new name of Television Fund Inc., open end investment trust, approved this week by stockholders (Vol. 6:33).

Looking to End of TV Freeze

Order & Appearances for Hearing on General Issues

(Scheduled to be Conducted Before FCC En Banc Oct. 2, 1950; Docket No. 8736)

With Gist of Comments and List of Opposition Witnesses

Adopted Sept. 1, 1950, and Released as FCC Public Notice No. 50-1066

For text of proposed rules and allocations, see Supplement No. 64 as corrected by Supplement No. 66

For digests of oppositions, see Supplements No. 67 to 67G

In the Matters of
 Amendment of Section 3.606
 of the Commission's Rules
 and Regulations. } Docket Nos. 8736 and 8975

Amendment of the Com-
 mission's Rules, Regulations
 and Engineering Standards
 Concerning the Television
 Broadcast Service. } Docket No. 9175

Utilization of Frequencies
 in the Band 470 to 890 Mcs.
 for Television Broadcasting. } Docket 8976

FIFTH NOTICE OF AMENDMENT OF
 Notice of Further Proposed Rule Making
 and
 Notice of Hearing and Order of Testimony
 (General Issues)

1. Testimony relating to the general issues listed in the attached Appendix will be heard by the Commission on Oct. 2, 1950, at 10 A.M. in the U.S. Department of Commerce Auditorium, 14th Street between E Street and Constitution Avenue N.W., Washington, D. C.

2. Parties listed in the attached Appendix will be permitted to testify if they so desire, in support of general comments contained in their filed statements. Parties who have filed statements herein which combine general proposals and proposals for the allocation of specific channels to specific communities will not be permitted to testify concerning such specific proposals at this time.¹ At a later date, the Commission will issue a Notice scheduling the hearing on such specific proposals and listing the parties entitled to participate therein. Parties listed in the attached Appendix who desire to rest on their written comments heretofore filed, and who do not desire to testify, are requested to so advise the Commission Counsel in advance of the commencement of this portion of the hearing. Accordingly, parties desiring to testify should take into account that all listed parties may not desire to be heard, and should plan their availability with this in mind.

3. Commencing on June 5, 1950, the Commission heard testimony with respect to paragraph "11" of the "Notice

¹ The overall allocation plan proposed by Allen B. DuMont Laboratories, Inc. [Television Digest Supplement No. 68] will be considered at the inception of the subsequent portion of the hearing relating to allocation of specific channels to specific communities. Parties who have filed comments with respect to the specific allocations proposed by DuMont will be heard at that time.

of Further Proposed Rule Making" (FCC 49-948) issued herein on July 11, 1949, concerning the following issue:

"To receive evidence and data with respect to the question whether there should be an allocation of the band 470-500 Mcs. to multi-channel broadband common carrier mobile radio operation in lieu of television broadcasting."

Parties who presented testimony in support of the above allocation and who completed their direct cases were Bell Telephone Laboratories, Inc., United States Independent Telephone Association, National Mobile Radio System and Mutual Telephone Company. Parties who opposed said allocation were Television Broadcasters Association, Allen B. DuMont Laboratories, Inc., and Philco Corporation and Philco Television Broadcasting Corporation. The three opposing parties were permitted to make limited presentations and were granted leave to "make a complete showing on their affirmative case in connection with the further hearings to be had herein relating to the promulgation of television rules and standards and the allocation of television channels in the UHF band." The above ruling provided further that "At the time of such presentation, the common carrier parties who have appeared herein with respect to the issue now being tried will be afforded an opportunity to participate further in the consideration of this question through cross-examination of the witnesses presented in behalf of the broadcasters." Accordingly, the names of the above supporting parties have been listed in the attached Appendix as parties entitled to cross-examine TBA, DuMont and Philco and to offer rebuttal evidence.

4. Immediately upon the conclusion of the direct testimony of any of the parties listed in the attached Appendix, such parties will be subject to cross-examination by the Commission, its staff, the four supporting parties listed in Paragraph "3" above, and all parties who have filed oppositions to the proposals of the party presenting its direct testimony.

5. Attention is again called to Paragraph "15(d)" of the "Notice of Further Proposed Rule Making" herein (FCC 49-948) which requires parties to have available at the hearing for distribution among the Commission and its staff 20 copies of all exhibits offered in evidence. In addition, participants should plan, if possible, to have available 100 additional copies of each exhibit for distribution to interested parties and persons attending the hearing.

6. The Appendix attached hereto lists the issues to be considered by the Commission and the order in which the interested parties will testify. Parties who have duly filed statements or oppositions concerning any of the general issues and whose names do not appear on the attached

Appendix should promptly communicate with Commission Counsel their desire to be listed.

7. Attention is called to the discussion with respect to horizontal interlace in the First Report of the Commission (Color Television Issues) (FCC 50-1064) issued this date. The Commission is of the opinion that horizontal interlace gives promise of being an important development in television broadcasting. Interested persons are urged to con-

duct a series of field tests to determine whether horizontal interlace can be utilized in the present monochrome system. Any person desiring to offer any specific proposal for the use of horizontal interlace in the present monochrome system may present evidence on this phase of the proceedings at the conclusion of the other matters listed in the attached Appendix. Notice of intention to offer such evidence shall be given by Oct. 31, 1950, unless a later date is prescribed by the Commission.

APPENDIX—Order of Testimony

ISSUE

A. APPENDIX A OF NOTICE OF FURTHER PROPOSED RULE MAKING (FCC 49-948) ISSUED JULY 11, 1949.

(With Gist of the Comments Filed by Principals)

Note: Bell Telephone Laboratories Inc., U. S. Independent Telephone Assn., National Mobile Radio System, Mutual Telephone Co. will be permitted to cross-examine on assignments of 470-500 mc to common carriers (Vol. 6'23-24).

Joint Technical Advisory Committee—Recommends allocation of more uhf channels, consideration of adoption of offset carrier for overall allocation, grouping of uhf channels to reduce oscillator and image interference.

Television Broadcasters Assn., New York, N. Y.—Requests assignment of at least 4 channels for each major city; objects to intermingling of vhf and uhf channels in same cities; recommends addition of entire 475-890 mc band for TV. Counsel: Roberts & McInnis.

Oppositions: Bell Telephone Laboratories Inc., United States Independent Telephone Assn., National Mobile Radio System, Mutual Telephone Co., John H. Poole.

Allen B. DuMont Laboratories Inc., Passaic, N. J., operator of TV stations WABD, New York; WDTV, Pittsburgh; WTTG, Washington. General comments and proposed new allocation plan. Counsel: Roberts & McInnis.

Oppositions: Bell Telephone Laboratories Inc., United States Independent Telephone Assn., National Mobile Radio System, Mutual Telephone Co., WDEL Inc., Allegheny Broadcasting Corp., WGAL Inc., Associated Broadcasters Inc., Keystone Broadcasting Corp., Gable Broadcasting Co., Hazelton Broadcasting Co., Reading Broadcasting Co., John H. Poole, Pittsburg Broadcasting Co. Inc.

Philco Corp., Philadelphia, Pa., licensee of TV station WPTZ—Recommends immediate unfreezing of vhf, urges use of offset carrier, that uhf allocation be studied from point of view of receiver design. Representative: David B. Smith.

Oppositions: Bell Telephone Laboratories Inc., United States Independent Telephone Assn., National Mobile Radio System, Mutual Telephone Co.

Radio-Television Manufacturers Assn., Washington, D. C.—Calls attention to previous recommendations that assignments of vhf and uhf be arranged so there is a minimum of overlap.

National Association of Broadcasters, Washington, D. C.—Questions legality of putting allocations in rules; suggests further study of standards in conjunction with Bureau of Standards.

Federal Communications Bar Association, Washington, D. C.—Objects to procedure proposed by the Commission; claims procedure for changing table of allocations violates Communications Act of 1934 since it deprives applicants of statutory right to be heard. President: Guilford Jameson.

Assn. of Federal Communications Consulting Engineers, Washington, D. C.—Objects to making allocations part of rules, objects to assumption in proposed standards that vhf and uhf channels are equal, recommends adequate coverage be made basis for minimum power regulation, believes separation factors may be too great, recommends full use of directional antennas, offset carrier, etc., declares protection of stations to natural areas is more logical. Counsel: Dow, Lohnes & Albertson.

Columbia Broadcasting System Inc., New York, N. Y., operates WCBS-TV, New York; owns 49% of KTTV, Los Angeles; 45% of WTOP-TV, Washington—Objects to intermingling of vhf and uhf channels in same cities.
Oppositions: John H. Poole.

Haley, McKenna & Wilkinson, Washington, D. C., in behalf of various clients—General comments on proposed FCC standards and allocations.

Paramount Television Productions Inc., Los Angeles, Cal., licensee of TV station KTLA—Says economic factors should be taken into account; recommends assignment of uhf channels in major cities to assist in developing such frequencies. Counsel: Arnold, Fortas & Porter.
Oppositions: Columbia Broadcasting System Inc., Allen B. DuMont Laboratories Inc.

American Broadcasting Co., New York, N. Y., licensee of AM stations WJZ, New York; WENR, Chicago; KGO, San Francisco; WXYZ, Detroit; KECA, Los Angeles; operating TV stations in foregoing cities—Requests no intermingling of vhf and uhf channels in same city. Also requests assignment of Channel 8 to Wilmington in lieu of Channel 7; assignment of Channel 12 to Grand Rapids in lieu of Channel 7; deletion of Channel 7 from Mexicali, Mexico.
Oppositions: John H. Poole.

Technical Appliance Corp., Sherburne, N. Y.—Has testimony on receiving antenna characteristics in uhf bands. Appearance: Kendrick H. Lippert, chief engineer.

WSM Inc., Nashville, Tenn., licensee of AM station WSM—Requests permission to submit data on tests on 70 mc and 600 mc. Counsel: Caldwell-Rollo.

Associated Broadcasters Inc., Easton, Pa., licensee of AM station WEST—Requests assignment of additional Channel 51 to Allentown-Bethlehem-Easton area; on assumption entire 500-890 mc band is used. Counsel: George O. Sutton.

Keystone Broadcasting Corp., Harrisburg, Pa., licensee of AM station WKBO—Requests assignment of Channels 22, 42, 46 to Harrisburg; on assumption whole uhf band 500-890 mc is used. Counsel: George O. Sutton.

Kansas State College of Agriculture & Applied Science, Manhattan, Kan. (KSAN)—Requests assignment of Channel 8 to Manhattan from Junction City, Kan.; assignment of Channel 15 to Junction City; also requests that stations in non-metropolitan areas be permitted to operate with lower power than proposed as minimum for metropolitan stations.

Valley Electric Co., San Luis Obispo, Cal., licensee of AM station KVEC—Requests assignment of Channel 3 to San Luis Obispo; also that minimum powers for metropolitan stations be reduced when lower powers give adequate coverage of city. Counsel: Caldwell-Rollo.

Communications Measurements Laboratory Inc., New York, N. Y.—Opposes FCC plans; recommends stopping of all vhf grants, provision in uhf for all existing vhf authorizations, start allocation from middle of uhf bands; other proposals re block assignments to eliminate interference.

Oppositions: WDEL Inc., Allegheny Broadcasting Corp., WGAL Inc., Associated Broadcasters Inc., Keystone Broadcasting Corp., Gable Broadcasting Co., Hazelton Broadcasting Co., Reading Broadcasting Co., Houston Post Co., KTRH Broadcasting Co., Texas Television Co., Shamrock Broadcasting Co.

Television Research, Washington, D. C.—Recommends own plan to provide more channels in larger cities by cutting down on separation mileage for uhf channels. Appearance: Alexander Korn.

Oppositions: WDEL Inc., Allegheny Broadcasting Corp., WGAL Inc., Associated Broadcasters Inc., Keystone Broadcasting Corp., Gable Broadcasting Co., Hazelton Broadcasting Co., Reading Broadcasting Co.

California Communications Advisory Board, Sacramento, Cal.—Favors FCC's allocations, particularly use of Channels 4 and 5 in Los Angeles and San Francisco, which permits State's public safety service to operate without interference.

William H. C. Higgins, West Orange, N. J.—Recommends no allocation of community channels be made; also that provision be made for temporary operation at less than minimum powers where it can be shown a good grade of service will result; also requests Channels 14, 16 or 28 be assigned to LaPorte-Michigan City, Ind.
Oppositions: Home News Publishing Co.

WBEN Inc., Buffalo, N. Y., licensee of AM station WBEN and TV station WBEN-TV—Requests clarification of proposed power-antenna height rules; also asks inclusion in standards of methods and curves included in Vol. 1, Report of Ad Hoc Committee. Counsel: Spearman & Roberson.

Archer S. Taylor, Missoula, Mont.—Requests waiver of minimum power proposal for metropolitan stations for Montana, Wyoming, Nevada and Idaho; or for cities of less than 50,000 population; or that a minimum of 500 watts be permitted, provided Grade A service is rendered city limits.

Hearst Radio Inc., New York, N. Y., licensee of TV station WBAL-TV, Baltimore—Favors FCC proposals for maximum power. Counsel: Dempsey & Koplovitz.

Johnson-Kennedy Radio Corp., Chicago, Ill., licensee of AM station WIND—Requests revision of maximum power to permit station to cover 90% of Grade B service area. Counsel: Pierson & Ball.

Independent Merchants Co., Minneapolis-St. Paul, Minn., licensee of AM station WLOL—Requests revision of maximum power to permit station to cover 90% of Grade B service area. Counsel: Pierson & Ball.

Triangle Publications Inc., Philadelphia, Pa., licensee of AM station WFIL and TV station WFIL-TV—Requests WNHC-TV, New Haven, not be changed from a community to a metropolitan station, or, if changed, be required to install and use a directional antenna to protect WFIL-TV; objects to proposal to authorize metropolitan stations to increase power to 100 kw. Counsel: Morton H. Wilner.

WDEL Inc., Wilmington, Del., licensee of AM station WDEL and TV station WDEL-TV—Requests assignment of Channel 8 in lieu of Channel 7 to Wilmington. Counsel: George O. Sutton.

Massachusetts Broadcasting Corp., Boston, Mass., licensee of AM station WCOP—Requests assignment of additional Channels 9 and 13 to Boston; affecting Manchester, Portsmouth, Portland, Yarmouth (N.S.), Charlotetown (PEI), Ste. Anne de la Pocatiere (Quebec). Counsel: Segal, Smith & Hennessey.

Trent Broadcasting Corp., Trenton, N. J., licensee of AM station WTTM—Requests assignment of Channel 8 to Trenton; modification of minimum power requirements; permission to render Grade B service to 90% of metropolitan district. Counsel: Pierson & Ball.

Mercer Broadcasting Co., Trenton, N. J., licensee of FM station WTOA—Requests assignment of vhf channel to Trenton. Counsel: Arthur W. Scharfeld.

WHEC Inc., Rochester, N. Y., licensee of AM station WHEC—Requests assignment of Channel 10 to Rochester from Syracuse, Channel 6 to Syracuse, with interference reduced through use of directional antenna. Counsel: Dow, Lohnes & Albertson.

Hudson Valley Broadcasting Co., Albany, N. Y., licensee of AM station WROW—Requests retention of Channels 4, 7, 11 for Albany-Troy-Schenectady area instead of Channels 4, 42, 44. Counsel: Prince, Clineburg & Nunn.

Community Broadcasting Co., Toledo, O., licensee of AM station WTOL—Requests assignment of Channel 10 to Toledo; modification of minimum power requirements; use of offset carrier, directional antennas. Counsel: Pierson & Ball.

WGAL Inc., Lancaster, Pa., licensee of AM station WGAL and TV station WGAL-TV—Favors FCC's proposed assignment of Channel 4 to Lancaster. Counsel: George O. Sutton.

Presque Isle Broadcasting Co., Erie, Pa., licensee of AM station WERC—Requests assignment of Channel 3 to Erie; objects to substitution of Channel 45 therefor. Counsel: Arthur W. Scharfeld.

Eastern Radio Corp., Reading, Pa., licensee of AM station WHUM—Requests Channel 8 or Channel 12 for Reading by utilizing a 500 watt transmitter and directional antenna. Counsel: Fly, Fitts & Shuebruk.

Pennsylvania Broadcasting Co., Philadelphia, Pa., licensee of AM station WIP—Requests assignment of Channel 12 to Philadelphia, instead of uhf channel proposed; would substitute uhf channel at Binghamton if interference is factor. Counsel: Dow, Lohnes & Albertson.

WDSU Broadcasting Services, New Orleans, La., licensee of AM station WDSU and TV station WDSU-TV—Requests modification of FCC proposals to require use of directional antennas and offset carrier in regions where tropospheric interference is greater than normal; that Channel 6 in Beaumont-Port Arthur be required to use directional antenna or offset carrier to protect Channel 6 in New Orleans. Counsel: Pierson & Ball.

Collins Radio Co., Cedar Rapids, Iowa—Will report on work "in adapting resonatron tube as a linear power amplifier capable of uhf cw power output of 30 kw and having a bandwidth of 6 mc with a power gain of 10 db in the uhf band." Appearance: L. Morgan Craft, vice president.

Alr King Products Co. Inc., Brooklyn, N. Y.—Recommends that every uhf transmitter be required to transmit simultaneously both video and sound and a cw carrier; with cw carrier so spaced in frequency from picture and sound carrier that difference will fall into unused vhf channel in particular locality; thus, permitting crystal to be used in present receiver antenna lead-in. By converting uhf channel to unused vhf channel, says there would be no need to have additional tuning or tubes. Plan would also help overcome uhf oscillator difficulties. Appearance: Leopold M. Kay, v.p. in charge of engineering.

Vincent Andrew Artuori, New York, N. Y.—Proposes a method to extend the effective ranges, in certain areas, of any one of the present vhf television channels and also the ranges of any one of the proposed channels by means of a relay electronic amplifier unit; also a second similar method bringing about the extension by means of a non-electronic, non-amplifying device.

Federal Telephone & Radio Corp., Nutley, N. J.—Confirms availability of equipment for 10-200 kw on uhf band; has 1 kw transmitter in 470-600 mc band. Appearance: Norman Young.

Peoples Broadcasting Co., Lancaster, Pa. (WLAN)—Opposes proposal to assign uhf and vhf to same cities; requests use of directional antennas; requests assignment of Channel 9 to Lancaster. Counsel: Stephen Tuhey.

Oppositions: Eastern Radio Corp., Lehigh Valley Television Inc., Easton Publishing Co., WTOP Inc., General Teleradio Inc., WCAE Inc., WCAU Inc., WDEL Inc., Evening Star Broadcasting Co. Inc., American Broadcasting Co. Inc., Daily News Television Co.

B. "STRATOVISION"

Westinghouse Electric Corp., Pittsburgh, Pa., licensee of AM stations KDKA, Pittsburgh; WBZ, Boston; KYA, Philadelphia; WOWO, Ft. Wayne; KEX, Portland; operates WBZ-TV, Boston—Intends to submit data on Stratovision; requests assignment of Channel 6 to Pittsburgh from Johnstown; Channel 7 to Pittsburgh from Wheeling; Channel 11 to Johnstown; Channel 13 to Pittsburgh from Johnstown; wants offset carrier used to reduce mileage separation between stations; asks relaxation of minimum power requirements, use of directionals.

Oppositions: WDEL Inc., Allegheny Broadcasting Corp., WGAL Inc., Associated Broadcasters Inc., Keystone Broadcasting Corp., Gable Broadcasting Co., Hazelton Broadcasting Co., Reading Broadcasting Co., Fort Industry Co., WCAE Inc., Hearst Radio Inc.

C. "POLYCASTING"

Raymond M. Wilmotte Inc., Washington, D. C.—Requests further hearings on uhf standards, desires further study of polycasting and on use of FM for TV, general comments on proposals and allocations.

Oppositions: Allen B. DuMont Laboratories Inc.

D. RESERVATION OF CHANNELS FOR NON-COMMERCIAL EDUCATIONAL TELEVISION STATIONS

U. S. Office of Education, Washington, D. C.—Requests assignment of 20% of uhf band for non-commercial, educational stations; assignment of at least one vhf channel in every metropolitan city and major college center for same purpose. Appearance: Earl J. McGrath, Commissioner.

National Education Assn., Washington, D. C.—Requests assignments of Channels 2, 3, 4, 5 and 6 in major cities plus 8 or 10 uhf channels for non-commercial, educational TV; requests uhf channels be between Channels 13-55 or immediately adjacent thereto; requests 20% of TV channels, both vhf and uhf be reserved for non-commercial, educational TV. Appearance: Belmont Farley, director, press and radio relations.

Oppositions: WDEL Inc., Allegheny Broadcasting Corp., WGAL Inc., Associated Broadcasters Inc., Keystone Broadcasting Corp., Gable Broadcasting Co., Hazelton Broadcasting Co., Reading Broadcasting Co., McClatchy Broadcasting Co., Houston Post Co., KTRH Broadcasting Co., Texas Television Co., Shamrock Broadcasting Co.

Association of Land Grant Colleges and Universities—see National Assn. of Educational Broadcasters. Counsel: Cohn & Marks.

National Assn. of State Universities—Requests reservation of channels for non-commercial, educational TV. Counsel: Cohn & Marks.

National Association of Educational Broadcasters, Washington, D. C.—Requests 10 frequencies in the uhf band be reserved for non-commercial educational broadcasters; that if not possible in uhf TV band, they be reserved immediately adjacent to Channel 55. Counsel: Cohn & Marks.

Association for Education by Radio, Chicago, Ill.—Requests reservation of 10 uhf channels for non-commercial, educational TV, to be assigned immediately adjacent to Channel 55. Appearance: Gertrude G. Broderick, secretary.

American Council on Education, Washington, D. C.—Requests reservation of 10 uhf channels immediately adjacent to Channel 55 for non-commercial, educational TV. Appearance: George F. Zook, president.

National Council of Chief State School Officers, Washington, D. C.—Request for permission to testify. Appearance: Edgar Fuller, secretary.

American Federation of Teachers, Milwaukee, Wis.—Favors reservation of channels for non-commercial educational TV. Appearance: Irving R. Kuenzli, secretary-treasurer.

Allen B. DuMont Laboratories Inc., Passaic, N. J., operator of TV stations WABD, New York; WDTV, Pittsburgh; WTTG, Washington. General comments and proposed new allocation plan. Counsel: Roberts & McInnis.

E. "METERED TELEVISION" AND GENERAL COMMENTS

Thomas E. Corbett, Meadowsbrook, Briarcliff Manor, N. Y.—Submits proposal for "metered" TV.

NO SLACKENING OF DEMAND FOR TVs: Neither higher prices (soon to go higher yet, thanks to 10% excise), nor new Regulation W, nor FCC's disturbing color report has as yet appreciably cut into over-all demand for TV receivers. Nevertheless, one large manufacturer, referring more to difficulty in getting components than to impact of adverse market factors on demand, told us: "We're walking on eggs."

Over-riding influence with public seems to be attraction of TV programs. Football and World Series, to say nothing of Xmas trade, presage continued high demand for some months.

Name-brand makers -- the handful who produce 70% or more of industry's total and who presently can't turn sets out fast enough -- aren't too worried about immediate retail market. Their worries center chiefly on present and impending shortages of materials and manpower. When so well-publicized and confusing an issue as color doesn't deter enough buyers to make much difference to big mass producers, feeling is that nothing except war can really stop TV trade.

But industry's sensitivity to shortages -- and, soon, allocations -- is manifest from fact that DuMont had to shut down all last week due to scarcity of certain tubes (Vol. 6:36). (DuMont plant is back in full production this week.) And so obscure an item as soda ash, which goes into the making of picture tubes, is currently causing critical shortage of face plates for metal-coned tubes made by DuMont and others; biggest glassmaker, Pittsburgh Plate Glass, not affected by strike, is building another furnace to meet needs -- but can't produce for months.

Glass blank makers, likewise needing soda ash as a "fining agent," say they're using some substitutes and importing more from abroad; their problem is described as "not critical, but not very happy and quite expensive."

* * * *

Private brands apparently face rough going as TV-radio set makers push hard to turn out all they can under own names. Story in Sept. 15 New York Times may be symptomatic: It related that one of largest private-brand TV suppliers in metropolitan area was terminating such manufacture to concentrate on critically short components in sets under own name. "The move," said the Times, "is expected to touch off a wide curtailment in the production of private brands."

Area's largest private-brand makers -- Air King, Olympic, Tele King, Tele-tone -- all replied in negative when asked whether they were the unidentified maker. But all did say that their private-label business faces same threat of curtailments as own brands. Meanwhile, they're producing as fast as available materials permit.

Shortages look like they're going to hit small manufacturers soon -- "push them to the wall," as Times puts it. These are the scores of companies turning out 350 to 650 receivers per week, some even fewer. They, too, are scrambling for components, up against toughest kind of competition from the big companies. Their salvation seems to lie in forthcoming govt. electronics contracts.

* * * *

Add to pressures for further increases in TV-radio prices (Vol. 6:36): New wage increases industry in general and electronics in particular are being obliged to hand out. GE strike was ended Sept. 15, and TV-radio-tube factories were due to resume Sept. 18 after 2-week shut-down; new agreement gives workers 10¢-an-hour increase, pegs wages to govt. cost-of-living index. This week, RCA Victor workers approved 5¢-an-hour wage hike, new contract providing also for another boost of 4¢ next June as well as added social benefits.

Note: Still pushing production hard, industry in fourth August week turned out 187,891 TVs, 296,940 radios, according to RTMA-projected estimates. That makes projected figure for month 702,287 TVs (highest ever), 1,203,447 radios. For preceding weeks' figures, see Trade Report, Vol. 6:36.

INDUSTRY PINNING DOWN SET RADIATION: "You're making excellent progress," FCC chief engineer Curtis Plummer told RTMA, after listening to description of manufacturers' work in reducing oscillator radiation (Vol. 6:14,19,35), during meetings of two committees in Washington this week. His commendation followed unanimous adoption by Committees R6 (FM receivers, Zenith's J. E. Brown chairman) and R15 (oscillator radiation, RCA's K. A. Chittick chairman) of two resolutions:

(1) Recommending that all FM sets, by June 30, 1951, be built with radiation limited to 50 uv/m at 100 ft.

(2) Recommending that TV set manufacturers aim for same limitation on Channels 2-6 and 150 uv/m at 100 ft. on Channels 7-13.

Second resolution isn't specific as to date because TV receiver committee wasn't on hand. It was felt that TV group should comment first.

RTMA engineering recommendations are usually heeded by whole industry, since membership on engineering committees isn't limited to RTMA members.

RTMA groups totaling about 35 met by themselves Sept. 11, and with FCC, CAA and other govt. officials Sept. 12. RTMA president Robert Sprague, who has taken problem closely to heart, was present, feels sessions were extremely successful.

Plummer said he couldn't commit FCC to endorsement of recommendations, pointed out that Commission still has proceedings pending on matter (amendment of Part 15 of rules), but he assured industry there is no intention to cram any arbitrary standards down its throat. Gist of his reactions: "Keep up the good work."

FCC engineers brought along Naval Research Labs expert Donald McClellan, who showed how Navy licked radiation problem, which is matter of life-and-death aboard ship. (Submarines can "home" in on excessively radiating receivers.) Since cost is no object in such receivers, industry people naturally wonder how many Navy techniques can be used -- but McClellan may have given them some ideas.

Still a big problem in oscillator radiation: After you do set standards, how do you know whether you're complying with them? Methods of measurement still vary widely, give different results. FCC offered cooperation of its labs in measuring sets. Industry, in turn, invited FCC engineers to New York and Chicago to inspect measurement techniques.

RCA DECIDES ON 17 & 21-in. FOR 1951: RCA has definitely chosen 21-in. metal-coned rectangular as next picture tube size -- having already decided on 17-in. metal-coned rectangulars (Vol. 6:36) now being sampled. In addition, if demand warrants, it will produce 14-in. glass rectangulars. But none of these sizes will be available until next year -- 17-in. in January, 21-in. during second quarter. Nor have prices been decided, but it can be assumed they will be competitive with RCA's present 3 basic types: 12½-in. glass round (fast diminishing in demand), 16-in. metal round (currently, biggest seller of all), 19-in. metal round (going good).

RCA decision confirms trend to 17 & 21-in. as basic in metal-coned types. RCA is biggest tube producer, and assumption is those sizes will also go into own next line of receivers. Sylvania and DuMont have 17 & 21-in. in works, too. None has quoted prices yet. All face same problem of securing metal cones in quantity when, as expected, steel goes on allocation.

Note: Tube makers are now getting deliveries of Corning's 20-in. glass rectangulars, and Philco's Lansdale plant is getting them at rate of about 2000 weekly. Philco's first 20-in. receivers will be ready to ship within week. There are 5 consoles with that size in Philco line (Vol. 6:25), including 2 with remote controls.

Dominance of 16 & 17-in. tube sizes is shown in July tube sales figures released by RTMA. Of month's 341,940 total sold to equipment manufacturers, 130,321 (38%) were 16 & 17-in. rectangulars; 118,214 (35%) were 16-in. rounds. RTMA report, first time broken down between rectangulars and rounds, also showed: 37,712 (11%) round 19-in. or larger; 31,799 (9%) rectangular 14-in. Only 20,826 (6%) were 12½-in. rounds and mere 2344 (.7%) were 10-in. rounds. Also listed were 587 tubes of less than 10-in. (7 & 8½) and 127 projections. Factory

value of all tube sales, including renewals, oscillographs, camera pickup, govt. and export, totaled \$9,948,160 in month. Vacation-month July sales to manufacturers compared with June's 566,942, May's 599,667 (Vol. 6:32 & 27).

Two controversial subjects scheduled for joint IRE-RTMA annual technical session Oct. 30-Nov. 1, in Hotel Syracuse, Syracuse, are: Phonevision, discussed by Zenith's E. M. Roschke; color, by Hazeltine's A. V. Loughren. Oct. 31 is devoted solely to TV.

Topics & Trends of TV Trade: Reduced rather than expanded lines, with emphasis on easiest-to-move models, are expected to be order of day henceforth in TV-radio, due to shortage of components. There's even talk that surviving models in present lines will be carried over into 1951, usual January-February showings of new models indefinitely postponed, due to expected shrinkage of civilian production forced by defense-induced materials allocations and shortages.

Admiral this week announced addition of 2 new 14-in. rectangulars to line—but at same time also made known cessation of all 12½-in. production. New sets are Model 14R12, plastic mahogany table just 18-in. sq., listed at \$189.95, and 24R12, same in console standing about 30-in. high, listed at \$199.95. Last 12½-in. was table at \$169.95.

* * * *

The survey signs continue good in TV-radio trade. Federal Reserve Board reports dept. store sales of TV-radio sets up 104% during first half of 1950, June sales alone going up 60% over June 1949. Dun & Bradstreet *Trade Review* of Sept. 1 reported high level of TV and appliance sales "largely sustained." *New York Herald Tribune* survey covering 28 of city's leading dept. and specialty stores showed that every one carrying TV-radio sets increased sales in August over August year ago. Other trade reports show TV-radio gains ranging from 111% to 266% during August in 7 out of 12 reporting New York dept. stores; gains in other 5 ran 12% to 51%.

Smaller TV manufacturers haven't made much splash about price increases, but in view of components shortages and their inability to buy in quantities comparable to big fellows there's little doubt they, too, have increased. Mars and Marathon went up this week, and Atwater increases were announced earlier. These companies (see *TV Directory No. 11*) may be added to lists totaling 31, and including practically all name-brand makers, published in *Trade Reports*, Vol. 6:35-36.

Local TV advertising, down considerably, in some places is slanted to upcoming 10% factory excise, which inevitably will raise prices at retail level anywhere from 6-10%. When tax goes into effect, manufacturers are expected to post new suggested lists, rather than ask customers to pay excise as separate item.

* * * *

Dun & Bradstreet reports 30 failures of radio-TV dealers with liabilities of \$801,000 during first 6 months of 1950, as against 53 failures with liabilities of \$809,000 for all 1949. Among radio-TV-appliance dealers, there were 93 failures with liabilities of \$1,865,000 first half of 1950 and 173 failures with liabilities of \$3,026,000 all last year.

Surprising fact is also disclosed that 19 radio manufacturers (not named, but presumably all obscure) failed during first half of this year in amount of \$1,216,000; during 1949, there were 27 failures with \$4,005,000 liabilities.

Also noted are increasing failures among concerns servicing TV sets, but there are no figures.

Reasons for failures are generally such human factors as judgement, personality, decision, ability, know-how. In a survey of 4468 failures (various businesses) during second half of 1949, it was shown that 96% were individually owned businesses. Largest single factors were incompetence, 33.7%; lack of experience in line, 24%; lack of managerial experience, 23.2%. Among apparent causes were inadequate sales, 42.9%; excessive fixed assets, 15.5%; inventory difficulties, 13.4%; heavy operating expenses, 11.6%; competitive weakness, 8.5%.

Unique combination—and a good hedge: Sol Blumberg, who owns string of 5 neighborhood theatres in Philadelphia, takes over local distribution of Arvin TV-radios.

Last stronghold of projection TV, except for a few small companies selling them for public places, North American Philips is entering home receiver field with 2 consoles using its Protelgram system and bearing "Norelco" trade name. Pictures from 2½-in. tube are 13½x18-in. Prices haven't been set yet, but will range between \$350 & \$425. Company also has 2 commercial models with 3x4-ft. pictures to sell at \$599.50 & \$895.

Also in retail field, North American Philips is continuing its Duo-Vue attachment for existing TV sets to convert them into 3x4-ft. projections (Vol. 6:8); this sells for \$219.50, with new directional screen as accessory. Company hasn't decided whether to sell direct to dealers or through distributors. Choice of CBS color system, its executives feel, would give projection TV new lease on life, and they say they have been in contact with CBS regarding large-size color pictures.

* * * *

Sylvania is expanding Warren, Pa., Parts Division with new plant specializing in plastic and plastic-metal components for TV-radio and lighting industries; 30,000-sq. ft. factory will be ready by Oct. 15, managed by L. R. Wanner, ex-Hugh H. Eby Inc. . . . Sylvania also announces new 7-in. CR oscilloscope specially designed for use in TV-radio receiver testing . . . Sylvania CR tube plant at Huntington, W. Va., employing up to 400, has gone on 6-day week due to heavy orders; employes get time-and-one-half for overtime, double time for holidays

Winners of DuMont's dealer promotion contest "on the most resourceful, original and effective promotion worked out by individual dealers on the 19-in. Hanover receiver," were disclosed last week as follows: Television Co. of Maryland, Baltimore (Milton Rabovsky, pres.), 1950 Cadillac sedan; Television Theatres Inc., Long Beach, Cal. (Howard S. Merrill), 1950 Plymouth convertible; Brookfield Radio & Appliance Service, Brookfield, Ill. (Byron Shaw), \$500 savings bond. In addition, there were 60 winners of gold wrist watches and portable typewriters.

Crosley's gen. sales mgr. W. A. Bles quotes following production estimates: 350,000 radios this year (150,000 last year); 240,000 TVs this year (96,000 last); 637,000 refrigerators this year (324,000 last). He admits "big if", however: defense production.

Bendix's R. W. Fordyce, sales mgr., reports TV-radio billings at factory (under its direct-to-dealer method of merchandising) exceeded \$2,250,000 during August, expected to continue on same level through September and possibly rest of fall season . . . Hallicrafters' president Wm. J. Halligan reports almost \$5,000,000 sales in August.

Radio Parts & Electronic Equipment Shows Inc. directors, meeting last week in White Sulphur Springs, voted to hold 3-day show May 21-23 in Stevens Hotel, Chicago. They re-elected Standard Transformer Corp.'s Jerome J. Kahn as president, chose following other officers: Samuel J. Spector, Insuline Corp., v.p.; Lew Hoard, Triad, secy.; Charles A. Hansen, Jensen, treas.

Federated Television & Electronic Service Assns. of America is announced by Frank J. Moch, president of Chicago's Television Installation Service Assn. Purpose, he says, is to get manufacturers to reappraise contract rates, ensure stock of replacement parts, eliminate tie-in sales, etc. New association is outgrowth of Moch's campaign to get national recognition for servicemen, work out mutual problems with manufacturers (Vol. 6:6, 10).

Bowers Television Co., subsidiary of Bowers Battery & Spark Plug Co., Reading, Pa., has resumed TV production after lapse of more than year. Its single set is 17-in. rectangular mahogany console, with FM-phono-jack, \$650.

Financial & Trade Notes: Zenith reports consolidated sales of \$17,739,857 for its first fiscal quarter ended July 31 vs. \$12,603,524 for same 1949 period. Estimated net profits were \$766,954 vs. \$170,945 for same period year ago after deduction of \$251,376 representing amortization of goodwill incident to acquisition of a subsidiary (Rauland). Sales and profits for first quarter reflected effect of 2-week vacation shutdown and costs of starting new TV line introduced in June.

IT&T chairman Sosthenes Behn assumes duties of Maj. Gen. Wm. H. Harrison, president, on leave as administrator of new National Production Authority in Washington, it was announced this week as financial statement was issued for 6 months ended June 30. Consolidated net income was \$4,972,296 vs. \$2,413,518 for same period last year—improvement being largely attributable to betterment in operating results of its Federal and Capehart-Farnsworth subsidiaries. Col. Behn stated their July-August operations “indicate a continuance of this improvement.”

Among officers' and directors' stock transactions reported by SEC for July (see Vol. 6:32 for June): Philip F. LaFollette, bought 250 shares of Hazeltine, now holds 750; William H. Harrison, bought 100 IT&T, holds 1700; Charles D. Hilles Jr., bought 100 IT&T, holds 200; Joseph W. Powell, bought 900 IT&T, holds 1000; Henry C. Roemer, bought 100 IT&T, holds 1700; Clendenin J. Ryan, bought 10,000 IT&T, holds 50,000; Harold R. Maag, bought 200 RCA, holds 200; Charles M. Odorizzi, bought 100 RCA (June), holds 500; Don G. Mitchell, bought 100 Sylvania, holds 2800; Donald MacGregor, bought 100 Zenith, holds 250.

Dividends: Motorola has voted extra dividend of 50¢ and quarterly dividend of 50¢, payable Oct. 16 to holders of record Sept. 29; previous quarterly payments were 37½¢, with year-end extra last Jan. 16 of 37½¢ . . . Trav-Ler announces dividend of one share of stock for every 5 shares held, payable Oct. 10 to holders of record Sept. 18; also 10¢ per share, payable Oct. 10 to holders of record Sept. 20 . . . Admiral, 25¢ quarterly dividend payable Sept. 30 to stock of record Sept. 18 . . . Tele-tone, 12½¢ quarterly dividend payable Oct. 2 to stock of record Sept. 15.

Allied Electric Products Inc. reports sales of \$4,303,517, earnings of \$160,814 (31¢ per share) for year ended June 30. During preceding fiscal year, sales were reported \$1,658,365, profit \$2354 (1¢).

That TV industry tailor receiver production to availability of service parts, is cogently argued by Albert M. Haas, president, Philadelphia TV Contractors Assn., in Sept. 14 “open letter to the industry.” He makes point that sales could outrun replacement parts and service manpower, thus engender ill feeling on part of set owners, diminish audience for telecasters. He also suggests TV service organizations be considered for defense production. He indicated service companies are losing technicians to military service, factories.

Ad Hoc Committee finally approved report on (1) “Description of the Concepts Involved in the Prediction of Broadcasting Service”; (2) methods of combining multiple interfering signals. At same time, FCC issued several other documents on TV propagation. We're told documents, which only a few experts can understand, don't appear likely to require any radical change in FCC's proposed allocation plan. Multiple interference has been made issue in general hearing starting Oct. 2 (see Supplement No. 70); people with more evidence may testify if they notify FCC by Sept. 26. Copies of reports are available from FCC.

Effect of TV on motion picture theatres will be one of subjects highlighting SMPTE convention Oct. 16-20 at Lake Placid Club, N. Y. Paper dealing with TV-imposed refinements and improvements in cinematography, theatre location, seating, design, will be by Benjamin Schlanger and William A. Hoffberg, theatre architects and consultants. Theatre TV will also be covered by RCA engineers speaking on RCA's PT-100 projection apparatus, now in operation or ordered by 10 customers, including Century-Circuit's Marine Theatre, Brooklyn, and Queens Theatre, Queens Village, Long Island; Fabian's Palace Theatre, Albany; Paramount's Tivoli Theatre, Chicago; Sherrill Corwin's Orpheum Theatre, Los Angeles; 20th Century-Fox's New York laboratories. Equipment is already in use at Fabian's Fox Theatre, Brooklyn, and Pinanski's Pilgrim Theatre, Boston. RCA began Sept. 11 in Camden to train 30 IATSE projectionists in operation of its theatre-TV equipment.

Out-of-home viewing in New York area is done by 732,500 people on average summer day, WOR-TV reports. Figure was contained in WOR-TV survey made during July, which also showed: (1) From 8-11 p.m., average of 210,200 persons watched TV away from home each quarter hour—a bonus of 16.4% to regular audience. (2) More than 75% of out-of-home viewers don't own sets. (3) Almost 70% watched in homes of friends and relatives—contradicting belief most bonus viewers are found in bars and grills. (4) Preference in nighttime for sports is 5 to 3, in daytime 8 to 5.

Retailers and dept. store executives will hear how to use TV-radio at “workshop” on subject in New York's Hotel Statler Sept. 28-29 under auspices of National Retail Dry Goods Assn. Speakers include: Howard P. Abrahams, NDRGA; Walt Dennis, Allied Stores; Sam Cuff, TV consultant; Arthur E. Duram, CBS-TV; Charles L. Kelly, WMAL-TV, Washington; Frank Silvernail, BBDO; Ivor Kenway, ABC; Eugene S. Thomas, WOR-TV, New York; George T. Shupert, Paramount; C. E. Hooper; William L. Norvell, Remington Rand.

There's no TV in Canada yet, but TV sets are highlight of current Canadian National Exhibition in Toronto. Set prices ranged from \$350 for 12½-in. table model to \$1250 for projection combination. Exhibited are sets by Brand & Millen (Crosley); Canadian Admiral, Canadian Marconi, Canadian Westinghouse, Dominion Electrohome, Philco, Philips Industries, Rogers-Majestic, Sparton of Canada, Stewart-Warner, Stromberg-Carlson.

More Sept. 1 sets-in-use, reported since NBC Research's “census” of Aug. 1 (Vol. 6:33): Los Angeles 693,369, up 98,369; Cleveland 287,498, up 27,498; New Orleans 34,348, up 3548; Johnstown 33,850, up 7350; Norfolk 29,365, up 6365; Ames (Des Moines) 14,258, up 1958; Boston 484,927 (Sept. 14), up 37,927; Providence 78,980 (Sept. 14), up 7180.

“TV Repair Is in Fine Fix” titled series of articles this week in *New York World-Telegram*, aimed at securing legislation to protect set owners from unscrupulous or irresponsible “service” organizations. Gyp servicing of TVs and radios in metropolitan area was first exposed in series by *Radio Daily*.

Trade Personals: Peter L. Jensen, president, Jensen Industries Inc., received Order of Knight of the Flag from King of Denmark during recent trip there, where book titled *Jensen, Inventor of the Loudspeaker* has been published . . . Clifford J. Hunt, Stromberg-Carlson, appointed chairman of RTMA Sales Managers Committee, which functions under Set Division chairmaned by Glenn W. Thompson, Arvin . . . Robert W. Felber promoted to sales service mgr., TV-radio div., Stewart-Warner.

HOARDING IS MAIN PRODUCTION WORRY: Curtailed raw materials and drains on manpower are the real factors which should chop down TV-radio set production when big military output gets under way. Immediate bugaboo, however, is hoarding of components, which if continued can ruin otherwise good prospects for substantial receiver volume well into or through 1951.

That was general sentiment reflected by RTMA board members meeting in New York Sept. 20. Plant capacity is there -- or will be before long. This seems to be true even as regards resistors and receiving tubes, despite fact shortages of these have already raised hob with some manufacturers' production lines.

Resistor maker told board that informal canvass of his colleagues showed that all demands now in sight can be met rest of this year and all next, military as well as civilian, by means of present facilities and expansions under way -- provided, he warned, there's no hoarding. Top tube producer had same story. Parts manufacturers, in meeting day before board, agreed there would be enough parts to go around for balance of 1950 "with proper channeling and no unnecessary stockpiling."

No other components seem as troublesome as these. At least, no one brought any up. Black and gray markets in raw materials for components are factors to look out for. Gray market in nickel is said to exist already. And copper is always quick to become short.

What it all adds up to is that current disruptions, wherever they occur, are almost totally unnatural; and that future civilian production hinges largely on how industry fares when it comes to allocations of critical materials (Vol. 6:37).

* * * *

RCA disclosed this week that it has acquired, for reported \$2,000,000, 17-acre tract with 180,000-sq. ft. plant of Rich Ladder & Mfg. Co., Cincinnati, for expanded production of miniature-type receiving tubes -- the ones so short now (and likely to continue to be under war orders) that several plants have been reported shipping sets without them (Vol. 6:35-36). It's RCA's third receiving tube plant, others being in Harrison, N.J. and Indianapolis, but it won't get into full production until autumn of 1951.

* * * *

Correction: Report here last week (Vol. 6:37), that Corning's 20-in. glass rectangulars are being shipped to Philco's Lansdale tube plant at rate of 2000 per week, was erroneous. That's number of sets that size Philco reported it was preparing to ship. Wholly-owned Lansdale plant, as is well known in the trade, does not supply all Philco's tube requirements, and Philco is large purchaser of picture tubes from others among the 35 tubemakers (TV Directory No. 11).

Note: Production of TVs during week ending Sept. 1 (which will be counted as first Sept. week in 5-week month) totaled 163,860, down somewhat from August's upward weekly spiral (Vol. 6:36-37) -- attributable to GE strike (still on in Syracuse). Radios totaled 235,284, likewise down and for same reason.

'BIG TEN' OF THE TV SET-MAKERS: Revised "guesstimates" of top TV producers of 1950, ventured once again by analysts of Television Shares Management Co., indicate first 10 will account for 5,370,000 of whole industry's anticipated 6,000,000-plus total. And top 4 producers will account for well over half of entire industry output, though there are about 100 manufacturers making telesets (TV Directory No. 11).

Here's how TSMC now ranks top 10, with number of 1950 sets estimated: RCA 950,000, Philco 900,000, Admiral 850,000, Motorola 650,000, Zenith 475,000, Emerson 450,000, GE 425,000, DuMont 275,000, Meck 200,000, Hallicrafters 195,000. Figures revise February estimates upward (Vol. 6:8), change several rankings.

Last February, top 10 were ranked thus: Admiral 800,000, RCA 700,000, Philco

625,000, Motorola 535,000, Zenith 330,000, Emerson 330,000, GE 300,000, DuMont 190,000, Tele-tone 175,000, Hallicrafters 170,000. In this current estimate, TSMC doesn't go beyond first 10, but next 10 were listed last February as follows: Westinghouse 150,000, Crosley 150,000, Meck 150,000, Raytheon 140,000, Sylvania 120,000, Magnavox 100,000, Capehart 100,000, Olympic 100,000, Garod (Majestic) 100,000, Hytron (Air King) 100,000.

"The planned expansion in armament production," states TSMC, which is selling agent for Television-Electronics Fund Inc., open end investment trust, "will of course put heavy demands on the facilities of many set manufacturers and when in full swing will require a fairly large proportion of many components..."

"During the past summer, several teleset manufacturers were building receivers at a rate in excess of the then existing demand. They did not consider "stock-piling" in the summer a great risk in view of the anticipated heavy fall demand. Because of the international situation, the summer doldrums were cut short and demand jumped to a level far above normal expectations. For two months the manufacturers have been in a sellers' market. This condition is accentuated by a shortage of a few component parts which will become progressively worse as preparations for the military programs are stepped up. Already in tight supply are several items, including receiving tubes, resistors, condensers, and silicon steel for transformer laminations.

"In short, the substantial expansion of component production begun before Korean developments will not be sufficient to take care of both civilian and military demand. For this reason more than any other, it is essential to point out that the guesstimates above are predicated on the supply of critical parts not being further curtailed..."

Trade Personals: E. W. Merriam, DuMont, appointed chairman of RTMA Service Committee, succeeding A. T. Alexander, Motorola . . . Harry R. Smith, ex-DuMont, appointed head of TV transmitter development for Standard Electronics Corp., subsidiary of Claude Neon Inc. . . . Edward Fishbein promoted to chief of Emerson parts sales & service division . . . Harry P. O'Brien new mgr. of RCA Exhibition Hall in Radio City, Howard W. Sharpell promoted to asst. mgr. . . . Mario A. Gardner promoted to v.p. in charge of purchases, Air King.

Among larger military contracts for electronics equipment announced by Commerce Dept. for week ending Sept. 15 and let through Signal Corps, Philadelphia: Hallcrafters, \$2,500,000, radio sets (461 units); Molded Insulation Co., Philadelphia, \$138,000, radiosonde transmitters (30,000 units). Let thru Wright-Patterson Air Force Base, Dayton: Western Electric, \$2,682,374, sub-assemblies for airborne radar equipment; Cincinnati Electronics Co., \$677,243, receivers.

Philco's Havana distributor has started TV service training school, with enrollment of 70, preparatory to opening up of that market next month, when Union Radio's TV station gets under way and when other projected stations get going (see Telecasting Notes). Separate classes are also held to instruct dealer salesmen in fine points of TV sales, and how to instruct consumers on proper use of receivers. Classes use same basic training procedure as in U. S.

Test pilots can sit on ground and make planes do things they never dared before, through use of TV, reports Air Force. Two planes at Wright-Patterson Air Base, Dayton, have cameras in cockpits to transmit pictures to ground where pilots can operate ships with radio controls. Equipment was developed by Philco and Lear Inc. Says Air Force: "The use of TV to replace test pilots on dangerous flights is entirely practical."

Tele-tone reports record-breaking shipment volume of more than \$2,500,000 during August.

Communications are called "nerve system of civil defense" in *United States Civil Defense*, report on subject submitted to President by National Security Resources Board and made public Sept. 18. Section on broadcasting ("including television") stresses utilization of TV-radio for (1) education on defense, and (2) information, such as location of shelters, how to prevent jamming of thoroughfares, etc. Paul J. Larsen resigned as director of civilian defense, NSRB; he's ex-director of AEC Sandia (N. M.) Laboratory, Johns Hopkins U physicist, member of TV committee of SMPTE.

Suspension of a "ham" operator's license for year because of interference to neighbor's TV and radio reception, was recommended this week by FCC examiner. It is first such action in FCC annals. James S. Sommerville, Highland Park, Ill., amateur, was found to have a fouled-up rig, never attempted to suppress spurious signals even after being warned. Commission engineers have been getting a few complaints from TV owners about "hams," find shielding of amateurs' equipment plus wave-traps on TV receivers clean things up pretty well. Lately, Commission engineers have been wrestling with question of responsibility when fringe-area TV owners complain about "ham" interference. Is such a set owner, way beyond stations' protected contours, entitled to protection?

RCA has given up "MP" initials in its "million-proof" TV ad campaign, although campaign itself will be continued. Reason, according to spokesman, is that company planned to drop initials after tease campaign was concluded; also that MP Television Co., Fairfield, Conn., had protested. Interesting sidelight is that RCA line contains 16-in. console named Fairfield.

Zenith has "enough Class A motion pictures to insure a daily changes of program for the duration of Phonevision tests, scheduled to start Oct. 1," writes Harold Smith in special TV section of Sept. 17 *Chicago Tribune*. Motion picture circles still don't know which producers are co-operating with Zenith.

Topics & Trends of TV Trade: Suggested code of advertising ethics for manufacturers is being circulated among members by RTMA. Draft was approved during Sept. 18-20 meetings of board and numerous committees in New York. Provisions of code are similar to standards adopted by New York Better Business Bureau (Vol. 6:26); i. e., "tell the truth." After receiving members' comments, board will consider final draft at Nov. 14-16 meeting in New York's Waldorf-Astoria.

Licensing of servicemen is still firmly opposed by RTMA. Feeling is that competition from reputable servicemen will kill off the "gyps"; that proposed new code of advertising ethics will help expose shady operators; that licensing would be subject to political manipulation.

Other actions of board and committees: (1) Appointed committee to meet with FM broadcaster group plumping for more FM set production and inclusion of FM in more TV sets (Vol. 6:32); chairman is Zenith's H. C. Bonfig. (2) Voted funds to publicize Oct. 29-Nov. 4 as National Radio & Television Week, playing up "30th anniversary of broadcasting." (3) Advertising committee agreed to offer TV sets as prizes to spur more big-city interest in Voice of Democracy contests for high school students.

* * * *

Belated statistics on vacation-month July set production were released by RTMA this week. They show 253,457 TVs produced by member companies, compared with 388,962 in 5-week June (Vol. 6:30). But RTMA estimates that non-member production brought total to more than 330,000 for July (Vol. 6:33), 702,287 for August (Vol. 6:37)—which means total cumulative postwar production of 8,048,000 up to end of August. Breakdown of RTMA July models: tables 102,441; TV-only consoles or consolettes, 124,311; combinations (with AM and/or FM), 10,072; combinations (with phono), 16,633. Breakdown by tube sizes: 50,740 table models and 32,160 console-consolettes in 12 to 15-in. category; 50,098 table models and 103,854 console-consolettes in 16 to 18-in.; 16,577 sets 19-in. or over; exactly 27 under 12-in.; 1 projection. Radios totaled 478,003 in July, compared with 1,054,456 in June.

* * * *

New Meck line has 5 models plus 2 retained from old line. List of new sets and descriptions follow:

14-in. rectangular: MM-614T, mahogany table, \$179.50; MM-614C, same in console, \$229.50.

16-in. rectangular: MM-616T, mahogany table, \$219.50; MM-616C, same in console, \$259.50.

19-in. rectangular: MM-619C, mahogany console, \$349.50.

Retained from old line are XSB, 16-in. round deluxe, modern mahogany console, \$299.50; XSPT, 16-in. rect. traditional mahogany console, AM-phono, \$359.50. Retail discounts range from 30% to 37½%, says Meck.

* * * *

Packard-Bell raised prices \$20 to \$50 on 6 of its 8 models in new line (Vol. 6:30) effective Sept. 15. Following are new prices (increases in parentheses); for description of sets see *TV Directory No. 11*: 16-in. rectangular models 2101, \$249.95 (\$20); 2105, \$284.95 (\$25); 2102, \$329.95 (\$30); 2602, \$449.95 (\$50). 19-in.: 2301, \$399.95 (\$20); 2803, \$550 (\$50) . . . Hoffman Radio also reported planning 7-15% increases shortly.

Westinghouse has added 2 new models to line (Vol. 6:25). Model 636T17 is 17-in rectangular table, \$249.95; 638K20 is a 20-in rect. console, \$439.95. They replace same models in 16-in. rect. table, 19-in. rect. console.

Scare buying by public is ended, but dealers loading up with more than 30-day appliance inventory are "hoarding." So Crosley sales v.p. W. A. Bles told 2000 Crosley dealers at Waldorf-Astoria Hotel in New York Sept. 22.

Analyzing some 700 technical specifications submitted by 71 TV set manufacturers, *Tele-Tech* editor Dr. O. H. Caldwell comes up with some interesting figures that point up noteworthy trends in design and demand. For example:

Of models scrutinized, 62% are consoles, 23% table models, 10% consolettes. Of the table types, 55% have 16-in. picture tubes, 20% have 12½-in., 16% have 14-in., 7% have larger than 16-in. Of the console types, 52% have 16-in., 25% have 19-in., 11% have 17-in., 5% have 12-in., 3% have 20-in. or larger. Of the consolettes, 59% have 16-in., 21% have 19-in., 10% have 12-in., 7% have 14-in. (Note the absence of 10-in. and smaller; only "1951 models" were analyzed.)

In addition to TV, 13% of the models offer AM & FM, 6% offer AM only, 4% FM only, about 1% AM-FM-short-wave; 82% have built-in aerials, of which 30% are tunable by customer; 18% of all models (almost all of new consoles) contain 3-speed record changers, with 8% providing phono-jack; 70% use intercarrier IF; average set uses 21 tubes plus 3 rectifiers; average set provides audio power output of 3.5 watts. And 90% use PM speakers, 7% of which are oval, 39% are 6x9-in., 33% are 4x6-in.; of the round type speakers, 42% are 12-in., 28% are 10-in., 13% are 6-in., 10% are 5-in.

Average prices (figures were compiled in September, for publication in October *Tele-Tech*) were tabulated as follows:

Tube Size	Table	Consolette	Console
12½-in.	\$180.92	\$202.80	\$249.39
14-in.	195.95	227.85	283.39
16-in.	245.25	311.53	365.14
17-in.	239.95	254.95	394.61
19-in.	342.98	405.25	473.78
20-in.	---	---	562.84
21-in.	---	---	795.00

* * * *

New TV set maker is Commander Television Corp., 280 Ninth Ave., New York, formed by ex-Starrett executives Murray Daniels, president; Mitchell Fein, sales v.p. M. F. Jaffa, ex-Period Woodworking Co., is sec.-treas. Line will be announced in about week, comprising low-priced 17, 19 & 20-in. models to be sold direct to dealers. Production plans call for 250 TVs and 300 radio-phonos per day. Components problem is being met because "friends in components manufacturing have stood by us," said Fein.

American Radio & Television, N. Little Rock, Ark., is making TV table base with AM radio and phono, for private-label TV distributors Mercantile Stores, Allied Stores, Interstate Dept. Stores, National Dept. Stores, Aimcee.

Revision of "Regulation W" to make down payment on TV sets and other household appliances 20-25% instead of present 15% (Vol. 6:36), shorten time for repayment to 15 months instead of present 18 months, is reported under consideration by Federal Reserve Board. FRB officials deny any immediate change, intimated none would be made until November or December at earliest.

Leftish United Electrical Workers, expelled last November from CIO (Vol. 5:46, 49), has reelected Albert J. Fitzgerald, president; Julius Emspak, secy-treas; James J. Matles, director of organization. New York convention this week voted for 30-hour work week with same take-home pay as now received for 40-hour week, plus pension and other benefits.

Tele-tone has rejoined RTMA, and other new members are Trad, New York; Constantine Engineering Laboratories Co., Mahwah, N. J. (transformers, power supplies, etc.); General Ceramics & Steatite Corp., Keasbey, N. J.; Wright Zimmerman, New Brighton, Minn. (speakers, amplifiers etc.).

Philo Farnsworth, one of TV's great inventors but long silent, came forth this week with promise of "memory" tube—device which could lift many of TV's present limitations. Within 2 years, he told Electric Club of San Francisco, tube should be developed commercially, providing "biggest single development in TV in the past 5 or 10 years." Theoretically, tube can eliminate interlacing, increase brightness and resolution, reduce flicker, save bandwidth. Presumably, it could also do CBS color system worlds of good. Farnsworth is a research executive of Capehart-Farnsworth.

Sarkes Tarzian's operations are described as "little RCA" by radio editor George Rosen in leading article in Sept. 20 *Variety*, based on visit to Bloomington, Ind. operations. City's No. 1 citizen operates 3 plants there, one in Philadelphia, one in Hawthorne, N. J., claims 70% of industry's total TV tuner productions, plans acquisition of 2 more plants, his annual gross runs \$12,000,000. He started in business 6 years ago with \$40,000, and now he plans to turn out small-town telecasting stations, counterparts of WTTV he operates in Bloomington, for "full-package" price of \$150,000; says WTTV expects to go into the black next month, when network revenues are available via new microwave relay from Cincinnati.

Rorabaugh Report on TV advertising, which each month lists TV sponsorships on networks and stations, in its July *Tele-Vane* reports 65 networks, 697 national-regional spot, 2971 local retail accounts on 99 of the then-operating 105 stations. Total of 3733 advertisers is 4.6% under June (due to vacation period) but 172.7% ahead of July 1949. Network was up 54.8%, spot 133.1%, local 188.8% ahead of July 1949. NBC is listed with 28 accounts, CBS 21, ABC 11, DuMont 9.

Daniel Starch & Staff, researchers, is out with another survey of TV impact, showing nearly 83% of TV set owners (in unnamed cities) found TV commercials more pleasing than radio commercials, less than 2% feeling other way, remaining 15% thinking they were about same. Women were more strongly in favor of TV commercials than men. Biggest complaint: local commercials, especially on participating programs, too frequent and too long.

"Check the South In" captions page ad in Sept. 18 *Broadcasting*, sponsored by 5 CBS-TV outlets to call attention to Sept. 30 interconnection date (Vol. 6:31, 37): WFMY-TV, Greensboro; WBTV, Charlotte; WAGA-TV, Atlanta; WMBR-TV, Jacksonville; WAFM-TV, Birmingham. Another ad in same issue, by Youngstown's WFMJ (AM) is captioned: "Time Buyers Note! No TV stations within 60 miles of Youngstown, O."

Twenty percent of TV set owners dine out less often than they did before TV, according to U of Chicago Opinion Research Corp. poll released this week. Survey was made for General Foods and National Restaurant Assn. Restaurant business is down from last year, report 55% of NRA members; 22% say business is same, 16% better.

Report on TV's effect on big league baseball attendance this summer, being prepared by Jerry N. Jordan as supplement to his comprehensive report on sports-TV (Vol. 6:19, 23, 33), will be distributed by RTMA, which printed and circulated original study.

Fundamentals of film-making for TV are covered in *Movies for TV*, by *Tele-Tech* associate editor John H. Battison, to be published by Macmillan in October. Besides being a TV engineer, Battison has also produced TV films, teaches at New York U.

The making of color film, its measurement and control, is given highly technical treatment in *Principles of Color Sensitometry*, 72-p. booklet compiled by Society of Motion Picture & Television Engineers. Copies are available at \$1 from SMPTE, 342 Madison Ave., New York.

Financial & Trade Notes: Magnavox reports net earnings for year ended June 30 were \$2,007,982, equal to \$2.81 per share on 703,763 common shares outstanding. This compares with \$1,323,598 (\$2.01 each on 659,989 shares then outstanding) earned during fiscal year ended Feb. 28, 1949. Fiscal period has since been changed. Sales reached highest level in company's history—\$31,716,630 for June 30 fiscal year, compared with \$24,402,206 for year ended Feb. 28, 1949. Net working capital as of June 30 was \$6,730,087, compared with \$3,490,370 as of Feb. 28, 1949; inventories were \$6,584,145, down \$1,549,656 in same period. Orders on hand will require capacity production for several months, August sales running about \$4,250,000.

Finch Telecommunications Inc. holds annual meeting Oct. 2 at Passaic, N. J. office, and stockholders will be asked to (1) authorize change of name to Facsimile & Electronics Corp.; (2) approve reduction of par value of common stock from \$1 to 25¢ and increase to 2,000,000 authorized number of shares and create 400,000 shares of new Class A stock of \$1 par; (3) approve Graham, Ross & Co. Inc. as underwriter; (4) approve grant of options to Casper M. Bower, president, to purchase 10,000 shares of common within 18 months at 87½¢ per share, with further options to purchase 10,000 shares within 3 years at \$1.75 per share. If proposed recapitalization is authorized, it's estimated there will be \$750,000 cash proceeds to corporation, leaving capital surplus of \$269,733. Proposed directors are: Raymond B. Littlefield, Providence, chairman; Casper M. Bower, president; Gregory Halpern, president of Polychrome Corp., Yonkers, N. Y.; Gilbert Parker, New York attorney; Charles D. McAuliffe, New York attorney.

Hallcrafters Co. will make public offering of 300,000 shares of common—150,000 new, 150,000 held by present stockholders—according to Chicago reports. When completed by Kebbon, McCormick & Co., proceeds of sale will be used to prepay short-term bank debt of \$800,000 and second mortgage notes of \$78,000, plus added working capital. After sale, 825,000 shares will be outstanding.

Wall Street Journal reports present indications are ABC will be back in red for 3 months ending Sept. 30 (summer quarter) but that final quarter will be profitable and year should show profit, compared with \$51,000 loss last year. First 6 months of 1950, ABC earned \$180,000, or 11¢ a share.

Raytheon stockholders meeting was told this week by president Charles Francis Adams Jr. that production of radios, tubes and TVs reached new highs in August; that fairly good earnings will be shown for quarter ended Aug. 31 (as against loss of \$547,000 same period last year); that good results are also in prospect for quarter ending Nov. 30 unless civilian production is curtailed.

Scott Radio showed first profit in 3 years for quarter ended Aug. 31 when sales ran \$542,773, net earnings \$41,073. Sales compare with \$79,232 in same 1949 quarter and \$604,900 for all last year. President John Meck said volume reflects addition of TV to line, estimates sales for Sept.-Nov. quarter will exceed \$1,500,000.

John Meck Industries public offering of 150,000 shares at \$4 a share, made this week through Otis & Co., Cleveland (Vol. 6:35), was over-subscribed almost immediately.

Sparks-Withington sales were \$17,020,260 for year ended June 30, compared with \$16,809,350 in preceding year. Profit was \$459,080 (48¢ per share) vs. \$25,710 (4¢).

Dividends: Emerson regularly quarterly 25¢ on common payable Oct. 16 to stock of record Oct. 5 . . . Hytron regular quarterly dividend of 12¢ on its 6% convertible preferred payable Oct. 14 to stock of record Sept. 29 . . . Trav-Ler cash dividend of 10¢ per share is payable Oct. 10 to stock of record Sept. 20, along with one share for each share held as of Sept. 18.

BUSINESS GOOD BUT PRICES CONTINUE UP: Boom TV market looks like it's definitely due for second round of price increases -- this in addition to 6-10% increases at retail level forced by 10% manufacturers' excise tax that goes into effect Nov. 1 (Vol. 6:38). Higher labor and materials costs are basic reasons, but it's part of an inflationary pattern taking place in whole appliance field. For example, such big companies as GE, Westinghouse, Frigidaire have hiked prices \$1 to \$30 on such items as irons, toasters, mixers, fans, washing machines, refrigerators, ranges, etc.

Philco this week raised prices \$10 to \$30 on 13 TV sets out of its line of 33, and Hoffman raised 17 of its 22 (see Topics & Trends for details). This was Philco's second hike, first having been average of about 7% across-the-board as of July 31 (Vol. 6:31). Also raised by \$10 each were 7 radio-phonos. Philco had just written new labor contract, calling for higher wages and other benefits.

Nearly all TV-radio manufacturers have posted increases last few months (Vol. 6:30, et seq) -- but Air King, Tele-tone and Zenith are only other ones thus far reporting second rounds (Vol. 6:36).

It's expected others will do likewise, some possibly waiting to consolidate new prices with markups forced by new factory excise. Any way you look at it, the trend that started in latter July continues upward, a complete turnabout from downward trend manifest about this time last year.

* * * *

Business at all levels continues "good" to "excellent" -- with such companies as Admiral, Philco and others even disavowing "guesstimates" by Television Shares Management Co., which once again essayed to pick top 10 producers and estimate their 1950 output (Vol. 6:38). RCA was rated No. 1 with 950,000, Philco next with 900,000, Admiral third 850,000. Both Philco and Admiral aver that, the way things are now going, they will hit their oft-predicted 1,000,000-mark this year -- provided only that shortages don't get more acute and war contracts come gradually.

Nobody seems to like the TSMC estimates, particularly those left out. For example, Crosley claims to be among top 10 at today's rate of output, Hallicrafters disputes Meck's right to rank ahead of it, others also say figures are cockeyed.

"Business is terrific," said one of the biggest manufacturers, while others in the top ranking restrain themselves with such comments as "good" or "very good". Remarkably few customers, we're told, have been asking questions about color TV, so that impact of FCC report hasn't been felt -- yet. With production now at breakneck pace, there now seems to be plenty of most brands of sets available at retailers without much waiting. Worse problem is installation and servicing. Inroads on servicing manpower are already being felt -- and everybody thinks that situation will grow worse before it gets better.

* * * *

TV-radio receiver trade isn't directly concerned, but this news is significant as possible straw in the wind: Raytheon is quitting AM-FM transmitter manufacture "due to govt. commitments that make necessary a reallocation of our production facilities." Shortage of components aggravates a situation already marked by diminishing market for AM and FM equipment, said Raytheon. In TV, it will continue to produce 50-watt STA microwave link known as RTRIC, and will manufacture off-the-line monitor receivers for station use. Agents in field will be continued.

GE's factories in Syracuse and Utica returned to normal TV-radio production end of this week as IUE Local 320 (CIO) heeded back-to-work plea of international chairman James B. Carey. Whole Electronics Dept. had been idle since Aug. 31 when 9500 workers walked out. Syracuse and Utica employes stayed out even after Sept. 15 agreement between international union and company (Vol. 6:37) because of unsettled local issues. Strike put GE out of TV-radio production nearly whole month.

Second September week's output was 124,348 TV sets, 197,485 radios, according to projected figures for entire industry released Friday by RTMA. This drop from first week's 163,860 & 235,284, respectively, was attributed to Labor Day stoppage and continued GE strike. (Note: For statistical purposes, first Sept. week actually ended Sept. 1; month will have 5 weeks.)

Thus, 1950 production was 4,434,810 TVs through Sept. 8, and 9,350,734 radios of all kinds. RTMA estimates first 8 months output of TVs valued at \$700,-000,000 at factory, radios \$210,000,000 -- more than for whole of 1949. Monthly output projections for first 8 months (not including the 2 Sept. weeks):

	<u>Television</u>	<u>Home Radios</u>	<u>Auto Radios</u>	<u>Portable Radios</u>
January.....	424,000	581,000	329,000	69,000
February.....	536,000	505,000	379,000	120,000
March.....	643,000	587,000	389,000	114,000
April.....	432,000	526,000	273,000	143,000
May.....	557,000	796,000	291,000	351,000
June.....	522,000	710,000	567,000	262,000
July.....	330,315	391,170	234,025	97,323
August.....	702,287	754,232	320,960	128,255
Total 8 months	4,146,602	4,850,402	2,782,985	1,284,578

Financial & Trade Notes: Philco Corp. has called special stockholders meeting Nov. 28 to vote on 2-for-1 split in common stock to be effected by increase in authorized shares from 2,500,000 to 5,000,000. President Wm. Balderston said move is in recognition of company's growth from sales of \$52,311,000 in 1940 to estimated 1950 volume of \$300,000,000. Presently outstanding are 1,709,980 common shares, including 31,202 in treasury.

Zenith-sponsored Teco Inc., formed to promote Phonevision (Vol. 6:15-16), has notified rights holders that entire issue of 100,000 shares at \$10 par has been fully subscribed and that stock certificates will now be issued. Zenith stockholders last April were offered privilege of purchasing, on or before May 9, one-fifth of \$10 Teco share for each share of Zenith common held. First sales were 1000 shares to Zenith officials, including 590 to Zenith president E. F. McDonald Jr. Phenomenal rise in Teco stock earlier this year was subject of headlines that led Teco president T. M. McNicholas to state Phonevision was still experimental and rise wasn't considered warranted (Vol. 6:21-23).

Sylvania sales this year will probably total around \$140,000,000 and net, based on present tax rates, will at least double the \$1.82 per share earned last year, may run between \$3.75 and \$4. So Max Balcom, chairman, told N. Y. Society of Security Analysts Sept. 28. Company's TV division ran at loss until August, he said, and now is operating at profit.

Hallcrafters Co., which is planning public stock offering shortly (Vol. 6:38), this week disclosed sales for fiscal year ended Aug. 31 of \$28,513,540, nearly double last year's \$14,572,008. Profit is \$1,167,905, or \$1.73 per share on 675,000 shares outstanding, compared with \$403,050 (60¢) for preceding year. Breakdown of sales shows 72% TV receivers, 3% home radios, 14% communications and amateur shortwave equipment, 11% govt. communications equipment. President Wm. Halligan announced new \$1,500,000 govt. contract last week increases Hallcrafters total defense contracts to slightly more than \$13,000,000.

Packard-Bell president H. A. Bell proposes to sell 117,000 of his 179,000 shares of 50¢ par common, and v.p. J. M. Spain would sell all his 18,666 shares, according to registration filed last week with SEC. Hill Richards & Co., Los Angeles, would be underwriter of public offering

at price to be set. Mr. Bell and Mr. Spain also own warrants entitling them to purchase an additional 77,000 and 10,000 shares, respectively, at \$3.75 per share. Under Sec. 16(B) of Securities Exchange Act, short-term trading profits of officers, directors or 10% owners in any equity security of a company with listed securities, may be recoverable by the corporation. But no part of proceeds would go to company under proposed new SEC rule which would exempt transactions whereby a security is acquired by redemption of another security. Assuming exercise of all warrants, Mr. Bell will own 139,000 shares (23.6%). Packard-Bell stockholders recently approved 2-for-1 stock split (Vol. 6:35).

How big Paramount's 29.5% DuMont holdings now figure in its financial setup, is hinted in statement of Paramount Pictures Corp. estimating earnings for 6 months ended July 1, 1950 at \$2,826,000, or \$1.07 per share. This does not include \$829,000 profit from Paramount's interest in various non-consolidated subsidiaries, principally DuMont. Paramount owns 560,000 (all) shares of Class B stock and 43,200 shares of Class A in DuMont, which for first 24 weeks of this year showed profits of \$2,797,000, or \$1.16 per share on 2,358,466 A & B common outstanding as of June 18, 1950 (Vol. 6:30). Paramount paid some \$164,000 for its DuMont holdings acquired between 1938 and 1943 (Vol. 6:4), only \$56,000 for first 500,000 shares of B (Vol. 5:51). Recent interim dividend of 25¢ (Vol. 6:33) paid Paramount more than \$100,000—first dividend this year. In 1949, DuMont paid 50¢, in 1948 it paid 25¢.

Oak Mfg. Co. reports net profit for quarter ended Aug. 31 as \$417,018 (93¢ a share), compared with \$143,543 (30¢) for same 1949 period.

Dividends: Olympic, 25¢ on common payable Oct. 16 to stock of record Oct. 6; paid 20¢ in July after 20% stock dividend in April . . . Hoffman Radio, 25¢ on common payable Oct. 16 to stock of record Sept. 30, first cash dividend since split of 1½-for-1 Aug. 23 . . . Tung-Sol, \$1.25 on common payable Nov. 1; also paid 50¢ in August, 25¢ in February . . . Clarostat, 8¢ per share on common payable Oct. 16 to holders of record Oct. 9.

Correction: Last week's dividend reports stated Traveler has issued dividend of one share for each share held as of Sept. 18; actually, it has issued one for every 5.

Topics & Trends of TV Trade: Manufacturers readying new price lists for TVs produced Nov. 1 and thereafter are almost invariably planning to incorporate new 10% excise tax into price, rather than quote separate tax item to customers that would automatically reveal distributor cost. This is apparent from informal reports received since tax was enacted (Vol. 6:38). On Sept. 29 Internal Revenue Bureau released these instructions as guide for businessmen and information for consumers:

"Television sets: Beginning Nov. 1, 1950, there will be a 10% tax collected on the manufacturer's selling price of television sets. It should be noted that this tax is not a retail tax; that the payment thereof is the responsibility of the manufacturer, producer, or importer, and that the tax applied to their selling price. However, there is no prohibition against the amount of the tax being passed on to the consumer. The tax also covers television chassis, cabinets, tubes, speakers, amplifiers, power supply units, built in antennae and the like."

Practically identical instructions were issued with respect to deep-freeze units, only other new excise in Revenue Act of 1950.

* * * *

Philco's second price boost covers 13 of its 33 sets, runs \$10 to \$30 per set. These are the new prices, the increases (listed in parentheses) being from prices announced last month reported in Vol. 6:31 (for description of sets see *TV Directory No. 11*):

14-in. rectangular: Model 1443PW, \$379.95 (\$20); 1443PM, \$399.95 (\$20); 1443PL, \$429.95 (\$30).

16-in.: 1601, \$229.95 (\$10); 1601T, \$249.95 (\$10); 1634M, \$319.95 (\$20); 1634L, \$339.95 (\$20).

17-in. rectangular: 1836M, \$379.95 (\$20); 1836L, \$399.95 (\$20); 1838, \$469.95 (\$20); 1872, \$449.95 (\$20); 1874, \$499.95 (\$20); 1874L, \$529.95 (\$30).

Philco also added to line 2 new sets: Model 1634W, 16-in. walnut console, \$299.95; 1836W, 17-in. rect. walnut console, \$359.95.

* * * *

Hoffman raised prices \$10 to \$25 on 17 sets in line of 22, keeping only 14-in. prices unchanged. Following are new prices (increases in parentheses); for description of all sets see *TV Directory No. 11*:

16-in. (each up \$10); Model 635, \$269.95; 634, \$279.95; 877, \$349.95; 878 & 876, \$359.95; 867, \$389.95; 868 & 866, \$399.95; 951, \$489.95; 952 & 950, \$499.95.

19-in.: 891, \$459.95 (\$20); 892 & 890, \$469.95 (\$20); 961, \$575 (\$25); 962 & 960, \$595 (\$20).

* * * *

Imperial Television Mfg. Co., 2034 E. 48th St., Los Angeles (of which Tele-tone distributor Wood & Cies is subsidiary; Vol. 6:29), makes 4 basic sets with 18 variations in cabinets. All sets contain Tele-tone chassis and are advertised as "Tele-tone Imperial." Basic set in each group is Tele-tone's Imperial model. Line follows:

Model 2217, 17-in. rect. console with doors: Windsor, walnut, \$279.95; in mahogany, \$289.95; Coronet, mahogany, \$289.95; in blonde, \$309.95; Provincial, \$299.95.

Model 3117, 17-in. rect. console with AM-FM-phono: Georgian, walnut, \$399.95; in mahogany, \$419.95; Catalina, mahogany, \$419.95; in blonde, \$449.95; Provincial, maple, \$439.95; Normandie, blonde, \$459.95.

Model 3019, 19-in. console: Winthrop, walnut, \$339.95; in mahogany, \$349.95.

Model 3119, 19-in. console with full doors: Wakefield, walnut, \$369.95; in mahogany, \$379.95; Bel Aire, mahogany, \$379.95; in blonde, \$399.95; Salem, maple, \$389.95.

* * * *

New Magnavox set is 17-in. rect. 18th Century mahogany Embassy console with AM-FM-SW-phono, \$775.

First of Raytheon's series of 9 "truth about television" ads broke in newspapers in 44 TV cities Sept. 24, designed to "help build up a sound dealer organization, and incidentally benefitting other reputable set manufacturers as well as ourselves." First ad ran 1000 lines, others will be somewhat smaller. Under caption "3 reasons why you should buy your television set from a dependable dealer," first ad notes: (1) He's here to stay. (2) He offers good products. (3) He takes care of his customers. Then it gives public these "Eight Good Guides for Better Television Buying":

1. Buy your TV set through a reputable dealer in whom you have confidence.

2. Ask for names and telephone numbers of several purchasers of the make of set you're thinking of buying. Ask for references in your neighborhood.

3. Make sure the dealer or agency handling your service policy is technically competent and financially sound. Ask for and check his references.

4. Make sure the manufacturer of your set not only is reliable but also has a recognized background in electronics. If the manufacturer is not known to you, ask for proof.

5. Make sure the set you're buying is up to date and contains the latest developments. Don't be fooled by trick names for circuits. Contrary to some manufacturers' claims, there is no magic about television!

6. Make sure the cabinet housing your set is well constructed and finished. Use the same care you would in selecting fine furniture.

7. Examine the picture critically and listen to the tone quality, too. Make sure the tone is at least equal to what you would expect from a good radio set.

8. Ask for proofs of dependability, such as testimonial letters, certificates of approval by recognized testing laboratories, etc. For your own safety, make sure the set bears the seal of Underwriters' Laboratories.

Unscrupulous racketeers in guise of TV dealers and servicemen are preying on uninformed public, says Lloyd Wendt in October *Better Homes & Gardens* article titled "Look out for the Television Tinkers!" Citing "3-way switch"—bad set, exorbitant installation and service fees, no service—Wendt recommends reputable dealers and servicemen as guard against being "taken." He tells of Bronx dealer who sold rebuilt 10-in. rag-tag chassis in console with RCA nameplate as new RCA 16-in. set—which didn't even work! Wendt emphasizes: "If you don't know your merchandise, know your merchant!"

* * * *

Plant expansions: Westinghouse new \$1,500,000 TV plant with 400,000 sq. ft. in Raritan Township, just outside Metuchen, N. J., is planned as "last word in industrial design" . . . Hoffman Radio adds seventh plant, 2 buildings with 17,000 sq. ft. at 335 S. Pasadena Ave., Pasadena, giving company total 260,000 sq. ft.; other 6 plants are in Los Angeles . . . Federal Telephone & Radio has leased 130,000 sq. ft. of added manufacturing space in Passaic, N. J.; Federal Telecommunications Laboratories has leased former Isolantite plant, with 75,000 sq. ft., in Belleville, N. J. . . . National Video Corp., picture tubemaker, has purchased site at Milwaukee & Kilbourn Aves., Chicago, will erect 150,000 sq. ft. building for expansion of production, now reported at 50-60,000 tubes per month . . . GE reopening Clyde, N. Y. plant Dec. 1 for manufacture of germanium products used in electronics equipment, allowing room for expanded govt. production at Syracuse; T. E. Jamro will be in charge of Clyde plant.

* * * *

New Kaye-Halbert sets added to line (Vol. 6:18): Model 731, 17-in. rect. walnut table, \$279.95; in mahogany, \$289.95; in blonde, \$299.95. Model 733, 17-in. rect. walnut console, \$319.95; in mahogany, \$329.95; in blonde, \$339.95. Unique "Owner's Club Service Plan", sponsored by company's Los Angeles distributor, works this way: Set owner pays \$10, all repairs done at factory for \$3.95 per job. First year there's no charge for parts since they're covered by manufacturer's warranty. After first year, owner has to pay for parts at dealer's cost.

Trade Personals: Inwood Smith, mgr. of refrigeration, promoted to general sales mgr. in charge of all products, Crosley, under sales v.p. W. A. Blees, who also appointed William J. O'Brien New York branch mgr., succeeding Bert Cole, resigned . . . Sylvania appoints L. R. Wanner plant mgr. in charge of plastic operations, Parts Div., and Curtis A. Haines gen. mgr. of operations for Radio Tube Div. and TV Picture Tube Div. . . . Arthur Baxter, purchasing agent, promoted by Hoffman Radio to director of purchasing, succeeded by Charles G. Locke, ex-Bendix; M. W. Horner put in charge of production, Hoffman's Special Apparatus Div. . . . Henry C. Roemer, v.p., comptroller and member of board of IT&T, elected executive v.p. of Federal Telephone & Radio Corp., where he served as senior v.p. during war . . . Malcolm Ross, ex-Sylvania, named Tele-tone purchasing director . . . Edmond Sherman promoted to Starrett engineering v.p., names Sidney Lidz, ex-CBS, as director of color TV research in charge of developing color receivers . . . Gerald Light named mgr. of govt. contracts for Emerson . . . Joseph H. Moss Jr. named to new post of mgr. of distribution, DuMont Receiver Div.

Among larger military contracts for electronics equipment announced by Commerce Dept. for week ending Sept. 22 and let through Signal Corps, Philadelphia: Collins Radio, \$728,000, radio sets (1504 units); Johnson Service Co., Milwaukee, \$604,400, radiosondes (75,000) & radio-sonde modulators (30,000); Hallcrafters, \$350,022, radio sets (297); Bendix Aviation, \$300,000, radiosondes (70,033); Midland Mfg. Co., Kansas City, \$266,301, crystal unit sets (57); Molded Insulation Co., Philadelphia, \$250,000, radiosondes (68,692); Motorola, \$221,000, radio sets (21) & sound ranging sets (121); Rauland-Borg Corp., Chicago, \$175,000, radio terminal sets (128) & radio relay sets (66); Emerson, \$150,000, radio sets (2859); RCA, \$150,000, countermeasure receiving sets (31); Lewyt Corp., \$120,650, radio sets (504). Let through Navy Electronic Supply Office, Great Lakes: Sperry, \$193,800, electron tubes (1500).

New color phosphors have been developed by Sylvania and supplied to color tube developers such as RCA. Dr. Elmer Larsen, chief engineer of Tungsten & Chemical Division, said phosphors would be available in commercial quantities as soon as industry has agreed on standards for them. Phosphors are of sulphide and oxide types. Dr. Larsen is particularly gratified with new red phosphor, since previous red phosphors have been extremely inefficient, greatly limiting tube light output.

Radio receiving tube sales in August totaled 36,269,435, all-time record, RTMA reports, bringing total for first 8 months of this year to 227,773,373, compared with 198,753,295 in all 1949. Sold for new sets in August were 28,202,620 tubes, for replacements 7,017,115, to govt. 906,450, for export 143,250.

Increasing govt. purchases of radio transmitter and communications equipment, including radar, are reported by RTMA, which shows second quarter sales by its member companies totaling \$33,393,093 compared with first quarter's \$30,640,943. Second quarter orders placed by govt. amounted to \$61,701,467 (\$27,676,595 of it for radar) compared with \$41,305,390 in first quarter.

Proxy notice for Magnavox stockholders meeting Oct. 25 in Ft. Wayne was issued this week, along with financial report on fiscal year's operations ended June 30 (see Vol. 6:38)—and it discloses executive v.p. Frank Freimann as beneficial holder (family) of 76,308 of the 758,965 shares of common stock outstanding. These executive salaries for fiscal year were also listed: R. A. O'Connor, president, \$55,833; Mr. Freimann, \$48,333; Gerard M. Ungaro, v.p., secy. & gen. counsel, \$22,916.

Latest "community antennas" for TV reported are those in Franklin, Pa., 65 miles from Pittsburgh. Haren Corp., of that city, erected high-gain structures on nearby mountains, feeds signals via wire lines and amplifiers into some 40 homes and public places. It charges \$9.25 per month for homes, \$25 for TV dealers. Among other such installations is that of L. E. Parsons, Astoria, Ore., whose "network" is said to number hundreds of sets; pictures come from Seattle. FCC engineers say they've even heard of a California engineer who strung 8 miles of wire to get good picture to his home. FCC has no jurisdiction over practice unless wires happen to cross State lines or radiations are involved. However, State or local regulations may cover installations.

Novel idea for "compatible" uhf TV system, is broached in September *Radio & Television News* by J. R. Popkin-Clurman, Hazeltine engineer who developed inexpensive amateur uhf TV rig (Vol. 6:8, 27). He contends new uhf antenna, with associated crystal, can feed uhf signals directly into standard vhf receivers. FCC engineers are skeptical, saying idea will work after a fashion—but only in areas of very high signal intensity. They say it's similar to "blooper" once proposed as an inexpensive FM converter (Vol. 3:13).

Curious angles on TV's social and industrial impact, as reported in daily press: (1) In Union, N. J., realty company dropped plans for new theatre, started \$50,000 supermarket instead, blamed "changed conditions," principally TV, for switch. (2) In Fall River, Mass., 16 bus drivers were released, bus line manager telling State Dept. of Public Utilities cut in service partly attributable to reduced passenger loads on night runs because people stay home watching TV instead of going out. (3) On West Coast, Los Angeles-San Francisco Short Line has equipped one bus with TV receiver visible to everyone except driver, plans to equip 7 more; line says reception good for 40% of route. In London, number of buses traveling to outlying points have been equipped with two 9-in. sets each. (4) In New York, fire dept. official warned that roof antennas were endangering firemen, suggested requirement that lowest arm of antennas be at least 8 ft. above roof's cornice and that lead-ins be placed so they can't trip firemen or foul hose.

TV's impact on set owners in Oklahoma City and Norman, Okla., can be felt, but isn't nearly as strong as in many other cities, according to careful study by U of Oklahoma. *When TV Moves In*, 35-p. report available from Sherman P. Lawton, coordinator of broadcasting, compares family habits during 3 periods: pre-TV, 6 months after TV, 12 months after. Mild impact may be due to fact Oklahoma City has one station, non-interconnected, is relatively "young" in TV service. Survey concludes, for example, that "there appeared to be no clear-cut relationship between amount of TV-viewing and movie-going, attendance at sporting events, participation in outdoor activities, having guests in the home."

Advertising expenditures for second half 1950 have been increased by all but one of the 12 manufacturers represented on RTMA advertising committee informal poll at Sept. 19 meeting indicates. Increases range from 20% to 200% over first 6 months of 1950, average being 104%. All but 3 of same group plan to up 1951 budgets, average being 9% over 1950; 3 plan to spend 45% more.

To compare vhf and uhf propagation, RCA-NBC was granted 50-watt authorization, for 90 days, on Channel 4 in Bridgeport. New experimental station will be measured against signals of KC2XAK, which uses 529-535 mc.

Digests of

NAB LIBRARY

Responses to FCC Proposals for 'Bracket Standards'

Brief Summaries of Replies to Notice to Manufacturers for Proposed Rule-Making

(FCC Public Notice No. 50-1065; see Special Color Report published Sept. 2, 1950)

Includes All Replies Received Up to Sept. 29, 1950

ADMIRAL CORP.—Short covering letter accompanies outline by chief engineer, Robert Jones. Letter states engineering staff has been working on problem but time permitted has not been sufficient for valid conclusions. Annex lists following engineering problems that must be solved for bracket standards and sets forth questions arising in connection with each: test equipment, hum, horizontal sweep width, bandwidth, bracket standards, automatic switch, model design (both chassis and cabinet), field testing. "We shall continue working," states letter, "until such time as an adequate solution can be reached. At that time we should like to present our findings and conclusions to the Commission."

ANDREA RADIO CORP.—Could build bracket sets by April or May, 1951. Adoption of brackets now would mean: (1) Plant-wide layoff of 335 people. (2) Unsafe inventory building. (3) Financial burden that would undermine the company's ability to meet its obligations. Feels that color must be compatible and fully electronic. Suggests "one overall standardization rather than possible individual steps or dual standards."

ARVIN INDUSTRIES INC.—(1) Test equipment is not available; estimates 2 months needed to procure it. (2) Three months required for new set design development. (3) Field testing would take longer than usual, due to lack of CBS-type signals. (4) Tooling requires 2 months. (5) Components procurement cycle is 3-4 months. Thus, total of 8-9 months would elapse before brackets production would start.

BELMONT RADIO CORP. (Raytheon)—Needs more time to study costs, feasibility and production dates. Asserts bracket sets far different from 2-position switch. Says latter "probably could be engineered in the present state of the art." Two-position switch would probably cost \$30—"too high a premium for insurance against obsolescence during the advent of color." Has "every desire to cooperate" but regrets that brackets aren't possible within time allocated. Is continuing study, nevertheless.

COLUMBIA BROADCASTING SYSTEM—Approves bracket standards idea if costs are not excessive. Isn't certain whether they would cost more than 2-position switch. But adoption of CBS field sequential system will provide "competitive impetus" for manufacturers to incorporate at least 2-position switch internally, and brackets might come later if their feasibility is proved. CBS also suggests Commission make clear that paragraph 5(c) in

brackets proposal, which requires "equivalent size" pictures, "also permit additional provision for reduction in size for purposes of conversion" through addition of color disc.

COMMUNICATIONS MEASUREMENTS LABORATORY INC.—Favors TV on uhf only. Asserts FCC's color decision is inconsistent with FCC policy. States: "I've been at odds consistently with the mass producers. . . . However, in fairness to them . . . FCC displays woeful lack of knowledge of 'lead time' required for a change of this type, or the decision is a carefully calculated scheme to adopt the CBS system now on a permanent basis with the knowledge that manufacturers cannot possibly produce receivers within the time limit." Estimates that normally such change would require 4 months, but asserts that components situation is abnormal, e.g., "resistors are virtually unobtainable."

Maintains: "I see no reason for haste in the light of situation which has resulted from the events in Korea." Color and allocations "cannot be completely divorced from each other." Suggests that CBS system would lose two-thirds of information when used with tri-color tube; that field rate might be lowered to make system compatible; that all proposed color systems may be made to work with universal set.

CONNECTICUT STATE DEPT. OF EDUCATION—Requests reservation of educational TV channels. Urges more time for research "until such time as an electronic system of color transmission has been suitable demonstrated by CBS."

CONRAC INC.—Will not make bracket sets because: (1) "Considerable technical difficulties." (2) Components in very tight supply. Believes FCC would make "grievous error" in not picking compatible system.

CROSLEY DIVISION, AVCO MFG. CORP.—Cannot estimate when bracket sets could be made. All its research has been in dual standards, not bracket. Had abandoned dual-standard research because it felt compatible system was necessary and feasible. Urges deferment of color adoption because: (1) No satisfactory system is fully developed. (2) CBS system is impracticable at present time, even if it could be perfected. (3) Delay in adopting color would hurt no one, nor aggravate compatibility problem. (4) Dual or bracket standards would be detrimental to public.

ALLEN B. DuMONT LABORATORIES INC.—Responded it would need at least 6 months to year before coming to any engineering conclusions on bracket standards. Calls attention to fact cost estimates submitted during hearing referred to 2-position switch, not bracket standards. Calls bracket standards "immature," recommends that Commission's proposals thereon be rescinded or a full hearing be held on subject.

CBS system requires complete redesign of TV receivers, DuMont states, and doesn't meet FCC criterion that color system be capable of being received in black and white on present receivers "with relatively minor modifications."

DuMont holds FCC's comments on RCA tri-color tube are not proved, and points out inconsistency in holding out hope single tube will permit large, direct-view pictures for CBS color system. Points out that under FCC's proposal to investigate horizontal interlace and long-persistence phosphors it's possible Commission will some day change standards again, making them incompatible with CBS color standards.

Questioned is impartiality of Comr. Jones, and it's charged he showed "unprecedented bias." Questioned also is "adequacy of FCC's facilities for full technical investigation . . ." Commission is urged to postpone any decision on color, permit continuance of research on subject.

GAROD RADIO CORP. (Majestic)—Preliminary engineering on brackets yet to be done. Has provided space in forthcoming sets for additional components and controls. Field testing will be needed. Estimates production to commence 4-5 months after final decision. Internal adaptation to cost about \$35, external \$50-\$75 plus costs of installation by highly technical personnel. Is "anxious to cooperate" but points out that monochrome from CBS transmissions will be degraded and that color disc is good only for sets up to 12-in.

GENERAL ELECTRIC CO.—(1) "Definitely" will build bracket sets if "the public will buy in sufficient quantities to justify the investment in engineering time and in production facilities." (2) "Our attorneys advise us that we may not have the right to enter into an agreement with anyone, even the FCC, to abandon the design and manufacture of all types of TV receivers except one specific type." (3) Strike has hampered study of problem. (4) Uncertain about "retrace" time, other engineering details. (5) Recommends FCC and industry work out proposal together. (6) After everything is clarified, GE could be ready to make brackets by June 1, 1951, if components are available.

Convinced FCC's whole color-brackets proposal is "technically and economically open to serious question, particularly since it comes at a time when the Armed Forces requirements in terms of electronic engineering man-hours is becoming an increasingly major factor in this industry."

HALLICRAFTERS CO.—Requires 3-6 months of basic research. Time factor also depends on development work by suppliers of components such as ferromagnetic structures, coils, switches, possibly tubes. Is "willing but unfortunately not able to give an unconditionally affirmative statement."

HOFFMAN RADIO CORP.—Wants to cooperate, is willing to install 2-position switch in sets, but it will take at least 8 months before such sets start coming off production lines. But company doesn't know how to build bracket standards. Calls attention to fact black-and-white picture from CBS colorcast would be "degraded," also that Commission's ideas on bracket standards seem to be based on

out-of-date sets. States CTI has improved system, urges reexamination of CTI system.

JOHN MECK—Sent 2 telegrams as John Meck Industries and as Scott Radio Laboratories stating that he was filing no comments.

NATIONAL TELEVISION SYSTEM COMMITTEE—Submitted unedited minutes of Sept. 12-13 meetings of panel on station equipment (Dr. T. T. Goldsmith, DuMont, chairman) and panel on receivers (David B. Smith, Philco, chairman). Both panels assumed "bracket standards" meant black-and-white standards and CBS standards (2-position switch for receivers).

Station equipment panel consensus showed that some items requiring modification could be accomplished immediately. Most, however, required from one week to 4 months. New equipment incorporating needed changes would take up to 2 or 3 years for film recording equipment. Receiver panel agreed that bracket standards means "redesign of receivers" due to higher voltages, more tubes, other changes required.

Following are estimates of additional cost to list price of 17-in. rectangular receiver with 70-degree deflection tube and date first such set would be off production line (all 1951 unless otherwise noted):

Bendix, \$40, June; Capehart-Farnsworth (no estimate), June; DuMont, \$35-\$40, March 1952; Emerson, \$30-\$40, June; Freed, \$40, September; Garod, \$35, June; General Electric, \$30, May; Hoffman, \$35, September; Motorola, \$40, April; Philco, \$35-\$40, April-June; Pilot (no estimate), April; Stewart-Warner, \$40, June; Stromberg-Carlson, \$30, May; Westinghouse, \$30, April; Zenith, \$30, June.

Following estimates are for external adapters plus installation fee: DuMont, \$130 and unestimated; General Electric, \$50 and unestimated; Hoffman, \$100 & \$25; Philco, \$60 & \$25-\$50; Stromberg-Carlson, \$100 & \$25.

PACKARD-BELL CO.—Can't meet brackets deadline because: (1) Decision was surprise; no engineering on brackets had been done. (2) Test equipment difficult to obtain. (3) Components in tight supply. (4) Field testing needed. (5) May require retooling of chassis, redesigning of some cabinets. Intends to proceed with engineering, but would like to know whether to continue. Emphasizes "our honest and sincere desire to cooperate for the common good of all consumers, and we believe this can only be accomplished by ascertaining all the necessary facts before making any decisions and commitments which might be either inaccurate or unnecessary as of this date."

PILOT RADIO CORP.—Brackets deadline "physically impossible." Since FCC lacks authority over manufacturers, "you seek thereby to accomplish indirectly what you cannot do directly." FCC has admitted CBS system far from satisfactory. FCC offers manufacturers an "illusory reward." Says FCC has admitted defects in CBS system, such as low resolution, low brightness, restricted size. Asks that more time be allowed to study CBS system with long-persistence phosphors, horizontal interlace, tri-color tube. Says time allowed for compatible systems "seems to be no more than a holiday weekend." Quotes Comr. Henock's remarks concerning RCA's improvements during hearing. Cites impact of FCC decision on military effort. Says "revamping of our industry would be impracticable and heedlessly wasteful." Asserts that commercialization of CBS system "seems neither wise nor lawful."

RADIO CORPORATION OF AMERICA—Contentions: (1) Color decision "scientifically incorrect." (2) CBS and

RCA systems should be allowed to go ahead simultaneously, for "reasonable period of time," with public making final choice. (3) Brackets proposal is "impossible and illegal." (4) FCC doesn't understand RCA system. (5) FCC favors CBS system "merely in order to do something about color now."

(6) Condon Committee recognized RCA system potential; FCC confused apparatus with systems. (7) Black-and-white has tolerances even more stringent than 1/11,000,000 of a second tolerances in RCA system. (8) RCA system improved greatly in a few months, "a thousand percent," according to CBS's Dr. Goldmark. (9) Non-RCA witnesses and commissioners said they've seen good RCA color fidelity.

(10) FCC ignored post-hearing improvements. (11) RCA system adds color, subtracts nothing, while CBS system adds color but loses resolution. (12) Compatibility will insure quickest development of color.

(13) Brackets proposal doesn't comply with FCC rules on adopting new standards. (14) Brackets far more difficult than when TV standards were first being considered. "Triggered" synchronizing circuits, employed then, are now obsolete because of their susceptibility to interference.

(15) Cost of brackets would be \$61 automatic, \$50 manual. (16) If change in standards is made later, "those who had bought the bracket standard receivers and paid the additional sums required would not receive an improved picture when the change was made." (17) Brackets couldn't be made before second quarter of 1951.

(18) Brackets would produce inflationary effect because of greater set costs, contrary to policy set forth in Defense Production Act of 1950. They'd also mean "unnecessary use of critical materials." (19) Bracket sets would intensify difficulties stemming from components shortages. (20) FCC is in error in its comparisons of CBS and RCA

systems in respect to flicker, brightness, contrast, registration, fidelity, resolution, picture texture, susceptibility to interference, adaptability, convertibility, equipment considerations.

STROMBERG-CARLSON CO.—Has devoted bulk of engineering time and laboratory facilities, since Sept. 1, to brackets. Number of problems remain with regard to 2-position switch, "very many" with regard to brackets. Engineering for 2-position switch to take 1-2 more months, brackets much longer. Then one month needed for field testing. Then additional 4-6 months required before actual production. Asserts that people who don't need or want additional circuitry shouldn't have to pay for it. Brackets idea "unsound economically and practically." People will want to adapt to color, not merely to black-and-white. Present plans are to make "modest" changes in circuits so that people can purchase adapters optionally.

WESTINGHOUSE ELECTRIC CORP.—Has adapted sets for 2-position switch only, concluded adaptation is feasible, but hasn't adequately field tested sets. If brackets adopted, proposes: (1) To make sets with 2 positions. One position will give standard monochrome adjustable "within a reasonable range of present standards." (2) To provide sets with plug receptacle. If proposed CBS standards are adopted, plug-in unit will be built to give monochrome from color transmissions. If CBS standards are changed at some later date, new plug-in units will be made to give monochrome, replacing old. States it cannot make desired sets within 30 days after "any decision which has been reached which requires important changes in either design or material content."

WTVR (HAVENS & MARTIN), RICHMOND, VA.—Formal brief requests permission to appear if hearing is held on bracket standards.



COY REAFFIRMS THE FCC COLOR REPORT

Excerpts from Addresses by Wayne Coy, Chairman of the FCC

Before National Electronics Conference, Chicago, Sept. 25 and
Chicago Television Council and Radio Management Club, Sept. 26

Except for different introductory and concluding paragraphs, Chairman Coy's speeches were identical—devoted primarily to the color issue. The verbatim report of his discussions of color TV issues are herewith reprinted in full because of their significance as a follow-up interpretation of FCC's much-discussed Color Report. (Text of Color Report available with our issue of Sept. 2, 1950; see also articles in Vol. 6:35, et seq, Television Digest Newsletter.)

THIS is truly the Electronic Age.

And color television is about to mature as one of the electronic products of that age.

I would like to take this opportunity to discuss with you the Commission's color television decision of September 1. I feel sure that most, if not all of you, have spent many hours reading that report. If you read the report I know you spent hours doing it!

We labeled this report on color "First Report" because it is No. 1 in a series of reports that we will issue on various phases of our television proceedings. These include, besides color, such issues as allocation principles, assignment of channels to specific communities, etc.

You undoubtedly all realize how this report on the color television issues fits into the picture of the television hearing. The hearing includes a general review of the status of the television service in both the VHF and UHF bands. As a result of our review of this service we will amend the Commission's television rules and standards as they apply to the VHF stations to eliminate interference which we know now exists under the present VHF allocation plan, and to establish a sound foundation for the continued expansion of the VHF television service. Our review of the status of television in the UHF band will determine whether the Commission's proposal for commercial television service in the UHF should be adopted, and will try to establish a sound foundation for the commencement of that service.

Color First, Then Allocations

These objectives are of utmost importance to the welfare of the television industry. Only by achieving a sound basis for VHF and UHF television can we insure that the American people will enjoy the best possible television service. Only by achieving these objectives can we insure that the television broadcasting and manufacturing industries can proceed to serve the people of the United States with assurance that no unnecessary technical obstacles will arise to plague them in the future.

As you know, it has long been plain that 12 VHF channels cannot accommodate a sufficient number of stations to make possible a nationwide, competitive television service. For this reason the Commission in July, 1949, proposed to open up 42 channels in the UHF band for commercial operation.

At this point it became obvious that the Commission and the industry had to face up to the question of color

television. When in 1945 the Commission gave the go-ahead signal to post-war black-and-white television, only VHF allocations were involved. A large band of UHF frequencies was set aside for experimentation with higher definition monochrome television and also color. Again in 1947 when the Commission refused to adopt color standards on the basis of a 16-megacycle color system, black and white was permitted to proceed on VHF only. The UHF band was still preserved for future experimental work.

Following the 1947 decision, television started to grow by leaps and bounds. Not even the most optimistic were able to foresee the rapid strides the new industry was able to make. The result was that the 12 VHF channels became hopelessly inadequate to handle the demand that grew up—a demand that the Commission and the industry believed would take many more years to develop. It was thus imperative to find more channels for television stations. It was not possible to assign any more space in the VHF band since all VHF space was committed to other services, both government and non-government. The only place to pick up channels was the UHF band and the Commission in its July, 1949, notice proposed to allocate a large portion of this band for commercial television. This action meant that the last portion of the spectrum where television could operate in the present state of the art was about to be carved up. It was television's last frontier.

Thus, if color television were to be given any chance of developing in the foreseeable future, it was apparent that this chance had to be given to it before the last spectrum space where it could operate was disposed of.

What's So Important About Color?

Many of you no doubt are asking the question which I have been asked privately but which has not been expressed publicly. My questioner asks—assuming that this proceeding represented the last chance for color for some time to come—what is so important about color that war-rants injecting the issue at this time in such a way that it may cause serious disruption to a young and growing industry?

I am aware of the fact that there are those in the industry who sincerely feel that color is a "phoney" issue. Let me assure you that, in the judgment of the Commission, there is nothing "phoney" about the issue. Congress through the Communications Act commanded the Commission to "generally encourage the larger and more ef-

fective use of radio in the public interest." Certainly, the Commission has encouraged such a development for the past several years. Having reached the point in the development of a television service where the UHF band of frequencies was needed to provide a basis for a nationwide competitive service, we were at a crossroads with respect to the past encouragement given to the development of color television. We could provide for color along with black and white in the VHF and UHF or we could provide for black and white service only in both bands. We were aware, and I am sure that you are aware, that the latter course might foreclose the opportunity for the development of color television in the foreseeable future.

Therefore, it seemed quite clear to us that the ground-work should be laid now for the joint use of both bands—VHF and UHF—for both black and white and color. Hard emphasis is given to this point by the extraordinary development of the monochrome service, there being almost 8,000,000 television receivers in the hands of the public at the present moment. If we did not now lay the ground-work for such joint use, it is obvious that when the Commission did get around to adopting a color system we might not be able to choose the best possible color system but would as a practical measure have to consider only such systems as might be compatible with black-and-white television.

FCC's Color Report Findings

Now for the report itself. There were three color systems proposed to the Commission—one by Color Television, Inc., one by Radio Corporation of America and the third by Columbia Broadcasting System. The first two systems are compatible systems, that is, present receivers without making any changes could receive a black-and-white picture from color transmission of such systems. The CBS system is not compatible. Some changes must be made in existing receivers in order to enable them to receive a black-and-white picture from CBS color broadcasts.

The Commission carefully analyzed the voluminous record of the hearing. We had to weigh testimony covering almost 10,000 pages of transcript and evidence that was submitted in 265 exhibits. We made detailed and specific findings concerning all three systems—findings approved by all seven members of the Commission. The care with which this work was done can best be indicated by the fact that while, as was to be expected, the particular result we reached was disappointing to some of the parties, there has been no intimation by anyone that the Commission's findings are not supported by the evidence in the record.

The Commission unanimously found that the CTI and RCA color systems were not suitable for adoption. I am not going to attempt to restate in detail at this time all of the reasons we set forth in the report for arriving at this determination. However, I shall mention two of the fundamental defects.

CTI and RCA Systems "Unsatisfactory"

In the first place, the Commission found that the quality of the color picture produced by the two systems was not at all satisfactory. In the case of the CTI system there is a serious line crawl or jitter and in the case of the RCA system there is a prominent dot structure and a marked loss of contrast.

Moreover, the colors are not true in either system. This is particularly true of flesh tones. At none of the demonstrations did CTI or RCA correctly reproduce flesh tones. Since the purpose of the hearing was to pick a color television system, it is obvious that no serious consideration could be given to a system that failed to produce true colors.

In the second place, the equipment required for the CTI or RCA system appears too complex for normal use. This is true both for receivers in the home and studio equipment at the station. At the outset of its conclusions the Commission stated that a color system to be adopted must produce a satisfactory color picture, must use apparatus that is simple to operate in the home and is cheap enough to be purchased by the great mass of the American people. The Commission specifically rejected the notion that the backbone of television should be black and white with color television being available only to those who can afford to pay luxury prices. The Commission believes that any television structure must be so constructed that color television is available to all and not merely the rich. The Commission knows that color television receivers will cost more than present monochrome receivers but we expect the price levels to follow the pattern of the present receivers. As production increases to mass volume, prices will fall.

At all of the demonstrations CTI and RCA had trained operators at hand who worked assiduously before each demonstration to make sure that the equipment was adjusted in tip-top shape and who hovered over the equipment during each demonstration continuously making adjustments to insure optimum performance. Despite all of these efforts RCA and CTI were unable to maintain accurate registration and color control throughout the demonstrations. You can imagine what the situation would be like in the ordinary home where children or untrained adults had to operate such receivers.

The Question of Compatibility

The Commission, of course, recognizes that both the CTI and RCA systems were comparatively new systems and that the equipment that was demonstrated was not commercial-type equipment. However, an analysis of the two systems showed to the Commission's satisfaction that the defects were fundamental. The equipment is complex because by the nature of the systems, registration and color controls are extremely critical.

CTI and RCA thus did not meet the tests of simplicity and economy.

The conclusion appears to be inescapable that CTI and RCA devoted so much of their efforts to the compatibility part of their systems that they never succeeded in producing satisfactory color. The net effect from the adoption of either system, as we saw them demonstrated, by the Commission would be that the public would continue to receive black-and-white pictures. We did not believe that the public would buy receivers that would get the type of color pictures that RCA and CTI showed to the Commission.

For these reasons you can see that there was just no basis upon which the Commission could approve either the CTI or RCA system.

CBS Picture Quality High

The CBS system did not labor under these handicaps. The quality of the color picture was of a high order. A wide variety of subject matter was displayed involving many different colors. Broadcasts were made from studios and from outdoors. In all instances color rendition was of a high quality. The equipment utilized was easy to operate. At not a single demonstration was there any evidence of misregistration or inaccurate color control.

The CBS system does have fewer lines per picture than the present system. However, the addition of color to the picture more than outweighs the reduction in lines so far as apparent definition is concerned. You only have to look at a scene in color and compare the same scene in black and white to be convinced that the addition of color increases several-fold the amount of information that can be transmitted by a picture.

True, a monochrome picture from color transmissions under CBS standards is not of the same good quality as monochrome pictures from transmissions under present television standards. But neither were the monochrome pictures from color transmissions under the RCA or CTI proposals. However, I regarded such pictures as satisfactory in the case of CBS and RCA and unsatisfactory in the case of CTI.

Answers Objections to CBS

You have undoubtedly heard the CBS color system described as a mechanical system. This arises from the fact that a mechanical disc is used at the receiver to achieve color. The Commission pointed out in its report that the CBS system is not limited to the mechanical disc. A projection receiver was shown which did not require a disc. Also, if a direct view tri-color tube is successfully developed, all the expert witnesses agreed that it can be utilized on the CBS system.

You also have undoubtedly heard the CBS system described as an incompatible system. Indeed, most of the objections to the CBS system were based on this fact. All of the Commissioners agreed that it would be desirable to have a compatible color system if that were possible. However, the Commission was forced to conclude that no successful compatible color system had been demonstrated. Since existing receivers can be adapted to receive black-and-white pictures from CBS color transmissions at a reasonable price, the Commission felt that it was not fair to deprive 40,000,000 American families of the opportunity to have color simply because the owners of 7,000,000 or 8,000,000 sets might have to spend some money in adapting their present receivers.

All of the Commissioners are of the opinion that if a decision must be made now, the CBS color system would be adopted. However, five of the seven Commissioners are willing to postpone a decision, if certain conditions are met, in order to see a demonstration of a tri-color tube on the CBS system, to receive further evidence concerning horizontal interlace and long persistence phosphors and to look into certain developments in so-called compatible color systems which have occurred since we closed the hearing record to see if they meet the requirements of a color television system as set forth in the report.

The "Brackets Standards" Idea

You will note I said that five Commissioners are willing to postpone a decision if certain conditions are met. These conditions relate to the so-called bracket standards about which you have been hearing so much. Briefly speaking, so far as the color problem is concerned, the incorporation of bracket standards into television receivers would enable them to receive a black-and-white picture from present transmissions or CBS color transmissions. You can readily see that if receivers had such bracket standards, there would not be a compatibility problem so far as the three color systems are concerned. Note that this applies only to future receivers. If bracket standards are added to receivers henceforth manufactured, the compatibility problem would stop growing so far as the field sequential system, which has been described to the Commission, is concerned. The bracket standards would provide opportunity for certain changes in standards of a field sequential color system. The Commission could then proceed to consider the other matters which I have enumerated knowing that in the meantime it would not risk having the mere force of the obsolescence problem eliminate the only color system which has been successfully demonstrated.

The Commission has given the manufacturers until September 29, 1950 within which to tell the Commission whether they will manufacture receivers incorporating

bracket standards. If we receive adequate assurances on that score we will postpone a color decision and look into the developments I have already referred to. If we do not receive such assurances, we will adopt a final decision and designate the CBS system as the standard color system.

The manufacturing industry is given a choice as to whether or not it will voluntarily adopt bracket standards at this time. We are making this choice available so that an opportunity may be presented to those people who have been coming to us after the record closed with stories of new compatible systems or improvements in compatible systems to show whether they can meet the requirements for a color television system as set forth in the report. And the opportunity for this choice is likewise available for those manufacturers who have urged compatibility to the Commission as the sole basis for adopting color television standards. Mr. William P. Mara of Bendix put this view very well in a recent statement attributed to him in the September 9th issue of *Television Digest*. He said: ". . . While we did not endorse any of the various systems . . . we felt that solely on the basis of compatibility the RCA system should be adopted."

Why "Bracket Standards"?

But you may ask, why is it necessary for manufacturers to adopt bracket standards in the meantime? For, you may say, if a new compatible system is developed the brackets will have been unnecessary.

These are fair questions and I will give you frank answers. In the first place, no successful compatible color system has been demonstrated.

In the second place, the Commission recognizes that it is entirely too easy to invent a new compatible system every time the Commission appears to be ready to adopt an incompatible system. If a lengthy hearing is held each time, then the number of receivers in the hands of the public becomes so large that as a practical matter an incompatible system cannot be adopted.

In other words, if the Commission were to postpone making a decision on color at the present time and proceed with a further hearing, without having assurances as to brackets being incorporated into receivers, we would be inviting a situation where at the end of such hearing, fundamental defects might still be present in the compatible system but the incompatible system could not be adopted because the number of receivers in the hands of the public would have increased tremendously. We have a color system before us today—the CBS system—which all Commissioners feel is suitable for adoption. We all believe that color is an important improvement in broadcasting. We are willing to postpone adopting the CBS system for the time being if the industry by adopting bracket standards will make it possible to give color to the American people if the new or improved compatible systems should fail to meet the requirements of the Commission, as have all compatible systems in the past. We are unwilling to postpone adopting the CBS system if the manufacturers do not build receivers with bracket standards, for, in that event, we would be inviting the risk that if the compatible systems failed again, we would probably not be able to adopt the CBS system.

New Developments in Offing

In the third place, two developments were demonstrated during the hearing that hold real promise for improving resolution in black and white pictures. These are horizontal interlace and long persistence phosphors. More work is needed before a final answer can be given concerning these techniques. If they are successful, a change in line or field scanning rate, or both, might be desirable in order to take advantage of the improvements. By building

receivers with bracket standards at the present time we will not be confronted at a later date with the vexation of not being able to improve resolution in black and white pictures because so many sets would be outstanding and incapable of operating on the new standards.

These bracket standards are insurance that if the Commission postpones a color decision now, it will not be precluded from making color available to the American people. They are also insurance that if techniques presently being developed are successful in making better resolution possible in black-and-white pictures, the Commission will be able to make this improvement available to the American people.

Before leaving the subject of bracket standards, I want to talk a little bit about costs. It is to be expected that receivers with bracket standards will cost more than present receivers. The record in our hearing contains a poll of many manufacturers as to what the cost of adaptation to the CBS system would be. The cost for bracket standards should be of approximately the same order.

Compatibility and Adaptability

I would like to discuss for a bit more the subject of compatibility. The Commission's notice scheduling the present hearing did not contain a requirement that a system must be compatible—that is, that receivers without any changes would be able to receive a black and white picture from color transmissions. The notice stipulated that a color system to be eligible for consideration must be adaptable and convertible. By adaptability is meant that present receivers should be able to receive a black-and-white picture from color transmissions simply by making relatively minor modifications in the receiver. By convertibility is meant that existing receivers should be able to receive color pictures from color transmissions simply by making relatively minor modifications.

CBS and RCA were the only proponents that demonstrated converted receivers. The RCA converter was demonstrated only once and was apparently withdrawn although the record is not absolutely clear on this point. It is clear from the record that CBS demonstrated the only practical converter. However, the question as to the convertibility of the RCA and CTI systems did not prevent the consideration of all the systems on their merits.

The Commission recognized in its report that if a satisfactory compatible color system were available, it would certainly be desirable to adopt such a system. And I should like to emphasize this point. However, from what I have already said, you can see why we were unable to do this.

Buy Adapter or Turn in Old Set

We recognize that the adoption of an incompatible system means certain transition problems. For the owners of the present receivers it means that if they do not buy an adapter, they will not be able to receive programs transmitted in color. As the number and quality of color programs grow, the owners of present receivers will either buy an adapter or turn their old set in for a new model which is a color receiver or at least has adaptability built into it.

For the broadcaster, the initial months of color broadcasting can be difficult. There will be comparatively few receivers that can tune in on his color programs. Of course, the adoption of bracket standards by manufacturers would make the broadcaster's task much simpler. For, if the Commission postpones a color decision upon receiving assurances from manufacturers that they will manufacture receivers with bracket standards, there will be no broadcasting of color programs except on an experimental basis. If, as a result of such postponement, a successful com-

patible color system should be developed, the broadcaster would have an audience that could receive his color programs in black and white. However, if no compatible system succeeds and the Commission adopts the incompatible CBS system, a portion—and a continuously growing portion—of the television audience will have receivers capable of receiving a black and white picture from the color broadcasts. The extent of this audience will depend on the rate of production that is achieved by manufacturers for bracket receivers. And each month that passes will increase the size of the audience that is available for color programs.

The Summing Up

To sum up the color decision—

First, we have decided that color is an important improvement in broadcasting that should be made available to the American people. This is perhaps the most controversial aspect of the whole decision.

Second, we have decided that of the three color systems demonstrated to us, the two compatible systems—CTI and RCA cannot be adopted because they do not produce a satisfactory color picture and because they do not meet the other minimum requirements for a color system prescribed by the Commission.

Third, the CBS color system, although incompatible, does meet the requirements for a color system prescribed by the Commission and could be adopted as standard.

Fourth, the Commission is willing to postpone adopting a final color decision now, and, among other matters, give the proponents of a compatible system another opportunity to show that they have a system that can satisfy the Commission's requirements, provided that the manufacturers will prevent the compatibility problem from increasing, by giving assurances that they will build their television receivers with brackets.

If the Manufacturers Don't—

Fifth and finally, if manufacturers do not give assurances that they will build television receivers with brackets, the Commission will adopt the CBS color system now, for without the assurance of bracket receivers, the Commission would be inviting the risk that if the compatible systems failed again, it might no longer be possible to adopt a color system we know is satisfactory because the number of receivers in the hands of the public could have increased to a point where as a practical matter it would be extremely difficult to adopt an incompatible system.

In conclusion I would like to remind you again that besides the color issue we have many important and intricate problems to solve before we can establish television on the sound and comprehensive basis that we all desire.

I sincerely hope you agree with me that the Federal Communications Commission is taking every precaution to see that the decisions will be reached in a spirit of fairness, patience and regard for the public interest worthy of our free democracy. We may have differences of opinion but we must not shirk our duty in digging up all the available information on the problems we face. As Bernard Baruch put it: "Every man has a right to be wrong in his opinion but no man has a right to be wrong in his facts."

I believe you realize also that the more quickly and fully that information is supplied, the quicker we will be in a position to issue our decisions.

The Commission believes that television is destined to become the dominant form of broadcasting and is destined to be of inestimable service in promoting the welfare of the American people. We are anxious to see the service extended the length and breadth of the nation at the earliest possible moment. In that effort, we solicit your cooperation.

TRENDS IN TUBE TYPES, SIZES & SUPPLY: Busy though they are with flourishing current trade, set manufacturers and tubemakers simply can't blink problems of picture tube simplification -- indeed, must face them before they decide on such new 1951 receiver models as defense demands will permit them to introduce to the trade at the usual January-February marts.

Tube sizes must be simplified, or else market will continue to be confused by plethora of different types. Tele-Tech Magazine says there are now 20 types of 16-in. rounds, four of 16-in. rectangulars, seven of 19-in. rounds, two of 19-in. rectangulars -- none in any given size directly interchangeable.

"Such a variety of available tube types which do the same job," says the authoritative Tele-Tech, quite aptly, "is certainly inconsistent for efficient mass production and completely out of line when considered in the light of the current national emergency. Distributors, dealers and servicemen are confronted with either heavy inventories, shortages, or loss of consumer good-will because adapting can be costly. Yet, oddly enough, the differences between the various types in any given size are relatively small, only involving a slight change in physical dimension... standards could well restrict...types to no more than 2 for any given tube size."

* * * *

From discussions with tubemakers and glass people, it's apparent that not only must types be standardized but trend also is toward fewer sizes. RCA's decision to emphasize 17 & 21-in. metal-coned rectangulars in 1951 (Vol. 6:37) has many proponents, notably DuMont which is going to do same thing. That looks like the basic post-Xmas trend -- but the 19 & 20-in. (actually 20.3) rectangulars are coming along, the 24-in. round (GE) promised soon, the 30-in. round (DuMont) emerging in December.

Right now, everything's selling, especially the 16, 17 & 19-in., as fast as the 30-odd tube factories can turn them out. The 10 & 12½-in. are dying out, practically out of production, replacement inventories fast diminishing. The 14-in. isn't moving very fast, either from the blank factories or the tube factories; it, too, apparently will soon be a dead number.

But everybody isn't sold on 17-in. For one reason, because its "squattiness" brings it too near chassis of present design. For another, in words of Sheldon's snappy little house organ "Mis-Information": "Sure, the 17-in. is larger [than 16 rectangular]...so slightly larger where it counts that the difference is negligible. Because of the shape of a 17-in. rectangular you can put the larger space inside your pipe and smoke it. The industry needed 17-in. tube like a hole in the head..."

Metal-coned vs. glass, round vs. rectangular competition continues keen, each with its staunch protagonists. Glassmakers say they're operating at capacity (in fact, Corning is just now opening new plant in Albion, Mich.), while the metal cone spinners face probable curtailments if steel is rationed.

* * * *

Rectangulars passed rounds in numbers sold to set makers in August, RTMA reports; 51% were rectangular. Breakdown of month's 767,051 sales: 329,112 (43%) were 16 & 17-in. rect.; 262,905 (34%) were 16-in. round; 73,457 (9%) were 19-in. or larger rounds; 60,847 (8%) were 14-in. rect.; 39,124 (5%) were 12½-in. rounds. There were also 739 rounds under 10-in., 797 round 10-in., 24 rect. 18-in. or more, 46 projection types. Factory value of all shipments, including renewals, oscillographs, camera pickup, govt. and export, was \$22,000,648. August's total compares with 341,940 sold in July, 566,942 in June, 599,667 in May (Vol. 6:27,32,37).

* * * *

There are no shortages of picture tubes. All the tubemakers seem to be doing well -- in fact, Rauland and Arcturus raised prices as of Oct. 1 on all sizes

they make. This may touch off general price increases, though the bigger companies say they have no such plans now.

Corning's 20.3-in. glass tube is proving popular; big glass firm can't make enough of them. American Structural Products Co. (Owens-Illinois) is concentrating on its 16, 17 & 19-in. rectangulars, admits 14-in. demand diminishing. ASPC has called meeting of its tubemaker customers at Warwick Hotel, Philadelphia, at 11 a.m. Friday, Oct. 20, to discuss their tube ideas. ASPC has resigned from RTMA avowedly for failure to "do something" about standardization, says it hopes this will prod association into action.

"Mystery tube" is one for which Spincraft is making 24-in. wide, 16-in. high, 9-in. deep metal rectangular envelopes, which means tube face just about newspaper size, for unnamed customer or customers. GE's 24-in. is metal-coned round; only set maker yet to announce that size receiver is Stromberg-Carlson. DuMont's much-discussed 30-in. (Vol. 6:12,21,27,28,36) will be in neatly styled cabinets of own by Xmas, but tube won't be ready for others before end of next March.

RCA has circularized its manufacturer customers to say that warranty on all picture tubes has been cut to 6 months. DuMont is doing same.

* * * *

As for receiving tubes, Sylvania's Max Balcom still says total supply is sufficient, though some types haven't caught up with demand yet. Sylvania is concentrating on those in tight supply. Except for defense demands and hoarding, Mr. Balcom thinks that by end of year there ought to be "sufficient tubes of all types to take care of the necessary sockets." He thinks letdown after Korea will discourage hoarding, make people think shortages aren't so bad, release trade from artificial shortages. By same token, public may not buy as many TVs and radios.

New small but important source of scarce miniature tubes is seen in opening of plant at Elmsford, N.Y. by Sonotone Corp., hearing aids maker. Sonotone's new 20,000 sq. ft. plant near White Plains was dedicated this week, and part of its production will be "key types of tubes with special characteristics" -- the hard-to-make, tuner-type miniatures now in tightest supply. Company also makes gun mounts for picture tubes, phono pickups, etc., and during last war made acorns for Govt. Deliveries of miniatures have begun, and company says it's swamped with orders.

* * * *

Critical shortage of replacement tubes for TV-radio has been growing steadily worse in recent weeks, reports Oct. 4 New York Times. Plenty of picture tubes were found, but receiving tubes are big problem -- 50% of those commonly needed in repairing sets are hard to get, said head of Associated Radio-TV Servicemen of New York Inc. Owner of one shop told of set maker paying retailers as high as \$4 for tube normally costing him 40¢. Even Cortlandt St. offered little hope for tube hunters. Cited as showing "low odds" of being able to obtain any replacement tube, is August RTMA report (Vol. 6:39) showing 7,017,115 tubes sold for replacements; that's approximate number of TVs now in existence, which would allow only one replacement tube per receiver. That's the TV story alone, doesn't even take into account the millions of radios. (Of course, it refers to only one month's allocations for replacements.)

* * * *

Third September week's TV output was 166,556, radios 302,942, up from second week's 124,348 & 197,485 and first week's 163,860 & 235,284 -- auguring production for 5-week month equal to or better than August's record 702,287 TVs (Vol. 6:39).

Mobilization program's demand on electronic industry's manpower is given merest hint in Commerce Dept. announcement of war contracts for week ending Sept. 29. For Navy's Bureau of Ships only, contracts for technical professional services of electronics field engineers went to Philco, \$1,450,000; Raytheon, \$250,000; GE, \$150,000.

Among larger military contracts for electronics equipment announced by Commerce Dept. for week ending Sept.

29 and let through Wright-Patterson Field, Dayton: Sylvania, \$2,473,200, power junction boxes for radio transmitters (no. units not given). Let through Navy Electronic Supply Office, Great Lakes: Raytheon, \$875,000, electron tubes (2680 units). Let through Signal Corps, Philadelphia: RCA Victor, \$430,000, radio sets (10,291); Tung-Sol, Newark, \$264,000, electron tubes (120,000); Chatham Electronics Corp., Newark, \$155,925, electron tubes (90,000).

Topics & Trends of TV Trade: Except for possible leveling off of tube types and sizes (see story, p. 1), few if any fundamental changes in TV receivers are in prospect for 1951. Fewer models seem inevitable—no more 30 and 40-set lines. Prices are in the laps of the war gods, trending up and pushed higher by 10% factory excise that goes into effect Nov. 1 (Vol. 6:39). Most companies are still struggling with problem whether to incorporate tax in suggested lists, quote it as part of warranty, or quote it as a "plus." One or other, or both, of first 2 ideas probably will prevail; the "tax extra" isn't very popular (1) because it presumably reveals factory price to customer, and (2) because it's a war excise and there's no disposition on the part of anyone in these days to buck it. Best guess is that radio precedent will prevail.

Foregoing is quick summary of top trade thinking at this writing—about which we'll have much more to report later. Meanwhile, pointing up long-range planning by manufacturers, Zenith's schedule of production, as included in its reply to FCC on "bracket standards" (see Special Digest), may be indicative of what other major manufacturers are planning:

"The sets that are currently running in production were designed almost a year ago . . . We have had in design for several months new TV chassis. Our timetable on these designs calls for engineering release Nov. 1, 1950, pilot production to start Feb. 1, 1951, and large scale production May 1, 1951 . . . Such a long timetable is necessary because under present conditions procurement time is long on many items. For example . . . materials for our present line of sets are purchased through January, 1951 . . . [and] we are told by many of our suppliers that our competitors in the TV receiver business procure much farther ahead than we do."

* * * *

Crosley raised prices second time in five weeks on 19 of its 24 models (Vol. 6:34). Increases range from \$10 to \$60, with 12½ & 14-in. prices remaining unchanged. These are the new prices, the increases (listed in parentheses) being from prices announced at time of last increase (Vol. 6:35); for description of sets see *TV Directory No. 11*:

16-in. rectangular: Model 11-459MU, \$259.95 (\$10); 11-465WU, \$309.95 (\$20); 11-445MU, \$319.95 (\$20); 11-475BU, \$339.95 (\$20); 11-447MU, \$409.95 (\$20); 11-477BU, \$429.95 (\$20).

16-in. round: 11-446MU, \$359.95 (\$20); 11-476BU, \$379.95 (\$20).

17-in. rectangular: 11-472BU, \$289.95 (\$10); 11-453MU, \$369.95 (\$20); 11-483BU, \$389.95 (\$20); 11-460MU, \$419.95 (\$20); 11-470BU, \$439.95 (\$20); 11-444MU, \$529.95 (\$60); 11-474BU, \$549.95 (\$60).

19-in. round: 11-443MU, \$439.95 (\$20); 11-458MU, \$469.95 (\$20); 11-484BU, \$489.95 (\$20); 11-454MU, \$489.95 (\$20).

* * * *

Stromberg-Carlson raised prices for second time on 2 sets, for first time on 7, added 4 new 17-in. rectangulars as replacement for 16-in. models. Raised for second time were these 19-in. rounds (increases in parentheses being from last price; Vol. 6:31): Model 119CM, \$445 (\$15); 119CDM, \$525 (\$25). Raised for first time were following 19-in. rounds: 119M5M, \$795 (\$45); 119M5A, \$825 (\$50); same, hand decorated, \$925 (\$50); 119M5I, 119M5D, 119M5R, 119M5G, \$895 (\$30). New sets are: 17TM, 17-in. table, \$279.95; 17TDM, same, doors, \$299.95; 17CM2, same, console, \$339.95; 17CD2, same, doors, \$415. Priced was 24RPM, 24-in. console, AM-FM-phono, doors, \$925. For description of sets, see *TV Directory No. 11*.

Olympic has added 6 new sets to line, raised price on one, discontinued all four 12½-in. models. New sets, all 17-in. rectangular, are: Model S752 Riviera, deluxe mahogany table, \$249.95; S752B, same, blonde, \$259.95; S764 Broadmoor, mahogany console, doors, \$349.95; S764B, same, blonde, \$369.95; S766 Catalina, mahogany console, AM-FM-phono, doors, \$469.95; S766B, same, blonde, \$489.95. Sets replace comparable 16-in. rect. models. Model 755 Challenger, 16-in. rect. table was raised \$10 to \$229.95.

Majestic has added 5 new sets to line (Vol. 6:20): Model 7P1, 17-in. rect. mahogany console with phono, two-third doors, \$399.95; 7P2, same, French Provincial, \$399.95; 7P3, same, blonde, \$429.95; 902, 19-in. mahogany console, doors, \$429.95; 903, same, blonde, \$459.95.

New Firestone private label sets: Model 13G44 Strand, 14-in. rect. table, \$219.95; 13G45 Meridian, 14-in. rect. console, \$259.95. Model 13G46 Avalon, 16-in. rect. table, \$269.95; 13G47 Hemisphere, 16-in. rect. console, \$299.95; 13G48 Broadmoor, 16-in. rect. console with AM-FM-phono, \$399.95. Console has 27 tubes, 3 rectifiers; others, 22 & 3.

Spiegel's Xmas flyer reflects present trend toward higher prices, with sets in its "Aircastle" line quoted at \$10 to \$50 higher than similar models in recent fall-winter catalog. Line starts with 14-in. table at \$180 and ranges up to \$380 for 17-in. console with AM-FM-phono. Sets are reported made by Jackson Industries.

* * * *

Zooming TV demand is indicated in Washington Electric Institute tabulation showing 10,216 distributor sales to retailers during August compared with 3234 same month last year. First eight 1950 months, deliveries were 47,848 vs. 19,491 . . . Air King says it will turn out 175,000 TVs this year—many more than the 100,000 estimated by Television Shares Management Co. early this year (Vol. 6:8) . . . Meek Industries, Plymouth, Ind., hitherto concentrating on Midwest markets, plans moving into New York market soon. Will reduce manufacture of private brands but won't eliminate it entirely.

Bendix is planning 18,000 TVs a month first 4 months of 1951, W. A. Mara, Radio-TV division general manager, said in interview this week. He views first 1951 quarter "with optimism," he said. Hope for more than 18,000 TVs a month was dashed when it was necessary to divert 80,000 sq. ft. addition to plant to war contracts, he said. Bendix is seeking 200,000 sq. ft. additional space for its Communications Division's work, mainly military.

New steel alloy for metal-coned TV picture tubes was announced this week by Carnegie-Illinois Steel Corp., U. S. Steel subsidiary. It's stainless, contains chromium, jibes with expansion and contraction characteristics of glass, can be spun into tubes in half time needed previously with other materials, company said.

Magnavox's new MV40D Modern Theatre is 19-in. console, doors, phono-jack, mahogany or blonde, \$495. Set has 23 tubes, 3 rectifiers.

* * * *

I-can-get-it-for-you-wholesale: "Perhaps a friend can get it for you 'wholesale,'" says second in Raytheon's series of *Truth About TV* ads (Vol. 6:39). "Savings are fine, BUT once a set is sold wholesale, the seller's responsibility ends . . . and yours starts! A TV set is much more complicated than a radio and, although the manufacturer's warranty may cover replacing of defective parts, it may not cover the cost of installation or a serviceman's time, then or later. That's why your safest bet is to buy from a dependable dealer and arrange for proper installation and service with him."

Trade Personals: Charles M. Odorizzi, chairman of RCA Service Co., elected operating v.p. of RCA Victor, filling post formerly held by Admiral W. A. Buck, now executive v.p.; Ronello B. Lewis, budget director, elected controller, succeeding Henry A. Sullivan, retiring due to ill health; E. M. Tuft, personnel director, promoted to v.p. and head of personnel dept. . . James M. Toney, RCA Victor Home Instruments ad mgr., due to be promoted to director of public relations, succeeding v.p. John K. West, appointed by RCA board to succeed Sidney N. Strotz as NBC Hollywood v.p. (Vol. 6:39) . . . Clarence E. Lindstrom replaces Cliff Bettinger, retiring, as Philco's western mgr., San Francisco; he has been mgr. of distribution operations . . . J. B. Shimer, Columbus plant mgr., appointed to new post of factories mgr., Industrial & Electronic Div., American Structural Products Co., new job created due to increased demand for Kimble glass TV bulbs; he's succeeded in Columbus by C. A. Lauder, ex-plant mgr. in Toledo . . . Ben Rice quits as Starrett sales mgr. to start own business.

To list of witnesses for Oct. 16 FCC hearings (postponed from Oct. 2) on general issues in connection with end of TV freeze (propagation, transmission standards, polycasting, stratovision) can be added following who have requested permission to appear: Ad Hoc Committee; WTTV, Bloomington, Ind.; KSJB, Jamestown, N. D.; WBTV, Charlotte; WHYN, Holyoke, Mass.; WDHN (FM), New Brunswick, N. J. Asking to appear in category dealing with multiple interference (Vol. 6:37) are: Communications Measurements Laboratory; RTMA; WSM, Nashville; WJR, Cleveland; WPIX, New York; WBTV, Charlotte; WTIC, Hartford; Kear & Kennedy (Washington consulting engineers). Text of hearing order is available as Supplement No. 70.

World Series had 47-city hookup this time, provided bonanza for receiver merchants. Baseball circles estimated 200,000 attended first 4 games, NBC estimated 38,000,000 persons saw each game via TV. Philco seized opportunity to demonstrate its new 20-in. models, placing them in public places in all TV cities—including Plaza and 10 playgrounds in Philadelphia, on Boston Common, in public auditoriums. Ball players, still seeking share of \$800,000 paid for TV rights, were to meet with Comr. "Happy" Chandler Oct. 7 to determine whether they get cut or their share goes into pension fund.

Westinghouse agreed to 10¢ per hour wage increase, plus other benefits, in signing with IUE-CIO Oct. 1. Increase affects 50,000 workers, is retroactive to Sept. 18. Agreement is similar to that reached between IUE and GE last week (Vol. 6:39). Westinghouse has also announced all employes of one year or longer will receive month's extra pay if they enter armed service while active conflict continues, retroactive to July 1; also get same reemployment rights as for World War II.

Empire State Bldg. 5-station TV antenna (Vol. 6:2, 4, 11, 12, 27) should have WNBT and WJZ-TV operating by Jan. 1, with WABD, WCBS-TV and WPIX on air by February—if weather's good. That's current prognostication of consultant Dr. Frank Kear, as tower reached 60 ft. of ultimate 217 ft. this week. Tower and antenna are designed to take WOR-TV and WATV, when and if they join up (fairly likely). Installation will also radiate 3 FM signals.

RCA Service Co. announces new Government Service Division to coordinate and expedite govt. agency requirements for technical personnel, and installation and servicing of all types and makes of electronic equipment. P. B. (Pinky) Reed, ex-Washington representative of RCA Victor, recently sales manager for industrial equipment, was named v.p. in charge.

Financial & Trade Notes: For the long pull, TV-radio and motion picture industries are good investments. That's conclusion in 30-p. booklet, surveying both industries, issued by Merrill Lynch, Pierce, Fenner & Beane. Financial data on 26 companies is included, the TV-radio firms covered being Admiral, ABC, CBS, DuMont, Emerson, Magnavox, Motorola, Philco, RCA, Sylvania, Zenith. As TV grows, "effect on radio listening . . . will be damaging," booklet says. It agrees with movie spokesmen that there's no correlation between rise of TV and decline of moviegoing, but adds that "sooner or later TV will have a tremendous effect, good or bad, upon movie business."

Emerson sales and earnings for 3 months ending Oct. 31, its final fiscal quarter, promise to be largest for any quarterly period in company's history, with sales now running at rate of \$100,000,000 per year, says *Wall Street Journal*. For fiscal year ending Oct. 31, sales are expected to exceed the \$65,000,000 predicted by president Ben Abrams and earnings are expected to be at least \$3 per share (vs. \$1.73 for year ended Oct. 31, 1949). Emerson is reported now turning out 2200 TVs, 5000 radios daily.

Raytheon preliminary report for first quarter of current fiscal year, 3 months ended Aug. 31, shows sales of \$17,834,124, profit of \$568,885, compared with \$9,003,700 sales and \$546,774 loss in corresponding period last year.

Dividends: Zenith, quarterly 50¢ plus extra 50¢ a share payable Oct. 31 to holders of record Oct. 12; Hallcrafters, 15¢ payable Nov. 15 to stock of record Oct. 30 (first dividend in 5 years);

* * * *

Munitions Board has scheduled following committee meetings on "critical" electronic components (all meetings at Pentagon Bldg., Washington): Transmitting tubes, Oct. 10; resistors, Oct. 16; receiving tubes, Oct. 19; capacitors, Oct. 19; indicating instruments, Oct. 23; transformers, Oct. 24; sonar components, Oct. 25; litz wire, Oct. 25; steatite, Oct. 26; magnet wire, Oct. 27. Quartz crystal committee met this week, elected George E. Wright, Bliley Electric, as chairman.

Burlesque of TV "westerns" is subject of independent Hollywood producer Wally Kline's *The Adventures of Skipalong Rosenbloom*. As reported in Sept. 30 *Motion Picture Herald*, picture stars ex-pugs Maxie Rosenbloom and Max Baer, will send TV set owners away from theatre "sharply aware of the contrast between theatre entertainment and the stuff TV's been feeding them" (in the words of Mr. Kline). Telecasters can expect heavy exploitation of the film, not yet scheduled for showings, particularly so after the ribbing Dean Martin & Jerry Lewis gave movie industry in Sept. 17 telecast (Colgate TV program on NBC-TV). Industry's Committee of Motion Picture Organizations (COMPO) wired RCA's Sarnoff, Folsom, and Colgate official protesting that burlesque, asked AAAA, NAM, et al., to "lay off movie industry." RCA and Colgate haven't publicly said they're sorry, but Martin & Lewis publicly apologized. They have done work in Hollywood, are currently in *My Friend Irma Goes West*.

"Hollywood cold-shoulders TV in the public prints," says UP columnist Aline Mosby, "but privately TV is a hot item in movietown mansions." She goes on to relate how the film stars install them "everywhere from the bottom of their beds to by their swimming pools"—even quotes custom set designer David Jones as stating, "We also have TV sets that project on the ceiling so people can look at TV in bed." Ginger Rogers has a set at the foot of her bed, a Warner mogul has screen built into wall disguised as a picture, Lana Turner has 6 sets in her house.

New TV Network Rules

Proposed FCC Limitations On Network Time Allotments To Stations

Limiting Hours of Network Programs Per Station in Communities With Less Than Four Stations

Notice of Proposed Rule-Making Adopted Oct. 5, 1950

Docket No. 9807 Released Oct. 6 as FCC Public Notice No. 50-1196

In the Matter of
Amendment of Subpart E of Part 3
of the Commission's Rules and Reg-
ulations, with respect to the broad-
cast of network programs by tele-
vision broadcast stations. } Docket No. 9807

NOTICE OF PROPOSED RULE MAKING

(Adopted: October 5, 1950)

1. Notice is hereby given of Proposed Rule Making in the above-entitled matter.

2. It is proposed to amend Subpart E, Rules Governing Television Broadcast Stations, of Part 3 of the Commission's Rules and Regulations, by adding a new temporary rule, or rules, to maintain competition between television network organizations and to maintain the fullest possible availability of the programs of all networks to the public, during the present temporary period when the number of interconnected television stations in many cities is less than the number of network organizations available to supply programs to those cities.

3. As of September 30, 1950, there were 40 communities interconnected by coaxial cable or microwave relay. Of these, 37 were communities where the number of stations was fewer than the four television network organizations capable of supplying network programs. Although this situation is a temporary one, which will be considerably ameliorated when the present "freeze" on licenses for television broadcast stations is lifted, it occurs at a crucial time in the development of the television industry. For this reason, any unbalanced competitive condition among television networks arising out of, or aggravated by, the present scarcity of broadcast facilities may have a serious and deleterious effect upon the long range development of the art by hampering the growth of sound networks capable of meeting the public's needs in the future.

4. Information available to the Commission as the result of an informal survey for a one-week period in May, 1950 leads to the conclusion that an unbalanced competitive situation among the television networks does obtain at this time, resulting at least in part from the scarcity of station outlets. Although this is particularly the case in the communities with only one station in operation, it also holds, to a lesser degree, for the two and three-station communities.

5. The one-station communities not only constitute the most numerous category but are also those in which a very high incidence of acceptance of the programs of one network by the stations means the exclusion of the other three networks from those communities. Such exclusion in-

creases the difficulty of maintaining competition between network organizations in all interconnected cities. Data available to the Commission in its survey appear to establish that such exclusion does prevail in these cities. During the above-mentioned week in May, one network organization furnished more network programs to the 17 one-station communities studied than did the other three networks combined. This network had approximately 69% of afternoon network time between 1 p.m. and 6 p.m. and 65% of total network time between 6 p.m. and 11 p.m. on these 17 stations. Another network had only 5% of the evening network time carried by the 17 stations although it telecast approximately 25% of the total hours of network programs offered during the week. The hours of network time taken by the stations from the network with greatest station acceptance are completely disproportionate to the number of hours of network programs made available by each of the four existing networks.

6. During the same week, the same network also had a position of dominance in the three communities with two television broadcast stations far out of proportion to the hours of programming of the four networks. During both afternoon and evening hours almost 50% of the network programs carried by these stations were programs broadcast by this network although the number of hours broadcast by this network during the week were less than 30% of the total network time offered by the four networks.¹ One station in each of these cities carried that network to the total exclusion of the other three during the afternoon hours. Two of these stations carried this network exclusively in the evening, while the third carried 97% of its network time from that network. Thus, the other three networks were compelled to share the only other facility in each city.

7. In the six 3-station communities, the situation was much the same as in the 2-station communities, although the increased number of facilities available naturally reduced the tendency toward unequal network development. However, out of a total of 18 stations, 10 carried only one network during the afternoon, and seven did so in the evening. Since six stations in six different cities carried the same network referred to above for about 99% of their evening network time during the week, and since three stations in three separate cities carried another network almost exclusively, the other two networks were competing for one station in three of the cities.

8. The Commission believes that vigorous competition among a number of networks, which will enable all of them to develop so as to be capable of fulfilling future needs

¹ This network had 37.75 hours of network programs. All four networks had a total of 127 hours. Out of 159.7 hours of network programs carried by the stations, the one network accounted for 73.5 hours.

when there are additional television stations on the air would serve the public interest. The Commission also believes that the public interest requires the fullest possible availability of programs of all television networks. As was said in the Commission's *Report on Chain Broadcasting* (Docket No. 5060, May, 1941), "Chain broadcasting makes possible a wider reception for expensive entertainment and cultural programs and also for programs of national or regional significance which would otherwise have coverage only in the locality of origin." It is the Commission's duty to see that the benefits of network broadcasting are realized in such a way that the programs offered by all the networks may be available to the public, and to remedy situations which limit the viewer's choice of network programs to an unreasonable degree in any particular locality. The dominant position occupied by one network in all three types of communities, coupled with the high incidence of exclusivity of acceptance of the programs of one network by the stations in the 2- and 3-station cities, tends to prevent competition and to deprive the public of a diversity of program choice.

9. In the light of the Commission's preliminary study, the present situation, which does not appear to result primarily from the general availability of intercity video channels or the different amounts of commercial time offered by the networks, may require the adoption of a temporary rule, or rules, to remain effective while the scarcity of television broadcast stations persists. Such a rule would have as its chief purpose the prevention of a situation wherein one or more networks is able to secure such a dominant position as will prevent the development of other networks capable of meeting future needs, and the protection of viewer choice of network programs, without, of course, interfering with a proper allocation of time for the broadcast of local programs. The Commission believes that it should have the benefit of the considered judgment of all interested persons with respect to the factual background concerning the relative positions of the networks as well as policy considerations involved before the specific provisions of any such rule are proposed.

10. Any interested person may file with the Commission on, or before November 13, 1950, a written statement, brief, or other comment, with respect to the situation discussed herein. Such statement or brief should give consideration to the need for rule making and the type of rule, if any, to be adopted. The necessity and advisability of a rule limiting the number of hours of time which any television broadcast station may take from any one network, or of

an affirmative rule specifying a minimum number of hours to be taken from each network, should be discussed. In this discussion, particular consideration should be given to a rule providing that with the exception of one 5-hour segment a week (to be chosen by the station), no station in a one-station community shall carry the programs of any one network for more than two hours a segment in either the afternoon or evening time segments, no station in a 2-station community shall carry the programs of any one network for more than three hours within one segment, and no station in a 3-station community shall carry the programs of any one network for more than four hours within one segment, such rule to be similar in form to Section 3.634 of the Commission's Rules and Regulations, the segments referred to being the 1 p.m. to 6 p.m. and 6 p.m. to 11 p.m. segments set forth in Section 3.634. As used herein, network programs include not only programs broadcast simultaneously by means of intercity relay but also delayed broadcasts of network programs by any means whatsoever.

As an Appendix hereto are attached a series of summary statistical charts upon which the figures in this Notice are based. This material summarizes the data secured by the Commission in its preliminary study, most of which were obtained from newspaper program listings and affiliation contracts filed with the Commission.

Persons filing briefs or other comment are requested to mention any respects in which they believe that the facts set forth herein, or in the Appendix, are inaccurate or do not represent the true situation, and to state the reasons for such belief.

Reply briefs or statements may be filed within 15 days of the date provided above for the filing of original statements. The Commission will consider all statements and briefs filed in determining whether the matter should be set for hearing.

11. The authority for the proposed rule is contained in Sections 4(i), 303(b), (f), (g), (i), and (r), 307(a), 309(a) and 313 of the Communications Act of 1934, as amended.

12. In accordance with the provisions of Section 1.764 of the Commission's Rules and Regulations, an original and 14 copies of all statements, briefs, or comments shall be furnished to the Commission.

Editor's Note: Appendix includes as exhibits pie-charts and tabulations showing total station time of the 17 stations in one-station communities, with totals and percentages of network time of each network; same for the 6 stations in 2-station communities; same for the 18 stations in 3-station communities—with breakdowns by individual stations for May 14-20, 1950 survey period.

EDITOR'S ADDENDA

(For stations and details, see *TV Directory No. 11*)

As of Oct. 7, 1950 there are actually 28 interconnected one-station communities, namely: Ames (Des Moines), Buffalo, Charlotte, Erie, Grand Rapids, Greensboro, Huntington, Indianapolis, Jacksonville, Johnstown, Kalamazoo, Kansas City, Lancaster, Lansing, Memphis, Milwaukee, Nashville, New Haven, Norfolk, Pittsburgh, Providence, Richmond, Rochester, Schenectady, St. Louis, Toledo, Utica, Wilmington.

There are 11 non-interconnected one-station towns: Albuquerque, Binghamton, Bloomington, Ind. (link being prepared), Houston, Miami, New Orleans, Oklahoma City, Phoenix, San Diego (gets off-the-air service from Los Angeles), Seattle, Tulsa.

There are nine 2-station interconnected communities: Atlanta, Birmingham, Boston, Davenport-Rock Island, Dayton, Louisville, Minneapolis-St. Paul, Omaha, Syracuse.

There are 2 non-interconnected 2-station communities: Salt Lake City, San Antonio.

There are eight 3-station communities: Baltimore, Cincinnati, Cleveland, Columbus, Dallas-Fort Worth (non-interconnected), Detroit, Philadelphia, San Francisco (non-interconnected nationally, but linked with Los Angeles).

Four-station communities, interconnected: Chicago, Washington.

Seven-station communities: New York, Los Angeles (Los Angeles linked only with San Francisco).

None Can Meet Requirements**Digests of Industry Responses to FCC Proposals
for 'Bracket Standards'****Summaries of All 36 Replies Filed in Response to Notice to Manufacturers Regarding Color Plans**

(For Text of FCC Notice Explaining Objectives of 'Brackets,' see page 8)

Note: This consolidates and supersedes Special Digest of September 30, 1950.

ADMIRAL CORP.—Short covering letter accompanies outline by chief engineer, Robert Jones. Letter states engineering staff has been working on problem but time permitted has not been sufficient for valid conclusions. Annex lists following engineering problems that must be solved for bracket standards and sets forth questions arising in connection with each: test equipment, hum, horizontal sweep width, bandwidth, bracket standards, automatic switch, model design (both chassis and cabinet), field testing. "We shall continue working," states letter, "until such time as an adequate solution can be reached. At that time we should like to present our findings and conclusions to the Commission."—(Ross D. Siragusa, president).

ANDREA RADIO CORP.—Could build bracket sets by April or May, 1951. Adoption of brackets now would mean: (1) Plant-wide layoff of 335 people. (2) Unsafe inventory building. (3) Financial burden that would undermine the company's ability to meet its obligations. Feels that color must be compatible and fully electronic. Suggests "one overall standardization rather than possible individual steps or dual standards."—(H. J. Heindel, secretary & chief engineer).

ARVIN INDUSTRIES INC.—(1) Test equipment is not available; estimates 2 months needed to procure it. (2) Three months required for new set design development. (3) Field testing would take longer than usual, due to lack of CBS-type signals. (4) Tooling requires 2 months. (5) Components procurement cycle is 3-4 months. Thus, total of 8-9 months would elapse before brackets production would start.—(G. W. Thompson, president).

BELMONT RADIO CORP. (Raytheon)—Needs more time to study costs, feasibility and production dates. Asserts bracket sets far different from 2-position switch. Says latter "probably could be engineered in the present state of the art." Two-position switch would probably cost \$30—"too high a premium for insurance against obsolescence during the advent of color." Has "every desire to cooperate" but regrets that brackets aren't possible within time allocated. Is continuing study, nevertheless.—(C. F. Adams Jr., president).

CAPEHART-FARNSWORTH CORP. (IT&T)—Is investigating preliminary modification of present chassis for 2-position switch, but has not made much progress due to

lack of color signals. Having difficulty getting pictures of geometric linearity and brightness on higher frequencies, faced with such problems as return time of horizontal sweep (which reduces scanning efficiency), loss of high voltage due to high frequencies with deflection components now used. It's obvious, company says, that new components, such as deflection yoke and transformer will have to be designed to meet FCC requirements.

Until adequate signal generating equipment is available, and until composite signal standards have been set (with particular reference to horizontal and vertical blanking time), company "is unable to produce a product design which would assure satisfactory operation for both monochrome and color TV transmissions."

Estimates 2-3 months for initial investigation and production of preliminary model. Another 3 months would be required for final product design and at least 2 months more to procure necessary components.—(Antony Wright, v.p., engineering).

COLUMBIA BROADCASTING SYSTEM INC.—Approves bracket standards idea if costs are not excessive. Isn't certain whether they would cost more than 2-position switch. But adoption of CBS field sequential system will provide "competitive impetus" for manufacturers to incorporate at least 2-position switch internally, and brackets might come later if their feasibility is proved. CBS also suggests Commission make clear that paragraph 5(c) in brackets proposal, which requires "equivalent size" pictures, "also permit additional provision for reduction in size for purposes of conversion" through addition of color disc. Text of CBS comments, signed by Rosenman, Goldmark, Colin & Kaye (Richard S. Salant, attorney):

(1) Columbia supports the concept of bracket standards as a means both of providing a cut-off to the compatibility problem and of permitting future flexibility in improving picture quality if and when further technical development in the television art warrants changes in monochrome or color standards. Columbia's support of bracket standards is based on the assumption (the accuracy of which it cannot at this time confirm) that in new receivers the cost of means to receive such bracket standards will not be substantially greater than the cost of internal adaptation necessary to receive only present monochrome and proposed field sequential color standards on a two-point basis as testified to by the various parties in the hearing. Whatever the desirability of the concept of bracket standards, excessive costs could nevertheless preclude their utilization.

(2) While Columbia, at the time of preparation of these comments, has not yet had an opportunity to examine many of the comments filed by manufacturers, such comments as it has seen, as well as reports in the trade press, indicate that a substantial number of manufacturers will contend that bracket standard receivers cannot be produced within the period specified by the Commission in FCC 50-1064 and FCC 50-1065. The Commission's

First Report, of course, requires the immediate adoption of field sequential standards in these circumstances.

Once field sequential standards are adopted, the manufacturers will be provided with the competitive impetus to incorporate in their receiver production as rapidly as possible internal adaptation for reception of present monochrome and field sequential color standards on a two-point (as distinguished from a bracket) basis, which the record shows and which the Commission's Report finds is entirely practical and can be accomplished in a brief time and at reasonable cost. In this way aggravation of the compatibility problem with respect to color television will be eliminated and the Commission will have additional time in which to explore fully as a separate matter the entire question of bracket standards, including such factors as specific numerical values, cost, and time required for field testing and for incorporation in production lines.

In the event such future consideration of bracket standards establishes that they are feasible and economical, manufacturers could at that time substitute in their production such bracket standards in place of the simple internal adaptation for reception only of present monochrome and field sequential color standards as testified to in the color hearing.

(3) Paragraph 5(c) of FCC 50-1065 quite properly provides that the future receivers concerning the manufacture of which the Commission asks for assurances should "be capable of producing monochrome pictures of equivalent size, geometric linearity and brightness" on both 15,750 lines and 60 fields per second, and 29,160 lines and 144 fields per second. Columbia is concerned, however, that Paragraph 5(c) may be interpreted by some manufacturers to preclude the embodiment of an additional adjustment which, when desired, would reduce the size of pictures received from CBS color signals in order that the receiver could be converted with a disc converter. Therefore, Columbia suggests that the Commission make clear, by public statement, that while Paragraph 5(c) requires "equivalent size," it also permits additional provision for reduction in size for purposes of conversion.

COMMUNICATIONS MEASUREMENTS LABORATORY INC.—Favors TV on uhf only. Asserts FCC's color decision is inconsistent with FCC policy. States: "I've been at odds consistently with the mass producers. . . . However, in fairness to them . . . FCC displays woeful lack of knowledge of 'lead time' required for a change of this type, or the decision is a carefully calculated scheme to adopt the CBS system now on a permanent basis with the knowledge that manufacturers cannot possibly produce receivers within the time limit." Estimates that normally such change would require 4 months, but asserts that components situation is abnormal, e.g., "resistors are virtually unobtainable."

Maintains: "I see no reason for haste in the light of situation which has resulted from the events in Korea." Color and allocations "cannot be completely divorced from each other." Suggests that CBS system would lose two-thirds of information when used with tri-color tube; that field rate might be lowered to make system compatible; that all proposed color systems may be made to work with universal set.—(Dana A. Griffin, president).

CONNECTICUT STATE DEPT. OF EDUCATION—Requests reservation of educational TV channels. Urges more time for research "until such time as an electronic system of color transmission has been suitably demonstrated by CBS."—(F. E. Engleman, commissioner).

CONRAC INC.—Will not make bracket sets because: (1) "Considerable technical difficulties." (2) Components in very tight supply. Believes FCC would make "grievous error" in not picking compatible system.—(W. J. Moreland, president).

CROSLEY DIVISION, AVCO MFG. CORP.—Cannot estimate when it could make bracket sets, but feels that 2-position switch could be produced at earlier date and at lower cost. "Longer blanking interval than is implied in Paragraph 150, lines 4, 5, and 6, of the Commission's report could materially reduce additional costs and minimize the time required to produce [2-position switch]."

Had conducted 2-position research but abandoned it since it had concluded "from our own investigations and from a study of the Condon report, that a fully compatible system was feasible within a reasonable period of time." Says its research in 2-position switches "would be of rela-

tively little value in view of recent advances in the design of cathode-ray tubes and in the circuits used for their deflection."

Requests deferment of adoption of any new standards because: (1) Fully developed system not available. (2) Delay would not affect public adversely.

Objects to CBS system because: (1) Insufficient resolution. "The improvements resulting from the use of horizontal interlace . . . will require considerable study to insure that the benefits will justify the greater complexity, which as far as is known at this time may be just as complex as any system incorporating dot interlace." (2) Pictures limited to 12-in. maximum, while Crosley makes nothing smaller than 16-in. (3) Advantage of long-persistence phosphors only partially demonstrated.

"Because of the present material shortages and the possibility of governmental controls, there is not assurance that material would be available for the manufacture . . . of [CBS] transmitting and receiving equipment."

Believes few, if any, "telecasters would be financially able to sustain the additional losses which such a system would entail" because of equipment costs, shrunken audience, degraded black-and-white pictures. [Crosley operates 3 TV stations.]

"We cannot see how the compatibility problem would be aggravated by delay" since, as FCC says, internal adaptation would cost only "slightly less than" external. "Action at this time would require every purchaser . . . to pay for the cost of an adapter which he may never use or which, if used, might result only in the reception of a degraded black-and-white picture. If action is delayed and the Columbia system or some other incompatible system is eventually adopted, the owner would be required to pay only a slightly additional cost (on the basis of evidence before the Commission) for an external adapter, but would be required to pay no adapter costs whatsoever if a compatible system should be perfected and adopted.

"Delay would result in increased endeavor . . . to perfect a compatible system and, if such a system could be perfected, which is certainly possible if not probable, on the basis of the evidence available, the entire problem of incompatibility would be eliminated without cost to the owner of any TV receiver."

In producing new types of sets, "a drastic cut in production would be necessary." This, plus other factors increasing prices now, could be so serious "as to practically eliminate a market, except in the higher income brackets, and therefore, bring about chaos both in the TV manufacturing and broadcasting industries.

"Crosley, as a major manufacturer of TV receivers will, of course, make every effort to satisfy any demand of the buying public at the earliest possible date for receivers designed for the reception of pictures telecast in accordance with any standards which may be prescribed."—(J. W. Craig, v.p. & gen. mgr.).

ALLEN B. DuMONT LABORATORIES INC.—Responded it would need at least 6 months to year before coming to any engineering conclusions on bracket standards. Calls attention to fact cost estimates submitted during hearing referred to 2-position switch, not bracket standards. Calls bracket standards "immature," recommends that Commission's proposals thereon be rescinded or a full hearing be held on subject.

Charges FCC's First Report is vague and uncertain regarding exact status of standards for CBS color system. "The limitations upon hearing expressed in Paragraph 156 are so restrictive as to foreclose adequate presentation of any other possible system.

"Assuming arguendo, that the First Report . . . has the effect of a final report on this conclusion, at least as to the expressed standards of the Columbia system on lines

and fields, it cannot constitute an adequate legal notice of proposed rule making . . . The Commission has never published the Columbia standards. Its requirements under these standards with respect to equality of size of picture, geometrical linearity and brightness in black and white are vague and undefined . . . Without properly adopted standards, no color system can become commercial and without adequate notice in precise detail on this highly technical matter, a final rule-making would be invalid.

"No apparent consideration has been given to the fact that the utilization of long persistence phosphors and their utilization in modifying field and line standards would greatly increase flicker as viewed on existing tubes in black-and-white sets and require replacement of nearly 10,000,000 tubes."

DuMont charges that Comr. Jones "conducted himself as a prosecutor of the engineering profession" and developed a line of interrogation of "unprecedented bias." Comr. Jones, it states, "is for color but he is against television." Statement continues:

". . . The television industry can have no intelligent motive, as a whole, in misleading the Commission or in failing to supply all pertinent technical information. Confronted by the obvious determination of the Commission in favor of color, and the universally acknowledged fact that the addition of color to television, all other things being equal, would be a great and desirable improvement, basic selfish interest of the manufacturers and broadcasters must be directed toward the perfection and commercialization of an adequate color television system.

"The industry is wary of hasty decision. Once, it urged upon the Commission standards of allocation providing inadequate separation of stations. It has paid bitterly since, and is perhaps the only lawful industry in the history of the United States which has been frozen by law for a period of years. It adopted, with reservations and under pressure, the promise of color through simultaneous methods only to see the proposed system demonstrated as valueless when practical field tests were applied. It is now urged to accept a system of color television with known defects and unknown remedies, which it is convinced cannot have public acceptance."—(Allen B. DuMont, president, and Roberts & McInnis, attorneys).

EMERSON RADIO & PHONOGRAPH CORP.—"It has always been and will certainly continue to be our policy to cooperate willingly and thoroughly with any government agency, and particularly the Commission, one of whose primary interests is that of furthering the television and radio art for the best interests of the nation, its public and its industries," says statement. But bracket standards are impossible, by the estimated deadline, because:

(1) Considerable development work is needed. "Good progress" has already been made in spite of company's short-handedness of engineers. "No less than 80% of its engineering talent has been diverted to work for the armed services, much of it of the 'crash' variety."

(2) Field testing is required, particularly with regard to the "interpolative systems" implied by bracket standards.

(3) "Limited amount of tooling will be required after engineering is frozen." This takes "months rather than days."

(4) Production dates are dependent also on components procurement. Components shortage has "already affected the magnitude of our current producing ability." Suppliers must be allowed more time "as each passing week shows more and more the effect of substantial armed service procurements requiring the same component facilities.

"Our engineering ingenuity," Emerson goes on, "has been directed with redoubled effort toward the use of fewer and fewer critical components, so it goes without saying that the addition of any technical feature to the perform-

ance of a TV chassis will require more components . . . We certainly expect to have bracket standard receivers on the market at least as early as other manufacturers.

"Emerson is also prepared to manufacture color TV receivers on any standards prescribed by the Commission, and will certainly strive to maintain its relative position of leadership in the color field that it has been privileged to enjoy in monochrome."—(Benjamin Abrams, president).

GAROD RADIO CORP. (Majestic)—Preliminary engineering on brackets yet to be done. Has provided space in forthcoming sets for additional components and controls. Field testing will be needed. Estimates production to commence 4-5 months after final decision. Internal adaptation to cost about \$35, external \$50-\$75 plus costs of installation by highly technical personnel. Is "anxious to cooperate" but points out that monochrome from CBS transmissions will be degraded and that color disc is good only for sets up to 12-in.—(Louis Silver, v.p. & gen. mgr.).

GENERAL ELECTRIC CO.—(1) "Definitely" will build bracket sets if "the public will buy in sufficient quantities to justify the investment in engineering time and in production facilities." (2) "Our attorneys advise us that we may not have the right to enter into an agreement with anyone, even the FCC, to abandon the design and manufacture of all types of TV receivers except one specific type." (3) Strike has hampered study of problem. (4) Uncertain about "retrace" time, other engineering details. (5) Recommends FCC and industry work out proposal together. (6) After everything is clarified, GE could be ready to make brackets by June 1, 1951, if components are available.

Convinced FCC's whole color-brackets proposal is "technically and economically open to serious question, particularly since it comes at a time when the Armed Forces requirements in terms of electronic engineering man-hours is becoming an increasingly major factor in this industry."—(Dr. W. R. G. Baker, v.p. and gen. mgr., Electronics Dept.).

HALLICRAFTERS CO.—Requires 3-6 months of basic research. Time factor also depends on development work by suppliers of components such as ferromagnetic structures, coils, switches, possibly tubes. Is "willing but unfortunately not able to give an unconditionally affirmative statement."—(W. J. Halligan, president).

HAZELTINE ELECTRONICS CORP.—Reports it is working to determine feasibility of adapting present sets to bracket standards. Has studies in progress to determine necessary additions to both laboratory and production test equipment as well as to determine type and character of field tests.

"It is not possible at this time to state categorically whether this can be achieved within the time specified by the Commission," company says. Hazeltine insists development should continue on all forms of color TV and proposes to continue such development in its own laboratories. Calling attention to work on mixed highs: "It is apparent from this property of the eye [inability to appreciate differences in hue and differences in color saturation to degree it appreciates brightness differences] that the assignment of bandwidth within a communication channel to the transmission of equally fine detail for brightness, hue and saturation is not the most effective use of the frequency spectrum." Either the channel space must be wider or the image resolution must be substantially degraded.

Since FCC is concerned with operation within a fixed channel, "a system using mixed highs can reproduce . . . from 40% to over 100% more detail in the image than can

be reproduced, other things being equal, in a system which does not make use of mixed highs."

After stating belief in future of these developments "and many others in process," company states that "satisfactory color TV can only be made available . . . by retaining the present FCC standards . . . with such additions as may be necessary.

"Such prospects seem well within the grasp of scientists at this time. There appears to be no arbitrary way of short circuiting the natural and logical processes by which full commercial operation is customarily achieved—namely, by the slow laborious method of trying and field testing.

"We are convinced beyond any question of doubt that when a color TV system is finally accepted . . . it will be a composite of the inventions of many independent workers in the field rather than the results of a single inventor or a single group . . . We hope that the way will be left clear for the attainment of this goal in color TV."—(A. V. Loughren, v.p. in charge of research).

HOFFMAN RADIO CORP.—Wants to cooperate, is willing to install 2-position switch in sets, but it will take at least 8 months before such sets start coming off production lines. But company doesn't know how to build bracket standards. Calls attention to fact black-and-white picture from CBS colorcast would be "degraded," also that Commission's ideas on bracket standards seem to be based on out-of-date sets. States CTI has improved system, urges reexamination of CTI system.—(H. L. Hoffman, president).

MAGNAVOX CO.—Reports that it "is unable to meet such a request for production this year. It must be apparent to the Commission that the incorporation of [a 2-position switch] involves complete redesign of present receivers.

"We do not have facilities for completing such a program in less than 4 or 5 months. After this engineering work is completed, we must then go through the process of procuring desired components before receivers can be put into production." Component deliveries, now quoted, are not less than 3 months and frequently as much as 6 months on major components.

"If the Commission expects us to manufacture commercial receivers that are capable of being tuned to some selected frequency within the bracket range indicated, we feel that we are not in position to make as much as an estimate of the time involved in developing such a receiver. Our engineers do not know how such a receiver can be built and new techniques must be developed to achieve this end."—(Frank Freimann, executive v.p.).

JOHN MECK—Sent 2 telegrams as John Meck Industries and as Scott Radio Laboratories stating that he was filing no comments.—(John Meck, president).

MOTOROLA INC.—Says bracket standards pose "an extremely delicate problem of transition," involving employment of hundreds of thousands of workers, activities of thousands of dealers and employees, interests of public at large. Attached engineering report spells out steps that would require total of 6½ months for "dual standards" and 10 months for "bracket standards" but notes: "The estimated time required for the 2 approaches given above are as realistic as possible and no margin of safety has been included. With the present critical procurement situation, ever increasing manpower problem due to the general Preparedness Program, the estimated time could conceivably take longer."

Adaptors are ruled out as too costly, less practical than

an integrated design. And "nothing but chaos" is foreseen if FCC formalizes bracket standards. "No one will want to buy a set without them. But, as our engineering report shows, many months will be required to put bracket standards into production. Therefore, neither we nor any other manufacturer can sell sets during that period . . .

"One might say we have seen no disturbance in the market so far with all the color activity to date. But this must not be confused with what will happen after a definitive decision on the part of the Commission . . . [It] would be a bombshell.

"When we are concerning ourselves about chaos, we are concerned about the far reaching damage to thousands of people. We enter this counsel because sometimes it may be thought that it is only a few large manufacturers who are involved and only their financial profits. But chaos in this instance would go far beyond. It is the little fellow who would be hurt the most . . ."—(Paul V. Galvin, president).

Note: Mr. Galvin also wired the FCC October 3 stating: "It appears that bracket standards are the keystone of the Commission's first report on color television affording a means of transition from black and white to incompatible color television. From the comments of television set manufacturers, it is apparent that the time scheduled for incorporating bracket standards was impossible for any manufacturer to meet. Similarly the manufacturer does not possess sufficient technical data on bracket standards to permit them to arrive at an intelligent decision. In view of these practical considerations and the impact of the Commission's decision on the public, the broadcasters and the television set manufacturers respectfully urge you to call a hearing to obtain complete and accurate information on bracket standards before taking any further action on color television. This wire is being sent to the chairman and each member of the Commission."

MUNTZ TV INC.—Asserts it "must decline" to make bracket standards because: (1) They would increase set prices "to such an extent that only those in the wealthy class could obtain them and therefore the demand would be insufficient to warrant their construction on any scale." (2) Engineering facilities are not now available, would take "considerable amount of time" to obtain. (3) "Systems which could possibly be made to work under present developments would require some degradation in performance in comparison to the present TV set."—(Earl Muntz, executive v.p.).

NATIONAL TELEVISION SYSTEM COMMITTEE—Submitted unedited minutes of Sept. 12-13 meetings of panel on station equipment (Dr. T. T. Goldsmith, DuMont, chairman) and panel on receivers (David B. Smith, Philco, chairman). Both panels assumed "bracket standards" meant black-and-white standards and CBS standards (2-position switch for receivers).

Station equipment panel consensus showed that some items requiring modification could be accomplished immediately. Most, however, required from one week to 4 months. New equipment incorporating needed changes would take up to 2 or 3 years for film recording equipment. Receiver panel agreed that bracket standards means "redesign of receivers" due to higher voltages, more tubes, other changes required.

Following are estimates of additional cost to list price of 17-in. rectangular receiver with 70-degree deflection tube and date first such set would be off production line (all 1951 unless otherwise noted):

Bendix, \$40, June; Capehart-Farnsworth (no estimate), June; DuMont, \$35-\$40, March 1952; Emerson, \$30-\$40, June; Freed, \$40, September; Garod, \$35, June; General Electric, \$30, May; Hoffman, \$35, September; Motorola, \$40, April; Philco, \$35-\$40, April-June; Pilot (no estimate), April; Stewart-Warner, \$40, June; Stromberg-Carlson, \$30, May; Westinghouse, \$30, April; Zenith, \$30, June.

Following estimates are for external adapters plus installation fee: DuMont, \$130 and unestimated; General

Electric, \$50 and unestimated; Hoffman, \$100 & \$25; Philco, \$60 & \$25-\$50; Stromberg-Carlson, \$100 & \$25.—(Dr. W. R. G. Baker, chairman).

PACKARD-BELL CO.—Can't meet brackets deadline because: (1) Decision was surprise; no engineering on brackets had been done. (2) Test equipment difficult to obtain. (3) Components in tight supply. (4) Field testing needed. (5) May require retooling of chassis, redesigning of some cabinets. Intends to proceed with engineering, but would like to know whether to continue. Emphasizes "our honest and sincere desire to cooperate for the common good of all consumers, and we believe this can only be accomplished by ascertaining all the necessary facts before making any decisions and commitments which might be either inaccurate or unnecessary as of this date."—(Robert S. Bell, executive v.p.).

PHILCO CORP.—Says its reply is both as a manufacturer and as a telecaster (WPTZ). Says adaptation of present sets to receive proposed new transmission standards even in black and white "will be more difficult and costly than believed at the time of the hearings, and in the case of many sets we do not see how they can be adapted at all . . . The change now proposed, in these standards, if adopted, will result in a black-and-white picture of inferior quality, as the record and report clearly show.

" . . . We urge that the Commission should not break faith with the present set owners . . . We do not believe we should offer a product to the public before it has been thoroughly field tested under home conditions."

Attached are excerpts from reports of the Commission which Philco says "establish a commitment from the Commission to the public that they could proceed to buy sets with confidence that the service which they enjoyed at the time of purchase would not be impaired and that such sets would receive continuous service on these channels for their normal useful life."

Commission heretofore "very wisely" has established policy that in setting standards it must be satisfied that any system proposed "is as good as can be expected within any reasonable time in the foreseeable future." Philco says color system now proposed is "admittedly not the best that can be expected," even Commission recognizing present limitation on picture size. "In its report, the Commission states that the CBS system is at least as fully developed as was the black-and-white system in 1941. However, the black-and-white system in 1941 had no artificial limitation in picture size, was 2 to 1 better in respect to definition, and had been far more completely field tested."

Charges Commission has gone "beyond the lawful powers granted" by Congress and, if its program is carried out, "will cause irreparable injury to broadcasters, manufacturers and present set owners."

"Philco has concluded," says reply, "that it cannot agree to build all of its television receivers on the basis outlined by the Commission so as to be capable of operating within the proposed brackets."—(William Balderston, president).

PILOT RADIO CORP.—Brackets deadline "physically impossible." Since FCC lacks authority over manufacturers, "you seek thereby to accomplish indirectly what you cannot do directly." FCC has admitted CBS system far from satisfactory. FCC offers manufacturers an "illusory reward." Says FCC has admitted defects in CBS system, such as low resolution, low brightness, restricted size. Asks that more time be allowed to study CBS system with long-persistence phosphors, horizontal interlace, tri-color tube. Says time allowed for compatible systems "seems to

be no more than a holiday weekend." Quotes Comr. Hen-nock's remarks concerning RCA's improvements during hearing. Cites impact of FCC decision on military effort. Says "revamping of our industry would be impracticable and heedlessly wasteful." Asserts that commercialization of CBS system "seems neither wise nor lawful."—(Isidor Goldberg, president).

RADIO CORPORATION OF AMERICA—Contentions:

Color decision is "scientifically incorrect." FCC doesn't understand RCA system, has "obligation to inform itself as to the basic principles." Condon Report [copy included in RCA 67-page response] recognized potential of RCA system, while FCC confused apparatus with systems. Present black-and-white TV has tolerances even more stringent than 1/11,000,000 of a second tolerances in RCA system.

Achievements since hearing closed were ignored by FCC. Many defects FCC found in system were reported by RCA to be eliminated in its July 31, 1950 "Progress Report" [included in response]. Thus, FCC turned its back "on evidence when the Commission had an obligation to look."

FCC made erroneous and unfair comparisons of CBS and RCA systems in respect to flicker, brightness, contrast, registration, fidelity, resolution, picture texture, susceptibility to interference, adaptability, convertibility, equipment considerations.

FCC should "stay its hand," and "permit the broadcast of color signals under both the CBS and the RCA systems for a reasonable period of time before adopting final standards. We await the verdict of the public with confidence. No matter what it is we shall abide by it.

"The Commission completely disregards the interests of the 10,000,000 or more American families who will own present models of black-and-white receivers by the end of this year. These 10,000,000 families represent an audience of 40,000,000 or more people . . . FCC favors CBS system "merely in order to do something about color now."

RCA system adds color, subtracts nothing, while CBS system adds color but would degrade and endanger TV. Compatible system will insure quickest development of color. "With a compatible system, the broadcaster does not have to wait for color receivers to appear in quantity. Nor does he have to confine color broadcasts to fringe time. Thus the most important single factor in this hearing, from the standpoint of insuring an early development of color TV, is compatibility."

Brackets proposal is "impossible and illegal." It doesn't comply with FCC rules on adopting new standards. Brackets are far more difficult to achieve, technically, than when TV standards were first being considered (in 1940-41); then, "triggered" synchronizing circuits were employed, but are now obsolete because of their susceptibility to interference.

Cost of brackets would be \$61 automatic, \$50 manual; they could not be made before second quarter of 1951.

At present rate of set production, brackets would cost public some \$400,000,000 yearly. "For this tax on the public the purchasers of these receivers may never get anything. If they do get anything it will be only a degraded black-and-white picture. Even for \$400,000,000 a year it will not be color."

If change in standards is made later, as brackets imply, "those who had bought the bracket standard receivers and paid the additional sums required would not receive an improved picture when the change was made."

Brackets would produce inflationary effect because of greater set costs, contrary to national policy set forth in Defense Production Act of 1950. They'd also mean unnecessary use of critical materials" such as iron, steel,

copper, nickel, tin, tungsten. Brackets would "intensify the difficulties which already exist as a result of [components] shortages and would operate to curtail substantially the number of receivers available to the public.

"Before a final decision is rendered which would degrade the present black-and-white TV service and impose upon the public a scientifically inferior color system, we urge recourse to the opinion of the American people. They are vitally interested. Their voice should be heard."—(C. B. Jolliffe, executive v.p., RCA Laboratories Division).

Note: On Oct. 4, RCA petitioned FCC (1) to review improvements in its system during Dec. 5, 1950-Jan. 5, 1951 period; (2) to view experimental broadcasts of RCA, CBS, CTI and other systems during period ending June 30, 1951. RCA states: "Since the majority of the Commission felt the most desirable course was to allow more time for the development of all color systems, subject only to a condition which has now been shown to be impractical, we submit the Commission should now allow that time . . . By June 30 we will show that the laboratory apparatus which RCA has heretofore demonstrated has been brought to fruition in a commercial, fully-compatible, all-electronic, high-definition system of color television available for immediate adoption of final standards."

SENTINEL RADIO CORP.—Asserts "we are willing to cooperate with the Commission by indicating our willingness to make" sets with 2-position switches. Cannot say, however, that FCC deadline can be met "since we cannot accurately estimate . . . the period that will be required to develop, engineer, tool, and procure the elements necessary for this addition to our receivers. We estimate it may require as long as 8 to 10 months to provide receivers properly equipped in this manner. We further estimate that these additions may add from \$35 to \$50 to the selling price of the receivers . . .

"We do not believe that the buyers of the proposed receivers should be penalized by paying for the added element which will have limited use in only a few areas in the foreseeable future, and because of the degradation of monochrome picture quality it produces; second, we do not believe that the existing receivers and those being currently produced should be obsoleted because they are not equipped to receive the proposed 'bracket standard' pictures, and the adaptation of such receivers to receive them would be for the most part impractical.

"Therefore, may we respectfully suggest that more time be taken for consideration of this problem as it appears not only possible, but quite probable, that a satisfactory compatible color television system will be developed in the not too distant future which avoids the objections and penalties recited above."

STEWART-WARNER CORP.—Wired reply states: "Based upon our interpretation that the FCC standards covering this switching device indicates a variable coverage of all frequencies between the present standard and the proposed standard, we do not know at present how this can be accomplished . . . Development of variable switching device is currently in process and will continue."—(E. G. Fossum, gen. mgr.).

STROMBERG-CARLSON CO.—Has devoted bulk of engineering time and laboratory facilities, since Sept. 1, to brackets. Number of problems remain with regard to 2-position switch, "very many" with regard to brackets. Engineering for 2-position switch to take 1-2 more months, brackets much longer. Then one month needed for field testing. Then additional 4-6 months required before actual production. Asserts that people who don't need or want additional circuitry shouldn't have to pay for it. Brackets idea "unsound economically and practically." People will want to adapt to color, not merely to black and white. Present plans are to make "modest" changes in circuits so that people can purchase adapters optionally.—(Robert C. Tait, president).

SYLVANIA ELECTRIC PRODUCTS INC.—Reports it has made "serious studies" of the problems but studies have been on 2-position manual switch only. For 2-position switch, it estimates that at least 3 months of intensive engineering are needed for design, then 3 more months for components procurement and start of production—meaning total of at least 6 months. Increased cost to consumer would be "not less than \$30."

Modification of existing sets would be "considerably higher, and at the moment we have seen no satisfactory way of accomplishing this other than by returning the sets to the factory or to specially established service stations.

"In our opinion, externally attached converters do not afford a satisfactory solution . . . We can well appreciate the ill-will that will result on the part of a set owner if this matter is not properly handled. We are sure that you appreciate the responsibility which the manufacturers do have to the present owners of their TV sets and which we feel should be kept in mind in any new programs."

Unable to estimate time or costs of complete bracket standards—"but this would be considerably more complicated and costly. Extensive engineering effort would be required before we could be in a position to make such estimates . . . It is our earnest hope that the Commission can find ways to extend the time of their requirements so that this matter may be worked out in a proper manner and which will be for the long term advantage of the country as a whole.

"The effect of the war effort . . . is still very indefinite . . . The above time requirements are naturally subject to whatever changes might be made necessary due to future demands that may be placed upon us in connection with war-time requirements. We wish to assure the Commission of our complete cooperation in working out a proper program for the future of television."—(Don G. Mitchell, president).

TELE KING CORP.—"If the color system suggested by the FCC is adopted as standard, it is naturally agreeable to us to: (1) Either put bracket standards on all of our sets. (2) Or make it possible to adapt the sets for bracket standards at a later date.

". . . At the present time with shortages of all materials, and with government requirements of electronics being placed at a minimum of 2½ billion dollars for the next 12 month period, our best sources of information in our procurement division are of the opinion that it would require 20 to 30 weeks to secure the necessary parts to produce the proper bracket standards needed for conformance to the FCC 'bracket standards'."—(Louis I. Pokrass, chairman).

TELE-TONE RADIO CORP.—Reports it has done work on 2-position switches, but none on bracket standards prior to Sept. 1. "We have been engaged in attempting to equip our present sets with bracket switching and feel that we will have accomplished the engineering portion of this in the next 2 or 3 weeks."

Considering components procurement, production of test equipment and field testing, "the time figure required to get into production would be probably some 4 months or perhaps a little longer from the present date." Could be even more positive, in time estimates, if 2-position switches are required instead of bracket standards.

"There is one matter, of course, which has been troubling us greatly . . . As we understand your decision of Sept. 1, there is a likelihood of some other color TV system being approved . . . which means that whatever work we had done on production of test equipment for bracket standards and whatever procurement of materials we had undertaken might be entirely valueless, should some other system be adopted.

"We have testified previously in hearings held before your body that we would make TV receivers embodying whichever system you proposed setting up a standard. We are, however, extremely opposed to making expenditures on bracket standard or on 2-position switching which might be entirely valueless under some other color system than the Columbia Broadcasting System and consequently cause us to fail to recover the funds thus expended.

"We would sincerely urge that the Commission, at the earliest possible date, adopt definite standards, either CBS or RCA or any other which they consider proper, and give ourselves and other members of the radio industry such lead time to finish our engineering, field tests, and material procurement so that the transition in production and merchandising can be made in the most orderly fashion and be the least harmful to components manufacturers, receiver manufacturers, distributors, dealers and the consumer public."—(S. W. Gross, president).

TRANSVISION INC.—States: "It occurs to us that your proposal(s) ask a high price for color TV. This industry . . . can be severely stunted and malformed if at this time some yoke is imposed which will permanently injure an otherwise healthy and powerful industry . . . If, with the vast pool of technical people engaged in this work, a compatible color system cannot be introduced without affecting present subscribers, we feel that no color system at all should be commercialized.

"We acknowledge that color pictures offer a great deal more appeal than black-and-white ones, and are interested in seeing, working with, and providing the public with color pictures, but feel that a divided service—operating on dual standards—will do more harm than good. It will discourage advertisers who support the industry, and will alienate a considerable portion of the potential market public which is the ultimate driving force in our system." Suggests present standards should be retained until a compatible system is ready.—(Herbert Suesholtz, gen. mgr.).

WESTINGHOUSE ELECTRIC CORP.—Has adapted sets for 2-position switch only, concluded adaptation is feasible, but hasn't adequately field tested sets. If brackets adopted, proposes: (1) To make sets with 2 positions. One position will give standard monochrome adjustable "within a reasonable range of present standards." (2) To provide sets with plug receptacle. If proposed CBS standards are adopted, plug-in unit will be built to give monochrome from color transmissions. If CBS standards are changed at some later date, new plug-in units will be made to give monochrome, replacing old. States it cannot make desired sets within 30 days after "any decision which has

been reached which requires important changes in either design or material content."—(John W. Steen, attorney).

WTVR (HAVENS & MARTIN), RICHMOND, VA.—Formal brief requests permission to appear if hearing is held on bracket standards.—(Fletcher & Midlen, attorneys).

ZENITH RADIO CORP.—Cannot incorporate switch in present models due to lack of space and because components are not laid out to permit clean circuitry. May be possible to incorporate switch in new chassis—which, prior to FCC order, had following timetable: Nov. 1, engineering release; Feb. 1, 1951, pilot production; May 1, 1951, mass production. Timetable is long because of present conditions in procuring components (e.g., materials for present TV line have been purchased through January 1951; some, through February 1951).

Making due allowances for abnormal conditions and completion of engineering, it's possible to incorporate switch in new chassis under above timetable, "provided our procurement and manufacturing departments will reduce or eliminate certain safety factors which they always regard as necessary on new models." But switch would have to be modified in following ways:

(1) Make it a 2-position switch for monochrome and CBS color. Such a switch would add \$30-\$40 to set, due to 10% increase in tubes, resistors and condensers. Bracket standards as called for by FCC leads company to believe "added complications and cost to the set would be prohibitive." Simplification of bracket standards idea suggested was elimination of monochrome horizontal interlace requirement (725 lines-60 field-21,750 cycles).

(2) Incorporate socket for external adapter at some future date on grounds "it can be presumed . . . that [internal] switch may never be needed" if FCC postpones final adoption of CBS color system and possibly ultimately chooses some other type of color TV system.

"At the present rate of sale of TV receivers and at the indicated increase in price given above [\$30-\$40 for 2-position switch], the cost to the public might be as much as \$200,000,000 in a year for a feature which may never be used . . . This is a severe penalty for the public to pay." Incorporation of internal socket, with purchase of external plug-in adapter at later date by set owner "could result in a fairly substantial reduction of the indicated increase in list price."

If Zenith does either of above 2 things, and others don't, company feels it would be "severely penalized by such an increase in set price. The increase is substantial enough so that it would make our sets non-competitive."—(J. E. Brown, asst. v.p. & chief engineer).

Notice to Manufacturers

FCC Proposal Regarding 'Bracket Standards'

(Full Text of FCC Public Notice No. 50-1065, Adopted Sept. 1, 1950)

SECOND NOTICE OF FURTHER PROPOSED RULE MAKING

1. Notice is hereby given of further proposed rule making in the above-entitled matters.

2. The Commission proposes to amend Part 3, Subpart E, of its Rules and Regulations ("Rules Governing Television Broadcast Stations") and Sections 1 and 2 of its Standards of Good Engineering Practice Concerning Television Broadcast Stations, in accordance with the "First Report of the Commission (Color Television Issues)" (FCC 50-1064) issued in these proceedings simultaneously with this Notice. Because of the size of the Report, it is not attached to this Notice, but copies of the Report are available on request at the offices of the Commission. However, for information of interested persons, paragraph 151 of that Report, relative to the adoption of bracket standards, is quoted, as follows:

151. In order to accomplish this purpose, the Commission simultaneously with the release of this Report is issuing a Notice of Proposed Rule Making providing for bracket standards in the present monochrome system. These bracket standards provide for a television composite video signal of substantially the type and proportion now employed in monochrome, but with the number of lines variable from 15,000 to 32,000 per second, and number of fields ranging from 50 to 150 per second.³³ Receivers built to incorporate such bracket standards would be equipped with a manual or automatic switch to select instantaneously between two sets of standards falling within the above ranges, one of which will be the present monochrome standards, and the other the CBS proposed standards. The receiver would produce pictures of equivalent size, geometrical linearity and brightness on each of the two positions of the switch. Interested persons are given until Sept. 29, 1950, to submit comments. In addition, manufacturers are requested to submit a statement as to whether if the bracket standards are adopted they would, commencing with the effective date of the order adopting the bracket standards as final—30 days after publication of the order in the Federal Register—build all their television receivers so as to be capable of operating within the above brackets. If, on the basis of the comments submitted, the Commission is able to adopt the bracket standards as final without a hearing and if the Commission receives assurances from a sufficient number of manufacturers to insure that such bracket standards will be incorporated in the great majority of television receivers, then we will be in a position to postpone a decision in this proceeding since we will have the time to explore more fully the matters set forth above, confident in the knowledge that adequate provision has been made to prevent aggravation of the compatibility question. If the bracket standards cannot be made final without a hearing or if assurances are not received from a sufficient number of manufacturers concerning their plans for incorporating bracket standards in their receivers, the Commission will not feel free to post-

³³ The Notice provides that if the brackets are adopted, television broadcasters will continue, until further order of the Commission, to broadcast in accordance with present standards—15,750 lines per second and 60 fields per second.

pone a decision, for every day that passes would aggravate the compatibility problem. In that event, a final decision would be issued adopting the CBS color standards.

3. The amendments proposed by this Notice provide for bracket standards as follows:

a. The scanning line frequency shall be within the bracket 15,000 to 32,000 per second.*

b. The field frequency shall be within the bracket 50 to 150 per second.*

In other respects the transmission standards would not be changed by this Notice.

4. On or before Sept. 29, 1950, any interested person who is of the opinion that the amendments proposed in Paragraph 3 of this Notice should or should not be adopted, or should not be adopted in the form set forth, may file a written statement setting forth his comments or proposed amendments.

5. All manufacturers of television receivers are requested by the Commission to submit comments in accordance with Paragraph 4 of this Notice, and to include in such comments an affirmative statement as to whether such manufacturers would, commencing with the effective date of the adoption of bracket standards,** design and manufacture all their television receivers so that:

(a) Such receivers would be capable of operating within the brackets set forth in Paragraph 3 of this Notice;

(b) Such receivers would be equipped with a manual or automatic switch so as to be able to select one of the following two sets of standards:

(i) 15,750 lines per second and 60 fields per second.

(ii) 29,160 lines per second and 144 fields per second.

(c) Such receivers would be capable of producing monochrome pictures of equivalent size, geometric linearity and brightness on each of the above two sets of standards.

6. In accordance with Section 1.754 of the Commission's Rules and Regulations, an original and 14 copies of such written statement shall be filed with the Commission.

7. Authority to issue the proposals herein is vested in the Commission by Sections 4(i), 301, 303(a), (b), (c), (d), (e), (f), (g), (h) and (r) of the Communications Act of 1934, as amended.

* Until further order, television stations shall utilize the following standards: the number of scanning lines shall be 15,750 per second, and the number of fields shall be 60 per second.

** An order of the Commission adopting the bracket standards would become effective 30 days after its publication in the Federal Register.

MORE THAN 5,000,000 TVs THUS FAR: RTMA reports 817,157 TVs produced in 5-week September -- highest ever -- making 1,849,759 for third quarter, 4,963,759 for first 9 months of 1950. These are projected figures, covering entire industry, and they indicate clearly that year's total will easily surpass estimated 6,000,000, may even go to 7,000,000. Weekly, the figures for September were: first week 163,860, second 124,348, third 166,556, fourth 175,625, fifth 186,768. RTMA auditors also report first October week's output as 183,031.

Radios likewise shared upsurge, totaling 1,317,295 in September, 3,243,260 in third quarter, 10,068,260 first 9 months. Weekly output was 235,284, 197,485, 302,942, 274,374, 307,210, respectively. First October week's output was 353,171. September radios by types: home 831,837, auto 356,388, portable 129,070.

Note: It's significant that total TVs for month came within few thousand of total home radios. [For monthly breakdowns of 1950 production, see Vol. 6:39.]

HOW TO MAKE EXCISE TAX PAINLESS: Most manufacturers are still mulling whether new 10% factory excise tax on TVs, effective Nov. 1, should be passed on to consumer (a) as simple "tax extra", (b) as part of new list price, or (c) lumped in with warranty. First to disclose its intentions, Emerson is choosing third alternative -- and it's understood quite a few of the other majors are inclined to do the same.

But there's no definite pattern yet. Fact is, most companies are so pre-occupied with rush of current trade they only began to get around to the problem this week. Chief worry of trade seems to be that new tax, coming on top of recent price hikes and at time when Regulation W is being tightened and personal income taxes are going higher, will have adverse effect on sales. Brake on spending, of course, is exactly what Govt. is seeking in its anti-inflation efforts.

[Note: Regulation W was tightened by Federal Reserve Board Friday, effective Monday, Oct. 16, jumping down payment on TVs, radios and major household appliances from 15 to 25% and cutting payoff limit from 18 months to 15. Restrictions apply to all items over \$50.]

Many distributors and dealers, particularly dept. stores, are plumping for inclusion of tax in list price, but objection is that "pyramiding" of markups at wholesale and retail levels may mean consumer will "wind up paying 15 or 18% more," to use words of one manufacturer. Problem isn't as simple as in radio, where only a few dollars are usually involved and tax is generally incorporated in list; in TV, average factory price is close to \$200 per set, so that \$20 surcharge is heavy item.

Objection to "tax extra" is that quoting it would automatically reveal to customer exactly what set cost at factory. But some manufacturers are thinking of simply billing exact tax to distributor, who in turn would bill exact tax to retailer, who would simply add exactly that amount to current list price. Thus, consumer doesn't know factory price and nobody takes a profit on the tax, which is prohibited anyhow.

This latter idea and warranty inclusion seem to be gaining favor. But from where we sit, even after talking with many of the set makers, large and small, it's still a guessing game. Each is watching what the other fellow will do, RTMA is unable to step in because of trade laws, competitors unable to organize for common modus operandi even informally for same reason.

MORE ABOUT TUBES & 1951 PROSPECTS: Despite present receiver tube shortages, Emerson's Ben Abrams goes along with Sylvania's Max Balcom's assertion that by end of year there should be "sufficient tubes of all types to take care of the necessary sockets" (Vol. 6:40). He goes even further: TV industry, now producing at rate of 9,000,000 sets per year, should be able next year to duplicate 1950's estimated 6,000,000 -- after allowing for inevitable military requirements. In fact, he be-

believes public "could well absorb" 10,000,000 sets next year. Production is going up and, even without expansion plans of some parts manufacturers, could increase next year -- barring govt. requirements. Military demands, he thinks, at first will cause unbalanced production schedules, may force some plants to shut down at certain periods and then be overwhelmed with work at other times.

Mr. Abrams thinks present shortages are caused by hoarding of basic materials, is confident shortages of such items as replacement tubes will be cleared up by early spring as consequence of cutback in TV production and expansion of tubemakers. On other hand, head of one of biggest tube producers took dimmer view. He "guessed" October will be high point in TV production, November will go down, due to fact that "we're using up our tube inventories." In other words, tube production -- at least of certain types -- isn't keeping pace with today's set output, and he thinks present rate is possible only because the tubemakers are reaching down into the barrel and the setmakers are out combing the hustings to buy up scarce tubes. But he said he spoke for his own company alone.

* * * *

We went out on a limb, apparently, last week in stating that "metal cone spinners face probable curtailments if steel is rationed." Spincraft's T. J. Salow Jr. wires: "I must challenge this statement. Metal TV cones are spun from straight chrome alloy material commonly labeled '430 Modified'. This material is produced by almost all stainless steel mills. I have questioned top men of several prominent stainless steel mills about possibility of curtailments. Gist of their comments is:

"Television sets require components made out of copper, nickel, silicon. Rationing will affect these materials long before Type 430 becomes critical, and this will affect entire TV industry regardless of tube type.

"Even during second World War, Type 430 material proved not too difficult to procure. It's entirely possible for Type 430 to become even more abundant under rationing program. Nickel is critical, and majority of stainless steel mills' alloys require nickel -- but not Type 430. Production curtailment of nickel-bearing alloys could open additional facilities for production of Type 430.

"It is my belief that metal-glass tubes will become the most easily procured under rationing program."

* * * *

It's still mystery for whom Spincraft is making 24-in. rectangular metal cones, currently advertised in trade press (Vol. 6:40) -- but it definitely isn't GE. That company has 24-in. round metal-coned picture tube in the works, but now reports "little possibility of production prior to Jan. 1, 1951."

Latest on 20-in. glass rectangulars is that Corning should be in full production by mid-November. Tubemakers are already turning them out as fast as present allocations of blanks are delivered. Tel-0-Tube Corp.'s Samuel Kagan states: "The majority of our customers have already designed cabinets and chassis to take a 20-in. tube. It looks as if the entire industry will eventually have a 20-in. rectangular model."

"Television may be answer to 'How are you going to keep 'em down on the farm?'" writes reporter Karl Peterson in recent *Kansas City Star*. Covering Harrisonville (Mo.) area, 40-60 miles from WDAF-TV, he reports that TV "has brought an incalculable change in the long, quiet evenings . . . Its magic beam reaches into farm homes where recreation heretofore has meant a drive to town, after a day of chores, to the movies, the church social or the lodge hall party." Local serviceman Bob Johnson says: "The 125 owners of sets around here are like one big family. The minute anything goes wrong I get a call to fix it right away, even if it's some studio trouble I can't do anything about. That's how eager our TV fans are."

Columnist Drew Pearson relates how Secretary of State Acheson watches UN sessions on TV, coaches U. S. delegate Warren Austin via direct telephone during debates with Russians.

Sylvania has published 12-page booklet listing characteristics of 194 CR tubes for TV, oscilloscope and radar applications, 103 of magnetic deflection type, 91 electrostatic with screen diameters ranging from 2 to 22-in. Data supplied includes: heater and current voltage, nominal dimensions, persistence and fluorescence of screen, maximum design center ratings, typical operating conditions. Copies are obtainable from Sylvania, Emporium, Pa.

No letdown in advertising and promotion is planned by DuMont, sales chief Walter L. Stichel told New York meeting of regional sales managers last week. Curtailment, he said, would be "commercial suicide." Every effort will be made to maintain set prices, he added, noting that while DuMont was one of first to announce price hikes (July 28) it was one of last to put these increases into effect (Sept. 5)—so that distributors and dealers had plenty of time to clear stock at old prices.

Topics & Trends of TV Trade: Drain on TV service-men by the military and by electronic manufacturers, plus expected further depletion due to call-ups by armed services, has forced Philadelphia TV Contractors' Assn. to authorize setting up central employment bureau; to consolidate members' newspaper help-wanted ads into single, display-type ad; to consider recruiting technicians from non-TV areas. It's first concrete move by a service organization to meet present and future manpower pinch.

In second "open letter" to industry (first was 3 weeks ago; Vol. 6:37), TCA president Albert M. Haase suggests service companies might be used by military as training schools for electronic specialists. In this way, says he, contractors could stay in business, keep up some sort of service for TV set owners. Originally, Haase had suggested service companies be used as subcontractors on military orders so as to accomplish same purpose.

Shortage of technicians, shortages of critical components and replacement parts, have already extended time for servicing TV sets from customary 24 hours to 5 days, Haase stated. To overcome components' shortages, TCA is thinking of setting up cooperative buying pool, he said.

New York and Boston Better Business Bureaus are reporting increased complaints on TV servicing in recent months. In September, New York BBB says TV complaints numbered 1085 vs. 1054 in August, 810 in July, 239 in June. Boston BBB is reported estimating TV complaints will amount to one-fourth of all 1950 complaints.

* * * *

Zenith has raised prices for third time on 4 sets, for second time on 3 others in line (Vol. 6:31, 36). One was boosted \$25, other 6 go up \$10 each. New prices are as follows (increases in parentheses); for description of sets see *TV Directory No. 11*:

16-in. rectangular (all up \$10): Model H2329R, \$259.95; H2328R, \$269.95; H2352R, \$329.95; H2353E, \$339.95. 16-in. rounds: H2438R, \$329.95 (\$10); H3267R, \$499.95 (\$10); H3475R, \$575 (\$25). Zenith also raised prices on 4 radios \$10 to \$20.

* * * *

GE has raised prices for second time on 2 sets and for first time on 2 others in its line of 17 (Vol. 6:23). Raised for second time were these 16-in. rectangulars (increases in parentheses being from last price; Vol. 6:34): Model 16K1, \$479.95 (\$10); 16K2, \$499.95 (\$10). Raised for first time were following 14-in. rectangulars: 14C102, \$259.95 (\$20); 14C103, \$269.95 (\$10). For description of sets, see *TV Directory No. 11*.

Majestic has hiked prices \$5 to \$20 for second time on 8 of its 17 sets (Vol. 6:20, 40). These are the new prices (increases in parentheses being from last price; Vol. 6:33); for description of sets see *TV Directory No. 11*: 14-in. rectangulars: Model 141, \$199.95 (\$10); 142, \$215 (\$5); 1400, \$249.95 (\$10). 16-in. rectangulars: 162, \$219.95 (\$20); 160, \$249.95 (\$10); 1600, \$289.95 (\$20). 16-in. rounds: 1605, \$289.95 (\$10); 1610, \$329.95 (\$10).

* * * *

Emerson has added four sets to line (Vol. 6:26). Sets are: Model 675, 19-in. console, \$399.95; 674, 16-in. table, \$259.95; 678, 16-in. console, \$289.95; 677, 16-in. console, doors, \$329.95. Models 674, 678 and 677 replace similar models 661, 668 and 667 with no change in price.

Setchell Carlson has added these 2 sets to line (Vol. 6:20): Model 2500LP, 17-in. rect. console, AM, \$329 (blonde, \$339); 2500, same with phono, \$369 (blonde, \$379).

Philco has new 16-in. round mahogany, metal table Model 1607, leather-trim, built-in antenna, \$249.95; it replaces similar 1602 wood table that sold for \$259.95.

RTMA's "Town Meetings" Committee will again be headed by Harry A. Ehle, International Resistance Co., with following other members named this week by president Robert C. Sprague: Benjamin Abrams, Emerson; A. T. Alexander, Motorola; H. C. Bonfig, Zenith; Leonard F. Cramer, DuMont; J. B. Elliott, RCA Victor; G. M. Gardner, Wells-Gardner; H. L. Hoffman, Hoffman Radio; J. J. Kahn, Standard Transformer; Stanley H. Manson, Stromberg-Carlson; Leslie F. Muter, Muter Co.; Henry T. Paiste, Philco; A. D. Plamondon Jr., Indiana Steel Products; Edward C. Tudor, Industrial Development Engineering Assoc.; A. A. Brandt, GE.

TV sets will account for 20% of Sylvania's expected \$140,000,000 sales this year, according to president Don G. Mitchell as quoted in Oct. 6 *Tide Magazine*. Article titled "Launching a Product in a Tight Market" relates how TV last year accounted for 10% of Sylvania's \$102,540,000 sales; states that 200,000-250,000 sets will be made under own brand name this year; reports new plant (Sylvania's 20th) opening in Shawnee, Okla. early next year for manufacture of TV and radio tubes.

RCA service contract fees are up \$3 to \$5 from those effected last July (Vol. 6:28), forced by recent increases in receiver prices (Vol. 6:34). The 90-day contract (covering installation, parts warranty, service) runs from \$22.50 for 10 or 12½-in. models with built-in antennas to \$65 for 19-in. sets with standard outdoor antennas. Year's contract runs from \$42.50 for 10 or 12½-in. built-ins to \$84.50 for 19-in. outdoor.

Industrial TV is more than paying its way, reports Assn. of Iron & Steel Engineers. Latest instances of use are listed as: (1) Direct observation of high speed tools. (2) Analysis of safety conditions at dangerous work sites. (3) Checkups on work flow at bottlenecks. Other uses include central screening of shopwork for foremen training classes, televised views of hazardous areas for plant visitors. Industrial TV installations are already operating in power plants, coal mines, steel mills, machine shops, chemical plants, nuclear energy plants, automobile and consumer goods factories.

Canada has no TV outlets, but it has 19,497 TV sets—8850 in the Windsor area (Detroit), 3170 on the Niagara peninsula (Buffalo-Niagara Falls), 6391 in Toronto-Hamilton area (reception from Cleveland and Rochester), according to Radio Manufacturers Assn. of Canada. Remainder are scattered. Sales of TVs during August totaled 1999, valued at \$819,724; value of all TV sales to date is \$7,950,921. Average sales price of slightly more than \$400 in Canada compares with about \$275 in U. S.

Raytheon has leased plant in Quincy, Mass., 15,000 sq. ft., for production of receiving tubes; will start with about 100 workers in next few weeks, expand to 1500, possibly build another plant in Quincy if sufficient labor with low absenteeism and turnover rate proves available.

Coin-operated TV set that runs 30 minutes for 25¢ is being marketed by Covideo Inc., 212 Broadway, New York City (Sidney I. Horwitt, president; Louis Brown, sales v.p.). It's 14-in. metal table with AM-FM, sells for \$259.95.

Trade Personals: Lynn C. Holmes promoted to Stromberg-Carlson director of research, succeeding Benjamin Olney, retired . . . Seymour D. Newman, ex-Starrett, appointed Ansley national sales mgr. . . . Saul D. Lewis promoted to Air King purchasing agent . . . Louis Chatten, ex-North American Philips, now with Olympic, for which he's establishing Washington office.

O. W. Pike, GE Tube Division engineering manager in Schenectady, died Oct. 7 after short illness.

Financial & Trade Notes: Among officers' and directors' stock transactions reported by SEC for August (see Vol. 6:37 for July): Howard S. Meighan bought 100 CBS (in June), now holds 100; John S. Sturgeon sold 200 Magnavox, holds 18; David B. Smith bought 150 Philco, holds 155; Howard V. Widdoes sold 400 Remington Rand, holds 135; Don G. Mitchell bought 100 Sylvania, holds 2900; Henry V. Erben sold 200 GE, holds 2435. Following exercised rights to buy Raytheon: Charles F. Adams Jr., 945, now holds 5000; Edward L. Cochrane, 20, holds 120; William Gammell Jr., 2912, holds 17,470; Wallace L. Gifford, 16, holds 98; Paul F. Hannah, 20, holds 120; Norman B. Krim, 41, holds 245.

* * * *

For underwriters, profit margin in selling TV stocks is much better than most other issues, according to *Cost of Flotation, 1950 Second Quarter*, just issued by SEC. Commissions on 7 TV-radio flotations reported ranged from 9.6% to 16.7% of gross proceeds, it's disclosed, compared with mining stocks up to 20%, investment trust stocks 3.5% to 9%, utilities .2% to 1.8%.

Following are the TV-radio issues reported, underwriters' share in parentheses: Allied Electric, \$1,290,000 (16.7%); DuMont, \$6,250,000 (9.6%); Olympic, \$900,000 (12%); Muntz, \$1,200,000 (16.7%); Trav-Ler, \$1,968,750 (12.5%); Pacific Mercury Television Mfg. Corp., \$518,438 (14.3%); Hytron, \$3,360,000 (12% & 14%).

* * * *

Arvin Industries Inc. (formerly Noblitt-Sparks) expects to sell about 100,000 TVs this year, accounting for 14.2% of its business, president Glenn W. Thompson told meeting of N. Y. Society of Security Analysts this week. It also makes radios, auto radios, electric heaters and other household appliances. It should report earnings for 1950 of at least \$4 per share, compared with last year's \$5.21, which would equal \$3.47 on basis of new tax rate, according to Mr. Thompson. Earnings for first 9 months were about \$3, and "last quarter is normally our best."

Avco consolidated report for 9 months ended Aug. 31 shows \$160,330,491 sales and \$7,712,538 earnings (\$1.08 per share) after all charges. This compares with \$97,908,767 sales, \$2,711,540 (35¢) for same 1949 period. Chairman-president Victor Emanuel reported company has already negotiated more than \$30,000,000 in defense contracts.

Muntz TV Inc. reports \$7,159,132 sales and \$225,687 net profit (22¢ a share on 1,013,994 shares outstanding) for 5 months ended Aug. 31. No comparison is available. Loss of \$154,436 was reported for April, May, June, turned to \$289,113 profit before taxes in July, \$257,611 in August. President T. E. Courtney states, in letter to stockholders, that September will show still further gain.

Sparks-Withington net sales were \$7,563,175, net profit \$414,727 (45¢ per common share) in quarter ended Sept. 30. No comparison was given by president Harry G. Sparks, in letter to stockholders, but sales for full year ended June 30 were \$17,020,259, profit \$459,083.

Hytron and subsidiaries (including Air King) report third quarter sales of \$13,350,000 compared with \$3,950,000 during same 1949 period. Earnings are expected to exceed any previous quarter.

"New era for the sales manager," through closed-circuit TV, is predicted by DuMont Network director Mortimer W. Loewi. He said he has had more than 40 inquiries from national organizations on use of closed-circuit TV following 1½-hour, 18-city "sales convention" by Schenley distributors Sept. 29 (Vol. 6:39). Schenley TV "conference" was seen by 3200 salesmen and wholesalers, with an additional 1700 due to view film recordings.

Lots of publicity about test of Skiatron's "Subscriber-Vision" via WOR-TV, New York, set for Oct. 11—but FCC didn't act this week on request for special authority, so date passed without telecasts. There's question whether FCC will authorize telecast of system, a telephone-lineless version of better-known Phonevision (Vol. 6:24). Meanwhile, FCC hasn't yet acted on Zenith request for extension of 90-day Chicago Phonevision test with 300 families, postponed from Oct. 1 (Vol. 6:40), but it's expected to permit Zenith to run tests from Nov. 1-Jan. 29, as now requested. It's also understood FCC Chairman Coy has been urging motion picture industry to let Zenith have first-run films for test. Meanwhile, Zenith publicist Millard C. (Tex) Faught addressed Washington Women's Advertising Club Oct. 11 espousing Phonevision idea, indicated reprint of his *Saturday Review* article (Vol. 6:35) would soon appear in *Reader's Digest*.

From Paramount letter to stockholders, signed by president Barney Balaban: "We have nothing new to report with reference to any prospective disposition of our stock holdings in Allen B. DuMont Laboratories Inc. As yet, we have not considered it advisable to proceed with any of the plans discussed at the annual meeting in June, or with any other course which may be open to us. With regard to our investment in Chromatic Television Laboratories Inc., general interest in color television has been considerably intensified as a result of the recent statement on the subject made by the Federal Communications Commission. In this respect, it is well to note the program for color television being developed by Chromatic fits in with the tentative decision announced by the FCC."

What survey do you read? At recent ANA convention (Vol. 6:39), BBDO's executive v.p. Fred B. Manchee complained that "radio-TV research is in one hell of a mess," stating that: (1) "The multiplicity of measurements and research techniques results in a state of confusion as to what to believe. (2) The cost of radio and TV research is much too high and continues to spiral." He counted 14 different services extant at time of his talk and noted: "If you happen to be a major user of radio and TV, the total yearly tab for all . . . might easily run into six figures." Comparison of 3 recent reports on New York TV received this week (American Research Bureau, Hooper, Pulse) underlines advertisers' dilemma. They differ in periods covered, number of shows rated, frequency of shows—as well as in basic techniques. ARB covered top 10 shows for Sept. 8-15; Hooper analyzed top 15 for August-September; Pulse picked top 10 for Sept. 5-11. ARB lumped weekly, multi-weekly and one-shot shows; Hooper lumped weekly and multi-weekly; Pulse separated weekly and multi-weekly, but included Truman telecast in weekly group. ARB and Pulse rated *Toast of the Town* ninth; Hooper placed it first. Pulse split *Saturday Night Revue* into Chicago and New York segments; others didn't. Mr. Manchee recommends that advertisers, agencies and broadcasters get together on their needs and that "broadcasters, with the counsel of advertisers and agencies, take the lead in calling the research signals," since stations are the "sellers."

More Oct. 1 sets-in-use, reported since NBC Research's "census" of Sept. 1 (Vol. 6:38): Boston 525,130, up 35,130; Providence 86,880, up 7880; Kansas City 61,613, up 11,113; Rochester 51,088, up 2488; Tulsa 43,875, up 9575; Johnstown 37,800, up 3900; Davenport-Rock Island 23,529, up 5129; Charlotte 32,358 (Oct. 15), up 10,158.

Britain's TV chief, Norman Collins, resigned Oct. 13 because of "often open hostility" toward medium in some BBC quarters, reports Reuters. George Barnes, BBC radio chief, named successor.

Full Text of FCC's

NAB LIBRARY

Second Report on Color Television Issues

Adopted Oct. 10, 1950 and Released as FCC Public Notice No. 50-1224

With Dissenting Opinions of Commissioners Hennock and Sterling

Together with full text of

FCC Order Amending Engineering Standards To Include CBS Color System

Adopted Oct. 10, 1950 and Released as FCC Public Notice No. 50-1225, Comrs. Hennock and Sterling Dissenting

Note: FCC First Report on Color Television Issues Published by *Television Digest* as Special Color Report of Sept. 2, 1950

In the Matters of

Amendment of Section 3.606 of the Commission's Rules and Regulations } Docket Nos. 8736 and 8975

Amendment of the Commission's Rules, Regulations and Engineering Standards concerning the Television Broadcast Service. } Docket No. 9175

Utilization of Frequencies in the Band 470 to 890 Mcs. for Television Broadcasting. } Docket No. 8976

SECOND REPORT OF THE COMMISSION

1. On September 1, 1950, the Commission issued its First Report in the above-entitled proceedings. This Report contained detailed findings and conclusions concerning the three color systems which were proposed to the Commission on the record in these proceedings. The Report also set forth minimum criteria which a color system must meet in order to be considered eligible for adoption.

2. In brief, the Commission found that the so-called compatible systems proposed by Color Television, Inc. (CTI) and Radio Corporation of America (RCA) in these proceedings fall short of the minimum criteria we have established for a color television system. As to the CTI system, the Commission found it deficient in the following respects:

- (a) The quality of the color picture is not satisfactory.
- (b) There is serious degradation in quality of the black-and-white pictures which existing receivers get from CTI color transmissions.
- (c) The equipment utilized by the CTI system both at the receiver and station end is unduly complex.
- (d) Insufficient evidence was offered as to whether the system is not unduly susceptible to interference.

3. The Commission found the RCA system deficient in the following respects:

- (a) The color fidelity of the RCA picture is not satisfactory.

- (b) The texture of the color picture is not satisfactory.
- (c) The receiving equipment utilized by the RCA system is exceedingly complex.
- (d) The equipment utilized at the station is exceedingly complex.
- (e) The RCA color system is much more susceptible to certain kinds of interference than the present monochrome system or the CBS system.
- (f) There is not adequate assurance in the record that RCA color pictures can be transmitted over the 2.7 megacycle coaxial cable facilities.
- (g) The RCA system has not met the requirements of successful field testing.

4. The Commission pointed out in its Report that if a satisfactory compatible color system were available, it would certainly be desirable to adopt such a system. However, the Commission was forced to conclude from the evidence in the record that no satisfactory compatible system was demonstrated in these proceedings and the Commission stated that in its opinion, based upon a study of the history of color development over the past ten years, from a technical point of view, compatibility, as represented by all compatible color systems which have been demonstrated to date, is too high a price to put on color. In an effort to make these systems compatible, the result has been either an unsatisfactory system from the standpoint of color picture quality, or a complex system, or both.

5. The Report stated that in the Commission's opinion, the CBS system produces a color picture that is most satisfactory from the point of view of texture, color fidelity and contrast. The Commission stated that receivers and station equipment are simple to operate and that receivers when produced on a mass marketing basis should be within the economic reach of the great mass of purchasing public. The Commission further found that even with present equipment the CBS system can produce color pictures of sufficient brightness without objectionable flicker to be adequate for home use and that the evidence concerning long persistence phosphors shows that there is a specific method available for still further increasing brightness with no objectionable flicker. Finally, the Commission pointed out that while the CBS system has less geometric resolution than the present monochrome system the addition of color to the picture more than outweighs the loss

in geometric resolution so far as apparent definition is concerned.

6. The Commission did not in its First Report finally adopt the CBS color system. Instead, it set forth a procedure whereby, if the status quo on compatibility were maintained, a decision would be postponed so that the Commission could give further consideration to four matters—large-size direct-view tubes on the CBS system, horizontal interlace, long persistence phosphors, and the development of new compatible systems and improvements in existing compatible systems, which had been informally called to the Commission's attention since the conclusion of the hearing. It is obvious that some procedure had to be devised whereby the compatibility problem would not be aggravated if a decision were postponed. Otherwise, we would be in the position of inviting the risk that if, after postponing a decision, the compatible color systems should again fail to meet the minimum criteria for a color system, as they have failed in the past, the number of receivers in the hands of the public would have increased to such a point where, as a practical matter, it might not be practicable to adopt an incompatible color system even though we now know that such system meets all of the criteria for a color system. Hence, it is obvious that if a decision were to be postponed, a method had to be devised to maintain the status quo on compatibility so that when the time did arrive for making a decision, the Commission would be in relatively the same position as it is today—so far as compatibility is concerned—to adopt a successful incompatible system if all of the compatible systems again failed to meet the minimum criteria for a color system.

7. The Commission's First Report suggested a method whereby the status quo on compatibility could be maintained. This method is the incorporation of brackets into receivers hereafter manufactured which would permit such receivers to receive black-and-white pictures from present transmissions, CBS color transmissions and any other transmissions within a range of 15,000 to 32,000 lines per second and 50 to 150 fields per second. Manufacturers were requested to submit their comments by September 29, 1950 as to whether they could and would manufacture their receivers with such brackets commencing with the effective date of the Commission's order adopting the bracket standards as final.

8. The comments have now been received and have been carefully considered by the Commission. The manufacturers who have responded—and these manufacturers represent the greatest part of the manufacturing capacity of the television industry—have indicated that they are unable or unwilling to meet the requirements as to brackets set forth in the Commission's First Report and in its Notice concerning brackets. Nor have these manufacturers suggested any other method whereby the status quo as to compatibility can be maintained if a decision is postponed at the present time. Accordingly, we would be derelict in our responsibility to the public if we postponed a decision any longer. With no way of preventing the growth of incompatibility, the longer we wait before arriving at a final decision the greater the number of receivers in the hands of the public that will have to be adapted or converted if at a later date the CBS color system is adopted. Simultaneously, with the release of this Report we are issuing an Order adopting standards for color television on the field sequential system. In view of the nature of the comments as to bracket standards, we are not able to adopt them without a hearing. Such a hearing will be scheduled at a later date.

9. In arriving at this conclusion we have carefully considered all the material set forth in the comments, filed pursuant to our notice concerning bracket standards, as they are directed to the findings and conclusions in the Commission's First Report relating to the three color systems. Most of this material is merely a restatement of the parties' contentions made over and over again during the course of the hearing. These contentions have been analyzed in detail in the Report and no further discussion of them is necessary here.

10. There are, however, two contentions raised in the comments which merit a brief discussion. The first contention refers to the statement in paragraph 125 of the First Report that there is some doubt as to whether some of the color systems proposed in these proceedings meet the test of adaptability and convertibility set forth in the Commission's Notice of July 11, 1949. The argument is made that this statement refers to the CBS system and hence that it is not eligible for consideration. This contention is a distortion of the Commission's Report. It is clear from a reading of the Commission's Report that the CBS system squarely meets the test of adaptability and convertibility set forth in the Notice of July 11, 1949. It is the CTI and RCA systems that fail to meet the test, for neither CTI nor RCA demonstrated a practical converter and hence failed to meet the test of convertibility. However, the Commission did not rule out the CTI or RCA systems on this ground but instead considered both systems on the merits.

11. The second contention is that the Commission cannot on this record issue a final order at the present time but is limited to the issuance of proposed rules only. This contention has no basis in fact. The Commission's Notice of July 11, 1949, proposed that the present transmission standards be utilized on Channels 2 through 55. Interested persons were explicitly invited to submit proposals for a change in transmission standards on these channels looking towards color television. These proposals were required to be specific as to any change or changes in the transmission standards proposed and had to meet certain requirements. Pursuant to this Notice, CTI, CBS and RCA submitted specific color proposals. Evidence in support of and in opposition to these specific proposals was offered during the hearing. The standards which are being adopted by the Commission are the result of expert calculations based upon the characteristics of the present standards and the evidence concerning the CBS field sequential color system. It is clearly within the province of the rule-making proceedings as prescribed by the Administrative Procedure Act to adopt such standards without the necessity for further proceedings.

12. In arriving at our conclusions in this Record, we have not overlooked the matters set forth in paragraph 6 of this Report as to which we indicated we would give further consideration if a decision were postponed. The first such matter is the problem of large-size direct-view tubes in the CBS system. As we pointed out in our First Report, at the present time the CBS system is, as a practical matter, limited to direct-view tubes no larger than 12½ inches in size. However, we are willing to adopt the CBS system on the basis of the evidence in the record which satisfied us that CBS can produce satisfactory color pictures on projection receivers and on direct-view tubes of at least 12½ inches in size. The argument is made that the trend in purchasing has been to larger size direct-view receivers and hence the public will not buy projection receivers or direct-view receivers with a 12½-inch tube. This may be true when all sets receive black-and-white pictures only. However, the Commission believes that the attractiveness of color pictures may be sufficiently great to cause people to prefer a direct-view receiver with a 12½-inch tube or a larger size projection receiver if they can get color as against a 16-inch, 19-inch or larger direct-view receiver that is limited to black-and-white pictures. In any event, if both types of receivers are offered to the public, it will be the free forces of competition which govern whether a customer will buy a color receiver or a black-and-white receiver. Moreover, the adoption of the CBS color system will furnish a healthy incentive to all manufacturers to develop larger size direct-view color pictures. Efforts already expended in the development of a successful tri-color direct-view tube that has no limitation on size will be intensified, for a substantial competitive advantage would accrue to the company able to produce such tubes. All of the expert witnesses agreed that a direct-view tri-color tube if successfully developed could be utilized on the CBS color system.

13. The second matter we referred to in paragraph 6 of this Report is horizontal interlace. The record is clear that if this technique is successfully developed for the CBS system, it can be added at a later date without affecting receivers in the hands of the public. The addition of horizontal interlace will increase horizontal resolution on receivers with appropriate circuits. Receivers without such circuits would not receive the benefit of this additional resolution but they would continue to receive the same performance as to resolution that they enjoyed before the addition of horizontal interlace. If it had been possible to adopt bracket standards now, the Commission could at the time of adopting horizontal interlace (if it is determined that it should be adopted) determine whether to increase vertical resolution as well as horizontal resolution. Receivers with brackets could accommodate themselves to the new line rate. Since receivers without brackets could not be adjusted to a different line rate, our inability to adopt brackets at this time probably means that as a practical matter, when and if horizontal interlace is adopted for the color system, the improvement may be confined to horizontal resolution.

14. The third matter we referred to in paragraph 6 of this Report is utilization of receiver tubes with long persistence phosphors. The benefit which can be expected from long persistence phosphors is much brighter pictures with no objectionable flicker. Had it been possible to adopt brackets now, then if developments in the field of long persistence phosphors turned out to be sufficiently impressive, the Commission could consider lowering the field rate and increasing resolution without objectionable flicker. Since we are not able at this time to adopt bracket standards, improvements from long persistence phosphors might, as a practical matter, be limited to increasing brightness without objectionable flicker.

15. The fourth matter we referred to in paragraph 6 of this Report is the possibility of new compatible color systems and improvements in existing color systems which have been informally called to our attention since the hearings closed. In the Commission's opinion a new television system is not entitled to a hearing or a reopening of a hearing simply on the basis of a paper presentation. In the radio field many theoretical systems exist and can be described on paper but it is a long step from this process to successful operation. There can be no assurance that a system is going to work until the apparatus has been built and has been tested. None of the new systems or improvements in systems meet these tests so as to

warrant reopening of the hearing. To do so would be inviting the risk that these new systems might fail as have all color systems in the past which we have been urged to adopt on the grounds of compatibility and the increase in number of receivers in the hands of the public would make it exceedingly difficult to adopt an incompatible system—a system which we know is satisfactory.

16. The Commission does not imply that there is no further room for experimentation. Radio in general and television in particular are so new that extensive experimentation is necessary if the maximum potentialities of radio and television are to be realized. Many of the results of such experimentation can undoubtedly be added without affecting existing receivers. As to others some obsolescence of existing receivers may be involved if the changes are adopted. In the interest of stability this latter type of change will not be adopted unless the improvement is substantial in nature, when compared to the amount of dislocation involved. But when such an improvement does come along, the Commission cannot refuse to consider it merely because the owners of existing receivers might be compelled to spend additional money to continue receiving programs.

17. It is, therefore, contemplated that interested persons may conduct experimentation in accordance with experimental rules not only as to color television but as to all phases of television broadcasting. Of course, any person conducting such experimentation should realize that any new color system that is developed for utilization on regular television channels must meet the minimum criteria for a color television system set forth in our First Report. In addition, any such system that is developed or any improvement that results from the experimentation might face the problem of being incompatible with the present monochrome system or the color system we are adopting today. In that event, the new color system or other improvement will have to sustain the burden of showing that the improvement which results is substantial enough to be worth while when compared to the amount of dislocation involved to receivers then in the hands of the public.

18. For the reasons set forth in our First Report and in this Report, we find that the public interest will be served by adopting the field sequential color television system. An appropriate order is accordingly being issued simultaneously with this Report.

FEDERAL COMMUNICATIONS COMMISSION
(Commissioners Sterling and Henneck Dissenting.)

DISSENTING OPINION OF COMMISSIONER GEO. E. STERLING

In the First Report of the Commission on the Color Television issues, I joined with the majority in the proposal for bracket standards with the understanding that if an insufficient number of assurances were received from manufacturers concerning their plans for incorporating bracket standards in their receivers, the Commission would issue a final decision adopting the CBS color standards.

Since the responses were not in accordance with the Commission's proposal, the majority have adopted the CBS color standards. I dissent from this premature action taken by the majority at this time for the following reasons.

The subject of bracket standards was not at issue in the hearing nor was the subject even advanced during the hearing. There is no doubt in my mind that manufacturers were taken by surprise at the Commission's proposal on this subject as set forth in the First Report.

I do not agree with the majority in their Second Report that the responses of the manufacturers were merely a restatement of the parties' contentions made during the hearing, since the subject of bracket standards was a new concept in field and line scanning proposed after the hearing record closed. It came as a surprise to industry

and was not based upon information appearing in the record of this proceeding.

Several manufacturers were confused by the Report as it related to bracket standards and representatives of different manufacturers communicated and met with the staff at various times for the purpose of securing an interpretation of the Commission's intent. The exchange of correspondence with the Philco Corporation subsequently made public is a classic example of the confusion aroused in the minds of manufacturers who evidenced a sincere interest in the problem.

The Columbia Broadcasting System found it necessary in this respect to voice its concern as to the interpretations that might be made of paragraph 5(c) and therefore consulted with the staff for clarification of the language. CBS also suggested that the Commission make clear by public statement what was intended by the language of paragraph 5(c).

Because bracket standards were new, I am now of the opinion that the Commission should have treated the subject at greater length in its First Report. Because of the time lost in seeking clarification of the Commission's intent and the necessity of meeting the September 29th

deadline, manufacturers were unable to make a full appraisal of how they could build in bracket standards and when.

The response of Capehart-Farnsworth Corporation, I think, truly poses the problem confronted by manufacturers who are desirous of cooperating with the Commission, since it encompasses not only design and production of TV receivers embodying bracket standards capable of meeting the Commission's requirements as to geometric linearity and brightness but also points up the necessity of procuring signal generating equipment for the purpose of testing receivers incorporating bracket standards.

The Capehart-Farnsworth Corporation's response stated, in part, as follows:

We are having some difficulty in obtaining pictures of geometric linearity and brightness on the higher frequencies and, in particular, we are faced with problems such as return time of the horizontal sweep and consequent reduced scanning efficiency. Other problems involve the loss of high voltage due to high frequencies with the deflection components now used and it is evident that new components, such as the deflection yoke and transformer, will have to be designed in order to meet the requirements stated in paragraph 151 of the Commission's Report 50-1064.

Also, until adequate signal generating equipment becomes available and until such times as the composite signal standards have been set, with particular reference to horizontal and vertical blanking time, we would be unable to produce a product design which would assure satisfactory operation for both the monochrome and color television transmissions.

The serious problems that confronted the Belmont Corporation, who also expressed a desire to cooperate, are stated, in part, as follows:

We have been unable to find any record in technical literature nor in our past experience of an attempt to produce a linear sweep for electromagnetic deflection systems covering the wide range of the proposed bracket requirements and at the same time adhering to the proposed requirements of constant picture size and brightness. Moreover, the major effort of our engineering department since the publication of Notice 50-1065 has failed to indicate any method of accomplishing the bracket standards. The standards as called for by the notice create a far different problem from that of incorporating in television receivers dual sweep systems permitting switching between specific standards, a system which probably could be engineered in the present state of the art.

While Belmont has every desire to cooperate with the Commission in developing bracket standards, which are feasible from both the cost and engineering standpoints, it is clear from the above and from the results of our engineering survey that this cannot be accomplished within the time contemplated in the Commission's time schedule. Before Belmont could begin to manufacture television receivers with such standards, a method feasible from the engineering standpoint would have to be developed, the new equipment designed and field tested, a re-tooling operation accomplished, additional materials obtained and production methods revised. Hence, it would not be possible to be in production of receivers incorporating such bracket standards for a very much longer period than that contemplated by the Commission's time schedule.

The problems of industry in terms of time are also succinctly set forth in the response of Motorola, Inc., in which they stated:

Motorola's approach to this entire matter is in the spirit of cooperation, accomplishment and realism. Therefore, I hope that you seriously weigh what we set forth herein when you come to a decision on this subject.

We are thoroughly convinced that the time allotted for a manufacturer to incorporate bracket standards into his production is inadequate. To further acquaint you with Motorola's situation in this matter of time and to further demonstrate the inadequacy of the proposed time cycle, we are attaching herewith a report from our Engineering Division. This report is supported with two chronological histories taken at random from our Engineering Log Books. These histories set forth the mile posts of time for two engineering projects, that we classify as minor modifications. The engineering principles involved in these two cases were generally known before the inauguration of the projects. Many of the technical principles involved in the integration of bracket standards require engineering development to reduce them to commercial practice. Therefore, we would like to make clear that the integration of bracket standards into our manufacturing is not a minor modification. In fact, bracket standards covering the full range require a complete chassis redesign.

The Hallicrafters Co. in their response to the Commission stated they had made every effort to determine their ability to cooperate with proposals of the Commission and significantly pointed out:

The design of a receiver which will operate on any combination of field or line scanning frequencies within the proposed brackets

is something we do not know how to accomplish in the present state of the art. This design would follow considerable basic research for which we cannot estimate a completion date. Following the date of engineering release, a materials procurement cycle of two to four months must pass before actual manufacture can begin. These time factors coupled with whatever date the Commission might choose to release an order establishing Bracket Standards will determine whether we can supply Bracket Standard receivers within 30 days of the Order.

Several manufacturers stress the need for field testing after receivers have been made by their engineering departments. In its Report the Commission stressed the need of adequate field testing. In its First Report rejecting the RCA system, the Commission placed emphasis on the fact that this system had not been field tested and made mention that the system introduces entirely new techniques into broadcasting. So do bracket standards and yet the Commission in its failure to consider a reasonable timetable deprives manufacturers of the opportunity to field test this new device and, therefore, has taken an inconsistent stand with its enunciation of the importance of this element in the evolution of a new system. Manufacturers have a responsibility to the purchasing public and one of the important criteria of meeting this responsibility is through field testing its products prior to introducing them to the public. The competitive forces in this industry are tremendous and as in all products designed for public acceptance a manufacturer rises or falls according to the merits of his product. In my opinion, part of a reasonable timetable should include the necessity of field testing bracket standards under varying conditions of reception, including temperature, humidity, signal strength, etc.

Neither the Commission nor its staff has the necessary experience in the design and manufacture of TV receivers. Consequently, the Commission must take the word of reliable manufacturers who were willing to cooperate but unable to meet the Commission's short timetable. In its First Report the Commission stated "that (it) is aware that of necessity it must rely to a great extent upon industry experts for data and expert opinion in arriving at decisions in the field of standards, our own facilities are too limited to gather much of the data"—paraphrasing this statement as it concerns bracket standards the Commission should say that it must take the word of industry as it concerns the design and production of bracket standards since it does not have the "know-how". By providing for a reasonable timetable the Commission would have in the end the experience of industry in this new concept of field and line scanning and would be able to better judge what it would cost the public and if it would provide the avenues for improvement that might be made in the art.

The problems confronting manufacturers today in terms of production, procurement and manpower to meet the demands of national defense are serious ones. Surely the responses of such reliable manufacturers must be given credence and consideration. It is well known that there are serious shortages of tubes and resistors as well as basic materials. The situation on procurement is so acute that manufacturers have been shipping their TV receivers without a full complement of tubes, trusting to their dealers to procure them in local markets but the local market supply has been exhausted as the result of not only the local demands but as the result of the purchasing agents and manufacturers' representatives combing every territory in their search for components in short supply. At least one company has agents in Europe attempting to purchase resistors. This condition aggravated by others is bound to have a serious effect on production and will serve only to delay the availability of parts to make not only bracket standards but also parts with which to build adapters, converters and color receivers. Moreover, in many instances industry has been required to divert its TV engineering experts to problems of production for defense because of the close relation of TV techniques to radar and other electronic devices the Government requires.

After a thorough study of the responses and taking into consideration the current problems of industry, I am convinced that the Commission's timetable presented to in-

dustry in its First Report to build in bracket standards was unreasonable. I think much could be accomplished in the interest of all concerned if we called a two-day conference with those members of the industry who indicated a willingness to cooperate with the Commission for the purpose of exploring the problem of bracket standards looking to a realistic timetable that could be met by industry without unduly aggravating the compatibility problem.

In the period that has passed since the manufacturers submitted their replies to meet the September 29th date line, I feel certain that they have continued their study of the problem and would be in a position at the end of a two-day conference with the Commission and staff to agree on a reasonable timetable similar to that proposed by the Commission in its First Report had manufacturers met the requirements of the Commission's proposal. Surely, this would be more timely than after a hearing at some subsequent date and the Commission then decided to adopt bracket standards. If such a conference did not result in a practical solution of the problems I have discussed, I would then join the majority in authorizing the field sequential system.

If as the result of a hearing at some later date, bracket standards are adopted by the Commission, manufacturers will be faced with the problem of redesigning and retooling in order to build such circuitry in receivers. Such a course of action on the part of the Commission will serve to slow up production and place hardships on manufacturers and will compound the confusion in the public mind, particularly those of the public that purchase a color receiver having dual standards since they will then possess receivers which will be unable to utilize the improvements made possible by the adoption of bracket standards. In the event that such improvements result in a change in scanning rates which fall outside the scope of the dual standards here adopted, those sets will be incompatible.

The Commission proposed a way to keep the door open for demonstrations of new systems, improvements of existing systems that came to light after the hearing record had closed, and demonstrations of the CBS system on large-size tri-color tubes of two or three manufacturers. Because the Commission would not take time to discuss with representatives of the industry who indicated a willingness to cooperate, the door has been closed.

In its First Report the Commission stated:

Since there was no demonstration on the record of a direct view tri-color tube on the CBS system, the record does not contain a definitive answer as to whether direct-view tubes larger than 12½ inches are possible with the CBS system. Thus two difficult courses of action are open to the Commission. The first course of action is to reopen the record and to have a demonstration on the record wherein a tri-color tube or other technique for displaying large size direct-view pictures could be tried out on the CBS system.

The record indicates that present color phosphors such as are used with tri-color tubes would not yield the same fidelity that is possible from filters as employed with the CBS disc receivers. By providing a reasonable timetable without seriously aggravating the compatibility problem such a demonstration could have been made on the record and the question resolved once and for all.

By closing the door at this time the Commission also passed up the opportunity to provide a means of increasing the resolution of color pictures by lowering the field

rate without objectionable flicker through the use of long persistence phosphors.

As the result of the Commission's action in immediately adopting CBS standards, proponents of new or improved systems must now look to an experimental license to do their testing and demonstrating. The Commission has stated in its Second Report a new color system or other improvements will have to sustain the burden of showing that improvements which result are substantial enough to be worthwhile when compared to the amount of dislocation involved to receivers then in the hands of the public. Therefore, we see that the public and industry at some later date again may be faced with the problem of compatibility.

The door also has been closed on the opportunity of taking one more look at compatible systems before moving to adopt an incompatible system with all its attendant problems as they relate to the 10 million receivers that will be in the hands of the public by the end of the year as well as the manufacturers' problem of production.

I joined with the majority in the First Report with regard to what was said about the problems that seemed to confront a compatible color system and with the conclusion that no satisfactory compatible color system had been developed at the time the record closed.

New developments came fast in the closing days of the hearing and immediately thereafter.

It was pointed out in the First Report that the Commission is aware that the institution of the color proceedings stimulated great activity in color developments and that fundamental research cannot be performed on schedule, and that it is possible that much of the fruit of this research has begun to emerge. This is confirmed by the facts, which include the announcement of two new compatible systems and by the RCA Progress Report of July 31, 1950, that the number of dots in the RCA tri-color tubes has been increased from 351,000 to 600,000 with the attendant increase in resolution. Other improvements were also made in the RCA system after the record was closed. I am convinced that it would have been prudent to have taken time out to view these recent developments before moving finally to adopt an incompatible system.

I find it necessary also to dissent from the belief expressed by the Commission in the Second Report and which was not in the First Report in which I joined with the majority. In paragraph 12 in the Second Report, the Commission states:

The Commission believes that the attractiveness of color pictures may be sufficiently great to cause people to prefer a direct-view receiver with a 12½-inch tube or a larger size projection receiver if they can get color as against a 16-inch, 19-inch or larger direct-view receiver that is limited to black-and-white pictures
* * *

I do not agree with this belief. I believe that the rapid acceptance by the public of receivers incorporating larger sized black and white tubes as they moved from 7" to 10" to 12", then to 16" and 19" clearly indicates the preference of the public for large size TV pictures and they will not be satisfied with smaller pictures because they are in color. Due to the fact that color adds so much to television both from the program as well as the advertising standpoint, both the public and the sponsor will demand large size color tubes.

DISSENTING VIEWS OF COMMISSIONER HENNOCK

As I indicated in my separate views to the Commission's First Report on Color, I am of the firm belief that every possible effort should be made by this Commission and the television manufacturing industry to achieve a practical and useful compatible color television system. Considering the fact that there are currently well over 7,000,000 receivers in the hands of the public which can receive, in their present form, only signals broadcast on present monochrome standards, many grave problems will be posed

by the adoption of the incompatible field sequential color television system. The owners of these sets must eventually suffer a diminution in television service or they will be forced to make some expenditure to adapt or convert their sets for the reception of color signals. The cost of such changes and the servicing difficulties which they will entail pose a problem of great magnitude, and the end result in the case of adaptation will be a monochrome picture of reduced resolution. The broadcaster will find that,

to the extent that he employs color transmissions, he will lose part of his audience, and this will create a long and difficult period of transition.

I agree with the Commission's evaluation of the color systems which have been proposed and demonstrated in the instant proceeding. I felt at the time of the First Report, and still feel, that, in the light of this evaluation, it is eminently desirable that the problem posed by the number of television receivers in the hands of the public as regards the incompatible field sequential color system be arrested at its present level. I believed that the concept of "bracket standards" set forth in the First Report was a practical method for achieving this end, and I therefore joined in that portion of the First Report.

The comments filed in response to our Second Notice of Further Proposed Rule Making indicate quite clearly that the bracket standards proposal is not a feasible method for containing the problem of incompatibility at its present level. Most of the comments did not indicate whether other means for achieving this aim are available, although a few did discuss possible alternative methods.

But in the light of the progress made in the development of color television since the start of the instant proceeding, I think it essential to defer final decision in this matter until June 30, 1951. This could still be done if some means for preventing the growth of incompatibility could be devised by the television manufacturing industry. The fact that bracket standards could not achieve this result does not automatically preclude its attainment. Possibly some modified version of bracket standards could be incorporated into television receivers without raising

the major problems of re-design and equipment procurement involved by bracket standards. Or it might be feasible to provide adaptation—either internal or external—with each receiver. The manufacturing industry is familiar with this process since it has been for a considerable time a part of the record in this proceeding. The ingenuity of the industry's electronic scientists might be able to devise some other means for arresting the problem of compatibility and thereby provide further time for the development of a practical compatible color television system.

I feel that the Commission should explore fully with the industry any and all possibilities. This could be done either by means of an industry conference or by a Notice of Further Proposed Rule Making requesting comments. It is of vital importance to the future of television that we make every effort to gain the time necessary for further experimentation leading to the perfection of a compatible color television system. If, as a result of such a conference or comments filed by the industry, it appears that steps can be taken within 60 or 90 days to arrest the growth of incompatibility, the final decision in this proceeding authorizing the field sequential system should be deferred until June 30, 1951. If not, those standards should be immediately adopted.

I think it important to repeat the conviction expressed in my separate views to the First Report that there is a moral obligation on this Commission to insure that a reasonable amount of valuable programming service will continue to be rendered to present set owners, both day and night, for a transitional period, e.g., three to five years, without the necessity for making any expenditure to change their sets.

Note: In an order dated Oct. 10, 1950 (Public Notice 50-1227), FCC denied petition of RCA (Vol. 6:40) requesting "(1) that during the period December 5, 1950 to January 5, 1951, the Commission review the improvements made in the performance of the RCA system, and (2) that during the period to June 30, 1951, the Commission view experimental broadcasts of color signals under the RCA, CBS, CTI and other systems before making a final determination with respect to color standards."

In an order dated Oct. 10, 1950 (Public Notice 50-1226), FCC denied petition of Color Television Inc. (Vol. 6:34) "requesting the Commission to reopen the hearing record herein for the purpose of taking further testimony to be offered by petitioner with respect to a new proposed color television system designated by it as the 'Uniplex' system."

In denying both, the Commission called attention to Paragraph 17 of its Second Report in which further color experimentation is discussed.

Full Text of FCC

Order Amending Engineering Standards To Include CBS Color System

In the Matters of

Amendment of Section 3.606
of the Commission's Rules
and Regulations. } Docket Nos. 8736 and 8975

Amendment of the Commis-
sion's Rules, Regulations and
Engineering Standards Con-
cerning the Television Broad-
cast Service. } Docket No. 9175

Utilization of Frequencies in
the Band 470 to 890 Mcs. for
Television Broadcasting. } Docket No. 8976

ORDER

At a session of the Federal Communications Commission held at its offices in Washington, D. C., on October 10, 1950;

The Commission having under consideration the promulgation of engineering standards for color television; and

IT APPEARING THAT on September 1, 1950 the Commission issued (1) Findings and Conclusions in the above proceedings entitled "First Report of Commission (Color Television Issues)" (FCC 50-1064), and (2) its "Second Notice of Further Proposed Rule Making" (FCC 50-1065); and

IT FURTHER APPEARING THAT simultaneously with the issuance of this Order the Commission is issuing its "Second Report of the Commission" (FCC 50-1224);

ACCORDINGLY, on the basis of the findings and conclusions set forth in both of the above Reports,

IT IS ORDERED, That effective the 20th day of November, 1950, the Commission's Standards of Good Engineering Practice Concerning Television Broadcast Stations" are amended in the following respects:

(1) Paragraphs "5", "6", "7", and "8" of Section I B entitled "Visual Transmitter" are revised to read as follows:

5. Color transmission.—The term "color transmission" means the transmission of color television signals which can be reproduced with different values of hue, saturation, and luminance.

6. Field.—The term "field" means scanning through the picture area once in the chosen scanning pattern and in a single color. In the line interlaced scanning pattern of two to one, it means the scanning of the alternate lines of the picture area once in a single color.

7. Frame.—The term "frame" means scanning all of the picture area once in a single color. In the line interlaced

scanning pattern of two to one, a frame consists of two fields.

8(a). Color field.—The term "color field" means scanning through the picture area once in the chosen scanning pattern and in each of the primary colors. In the line interlaced scanning pattern of two to one, it means the scanning of the alternate lines of the picture area once in each of the primary colors.

(b). Color frame.—The term "color frame" means scanning all of the picture area once in each of the primary colors. In the line interlaced scanning pattern of two to one, a color frame consists of two color fields.

(2) Paragraphs "5", "6" and "13" of Section 2 A entitled "Transmission Standards and Changes or Modifications Thereof" are revised to read as follows:

5. For monochrome transmission the number of scanning lines per frame shall be 525, interlaced two to one in successive fields. The frame frequency shall be 30, the field frequency 60, and the line frequency 15,750 per second.

6. For color transmissions the number of scanning lines per frame shall be 405, interlaced two to one in successive fields of the same color. The frame frequency shall be 72, the field frequency 144, the color frame frequency 24, the color field frequency 48, and the line frequency 29,160 per second.

13. The level at maximum luminance shall be 15% or less of the peak carrier level.

(3) The following new paragraphs "19" and "20" are added to Section 2 A:

19. The color sequence for color transmission shall be repeated in the order red, blue, green in successive fields.

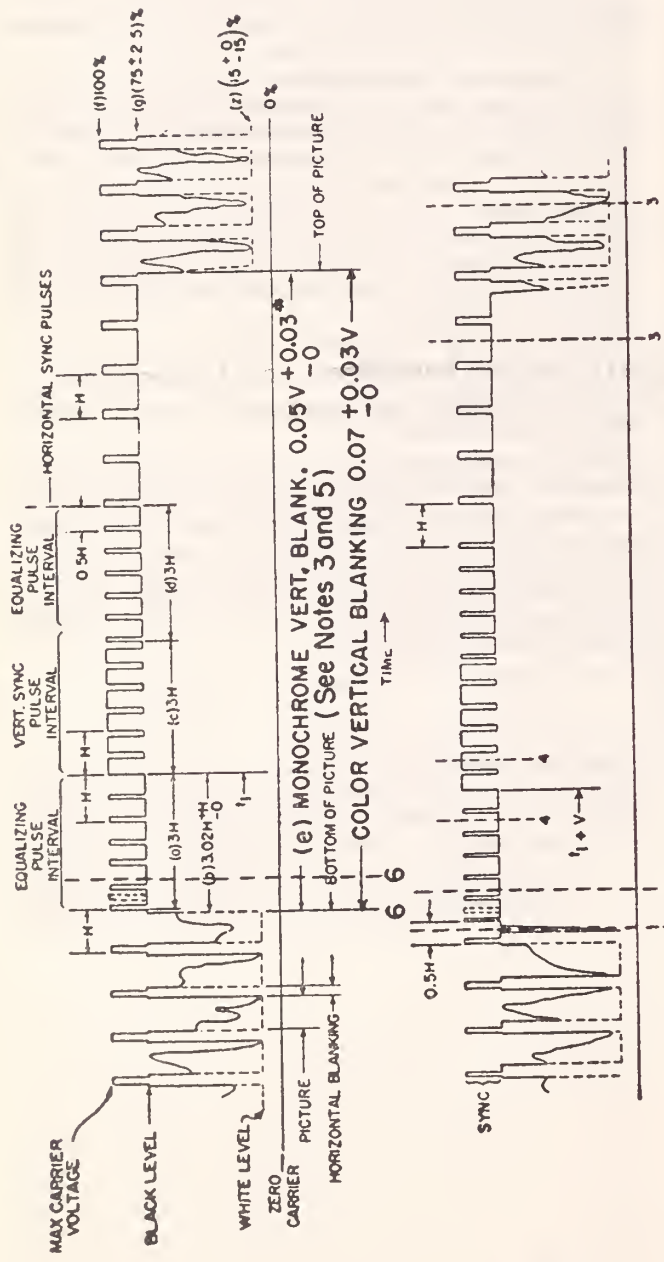
20. The transmitter color characteristics for color transmission shall be such as to reproduce the transmitted colors as correctly as the state of the art will permit on a receiver having the following trichromatic co-efficients, based on the standardized color triangle of the International Commission on Illumination:

Red	Blue	Green
x = .674	x = .122	x = .227
y = .326	y = .142	y = .694

(4) New "Appendix I" attached hereto entitled "Television Synchronizing Waveform" is substituted for "Appendix I" of the "Standards of Good Engineering Practice Concerning Television Broadcast Stations" [see page 8].

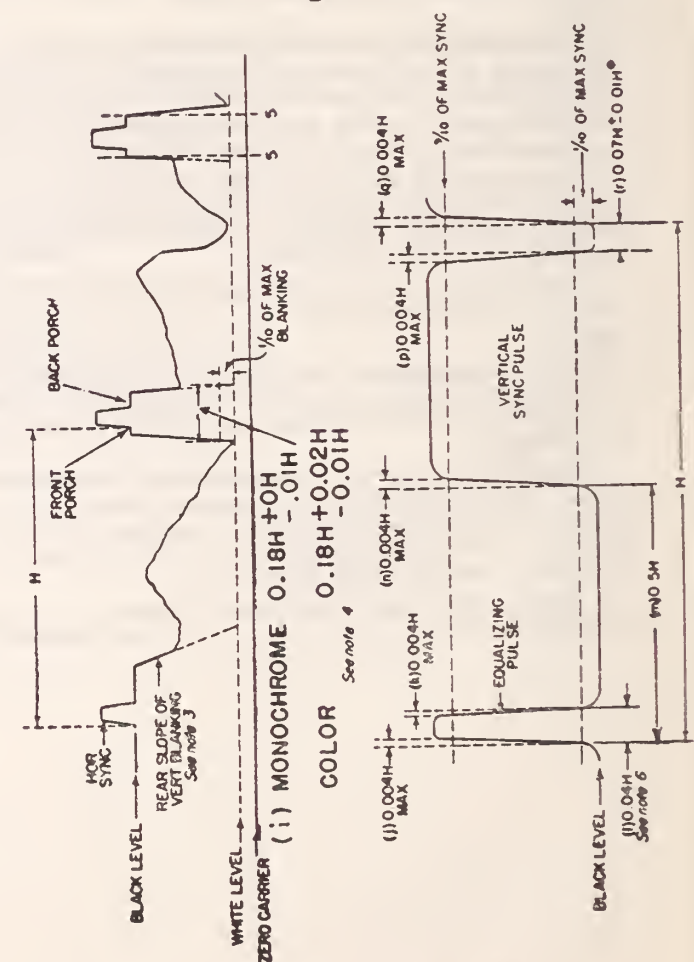
FEDERAL COMMUNICATIONS COMMISSION
(Commissioners Sterling and Henneck dissenting.)

Appendix I—Television Synchronizing Waveform

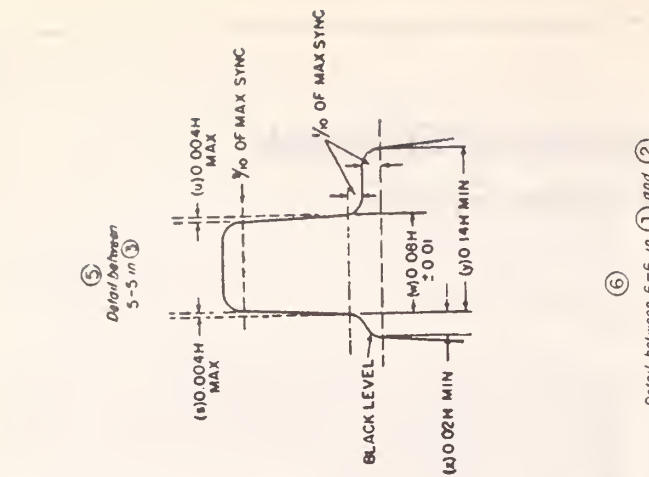


①

Horizontal dimensions not to scale in 1, 2 and 3



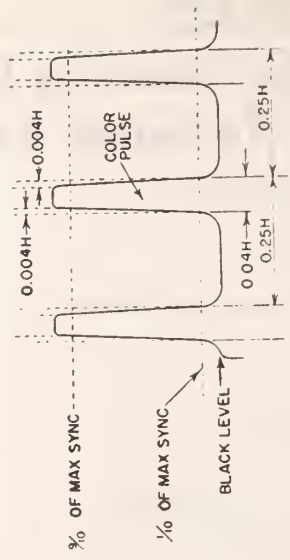
②



③

④

Detail between 6-6 in ① and ②
Applicable only to Red Fields in Color Transmission



⑤

- NOTE
- 1 H = Time from start of one line to start of next line
 - 2 V = Time from start of one field to start of next field
 - 3 Leading and trailing edges of vertical blanking should be complete in less than 0.1H
 - 4 Leading and trailing slopes of horizontal blanking must be steep enough to pass any minimum and maximum values of (x,y) and (i) under all conditions of picture content
 - 5 Dimensions marked with asterisk indicate that tolerances given are permitted only for long time variations and not for successive cycles
 - 6 Equalizing pulse area shall be between 0.45 and 0.5 of area of a horizontal sync pulse
 - 7 Color pulse area shall be between 0.45 and 0.5 of the area of a horizontal sync pulse
 - 8 Refer to text for further explanations and tolerances

The Publicity Guns Roar

Stanton-Sprague Broadcasts and Other Comments On the Color TV Issues

Full Texts of Addresses via CBS (AM) Network

CONTENTS

Addresses by Frank Stanton, CBS President, Delivered Sunday, Oct. 15, 6-6:20 p.m. EST—
With Texts of CBS Newscasts

Address by Robert C. Sprague, RTMA President, Prepared for Delivery Sunday, Oct. 22, 5:45-6 p.m. EST

Facsimiles of CBS, Tele-tone and Pilot Advertisements, Admiral Flyer to Dealers

Editorial Comment and Cartoons About Color TV Situation

MR. STANTON'S BROADCAST

LAST Wednesday, the Federal Communications Commission issued a decision authorizing color television service beginning November 20. After more than a year of hearings and deliberations, the Commission adopted as the standard for the entire industry the color system developed by CBS.

The reaction of some of the television set manufacturers to the Commission's decision has created considerable confusion and misunderstanding. What I want to do is to clear up this confusion and to answer some of the questions in your minds.

The first question that many people ask is "What happens to the television set which I now have . . . will it become useless on November 20?"

The answer is an absolute, unqualified "no."

Despite the fact that some manufacturers are seeking to create the impression that the public's investment in television sets is about to be wiped out, nothing could be further from the truth.

Most Programs Continue in Monochrome

As a practical matter, color programs will not, overnight, entirely replace black-and-white programs.

The number of color programs will increase at an orderly rate as the number of sets capable of receiving them increases. Most of your popular black-and-white programs will continue to be broadcast until a large percentage of the sets are capable of receiving color. So people who now own sets will continue for the next few years to receive a substantial proportion of the present black-and-white program schedule from the various networks.

Moreover, present set owners can get the new color programs by having their sets adapted—that is, adjusted so that they can receive the color programs in black-and-white. This can be done either by the addition of an external adapter at a cost of perhaps \$30 to \$50 plus installation, or it can be done for somewhat less through internal changes in your present set by a competent service man.

But even more important, under the CBS system, black-and-white sets which have been thus adapted can be converted to receive pictures in full color at an additional cost estimated as low as \$75. The CBS system was the only system which demonstrated a practical color converter at a reasonable price.

(Continued on page 2)

MR. SPRAGUE'S BROADCAST

LAST Sunday at about this time, Mr. Frank Stanton, president of the Columbia Broadcasting System, talked to you on color television and what it means to present and prospective TV set owners.

In his talk Mr. Stanton charged television manufacturers with creating confusion about color television and implied that the Radio-Television Manufacturers Association was blocking TV color development and keeping it from the American public.

Obviously, these statements cannot go unanswered, and we want you to have the facts.

First, perhaps, it would be well for you to know in whose behalf I am speaking tonight. The 300 members of the Association I represent include manufacturers, both large and small, who produce radio and television sets and the tubes and parts that go into them. The names of many of these companies have become household words and you have learned over the years to have confidence in them.

Among our members are the companies which pioneered in AM radio and brought it from the crystal set to its present state of perfection. They developed electronics and radar equipment that played so important a role in the war. They are the pioneers who developed television over many years and who have been steadily improving receivers and reducing costs through mass production, so that today 8,000,000 homes are enjoying this modern miracle.

So what I say to you tonight is not just one man's opinion; it represents the considered judgment of the best informed men in our industry.

Last Sunday Mr. Stanton asserted that manufacturers are trying to create the impression that the public's investment in television sets is about to be wiped out.

Black-and-White Better Than Ever

I do not know anyone who believes that, nor anyone who has said anything like that. In fact, because of the many fine television programs that are coming on the air this fall, I believe that present black-and-white television sets are a better investment today than ever before.

Mr. Stanton told you that some manufacturers are trying to create the impression that the Commission's decision was sudden and that, as a result, they are not prepared to build adapters, converters, and new color receivers.

It is true that the manufacturers could not believe

(Continued on page 5)

MR. STANTON'S BROADCAST—(Continued)

It is evident, therefore, that present television sets will remain useful to their owners for the normal life of the sets.

The next question that some people ask is "Why should there be color television at all?" The answer is simple. Color is an enormous forward step in the enjoyment of television.

Unless you have actually seen color television—and I hope many of you will see it soon—it is hard to imagine just how exciting it is. The seven members of the Federal Communications Commission, whose job is to analyze and weigh the problem as representatives of the public, said, in their official report:

The testimony and demonstrations in these proceedings leave no room for doubt that color is an important improvement in television broadcasting. It adds both apparent definition and realism in pictures. It opens up whole new fields for effective broadcasting, rendering lifelike and exciting scenes where color is of the essence—scenes which in black-and-white television are avoided or, if telecast, have little appeal.

And less than a month ago, FCC Commissioner Frieda Hennock said of color television:

Until you have seen it you will not be able to grasp fully how significant a development this really is. It will bring a pictorial splendor right into your home. But it is important, aside from its beauty, in the new vistas of programming which it opens up. The entire field of fine art is automatically made a television subject. Color will make meaningful many subjects which would be drab in monochrome. It really adds a new dimension to television and it is impossible to express in quantitative terms the amount of additional intelligence which it can convey.

Within the week, the *New York Times*, speaking of CBS color, said:

At their best, the color images are superior to the Technicolor seen in the movies. The hues are softer and more restful. The added "information" contained in color images, such as identifying the jerseys of competing football players, is self-evident. The advantages of color are exemplified perhaps even more vividly in the costuming for musical revues. A few looks at color television and black-and-white seems drab indeed.

Color Is Something 'New and Better'

These are typical reactions to color television. They show that color is not just another improvement, but rather is a new and better kind of television. After all, the world in which we live is a world of color, and its accurate portrayal in the home requires color.

What is the place of the Federal Communications Commission in all this? . . . why does anyone have to set standards for color to which all broadcasters must conform?

Congress made it the duty of the FCC to make sure that the public can enjoy the best method of television broadcasting. That is the job of the seven Commissioners and their trained technical staff. It is their job to make certain that important improvements, including television, are not held back from the public. It is their function as well to see that improvements are made available for public use as soon as possible.

But you might ask "Why can't any broadcaster just go ahead and broadcast color whenever and by whatever system he chooses?"

Unlike most industries, technical standards and rules must be set for broadcasting. Otherwise, different systems of transmission might be used, with the result that each listener or viewer would need a number of sets to get all the programs he wants. The result would be utter confusion and chaos.

FCC's 10,000 Pages of Testimony

Some manufacturers are trying to create the impression that the Commission's decision is sudden and that, as a result, they are not prepared to build the necessary new color receivers, adapters, color converters, and black-and-white sets internally equipped to receive color as well as black-and-white pictures.

The decision was anything but sudden.

The facts are that the color television question has been before the industry and the Commission for ten years. The recent hearing on color produced almost 10,000 pages of testimony. Every aspect of color television was considered from every standpoint. Everybody interested in

television—manufacturers as well as broadcasters—was given every opportunity to submit information on the subject, to ask questions, and to express opinions about the different color systems being considered.

Every criticism and objection which is now being advanced by television set manufacturers was raised and answered at the FCC hearings. The Commission considered the matter at great length and reported its findings and conclusions in 50 pages of detailed discussion.

The Commission's decision was neither sudden nor casually considered.

Set Makers Have Had Time

It is also clear that television manufacturers had more than enough time to prepare themselves. All the information for example about the CBS system which was put into the official record of the hearing has been available to everyone in the industry.

In addition, over 7 months ago, CBS furnished sets of almost 100 detailed drawings and plans for each of 54 television manufacturers—over 5,000 drawings in all—showing how to make equipment for the CBS system.

For reasons of their own, many manufacturers failed to use this information to prepare for the action which the Commission has now taken and which at the very least has been a strong possibility for many months.

At this late date some of the manufacturers are complaining that the color decision will harm their business. The fact is that any harm which may result will be due to their own lack of activity, their refusal to plan ahead and their current efforts to confuse the public with belligerent and misleading statements.

Now let's consider for a moment just how good is this color television system which the FCC has adopted, and what is the nature of the criticism.

Some manufacturers have said that the CBS system is "degraded"; that it is a mechanical system; that its picture size is limited. These criticisms are not true. All of them were made at the hearing, they were considered carefully by the Commission, and each was specifically rejected.

'Degraded' and 'Mechanical'?

There is not enough time here to deal fully with these criticisms of the CBS system. However, the criticism about alleged "degraded" pictures just doesn't agree with the facts. The thousands of members of the public who have actually seen CBS pictures have recorded their opinions that the color pictures were vastly superior to ordinary black-and-white, and that even the black-and-white pictures produced from CBS color signals were equal or superior to ordinary black-and-white. The Commission it-



Crockett in Washington Star

self found that the black-and-white picture received from CBS color signals is an acceptable picture.

The charge that the CBS system is "mechanical," was dismissed by FCC Commissioner Robert Jones as a myth. The plain fact is that CBS is not a mechanical system. The engineers representing the very same manufacturers who are now trying to mislead you into believing that the CBS system is mechanical testified under oath that CBS can use all-electronic equipment as readily as any other color system which has been proposed—when that all-electronic equipment is perfected.

The picture-size limitation criticism is not valid either. There is no picture size limitation inherent in the system. Large-size projection pictures have already been demonstrated. And in the reasonably near future, direct-view color receivers will be developed which will produce color pictures as large as black-and-white direct-view receivers.

After hearing the testimony and after actually viewing the CBS system side by side with the other systems, the Commission unanimously found that the CBS system was not only the best—it was the only one capable of giving satisfactory color pictures and the only one that is practical for use in the home. In addition, the Commission held that the CBS system can readily take advantage of important new engineering advances such as the all-electronic tri-color tube. These are not CBS claims—they are findings of fact and conclusions reached by the FCC.

The Compatibility Argument

The seven members of the Commission, after all, are impartial. They have no bias based on self-interest—as is the case with some of the manufacturers. It is the Commission's job to represent and protect you. When they find that the CBS system is the best system, I think you can take their word for it, and disregard the claims of others who have their own special axes to grind.

This leaves the only argument advanced during the hearings—and still advanced—which makes any sense at all. This argument is that the CBS system is not what has been called "compatible" and that the Commission should have waited for a "compatible" system.

What is meant by "compatible"?

As used in color television, it means the ability of existing black-and-white sets—without any change whatsoever—to receive color programs in black-and-white. In other words, under a compatible system, when a color picture is transmitted over the air, it would be received as a black-and-white picture on your present sets.

It is true that the CBS system is not compatible. We have always admitted that it would have been desirable for the CBS color system also to be compatible—in addition to all of its clear superiorities over other systems. We just were not able—and no one else has been able—to achieve compatibility without sacrificing color performance.

But the Commission decided that its responsibility was to select the best color system and that, therefore, the many clear-cut and indisputable advantages of the CBS color system outweighed the compatibility point.

Why FCC Chose CBS Color As Best

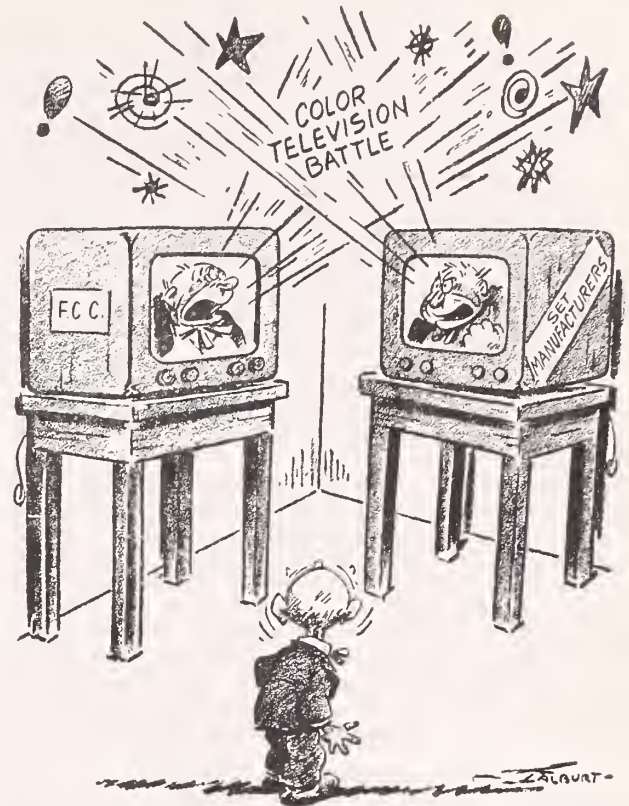
I think you will agree that the Commission was right in this conclusion in the light of the facts which I would like briefly to review.

First, as I have already pointed out, present sets can be adapted at reasonable cost to give black-and-white pictures from color broadcasts.

Second, all future black-and-white sets can be manufactured at an even lower added cost to provide built-in compatibility for every future purchaser. You who are concerned with compatibility and want to buy a black-and-white set after the next month or so may well want to insist that the set you buy includes this feature.

Third, while the CBS color system lacks compatibility, it is the only system proposed under which present black-and-white sets could be converted to receive color programs in color at a reasonable cost . . . and after all, it is color we are all seeking.

Fourth, and this is an overriding consideration which



Talbert in Scripps-Howard Newspapers

some manufacturers choose to ignore—the Commission concluded that good color performance and compatibility have not been found together, nor are they likely to be found in a single system. On this point the Commission said in its decision:

No satisfactory compatible system was demonstrated in these proceedings. . . . Based upon a study of the history of color television development over the past ten years, from a technical point of view, compatibility, as represented by all compatible systems which have been demonstrated to date, is too high a price to put on color. In an effort to make these systems compatible, the results have been either an unsatisfactory system from the standpoint of color picture quality, or a complex system, or both.

Therefore, you should be very much on your guard when manufacturers tell you that a good color system which is also compatible is just around the corner. They have been saying that for years, yet no such system has ever been produced and none is in sight.

FCC On Compatibility

In reaching its decision on the issue of compatibility, the Commission reasoned in the following way:

The Commission first concluded that it is improbable that a system can be developed which would be satisfactory in color performance and at the same time be compatible. The Commission then concluded that the CBS color system was most satisfactory as to color performance despite its lack of compatibility. The Commission, therefore, in adopting the Columbia system on the merits of its color performance, decided to adopt it now in order to check the growth of incompatibility.

If a decision had been postponed, more and more people would have bought black-and-white sets. Each day of delay would have aggravated the compatibility problem still more. Before long, there would be not 7,000,000 but perhaps as many as 40,000,000 black-and-white sets incompatible with the CBS system, and all requiring adaptation. That might have made adoption of the CBS system difficult, if not impossible.

Therefore, at the very least the price of delay would have been the greatly increased cost to the public of adapting not 7,000,000, but as many as 40,000,000 sets; and at worst, color television might have been impossible

for generations. I think you will agree under these conditions that the Commission acted wisely in not waiting.

'Should I Buy a TV Now?'

This leaves just one more question which I am sure many of you are asking:

"Should I buy an ordinary black-and-white television set at this time?"

I cannot give you a flat answer, because the answer may vary with your preferences and your pocket-book. But I can give you some facts which may help you make up your own mind.

The first fact is that present black-and-white sets now on the market will continue to receive present black-and-white programs. These programs will continue for a considerable period of time, although at a diminishing rate within a year or so.

The second fact is that most sets now on the market can be adapted, so that when there is color broadcasting, the program will be received in black-and-white. And, of course, the sets can be converted to receive color broadcasts in color.

Therefore, if the manufacturers give you their word that there will soon be available adapters and converters for the particular black-and-white sets which you are considering, you will have protection against obsolescence.

On the other hand, I want to point out that it will be somewhat cheaper and more satisfactory to buy a black-and-white set which is already adapted, so that it has built-in compatibility. Furthermore, a new combination color and black-and-white set may be somewhat less expensive and will be more satisfactory than an ordinary black-and-white set adapted and converted for color.

'Wait 6 Months, Save Money'

Therefore, if you wait for, say, six months, you may save some money, and you will have a self-contained set with built-in compatibility and built-in color. On the other hand, if you buy an ordinary black-and-white set now, you will be able to enjoy the black-and-white programs being broadcast. But, if you do buy such a set, buy only from a manufacturer who will give you positive assurance that there will soon be adapters and converters which will enable you to get color.

Already there are encouraging signs. Some manufacturers are showing a constructive attitude and are preparing to make color equipment. These progressive manufacturers are turning from the past and looking to the future so as to serve the public. I am sure there will be many others.

Unfortunately this constructive attitude is not being displayed by all manufacturers.

I learned yesterday that a meeting is to be held tomorrow in New York under the auspices of the Radio-Television Manufacturers Association to consider what attitude the Association would take in the matter of color television. In the belief that Columbia could contribute helpful information, I immediately telegraphed the President of the Association requesting permission for Columbia representatives to attend the meeting. This morning I received a telegram from the President of the Radio-Television Manufacturers Association stating that the meeting would be closed to us.

If any statements come out of that meeting, I hope you will read them in the light of these facts. We do not want the future of color television to fall into the hands of any self-appointed group—meeting in secret behind closed doors. We know you do not want that either. We intend to do everything we can to prevent anyone, either television manufacturers or anyone else, from blocking color television and keeping it from the American public.

Meanwhile, CBS proposes to go forward with its plans to bring color television to you at the earliest possible moment. In less than two months we will be broadcasting 20 hours of color programs each week. We will hold color demonstrations to which the public will be invited. We will cooperate fully with manufacturers, broadcasters, and servicemen. We are willing to license every manufacturer to make equipment using the CBS color inventions.

I am certain that within a few months, the public will begin to enjoy color television in the home, and that, at an accelerating rate thereafter, color television will become a full-grown and exciting addition to the history of American progress.

* * * * *

EDITOR'S NOTE: Mr. Stanton's allusion to 6-month "wait" aroused storm of indignation among manufacturers, distributors, dealers—and 11 p.m. newscast on CBS, same night, took particular pains to stress that present TV sets won't be rendered obsolete. The exact words as broadcast:

"Frank Stanton, President of the Columbia Broadcasting System, tonight said that television sets receiving black-and-white pictures, will *not* become useless overnight, when CBS color broadcasting begins. Mr. Stanton addressed a nation-wide radio audience to clear up the confusion caused by the reaction of some television set manufacturers, who seek to create the impression that the public's investment in TV sets, is about to be wiped-out. Mr. Stanton declared that *nothing* could be further from the truth. In case you missed the CBS President's reassurances to television set owners, Mr. Stanton's address will be repeated over this station—WCBS—at 11:15 tonight—just a few minutes from now." [Italics are CBS's.]

* * * * *

Again, in the CBS *World News Roundup* at 8 a.m., Monday, Oct. 16, CBS reporter wound up by stating:

"In case you've felt concerned about the coming of color television, CBS president Frank Stanton has made a reassuring statement. He says black-and-white television sets now in use will not become useless when color broadcasting begins. Despite the fact that some manufacturers are seeking to create the impression that the public's investment in television sets is about to be wiped out, said Dr. Stanton, nothing could be further from the truth. Present sets will remain useful to their owners for the normal life of the sets.

"On the question of whether to buy a new television set now, Dr. Stanton gives this as his advice: 'If you plan to buy an ordinary black and white set now, buy only from a manufacturer who'll give you positive assurance that there will soon be adapters and converters which will enable you to get color.'"

"See It?"



Herblock in Washington Post

MR. SPRAGUE'S BROADCAST

(Continued from page 1)

—until it actually happened—that the Federal Communications Commission would approve a non-compatible color system. They believed—and still believe—that the action was unwise.

But that isn't the only reason equipment is not ready. Even minor changes in existing television receivers take six months to make; basic changes take much longer. The increasing load national defense requirements are placing upon the industry's engineering and production talent makes production changes even more difficult.

I am sure by this time that you know why I requested time to answer Mr. Stanton. It is good to clear the air. Let me also try to answer the questions that I know are in the minds of some 8,000,000 television set owners and the additional millions who want the entertainment and education that can be brought to their homes only through television, and are planning to buy television sets in the months just ahead.

Best Opinion of the Manufacturers

As you can well imagine, during the past few days a lot of people have asked me about the future of television. So I think I know the questions that are in your minds—and I want to answer them by giving you the best judgment of the manufacturers. These are the men best qualified to know the answers.

First, will present black-and-white programs continue? And, second, what programs will I get in color? And, third, shall I buy the black-and-white set I had planned to buy now?

There are two primary reasons why we believe black-and-white programs will continue to provide the best television entertainment for years to come. One is our profound conviction—the FCC to the contrary notwithstanding—that the right kind of color television system simply isn't here yet. The second is an equally firm belief that black-and-white television will never be obsolete, even when a sound color system is developed. As black-and-white receivers will always cost less, they will appeal to many economy-minded persons. Moreover the advertisers who sponsor most of the best television programs will never abandon this mass audience to any large extent in favor of a much smaller number of persons who will be willing to pay extra for color.

Only a Few Will Colorcast

CBS has promised it will broadcast 20 hours of color per week, but most of these broadcasts apparently will be in fringe hours when the average person is at work or asleep and will not include the popular evening programs.

And remember that this broadcasting schedule in all probability will be undertaken by only one of the nation's 107 television stations, or at the most, by those affiliated with CBS.

To my knowledge no other television station has as yet indicated any intent or desire to broadcast even *one* hour of color per week.

The reason for their caution is, of course, that the CBS system is non-compatible with present black-and-white broadcasts. The minute any station puts on such a color program, it loses its entire audience for that period, except for the people who will have bought adapters or converters to tune in the non-compatible color broadcast.

Consequently, few national advertisers are likely to sponsor color broadcasts in commercially-valuable evening time, unless and until a substantial number of sets have been converted. Conversely, only a few viewers, with cash burning their pockets, are likely to buy adapters and converters until an appreciable number of the *good* programs are broadcast in color.

Why "Compatibility"?

That is the main reason why television manufacturers have been insisting, ever since the FCC's hearings started thirteen months ago, that no color system could prosper unless it were "compatible" with today's black-and-white transmissions.

Right here I think I should define "compatibility" about which you have heard so much.

The CBS system approved by FCC is non-compatible. By that we mean that existing television sets cannot get any picture at all from a CBS color broadcast, unless the owner has purchased an adapter which will shift the receiver to the new, non-compatible color signal. Every set tuned to that station channel, which is not thus adapted, goes "blind" the minute a CBS color signal goes on the air.

A "compatible" color system, on the other hand, will provide just as satisfactory black-and-white pictures on existing sets as today's regular black-and-white broadcasts and without any added cost to the present owners.

Of course, if all present sets were to be equipped to bring in the CBS-type signal, this question of compatibility would lose its importance. So let's look into this possibility.

But first, perhaps I had better explain what I mean by "adapters" and "converters" as applied to present-day sets.

Adapters and Converters

An "adapter" is a device which must be bought and installed on present television sets merely to get black-and-white reception from a CBS color broadcast. It will, moreover, produce a poorer black-and-white picture, that is one with much less pictorial detail than the one you get today. A "converter" is still another device which has to be also added if present sets are to receive color broadcasts in color.

The demand, if any, probably will be for combination adapter-converters which are estimated to cost well in excess of \$100, the amount varying with the size of the picture tube. I have no doubt that some few persons, who are interested in the novelty of color and who are in a position to be at home during the hours when it is broadcast, may make this extra investment. And to the extent there is any public demand for such adapter-converters, I am sure that they will be made available as soon as production requirements can be met.

But are these adapter-converters going to be a mass production item?

CBS and FCC currently believe they will, and I believe that both parties are sincere in saying so. But I point out that neither CBS nor FCC has ever been in the manufacturing business; they have never sold radio and television equipment to the public. So I am more inclined to take the opinion of set merchandisers, who know by long experience that the public, especially the housewife, does not want any extra "gaget" or "gadgets" on her receiver, whether for radio or television.

The Wheel and Picture Sizes

The converter required to receive the CBS color broadcasts is particularly cumbersome-looking due to its mechanical disk or wheel. It is this rapidly rotating wheel which makes it impractical to convert a television set to give a color picture larger than 12½-in. The wheel itself should be more than twice as large as the picture tube—e.g., about 28-in. in diameter for a 12½-in. picture tube. As the public in recent months has shown a definite preference for larger and larger pictures, it is doubtful that it will be willing to revert to the smaller TV screen merely to receive color.

Consequently, it is a fair assumption that only a very small percentage of present TV set owners will buy adapters and converters—even when they are freely available—and then only when the popular programs are broadcast in color during the more favorable viewing hours. And such scheduling of color broadcasts is unlikely until a substantial viewing audience, equipped with color converters-adapters, is available. So it's a little like the question: Which comes first, the hen or the egg?

There is only one clear answer. That is a fully electronic *compatible* color system which many of the industry's leading engineers and scientists have been working on for many months and are entirely confident can be commercially developed in the relatively near future. Such a system will offer no problem for the set owner as he will

(Continued on page 12)

Ads That Stirred Things Up:

THIS FULL PAGE AD was placed Oct. 18 & 19 by CBS in various newspapers, synchronized (usually several pages ahead) with full page in same issues placed by Tele-tone. Night before first ads broke, CBS-TV also telecast interview with Tele-tone president S. W. Gross, discussing Tele-tone's "color TV packages" promised about first of year, prices as yet unstated.

Shown on telecast were mock-ups of slave units in table and console models, using existing sets as drivers (detector, amplifiers, etc.). Slave units incorporate adapters (to 405 lines, 144 fields), have own CR picture tube, color wheel and motor. Screen sizes of slave units, it was stated, will be 10, 12½ & 16-in., latter definitely with magnifier, 12½-in. probably also.

CBS welcomes Tele-tone —the first set manufacturer to bring you Color Television

Last Wednesday, the Federal Communications Commission, acting in the interest of the public, authorized the CBS system for commercial color television broadcasting. Since then there has been confusion in the minds of many people about color television.

On Sunday I went on the air to try and give answers to questions like: What does the CBS color system do to my present television set? When can I get color television programs? Should I buy a television set now—or should I wait?

Now—one short week after the Commission's decision—one of America's progressive and responsible television set manufacturers has come up with another specific and practical method to provide the public constructive answers to these questions.

The effect of his method is to say: *You can have color television in your home in less than three months.*

If you are interested in television, I urge you to read his clear and specific announcement on page 25 of this paper.

Frank Stanton PRESIDENT.

The Columbia Broadcasting System

Tele-tone's Companion Ad--In Same Newspapers

TELE-TONE'S FULL-PAGE ADS, released along with those of CBS (opposite), ran first in *New York Times*, *Herald Tribune and News*; *Philadelphia Bulletin*, *Baltimore Sun*, *Washington Post*, *Columbus Dispatch*, *Chicago Tribune*, *Los Angeles Times*.

It was also due to be placed this week in Providence and New Haven. Cost of first week's insertions, it was stated, was \$26,000 and campaign "will continue in all TV areas." Tele-tone stated it is paying for its own advertising.

Here's how you can have COLOR TELEVISION

with Tele-tone "Tele-color"

IMPORTANT NEWS FOR AMERICA'S EIGHT MILLION TV SET OWNERS AND THE TWO MILLION PLANNING TO BUY TV SETS!

Today, the public is confused about color television. But there's no need to be confused.

If you own a Tele-tone...or if you've ordered a Tele-tone...or if you plan to buy a Tele-tone...

Don't worry! Your investment is safe! You can have color with your Tele-tone set...*Fast! Dependable! Low cost!*

Right this minute, the Tele-tone Corporation is speeding the mass production of a package converter called "Tele-color" which will bring you FULL COLOR reception on any Tele-tone Television set — past, present, or future.

Deliveries start January 1st! You can buy any Tele-tone set you want today, knowing you'll be able to get color with it. So why not start today to enjoy the wonderful entertainment you get only on television? Go ahead and get your Tele-tone set now — you'll have color soon.

What's "Tele-color" like? It's a light, compact unit that fits on top of your console model, or if you have a table-model, provides its own console. A flick of the switch, and you have either black-and-white or glowing color!

And it won't be expensive! Tele-tone "Tele-color" will be priced so modestly, it will be within the immediate reach of every television set owner.

What does this mean to you?

1. You can stop worrying about your Tele-tone TV investment. The set you own or the set you buy now, is money safely spent.
2. You will get color television fast.
3. You will get color television at the lowest possible cost.

Tele-tone is one of the pioneers in the engineering of color television receivers. Tele-tone will remain in the forefront of color television progress...first to bring you the finest in color TV at the lowest cost.

Here's our promise! Fine color television will be yours very soon, at very low cost, with the same Tele-tone set you now own or buy today!

S. W. GROSS, President

THE TELE-TONE RADIO CORPORATION

Tele-tone TOPS IN TV!

Pilot Lashes Out Against CBS System

PROBABLE HARBINGER OF MANY MORE to come from the manufacturers, addressed to public, is this first ad placed by

Pilot Radio Corp. in *New York Times* and *Mirror* Oct. 18. Pilot says it may continue ad campaign, but dropped suit against FCC.

PILOT WANTS TO GIVE YOU COLOR TELEVISION...

but not as a "Flying Saucer"

PILOT Radio Corporation is fighting FOR—not against—Color Television. But Pilot wants to give you *simple, streamlined* color TV... to protect you against unnecessary headaches and expense. And Pilot feels that the FCC is depriving you of *satisfactory* color TV, by refusing the industry the additional time needed to make it available.

As a television pioneer with 22 years of TV experience, Pilot is qualified to judge the facts. And Pilot agrees with the best-informed technical opinion in the industry — and the 2 dissenting members of the FCC—that the ruling was made with utter disregard of other late color developments, which can and will give you color television as you want it, in due course.

Pilot's advice to you is this:

YOU CAN BUY A PILOT TELEVISION RECEIVER OR ANY OTHER REPUTABLE MAKE OF TELEVISION SET TODAY WITH CONFIDENCE

Whatever the outcome of the color controversy may be, Pilot will make certain that you will be able to use and enjoy the TV set you own—or plan to buy—for years to come.

Not This:

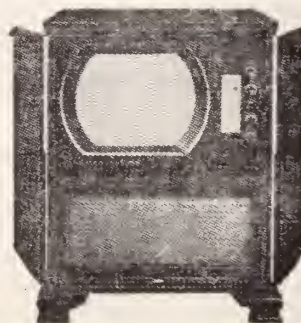


What's This? The Flying Saucer?

Could be! But actually, it's the way a 19 inch TV set may look, if the color television system adopted by FCC is used. The box on the floor is the Adapter. Find a hiding place for it... In the attic, in the refrigerator, under the baby's crib; you'll have to have it.

(Note: converter and adapter are dummies made for illustration purposes.)

But This!



This beautiful 19" Pilot Model TV 191 shows how your complete color television receiver would look if FCC gave the industry additional time to develop it.

PILOT Radio Corporation, Long Island City, N. Y.

Admiral's Flyer To Trade

FIRST MOVE BY MANUFACTURER to give dealers something to past in their stores and windows, was this flyer by Admiral released to distributors in all TV areas early this week. Other manufacturers sent telegrams, letters, etc. to their dis-

tributors and dealers, with similar data to enable them to answer questions from the public. Heavy barrage of mere such "caunter-measure" publicity material may be expected as other manufacturers (and RTMA) plan publicity campaigns.

BLACK & WHITE VS. COLOR TV

Despite Licensing of Color Telecasts There Will Always Be Black and White Television

Here are the answers to questions the public has been asking about the recent Federal Communications Commission Ruling on CBS color television:

Q. What does the FCC ruling really mean?

A. Simply that the FCC has authorized telecasting in color by the CBS system. The door is still wide open for other color systems, should they prove more desirable.

Q. What will happen to present black and white telecasting?

A. Nothing. The FCC ruling provides for dual standards, both black and white and CBS color. The same excellent programs in black and white will continue to be telecast as before.

Q. What kind of programs will we get in color?

A. Only experimental programs for a long time to come. Without an audience, no sponsor is going to foot the bill for a big name program. Forty million people are enjoying black and white television today. Only with a big audience like that can sponsors afford to pay for the excellent programs now being telecast in black and white.

Q. Will I be able to get CBS color if I purchase a black and white set today?

A. Yes. With an "adapter" you will be able to receive color programs in black and white. With a "converter" you will receive them in color.

Q. When will I be able to purchase a color television set?

A. Not for a long time. We don't know of a single manufacturer of the nationally known brands of television receivers who is planning to make them.

Q. Should I wait to buy a CBS color set?

A. Even if you could purchase a CBS color set tomorrow, it would be inadvisable to do so for several reasons:

(1) Should the mechanical CBS color system be later supplanted by a compatible electronic color system, your CBS color set would become immediately obsolete. This is a definite possibility.

(2) You would be limited in size to a 10-inch picture.

(3) A CBS color set will probably cost double that of a black and white set of comparable size. It will be years before sufficient worthwhile network shows will be telecast in color to justify this additional expenditure.

Q. Why are manufacturers of nationally known brands opposed to making CBS sets?

A. For several reasons:

(1) Manufacturers are absolutely convinced that the incompatible CBS system is utterly impractical and not in the public interest.

(2) The unsightly whirling disc which must be placed in front of the CBS receiver is a definite handicap to styling and appearance.

(3) The public wants big and still bigger pictures. The CBS system, as a practical matter, is limited to a 10-inch direct view picture.

(4) Manufacturers want color television. It means a vast new market for them. But they want a practical compatible electronic system that will not impose unnecessary expense upon present set owners.

Q. Should I purchase a black and white television set now?

A. By all means . . . for these reasons:

(1) By purchasing a black and white TV set now, you will be holding your investment to a minimum . . . just about half of what you would have to put into a comparable color set.

(2) You will be getting your money's worth and more through the millions of dollars which today are being spent for black and white programs.

(3) When sufficient worthwhile programs are telecast in color sometime in the future, that's the time to make the additional investment required to convert your set to color. Your total investment should be no more than if you had purchased a color set in the first place.

(4) You avoid the risk of obsolescence. Regardless of what system is ultimately employed, a mechanical incompatible CBS system or a compatible electronic system, you will be able to convert to either.

DON'T WAIT!!! ENJOY TODAY'S TELEVISION TODAY

Published in the public interest by

Admiral Corporation

EDITORIAL OPINIONS ON THE COLOR TELEVISION ISSUE

'Dictation and Coercion'

Editorial in Oct. 18 *New York Times*

THE Federal Communications Commission has decided that television images in color must be transmitted by what is technically known as a "non-compatible system," meaning a system that will make it impossible for some eight million owners of television sets to receive even black-and-white from a color-transmitting station without paying about \$400,000,000 for auxiliaries. Hence the consternation and dismay with which the decision has been received. Few voices have been raised in the Commission's defense. In arriving at its decision the Commission ignored the findings of a committee of scientific experts, headed by Dr. E. U. Condon, Director of the National Bureau of Standards, and appointed by the chairman of the Senate Committee on Interstate and Foreign Commerce to make an impartial study of the status of color television.

The section of the Communications Act under which the Commission promulgated its decree directs it "to encourage the larger and more effective use of radio in the public interest." This broad language may justify the setting of long-term transmission standards to insure fidelity of reproduction in color or black-and-white, brightness of

image and high quality in general.

But the Commission has not contented itself with setting standards. In effect it is dictating to manufacturers what kind of television sets they are to make if images are to be received in color with converters and in black-and-white with adapters. The Commission admits that the black-and-white images into which color is to be translated by installed sets at great expense will be of inferior quality. Yet the Commission is supposed to safeguard the public interest.

The testimony taken in committee hearings at the time the Communications Act became a law leaves it to be inferred that Congress had no intention of authorizing the Commission to invade the factory. It is true that the Commission's order applies only to television transmitting stations. It so happens that there is a lock-and-key relationship between a television station and a television receiving set. Hence any decision that affects television stations also affects manufacturers of home sets.

This coercion of an industry which has hitherto enjoyed a large measure of freedom is apparently without precedent. In the case of color television we have a usurpation of authority that needs correction. That correction can be made only if the Communications Act comes up in the Federal Courts for interpretation. The time for the judicial interpretation of the phrase "to encourage the larger and more effective use of radio in the public interest" has arrived.

Stanton Takes Issue with *New York Times*; Editor Replies . . .

Foregoing editorial provoked CBS president Frank Stanton to write letter to editor of *Times*, published Oct. 20 as follows:

The confusion and misunderstanding about the Federal Communications Commission decision concerning color television has engulfed even THE NEW YORK TIMES editorial page. The editorial of Oct. 18 is appropriately entitled "Television Chaos," but the chaos inheres not in the Commission decision but in your interpretation thereof.

The first error in the editorial is the statement that the commission "ignored the findings of a committee of scientific experts headed by Dr. E. U. Condon, director of the National Bureau of Standards. . . ." This is a charge already made by R. C. A. and nobody else. It is wrong.

The Condon committee and the Commission were functioning in different spheres and with different responsibilities. The Condon committee made no recommendations concerning choice of systems; further, the areas of agreement between the Commission findings and the report of the Condon committee are far greater than the areas of disagreement.

The editorial's basic criticism of the Commission's decision is that the Commission went beyond its functions in not only setting standards but in "dictating to manufacturers what kind of television sets they are to make if images are to be received in color with converters and in black and white with adapters." It is charged, therefore, that the decision constitutes "coercion of an industry" and "usurpation of authority."

These criticisms are based on a complete misunderstanding of the Communications Act, of the function of the Commission and of the effect of the Commission's decision.

Type of Signal

Before radio or television can be broadcast on a regular commercial basis it is necessary that the Commission first set technical engineering standards prescribing the type of signal which must be transmitted. Unless there are such standards it would be possible for each station to send out a different type of signal and the consumer would have to have a different receiver for each station.

Setting standards for broadcast service has always been the procedure followed. It is precisely what the Commission did when it authorized black-and-white television. Once it set black-and-white television standards, any manufacturer who wanted to go

into the business of making and selling television receivers obviously had to make receivers designed to receive the signal being transmitted if he wished to offer a usable product.

The editorial itself recognizes this "lock-and-key relationship between a television station and a television receiving set." But having recognized this basic relationship, the editorial then ignored it and thus has been led into its basic error.

Of course, each manufacturer remains free to make precisely the kind of television set he chooses. He can continue to make ordinary black-and-white sets if he thinks he can sell them. He can make any one of a variety of types of sets which will receive color, just as a number of manufacturers are engaging in producing different models to receive the CBS system.

In setting standards for color the Commission has done exactly what it has always done in authorizing any radio or television broadcast service. In this decision, therefore, it has usurped no functions and dictated to no one unless what it has always done constitutes usurpation and dictation. Never before has it been suggested that when the Commission in the past has set standards it has been guilty of "dictation" or "usurpation." It cannot be so suggested because the setting of standards is one of the explicit and necessary functions of the Commission.

Compatibility Problem

Further, it is to be noted that it clearly was in the public interest for the Commission to adopt color standards now, instead of delaying the question further. The Commission concluded, on the basis of ten years' experimentation with color, that there is no reasonable probability that a satisfactory "compatible" color system (that is, a color system capable of being received in black and white on existing receivers without change) can be developed. It found that only the CBS system is now capable of producing satisfactory color, and only the CBS system assured such color for the foreseeable future.

Since the CBS system is "incompatible"—and thus requires changes in existing sets to receive the color signals in black and white—the public interest compelled a prompt decision in order to prevent further aggravation of the compatibility problem. The degree of increased aggravation of the compatibility problem can be measured on the basis of the 8,000,000 sets now in the hands of the public as against perhaps as many as 40,000,000 black-and-white sets in the foreseeable future.

To have postponed the decision would have imposed great additional economic burdens on the public, or deprived it of color

altogether unless a satisfactory compatible system should some day be developed—a contingency the Commission did not find likely.

In the light of these basic facts which the editorial overlooked, the criticisms therein were plainly mistaken.

Times Editor's Reply

[Mr. Stanton overlooked the fact that we expressly conceded the right of the Commission to set standards, but questioned its right to set up systems of transmission.

That the FCC ignored the Condon report was brought out on Sept. 10 at the Institute of Radio Engineers' Convention in Los Angeles. A question from the floor addressed to a member of the FCC brought the reply: "The Senator Johnson-Condon report was not entered as hearing material and therefore was not given consideration in the FCC decision." The report was issued on July 10—time enough for its consideration.

Mr. Stanton's statement that the "areas of agreement" between the Condon committee and the FCC "are far greater than the areas of disagreement" is not borne out by the Condon report. On Page 40 appears a table in which the system that Mr. Stanton advocated scores only eight points. Of two other systems one scored eleven points and the other six. It looks as if there were more areas of disagreement than of agreement.

Mr. Stanton says that "each manufacturer remains free to make precisely the kind of television set that he chooses." The manufacturer who does not produce a set that will conform with Mr. Stanton's system courts bankruptcy within five years or so.

How does Mr. Stanton know that the odds are against the development of a "compatible" color system? The Condon committee arrived at different conclusions on Pages 37 and 38 of its report.

Mr. Stanton thinks that in the public interest the FCC had to arrive at a prompt decision. The Commission has been considering television for ten years. The Condon committee was appointed because the vacillation and dilatoriness of the FCC forced the Senate to seek the best technical advice that competent technologists could give.—Editor, THE TIMES.]

'Last Word Not Yet Spoken'

Editorial in Oct. 13 *New York Herald Tribune*

THE Federal Communications Commission faced up to a grave responsibility in handing down its decision approving the Columbia Broadcasting System's method of transmitting color television. It was a painfully difficult decision, to make, vitally affecting the interests of the owners of 7,000,000 sets, of a highly competitive industry which has long been at odds over the problem, and of the scientists and technicians who have been trying to devise a system that would be both practical and economical. A large section of the industry, particularly the manufacturers of sets, wanted the FCC to withhold its decision until a perfect system could be accepted by all; but the FCC, mindful of the rate with which set ownership is increasing, decided to act before the already grave problem of color conversion got completely out of hand.

That such a decision should be necessary illustrates both the complexity of the new industry and the importance of protecting the public interest in a highly technical dispute beyond the ready comprehension of most laymen. There is no reason to doubt that the FCC acted—by a five to two vote—strictly on the advice of its technicians and from a desire to prevent excessive dissemination of sets that would soon be outdated. And yet, there are admitted flaws in the CBS color system, such as the presence of a cumbersome color wheel, the limitation to a 12½-inch image, the need of a special adapter to receive color pictures in black and white on present sets. Opposing systems, on the other hand, have thus far failed to match the fidelity of the CBS pictures, and the FCC showed no great confidence that they could eventually be made to do so.

One fact on which all sides seem agreed is that television sets now in use have considerable service ahead of them before they become obsolete—if they ever do. Certainly the introduction of color into motion pictures many years ago has by no means spelled the end of black and white movies, and the complexities of TV color may be even more difficult to overcome. The one certainty that stands out in the aftermath to the FCC decision is that the last word has not yet been spoken on this perplexing problem.

'Public the Appropriate Jury'

Editorial in Oct. 14 *Washington Post* (WTOP-TV)

THE effect of the Federal Communication Commission's decision authorizing color television for commercial use is to leave the choice between color and black-and-white reception to the arbitrament of public opinion. The public is, we think, the appropriate jury. The millions of potential purchasers of television receiving sets will now be able to determine whether or not the industry is to turn in the direction of the field sequential method of transmitting color programs developed by the Columbia Broadcasting System. It is indubitably the best method of transmitting color now available, although it may be superseded in a few years by a method compatible with present black and white standards. To have postponed the choice any longer would have been to foreclose it altogether.

The choice is inevitably displeasing to the manufacturers of television receivers, since they must now guess what the public will demand and adjust their production accordingly. It will create perplexities for broadcasters for the same reason and perhaps require them to modify or supplement their transmission facilities. And it will entail certain inconveniences for owners of television receivers. So far as the manufacturers and broadcasters are concerned (this newspaper may to some extent be considered an interested party since it is associated with the Columbia Broadcasting System in the ownership of Station WTOP radio and television) the situation must be regarded as a normal incident of a free enterprise economy. They will have to adjust to the public demand whatever it may be.

So far as present owners of television receivers are concerned, the FCC decision results in making available to them an additional benefit at additional cost. Their instruments will continue to receive black and white pictures transmitted by the system now in use. To receive black and white pictures transmitted by the CBS system, an adjustment, said to be inexpensive, will be required. To receive color by the CBS system, a somewhat more expensive and complete converter will be necessary. This is likely to have an additional disadvantage in that it will disfigure cabinets which are valued as furniture. But the nearly eight million television sets now in operation are by no means rendered obsolete by the choice which the FCC has authorized.

Television receivers are now being manufactured at a rate of more than five million a year. Thus the inconvenience to set-owners would quickly be multiplied if the FCC waited for the development of a color system compatible with present standards and then discovered that it could not be realized. We quite agree with the commission's view that "we would be derelict in our responsibility to the public if we postponed a decision any longer." The issue will be resolved, as it should be, by the free forces of competition.

Why All the Haste?

Editorial in Oct. 13 *Washington Star* (WMAL-TV)

THE Federal Communications Commission has produced a convincing evidence of the superior quality of mechanically produced color television as compared with partially developed electronic systems. But the reasoning advanced by an FCC majority for refusing to delay final approval of the mechanical method, as sponsored by the Columbia Broadcasting System, is not so convincing.

The stated FCC reason for adopting at once the CBS plan of bringing color to the Nation's 7 million-odd TV sets is that any additional delay in making permanent its tentative decision in favor of CBS would only increase the number of new sets that would have to be converted. That argument would be valid if the television industry were ready today to start producing color TV receivers—of the

CBS or any other type. Actually, manufacturers are having difficulty in obtaining supplies to keep up with the demand for black-and-white receivers. The shortages are apt to grow worse as Federal demands for radar and other electronic equipment increase in line with expanded defense orders. Indications are that it will take many months, perhaps several years, before quantity production of color TV equipment can be achieved.

If the public will not be able to buy color equipment any time soon, it is hard to see why the FCC, by a five-to-two vote, decided that haste in reaching a final decision on color systems is necessary. Two commissioners urged delay so that research and development experts in the electronic color tube field could have more time to improve the electronic systems. Radio Corporation of America and Color Television, Incorporated, are leading competitors in this field. Both companies have reported progress in improving the quality of their color pictures, but the FCC, by its split decision, has refused even to examine these improvements at this time.

MR. SPRAGUE'S BROADCAST

(Continued from page 5)

be able to receive in black and white all broadcasts, whether originating in color or black and white, without any additional expenditure for new equipment or adjustments whatsoever.

What Should Public Do?

For these reasons, when friends of mine ask me what they should do about color television, here is what I tell them:

The color system presently authorized by the FCC produces a picture in satisfactory color, but it has these definite limitations:

(1) Except for projection-type sets, which the public has shown little interest in, the CBS color system is limited in its present form to pictures no larger than 12½ inches.

(2) Sets and converters now require a large mechanical disk or wheel which rotates at a speed of 1440 revolutions per minute and which, in my opinion, will never be acceptable to the majority of set owners.

(3) Due to the non-compatibility of the CBS color system, color programs for some time to come will be necessarily restricted—even in the few cities where they are broadcast—to off hours and the less popular entertainment.

(4) The recent color decision of the FCC is now before a Federal court. And it will probably be some time before we definitely know when or whether the CBS color system will actually be broadcast commercially.

I also tell my friends that long before the present color system can win any real measure of public approval or establish a substantial audience, the combined talent of America's electronic engineers will have developed an all-electronic and compatible color system which will probably replace the present incompatible system.

Furthermore, I also tell my friends that if they want to experiment with color, despite its present limitations, they will be able shortly to buy converters and adapters, which they can add to their black-and-white sets.

For Good Reception: Monochrome

Finally, I tell my friends that if they are interested in good reception of the better television programs, they can buy black-and-white sets now with confidence that they will continue to receive these programs for many years to come. In other words, there is no reason at all for them to delay the purchase of a television set.

Extra Copies & Home Delivery

Extra copies of our Newsletters and Supplements are available to subscribers at nominal cost. Many subscribers prefer their copies of the weekly *Television Digest* mailed to their homes, special delivery, and we're happy to oblige; you simply pay the postage.

The majority indicated that it looks with favor on further research and that it will consider revising its attitude toward color tubes if one ever is devised that meets its strict standards for color television. If such a tube should make its debut after thousands or millions of TV owners have gone to the expense of converting their conventional sets to the CBS revolving disc system, the FCC decision will have cost the public a lot of wasted money. Color wheel converters would be rendered obsolete by an FCC-approved electronic color tube. And the tube system would eliminate the bulky wheel, which would be at least two feet in diameter for the largest picture practicable with the CBS device—12½ inches.

This much is plain. The prospect of early transformation of the television industry from black-and-white to color is still as slim as ever, despite the FCC decision. And this being so, it is very difficult to believe that either the public interest or the interest of an industry that is still in the limping stage has been served by this needlessly premature commitment to a particular color system.

"Include Me Out,"

Says Columnist Fred Othman

DOES the man-in-the-street give a darn about the color TV fracas?

"Include me out," says United Features Syndicate (Scripps-Howard) columnist Fred Othman, one of earliest and most fervent drum-beaters for color TV, in his Oct. 19 column. Still partial to CBS pictures, possibly reflecting layman's reaction, he writes:

HELP! Gents of the television industry, will you kindly lay off the telegrams, the phone calls, and the bitter handouts about color TV? Already my wastebasket's overflowing and a few more loads of your literature will turn my home into a fire hazard.

Fact is, fellows, I don't even own a television set. It doesn't much matter to me whether TV pictures are in technicolor, varying shades of gray, or sepia. Just the other night a neighbor of mine asked me in to see his new set. He snapped it on and what do you think came out on the 19-inch screen? Midget wrestlers, big as life. Kicking each other in the teeth and committing mayhem all over my friend's living room.

Whether this would have looked better in color I do not know, altho one of the performers did get a bloody nose and I suppose crimson gore on the viewing tube might have been more spectacular. What I mean, gentlemen of the video trade, is that you're not going to get me involved in your own private rhubarb.

All I know is that I followed last summer's hearings by the Federal Communications Commission carefully; I took in all the demonstrations of the various kinds of color machinery. It may be, as some of you say in your lawsuits, that the FCC made a mistake in approving the Columbia Broadcasting System's color set. Perhaps, as you charge, it is a mechanical monstrosity.

The one beauty of it is that the darn thing works. And works perfectly. Beautiful blonds still are beautiful on CBS television. Shaggy dogs have big brown eyes and Standard Oil trucks are the proper shade of red on this device with the whirling disc.

I also had a good long look at the Radio Corporation's color dingus, which generates its own rainbow inside the tube. Some of the engineers said this was far better; only trouble was that it didn't work so well. I saw one lovely on it whose hair changed from orange to green before my very eyes.

The experts said this was because it still needed a little perfecting and eventually it would work far better than the CBS system. Now some of my mail indicates that this color won't be good enough for a couple or three years yet.

So the FCC approved the CBS widget, simply because it's here now and ready to go into production at once. That sounds fair enough to a bystander like me.

Fact of the matter is that the one man in America who is responsible for this color whoopia hasn't even been drawn into the fight. Fellow by the name of Big Ed Johnson, U. S. Senator from Colorado and the same man who took on Roberto Rossellini and Ingrid Bergman for what they did on the steamy isle of Stromboli.

Sen. Johnson saw one of the early CBS demonstrations and, like most other people getting their first look at it, he was as amazed as he was delighted. When it developed that the system had been available for nearly 10 years, he blew up.

He accused the FCC of dilly-dallying and he said if the commissioners didn't get off their handkerchiefs and make color TV available to the people, he'd investigate 'em. That brought action. Now we've got lawsuits. Me, I'm not much interested. Instead of watching midgets tramp on each other's noses tonight, I'm going to read a book.

With Gloves Off

MR. COY WRITES MR. HALLIGAN

Full Text of Nov. 2 Letter from FCC Chairman to Wm. J. Halligan, president of The Hallicrafters Co.

(See opposite side for facsimile of advertisement prompting letter)

Dear Mr. Halligan:

The hidden ball trick is a fine piece of football strategy but when it is employed by a large radio manufacturer in an advertisement to deceive and frighten the public on such an important issue as color television, it becomes pretty contemptible.

I refer to your full-page advertisement of October 23 in The Chicago Daily News entitled: "The Color Television Blunder." I refer specifically to your statement that five members of the Commission who voted for the CBS color system "contradicted even themselves." You state:

As recently as September 1, 1950, the FCC stated that it "must of necessity rely to a great extent upon industry experts for data and expert opinion in arriving at decisions in the field of (color) standards".

And then, in the best tradition of out-of-context quoting, you come to a dead stop and ignore the rest of that paragraph of the decision. You refused to finish the paragraph because to do so would have demolished your entire argument.

Permit me to finish that paragraph:

However, the responsibility for decision is that of the Commission and we cannot feel bound to accept recommendations and expert opinions when we find from a study of the record that the record supports different conclusions. Moreover, the testimony of many of the parties was not based on field testing conducted by them or upon an analysis of field testing made by others but were simply recommendations and expert opinions of a general nature. *In weighing these recommendations and expert opinions we cannot overlook the fact that many of these same parties offered recommendations and expert opinion of the same kind as the basis of their advocacy in the 1946-1947 hearing of the simultaneous system—a system which never survived field testing.* [Italics are underlinings in FCC release.]

Which puts quite a different face upon the matter.

To continue the quote and give the people the WHOLE story would hardly have served your purpose of pulling the wool over their eyes.

Then you state:

It is unfortunate that five people can sit down around a desk in Washington and in this fashion impose their will on an entire industry and on the nation . . .

This again is fake vs. fact.

What the Commission really did, as you well know, was to invite every person or company who could contribute technical data bearing upon the color question to come to Washington to participate in a public hearing. The Commission heard 53 witnesses testify under oath and submit to lengthy cross-examination by Commission members and other parties. The hearings lasted 62 days. In all, the Commission heard 9,717 pages of testimony and received 265 exhibits. Moreover, it viewed eight demonstrations on the record by the three competing color systems. In addition, when the hearing was concluded, the proponents of color television system submitted comprehensive and detailed findings and conclusions for study by the Commission.

(Of course, you did not mention that the FCC was estab-

lished by the Congress of the United States for exactly this specific type of investigation and decision-making process.)

As to the ultimate wisdom of the Commission's decision, you are most certainly entitled to your opinion just as everyone else in this country is, whether it happens to agree with my opinion or not. But I firmly believe in Bernard Baruch's observation: "Every man has a right to be wrong in his opinion, but not in his facts."

Your opinion is that the Commission should wait for a "completely electronic color system, compatible with present black-and-white sets."

The Commission's opinion is that it is pointless to wait any longer for any other system to make good on oft-repeated promises of a satisfactory performance. We have selected a system that works now—today. We have preferred performance over promises.

Color is on the way and the American people are going to be given an opportunity to enjoy it—if they wish. As we've pointed out in our First Report:

The testimony and demonstrations in these proceedings leave no room for doubt that color is an important improvement in television broadcasting. It adds both apparent definition and realism in pictures. It opens up whole new fields for effective broadcasting, rendering life-like and exciting scenes where color is of the essence—scenes which in black-and-white television are avoided or, if telecast, have little appeal.

I respectfully suggest to Hallicrafters that it follow the lead of some other progressive manufacturers and begin the manufacture of color sets, adapters and converters, and let the American people decide for themselves whether they like this new dimension in television broadcasting.

Hallicrafters' products are much better than its propaganda.

Finally, I take exception to your statements: "5 Men Against the American Way" and "This ill-advised action of the FCC is a threat to the American way of life."

The things that the phrase, "The American Way," stand for are sacred to me and I deeply resent attempts such as yours to debase the coinage of these words through such a malicious smear campaign. In my view, the American Way includes telling the people the truth, the whole truth, so that they can make up their minds on the basis of all the facts instead of misleading them with one-sided attacks such as yours. It means giving the people the advantage of new inventions as soon as they are developed instead of trying to shelve them so as not to interrupt the flow of profits from existing products.

It is unfortunate that the Commission does not have funds for full pages of advertising to correct the misrepresentations you have made. However, I am having this letter made public with the hopes that the facts it contains will reach at least some of the readers who may have been misled by your hit-and-run attack and that some of the mischief may be repaired.

Sincerely yours,
Wayne Coy
Chairman [FCC]

Ad That Provoked Mr. Coy:

THIS IS FULL-PAGE advertisement by The Hallicrafters Co., which was placed in *Chicago Tribune* of Oct. 22 and *Chicago Daily News* of Oct. 23, and which prompted letter from FCC

Chairman Coy to Mr. Holligan. Letter bore Nov. 2 date, was released by FCC press room Nov. 3, when Mr. Holligan was in New York preparing to embark on flying trip to Europe.

THE COLOR TELEVISION BLUNDER

5 Men Against the American Way

Five members of the Federal Communications Commission have disregarded the unanimous opinion of the engineers of every major television manufacturer in ruling that the television industry must adopt a mechanical color system.

In so doing these Commissioners contradicted even themselves. As recently as September 1, 1950, the FCC stated that it . . . "Must of necessity rely to a great extent upon industry experts for data and expert opinion in arriving at decisions in the field of (color) standards."

Exactly 40 days later the Commission turned its back to the television industry and adopted a color system fathered by a broadcasting company with no background whatsoever in the manufacture of television receivers.

The majority of engineers and manufacturers who have brought the television industry to its present greatness have condemned the FCC-approved system as being impractical and unwieldy. This mechanical color system is basically unsound because of its definite limitations in picture size, cumbersome cabinet design, and because it will not produce pictures on the present black and white sets without considerable expense to the set owner.

In their decision, the Commissioners could not even agree among themselves. The final vote was five to two. It is significant that one of the dissenting opinions was cast by George E. Sterling, the former chief engineer of the FCC and the one Commissioner with applicable technical background in radio broadcasting.

The five who voted for color were led by a man of nontechnical qualifications including relief administration and public office-holding, and three of the others have similar records far removed from the industry they are attempting to regulate. These five men have seen fit to dictate the solution to a problem that has baffled industry's greatest technicians. Far more is at stake than a color system or the television industry itself. It is unfortunate that five people can sit down around a desk in Washington and in this fashion impose their will on an entire industry and on the nation—that they can say to scientists whose skill has developed the fastest growing industry in history—"You are all wrong, and we are right."

The color system adopted by the FCC has been kicking around for more than a decade. The principle upon which it is based was long ago tested by industry engineers and discarded as impractical.

Hallicrafters could not be more solidly opposed to the decision of the FCC in adopting this color experiment as the nation's standard. We feel, along with the majority of television manufacturers, that a completely electronic color system, compatible with present black and white sets, will be developed in the future. When this happens, color telecasts will be received in black and white on present sets without any extra equipment or any receiver modifications.

All Hallicrafters television sets now being produced are equipped with a connector on the back making unnecessary any changes in the set in order to utilize any anticipated developments in either mechanical or electronic color systems.

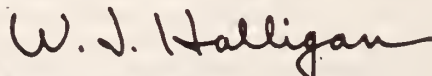
Hallicrafters will leave the final decision to the public. For those who wish to experiment, Hallicrafters will make available a color attachment that will make color reception possible.

There is no reason to hesitate in buying a TV set now. The set you buy today will give you many years of television pleasure.

A poll of the 107 operating television stations shows that 88 per cent have no plans whatsoever for transmitting on mechanical color standards. If you find your local station does plan color telecasts, you will be able to simply adapt your Hallicrafters set to receive these telecasts.

The importance of this ruling of the FCC must not be underestimated. Five members of a Washington commission are attempting to force upon the nation a color system which the television industry regards as obsolete even before the first set is marketed.

This ill-advised action of the FCC is a threat to the American way of life.



President, The Hallicrafters Co.

Published in the Public Interest by

the hallicrafters co.

4401 W. FIFTH AVENUE, CHICAGO 24

World's Leading Manufacturer of Precision Radio and Television

Supreme Court to Decide**FCC AUTHORITY UPHELD BUT COLOR EDICT DELAYED****Pending Appeal to United States Supreme Court**

Full Text of Chicago Federal Court's Decision in Appeal by RCA, et al, from FCC Order

(For details about court case, see *Television Digest*, Vol. 6:45-51)In the United States District Court
Northern District of Illinois
Eastern DivisionRADIO CORPORATION OF AMERICA, NBC INC.,
AND
RCA VICTOR DISTRIBUTING CORPORATION,
PLAINTIFFS,

vs.

UNITED STATES OF AMERICA
AND
FEDERAL COMMUNICATIONS COMMISSION,
DEFENDANTS.

Civil Action No. 50-C-1459.

December 20, 1950.

Before MAJOR, Circuit Judge; SULLIVAN and LA BUY,
District Judges.

MAJOR, Circuit Judge. This action was brought to enjoin and set aside an order of the Federal Communications Commission, adopted October 10, 1950, effective November 20, 1950, which promulgated standards for the transmission of color television. Plaintiff Radio Corporation of America (RCA) is engaged, among other things, in research and development work in the field of electronics, and particularly in the field of radio and television, as well as in the manufacture and sale of radio and television transmitting and receiving apparatus and parts. Plaintiff National Broadcasting Company (NBC) is engaged in sound and television broadcasting, including network broadcasting. Plaintiff Victor Distributing Corporation is engaged in the sale of articles and products manufactured by the Victor Division of RCA. Both this distributing company and NBC are wholly owned subsidiaries of RCA. The defendants are the United States and the Federal Communications Commission.

The complaint sought an interlocutory injunction until the further order of the court and a permanent injunction upon final hearing. The defendants moved for a summary judgment and a dismissal of the complaint on the ground that there was no genuine issue as to any material fact and that defendants were entitled to a judgment as a matter of law.

A three-judge court was convened, as required by Title 28, U. S. C. A., Secs. 2284 and 2325. On the issues thus presented, the matter came on for hearing and oral argument was heard on November 14, 15 and 16, 1950.

Prior to the time of oral argument, the Columbia Broadcasting System (CBS), also engaged in sound and television broadcasting, by agreement of the parties, was

allowed to intervene in support of the Commission's order. Either during or previous to the oral argument, the following parties, over the objection of defendants, were permitted to intervene in support of plaintiffs' attack upon the Commission's order: Local No. 1031 of the International Brotherhood of Electrical Workers, representing 21,000 members, 18,000 of whom are employed in Chicago or vicinity in the manufacture of radio and television sets or in the manufacture of parts and in the assembling thereof; Pilot Radio Corporation; Emerson Radio & Phonograph Corporation; Wells-Gardner & Company, Sightmaster Corporation and Radio Craftsmen Inc., all manufacturers of television receiving equipment; and Television Installation Service Association, a trade organization engaged in the business of servicing and installing radios and television equipment in the Chicago area.

The statutes involved with respect to the jurisdiction of this court are Title 28, U. S. C. A., Secs. 1336, 1398, 2284, 2321-25 and Sec. 402(a) of the Communications Act of 1934, as amended, Title 47, U. S. C. A., Sec. 402(a). With respect to the legal authority of the Commission to adopt standards, the provisions of the Communications Act mainly involved are Secs. 4(i), 301, 303(b), (c), (e), (f), (g) and (r). Secs. 4(i) and 303(r) of the Communications Act endow the Commission with authority to make rules and regulations and issue such orders as may be necessary in the execution of its functions and to carry out the provisions of the act. Sec. 303(b) authorizes the Commission, as the public convenience, interest or necessity requires, to prescribe the manner of the service to be rendered by stations, and Sec. 303(e) gives similar authority to regulate the kind of apparatus to be used with respect to its external effects. Sec. 303(g) provides, under the same standard of the public convenience, interest or necessity, that the Commission shall "study new uses for radio, provide for experimental uses of frequencies, and generally encourage the larger and more effective use of radio in the public interest."

As has been shown, there was before the court at the time of the hearing plaintiffs' prayer for an interlocutory injunction and defendants' motion for a summary judgment and for dismissal of the complaint. Numerous affidavits were presented by the plaintiffs as well as by the plaintiff-intervenors, showing that irreparable damages would result if the order was permitted to take effect. Opposing affidavits were filed by the defendants and by CBS, the defendant-intervenor. There was also presented by the Commission a record of the proceedings, upon which its order was predicated.

At the conclusion of the hearing, the court took the conflicting motions under advisement and at the same time entered a temporary restraining order "restraining and suspending until further order of this court the promulgation, operation and execution of the order of the Federal Communications Commission adopted October 10, 1950, effective November 20, 1950." As a basis for this order the court entered findings of fact, including the finding, among

others, that irreparable damages would result to plaintiffs and intervenors unless the Commission's order was restrained and suspended during the consideration and determination of the issues before the court, and that such temporary suspension would be in the public interest.

The order sought to be set aside has been the subject of attack on many fronts, which may be generally classified under two contentions, (1) that the order is contrary to the public interest, and (2) that its adoption represents an arbitrary and capricious attitude on the part of the Commission. Under these two general categories there are, of course, many subsidiary issues. The defendants concede that RCA has an interest which permits the maintenance of the instant suit, but that there is an absence of such interest on the part of the other plaintiffs, as well as on the part of the intervening plaintiffs. For the purpose of this decision, we shall assume that all the plaintiffs, as well as the intervenors, are properly before the court.

After listening to many hours of oral argument by able counsel representing the respective parties, we formed some rather definite impressions relative to the merits of the order, as well as the proceedings before the Commission upon which it rests. And our reading and study of the numerous and voluminous briefs with which we have been favored have not altered or removed those impressions. Also, in studying the case, we have been unable to free our minds of the question as to why we should devote the time and energy which the importance of the case merits, realizing as we must that the controversy can only be finally terminated by a decision of the Supreme Court. This is so because any decision we make is appealable to that court as a matter of right and we were informed during oral argument, in no uncertain terms, that which otherwise might be expected, that is, that the aggrieved party or parties will immediately appeal. In other words, this is little more than a practice session where the parties prepare and test their ammunition for the big battle ahead. Moreover, we must give recognition to our limited scope in reviewing an order of an administrative agency. While citation of authority in this respect is hardly necessary, it may not be amiss to make reference to a few recent Supreme Court opinions.

In *American Telephone & Telegraph Co., et al., v. United States, et al.*, 299 U. S. 232, 236, wherein the court had under review an order of the instant defendant Commission, the court stated: "This court is not at liberty to substitute its own discretion for that of administrative officers who have kept within the bounds of their administrative powers. . . . It is not enough that the prescribed system of accounts shall appear to be unwise or burdensome or inferior to another. Error or un wisdom is not equivalent to abuse."

In *Federal Security Administrator v. Quaker Oats Co.*, 318 U. S. 218, 227, the Court of Appeals for this circuit set aside the order of an administrative agency. The Supreme Court reversed and with reference to review provisions of administrative action, stated: "Under such provisions we have repeatedly emphasized the scope that must be allowed to the discretion and informed judgment of an expert administrative body. [Citing cases.] These considerations are especially appropriate where the review is of regulations of general application adopted by an administrative agency under its rule-making power in carrying out the policy of a statute with whose enforcement it is charged." And further the court, referring to the judgment of the administrative agency stated (page 228): "That judgment, if based on substantial evidence of record, and if within statutory and constitutional limitations, is controlling even though the reviewing court might on the same record have arrived at a different conclusion."

More recently in *National Broadcasting Co., Inc., et al., v. United States, et al.*, 319 U. S. 190, 224, the court reviewed and sustained an order of the instant Commission, and in doing so stated: "The regulations are assailed as 'arbitrary and capricious'. If this contention means that the regulations are unwise, that they are not likely to succeed in accomplishing what the Commission intended,

we can say only that the appellants have selected the wrong forum for such a plea. . . . Our duty is at an end when we find that the action of the Commission was based upon findings supported by evidence, and was made pursuant to authority granted by Congress. It is not for us to say that the 'public interest' will be furthered or retarded by the chain broadcasting regulations. The responsibility belongs to the Congress for the grant of valid legislative authority and to the Commission for its exercise."

Thus, with our scope of review so firmly delineated, we turn to a brief statement, if that is possible, of the proceedings which culminated in the order under attack. The Commission for many years had considered the question of color television. CBS had formerly proposed a system, which was denied in 1947. The instant proceedings, or that part which related to color television, were initiated by the Commission's Notice of July 11, 1949 of Further Proposed Rule-Making Relative to Color Television. This notice proposed among other things to consider color television systems, provided that such systems met two criteria: First, that they operate in a six-megacycle channel (the frequency space allotted to black-and-white television broadcasting stations); and second, that the pictures be received on existing television receivers "simply by making relatively minor modifications in such existing receivers," and the notice provided, "Following the closing of the record and the conclusion of oral arguments, the Commission upon consideration of all proposals, counter-proposals, and evidence in this proceeding will adopt such rules, regulations and standards as will best serve the public interest, convenience or necessity." In response to this notice, comments relating in whole or in part to color television were filed by numerous parties. CBS, RCA and CTI (Color Television, Inc.) were the only parties who appeared as proponents of their own color television systems.

The hearing, participated in by all members of the Commission, commenced September 26, 1949, and ended May 26, 1950. In all, 53 different witnesses were heard and 265 exhibits received. The transcript of the hearing covers 9717 pages. During the period from November 22, 1949, to February 6, 1950, extensive field tests were made of the three systems proposed. Progress reports concerning these tests were filed with the Commission by the three proponents during December 1949 and January 1950. Comparative demonstrations of the three proposed systems were made on different dates until May 17, 1950. In response to the Commission's notice, proposed findings and conclusions were filed by proponents of the three systems.

On September 1, 1950, the Commission issued its first report, in which it made detailed findings and conclusions concerning the three proposed color television systems and set forth minimum criteria which such a system would have to meet in order to be considered eligible for adoption. CTI is not a party to this proceeding and there is no occasion to refer to the findings as to its proposed system. We set forth in a footnote the basic findings as to the system proposed by RCA and that proposed by CBS.¹

¹ As to RCA:

"(1) That the color fidelity of the RCA picture is not satisfactory and that there appears to be no reasonable prospect that the defects can be overcome.

(2) That the texture of the RCA color picture is not satisfactory and that it is difficult to see how this defect can be eliminated.

(3) That the receiving equipment utilized by the RCA system is exceedingly complex and that there is no assurance, even if the tri-color tube is successfully developed, that the RCA receivers will not continue to be unduly complex and difficult to operate.

(4) That the equipment which RCA utilizes at the transmitting station is exceedingly complex and there is no assurance that satisfactory commercial type station equipment can be built.

(5) That the RCA system is much more susceptible to certain kinds of interference than standard black and white or the CBS color system.

(6) That there is not adequate assurance of RCA's ability to network color of proper quality over existing facilities; and

(7) That the RCA system has not been sufficiently field tested."

As to CBS:

"(1) That CBS produces a color picture that is 'most satisfactory from the point of view of texture, color fidelity and contrast.'

(2) That the CBS receivers and station equipment 'are simple

Notwithstanding the findings favorable to the CBS system, the Commission declined in its first report to adopt that system. Instead of and concurrently with its first report, the Commission issued a second notice of further proposed rule making, suggesting the adoption of bracket standards in the existing monochrome television system and invited interested parties and all manufacturers to submit comments on the proposal. This proposal embodied a method by which brackets would be incorporated in the receivers thereafter manufactured so as to permit such receivers to receive black-and-white pictures from present transmissions as well as color transmission by CBS. The stated purpose of this proposal was to preserve the status quo on compatibility.² Maintaining the status quo on compatibility required the construction of receivers capable of receiving field sequential color transmissions in black and white. Comments upon the proposed bracket standards were received from 33 interested parties and television receiver manufacturers which disclosed an almost unanimous opinion on the part of manufacturers and other interested parties that such a system was not capable of being produced within the time limits fixed by the Commission.

On October 4, 1950, RCA filed a petition requesting the Commission to view the improvements made in the performance of the RCA color system between December 5, 1950, and January 5, 1951, and that the Commission view further experimental broadcasts of the three proposed color systems during the period to June 20, 1951, before reaching a final determination with respect to color standards. This request by RCA was denied, and on October 10, 1950, the Commission issued its second report, which concluded that the field sequential color system should be adopted. No testimony, oral or written, was received by the Commission in the interim between the issuance of its first and second reports.

In its second report (issued October 10, 1950) the Commission, with reference to its first report, stated: "The report stated that in the Commission's opinion, the CBS system produces a color picture that is most satisfactory from the point of view of texture, color fidelity and contrast. The Commission stated that receivers and station equipment are simple to operate and that receivers when produced on a mass market basis should be within the economic reach of the great mass of purchasing public. The Commission further found that even with present equipment the CBS system can produce color pictures of sufficient brightness without objectionable flicker to be adequate for home use and that the evidence concerning long persistence phosphors shows that there is a specific method available for still further increasing brightness with no objectionable flicker. Finally, the Commission pointed out that while the CBS system has less geometric resolution than the present monochrome system the addition of color to the picture more than outweighs the loss in geometric resolution so far as apparent definition is concerned."

Simultaneously with the second report the Commission entered the order under attack, amending the Commission's Standards of Good Engineering Practice, to provide for standards of color television transmission in ac-

to handle' and within the economic reach of the public.

(3) That though the CBS system is susceptible to flicker to a greater degree than standard black and white, the problem is not serious since flicker, which results from brightness, does not appear at the brightness level which is adequate for home use.

(4) That while the CBS system has less 'geometric resolution' than black-and-white, the addition of color more than outweighs this loss, and that the black-and-white pictures produced from CBS color are acceptable; and

(5) That while as a practical matter the apparatus now used by the CBS system is limited either to projection receivers of unlimited size or direct-view pictures of 12½-in. size, this size limitation will be eliminated if and when a commercial tri-color tube is successfully developed, and that in any event the public might well prefer a 12½-in. color picture to a 16-in. black-and-white picture and should not be deprived of that choice."

²The term "compatibility" describes a situation in which no change whatever is required in existing receivers in order to enable them to receive as black-and-white picture a picture transmitted in color.

cordance with the field sequential system (CBS system) effective November 20, 1950. Commissioners Sterling and Hennock dissented from the Commission's second report. On the date of the issuance of its second report, the Commission also denied the petition of RCA to postpone a final determination of the color proceedings and to have further demonstrations of the three proposed color systems.

While the findings of the Commission are severely criticized, it is not contended in the main that they are not supported by substantial evidence. It is pertinently pointed out, however, that a number of critical findings are based upon evidence which was taken in the earlier stage of the proceeding which is not representative of the situation as it existed at the time the findings were adopted. Admittedly, much progress was made during the latter portion of the hearings and, as claimed, after the hearings closed, in the development of a compatible system of color television. Particularly was such progress made by RCA, and as we view the situation the most plausible contention made by plaintiffs is that the Commission abused its discretion in refusing to extend the effective date of its order so that it might further consider the situation, and particularly the improvement which it is claimed had been made by RCA and others.

On the merits of the case, however, with which we are directly confronted by reason of defendants' motion for a summary judgment, much of plaintiffs' argument—in fact, the major portion of it—is predicated upon matters outside the record made before the Commission, and without going into too much detail we think it relevant to refer to some of such matters. While many affidavits offered by the plaintiffs as well as the intervening plaintiffs are proper, no doubt, to show damage in support of their asserted right to an injunction, many of them go far beyond this purpose and contain a recitation of alleged facts directly in conflict with the findings made by the Commission. Typical of such affidavits is that of Dr. C. B. Jolliffe, executive vice president in charge of the RCA laboratories. His affidavit, in addition to showing damages which will be sustained by RCA as a result of the order, goes extensively into the alleged merits of the RCA system, the alleged demerits of the CBS system and the alleged errors committed by the Commission in reaching its decision. And much of plaintiffs' argument is predicated upon matters brought before the court in this fashion. In our view, such asserted facts are not properly before the court. A consideration of such matters would in effect amount to a trial de novo, which we are without power to grant. Thus, much of plaintiffs' argument, predicated upon such immaterial matter, appealing as it is, must be discarded.

Another segment of evidence upon which much reliance is placed is the report made by the so-called Condon Committee. Dr. Edward U. Condon, director of the National Bureau of Standards of the United States Department of Commerce was, under date of May 20, 1949, requested by the chairman of the Senate Committee on Interstate & Foreign Commerce to organize a committee to give "sound, impartial, scientific advice" on color television. Dr. Condon was the head of this committee, which included a group of scientific persons of repute, none of whom were employed by or had any connection directly or indirectly with any radio licensee or radio-equipment manufacturer. The report of this committee was released July 10, 1950, and considered at length the three color systems which had been proposed, and analyzed the present and potential performance of those systems. The report discloses that it took into consideration, among other matters, the testimony and demonstrations given before the Commission in the instant proceedings.

No doubt this report refutes numerous of the findings made by the Commission and gives a far more favorable appraisal of the RCA system than that attributed to it by the Commission. Whether this report was considered by the Commission we do not know, but it is not referred to in the Commission's reports or its findings. As stated, this report was made to Congress, and we suppose a court could take judicial notice of it for some purposes, but

again, in our view, it cannot be considered here for the purpose of impeaching the order of the Commission or the proceedings had before it. After all, Congress has conferred upon the Commission and charged it with the responsibility of conducting hearings and in reaching its own independent conclusions predicated thereon.

Another matter somewhat akin to those which we have just discussed was sought to be injected into this hearing by Pilot Radio Corporation, a plaintiff-intervenor. At the request of Pilot, two subpoenas duces tecum were issued out of this court on November 8, 1950, one addressed to the Commission and the other to CBS, requiring the production at the hearing in this matter of certain letters, documents, etc., described in said subpoenas. In response to the subpoenas the requested material was produced by the parties to whom the subpoenas were directed and lodged with the clerk of this court. At the same time, a motion was made to quash the subpoenas on the basis that the produced material was irrelevant and immaterial.

The matter produced in the main consists of an exchange of letters between Honorable Edwin C. Johnson, chairman of the Senate Interstate & Foreign Commerce Committee, and the Commission or members thereof, as well as correspondence exchanged between Senator Johnson and the officials of CBS. In addition, there was offered in evidence at the time of the hearing an exchange of telegrams or letters between Senator Johnson and counsel for Pilot. We are advised by counsel that the purpose of these letters and telegrams is to show "that constant and vigorous pressure exerted by the chairman" was responsible for the Commission's asserted precipitate action. The matter thus sought to be injected is, of course, no part of the record made before the Commission and it cannot be properly considered here. In this connection, we should point out that neither Pilot nor any other intervenor nor plaintiffs make any charge or allegation in their pleadings that the Commission in making its order was influenced, cajoled or coerced by Senator Johnson or anybody else. In fact, other than the incident under discussion, there is not even an intimation by any of the interested parties that the Commission acted other than in good faith and in discharge of what it considered to be its statutory duty. The motion to quash these subpoenas duces tecum not heretofore passed upon is allowed.

Another matter which perhaps should be mentioned arises from plaintiffs' contention that the Commission improperly relied upon the testimony and assistance of one of its staff engineers who it is asserted was an interested party because he was the inventor of an automatic switch usable with a non-compatible system such as that proposed by CBS. The witness was not the owner of and had no financial interest in the patent. He demonstrated the device on the record, to which an objection was made; however, no objection was made to his further testimony or participation in the proceeding. In fact, it appears that the matter was not again mentioned until raised in this court. It appears to us that the interest of the witness if it had any relevancy went to the weight or credit to be given his testimony, and that this was a matter for the determination of the Commission. In any event, it furnishes no basis for invalidating the Commission's order.

In the view we take of the case, there is no evidence under the pleadings which this court could properly hear. We take this view notwithstanding the suggestion made by counsel for RCA in oral argument and reiterated in its brief, that RCA might desire to introduce witnesses at a final hearing. We gather from the suggestion made that such testimony would be offered for the purpose of showing current developments, which we suppose means developments since the entry of the order, which have been called to the attention of the Commission and which it refuses to consider. Plaintiffs' disclaim that this would constitute a trial de novo. With this contention we do not agree. We reiterate that under well established principles our function is to hear and determine the questions before us solely on the record made before the Commission.

Thus, as we evaluate the situation, there are two courses

open, (1) To allow defendants' motion for a summary judgment, and (2) to vacate the order and send the proceeding back to the Commission for further consideration in view of recent developments in the color television field as well as the rapidly changing economic situation. A pursuance of the latter course, assuming we have such authority, of which there may be doubt, would inevitably result in the prolongation of the controversy which badly needs the finality of decision which can be made only by the Supreme Court. In other words, the interests of all, so we think, will be better served with this controversy on its way up rather than back from whence it comes.

Even though we propose to allow defendants' motion for a summary judgment, it does not follow that the temporary restraining order heretofore entered should not remain in effect. In fact, we are definitely of the view that it should, until such time as the controversy is before the Supreme Court. While there may appear to be some inconsistency in pursuing this course, we think such procedure is within our discretion. In *National Broadcasting Co. v. United States*, 44 F. Supp. 688, a statutory court under circumstances quite similar to those here held it was without jurisdiction to review an order of the Commission, and dismissed the complaint. Even so, it granted a stay until the matter could be appealed to the Supreme Court. Holding that the District Court had jurisdiction the Supreme Court reversed. 316 U. S. 447. In doing so, it suggested (page 449), "The stay now in effect will be continued, on terms to be settled by the court below." Thereupon, the case was tried by the District Court on its merits, a summary judgment allowed in favor of the defendants and the complaint again dismissed. And again the Commission's order was stayed pending appeal to the Supreme Court, and this time the judgment of the court below was affirmed. 319 U. S. 190. Insofar as we are able to discern from that opinion, the stay order allowed by the District Court remained in effect until the case was finally decided by the Supreme Court.

Thus concluding that the matter of a further stay of the Commission's order is discretionary, we shall state some of the reasons which move us to preserve the status quo. Of the 9,000,000 black-and-white television receivers in the hands of the public, there are none capable of receiving a picture either in color or black and white, broadcast under the proposed standards. In order to receive a black-and-white picture, it is necessary that a receiver be equipped with an adapter estimated to cost \$50, plus the expense of installation. In other words, it would cost the American public nearly \$500,000,000 to equip existing sets to receive, under the proposed system, black-and-white pictures, and even then admittedly they would be of a grade inferior to present black-and-white pictures. In addition, in order to receive a picture in color, it will be necessary to add to an existing receiver a converter, estimated to cost about \$100, plus the expense of installation. Thus, this will cost the public nearly \$1 billion. In other words, upon an expenditure by the public of \$1½ billion, adapters and converters can be added to existing receivers so as to receive, under the proposed system, pictures in black and white and in color.

But this is only a part of the story insofar as it relates to the public. It was here stated in oral argument and not disputed that there are no adapters or converters on the market and that manufacturers would require a period of from six to eight months before they could be made available. So it seems reasonable to conclude that if the instant order was now in effect, there would be no broadcasting under the proposed standards for many months, for the simple reason that there would be no sets capable of receiving such programs. And it does not square with common sense to think that manufacturers would rush into the business either of manufacturing adapters and converters for existing sets or manufacturing sets with built-in adapters and converters while this controversy is pending. And to maintain that the public in any considerable number would purchase adapters and converters, assuming they were available, under the existing state of doubt and uncertainty, is to cast a reflection on the intelligence of people.

Another matter which does not escape our attention is the insistence displayed by the defendants, including CBS, that this order at all hazards must become effective November 20, 1950, the date fixed by the Commission. This apparently was a magic date, so much so that defendants opposed a postponement until this court could have an opportunity to study and decide the issues presented.

Perhaps the most substantial attack made upon the Commission's order is the adoption of standards which call for an incompatible system which, as admitted by all the parties including the defendants and CBS, is less desirable than a compatible system. Of course, the Commission's position in this respect is predicated upon its conclusion that no satisfactory compatible system was demonstrated, while the incompatible system which it approved was satisfactory. And the main argument against a stay of the order is that incompatibility is and will rapidly increase as the public continues to purchase existing receivers.

As is stated in defendants' brief, "The grant by this court of an interlocutory injunction will encourage the increased sale of receivers requiring outside adaption to receive CBS color transmission in black and white. The difference between this cost and the cost of adapting receivers at the factory is the price the American public will pay if the Commission's decision is finally upheld."

This argument is based on the assumption that the Supreme Court will sustain the validity of the order. It ignores a contrary possibility. Certainly this court is possessed of no such omnipotence, and we doubt if the Commission is. Even if the order was in effect, the owners of existing receivers could not within the next several months obtain the equipment which would enable them to receive the authorized broadcast. But assume that they could and did so. Where would the public find itself in the event the order was held invalid by the Supreme Court?

In our view, the public interest in this matter has been magnified far beyond its true perspective. We are even told that this suit is a contest between television manufacturers and the public on some theory that it is to the financial gain of the former to refuse and delay the manufacture of television sets capable of receiving the broadcast authorized. Any merit in this contention, so we think, is completely overshadowed by what appears to be evident, that is, that the contest is mainly between two great broadcasting systems for a position of advantage in this rapidly developing field of television.

Another reason why this order should be stayed is the existing economic situation, recognized by Commissioner Sterling in his dissenting opinion, wherein he stated, "The problems confronting manufacturers today in terms of production, procurement and manpower to meet the demands of national defense are serious ones. . . . It is well known that there are serious shortages of tubes and resistors as well as basic materials. . . . Moreover, in many instances industry has been required to divert its TV engineering experts to problems of production for defense because of the close relationship of TV techniques to radar and other electronic devices the government requires." It is a matter of common knowledge that the situation thus described becomes more acute with each passing day, and the prospects are that it will be far worse before it is better. It is hardly conceivable that either the Commission or the government would under such circumstances desire, much less insist, that the order in controversy be made effective.

Our purpose is to restrain the effective date of the order until the aggrieved parties have had an opportunity to perfect an appeal to the Supreme Court. Therefore, the temporary restraining order heretofore entered will remain and continue in force until April 1, 1951, or until terminated by the Supreme Court. And we re-adopt the findings heretofore made in support of the continuation of such order.

A summary judgment will be entered in favor of the defendants and against the plaintiffs, and the complaint dismissed. No testimony having been heard or considered other than the record made before the Commission, no findings are required in support of such judgment.

IT is conceded by all and it is self-evident that the best system of color television is a compatible one; that is, a system requiring no change whatever in existing receivers for the reception of black and white as well as color pictures. Indeed, compatibility is the coveted goal of all engineers and scientists engaged in the television industry.

In its order of October 11, 1950 (F3), the Commission stated:

" . . . that the state of the television art is such that new ideas and new inventions are matters of weekly, even daily occurrence; . . ."

And again, in recognizing the rapid developments in the field, the Commission said (B92, First Report):

"The third matter we refer to is the possibility of new color systems and improvements in existing color systems which have been informally called to our attention since the hearings closed. Of course, these are not matters of record and cannot be relied on in reaching a decision unless the record is reopened. In considering these developments the Commission is aware that the institution of these proceedings stimulated great activity in the color field and that since fundamental research cannot be performed on schedule, it is possible that much of the fruit of this research is only now beginning to emerge . . ."

Commissioner Sterling, dissenting with what he characterized the "premature action taken by the majority", also stated among other reasons for his disapproval of the action of the Commission "new developments came fast in the closing days of the hearing and immediately thereafter". Commissioner Hennock, who also disagreed with the Commission's speedy action, expressed her views as follows,

" . . . in the light of the progress made in the development of color television since the start of the instant proceeding, I think it is essential to defer final decision in this matter until June 30, 1951.

" . . . It is of vital importance to the future of television that we make every effort to gain the time necessary for further experimentation leading to the perfection of a compatible color television system . . ."

In its First Report, the Commission stated:

" . . . two difficult courses of action are open to the Commission. The first course of action is to reopen the record . . . The second course of action is to adopt a final decision.

"The advantage of the first course of action is that the Commission would not be compelled to speculate as to an important basis for its decision. . . . The disadvantage is that it would postpone a final decision and hence would aggravate the compatibility problem. . . . The advantage of the second course of action is that it would bring a speedy conclusion to the matters in issue and would furnish manufacturers with a real incentive to build a successful tri-color tube as soon as possible. . . . The disadvantage is that the Commission's determination on an important part of its decision would be based on speculation and hope rather than on demonstrations."

On October 4, 1950, RCA petitioned the Commission to review the progress made in developing and perfecting the various systems before a final determination. It offered to show the Commission improvements in certain phases of their system about which the Commission expressed doubts. The Commission denied the petition giving among other reasons that "delay in reaching a determination . . . would not be conducive to the orderly and expeditious dispatch of the Commission's business".

The Commission recognized and the record before the Commission is replete with evidence that rapid strides are being made toward the perfection of a fully compatible system. There is ample basis for the conclusion that the scientists laboring in the laboratories of the industry may soon resolve the problem of compatibility. In view of the admittedly fluid state of the art, it is difficult to under-

stand why the Commission refused to hear additional evidence and chose instead a course of action, using its own words, based "on speculation and hope rather than on demonstrations."

It is estimated that the cost of conversion to the new standards set by the Commission will cost the public in excess of \$1 billion. If hope and speculation may lawfully be substituted for evidence as a foundation for an important part of its decision, it was an abuse of discretion not to have indulged this speculation and hope in the public interest. The Commission chose a speedy determination of an issue of great public interest in preference to the more patient consideration which the magnitude of the question warranted. To prohibit the broadcast of color

in completely compatible systems, whether it is RCA or any other fully compatible system, is a bar to competition between compatible and incompatible color and is unreasonable and arbitrary.

It is my opinion the Commission's precipitous action in entering the order, the impact of which will require owners of television sets to install equipment at a cost of many hundreds of millions of dollars, and its refusal to hear additional evidence clearly indicates an abuse of discretion and constituted action which was arbitrary and capricious.

I would overrule the motion to dismiss and for a summary judgment and would restrain the enforcement of the order.

Controversy Rages

EXCHANGE OF OPINIONS ON COLOR TELEVISION ISSUE

Between Editors of *Washington Daily News* and FCC Chairman Wayne Coy

See also pages 5-6 for exchange of letters regarding FCC request RCA make tri-color tube available to CBS

Editor's Note: These editorials, press releases, etc., are reprinted verbatim because (1) they were by way of becoming a cause celebre on the Washington scene this week, though they obviously have national industry interest; (2) they offer an interesting and perhaps significant reaction of laymen, in no way connected with TV industry, to RCA's color demonstrations this week; (3) the replies by Chairman Coy, though obviously heated, plainly point to the conclusion that, regardless of outcome of court issue, FCC must inevitably view and study the RCA and all other proposed systems and at least re-examine its recent highly controversial color decision.

Gorgeous Telecolor

(Editorial in *Washington Daily News*, Dec. 6)

WE went down to the National Broadcasting Company's studios at 14th St. and New York Ave. yesterday with Fred Othman to watch RCA's color television. His story about it is on the page opposite.

No doubt you've been reading about the row over color television. Particularly if you're a television owner, or if you're selling television sets, because the kind of color broadcasting which is permitted by the Federal Communications Commission definitely hits you right in the pants pocket.

FCC, led by Wayne Coy, decided to okay Columbia Broadcasting System's color technique. This calls for that motor-driven pinwheel arrangement you've heard about. It also would "degrade," as the trade calls it, the black and white you receive on your current set. Also, you'd have to spend more money on your present set in order to get even the inferior black and white broadcast. And still a lot more money for another color set or converter, if you wanted color.

Comes now the RCA with a demonstration which makes the FCC position either dishonest or silly.

There is no third choice of adjectives.

RCA has been trying to tell FCC about its progress in making a set in which the tube would do all the work, without a mechanical pinwheel, and which would not hurt black and white broadcasting.

RCA didn't invite FCC to its demonstration yesterday. Checking on that, we discovered FCC had been invited several months ago to come and take a look at it, and had refused. Said the matter was closed. How do you like that?

Anyway, take our word for it, the RCA color broadcast was swell. It didn't interfere with black and white, which was shown on a screen right beside the color set. That is to say, in video language, the color broadcast was "compatible" with the 10,000,000 sets now in existence. So your present set, under the RCA color broadcast system, would still be good and useful.

If FCC will change its position to conform with realities, your black and white set will receive broadcasts un-

diminished in clarity. Sets presently on store shelves will not be suddenly obsolete. You'll buy color if, as and when it is available, and you want it.

This will be some time in the future, because of the war situation. The FCC refused to withhold its recent decision, even tho military considerations might delay production of color video. It said the public needed color television (the pinwheel kind) right away. It's haste, to some folks, was unseemly.

At any rate, delay is now a fact; just as real as RCA's new color tube. And the military crisis, which will dip heavily into electronics production capacity gives the FCC an out. That is, if the FCC has enough sense or intellectual integrity to take it.

Since defense needs are going to delay all color television in any case, the FCC should use this time to restudy and rectify its present questionable position.

Polychrome Crow . . . By Fred Othman

(United Features Syndicate column, Dec. 6)

LOOKS to me like the ladies and gents of the Federal Communications Commission must be blushing in glorious technicolor. Or would be, if they only knew what was cooking in the way of color television.

They're the bureaucrats, you doubtless remember, who ordered the television business to adopt the Columbia Broadcasting System's spinning disc scheme of color video. Even if it would make every black and white TV set obsolete overnight.

They are the ones who added that the Radio Corporation of America's color tube obviously was no good and why foist a flickering monstrosity, which turned the faces of the comics green and sometimes lavender, on the public? Haw.

RCA filed suit against CBS and the FCC, while Brig. Gen. David Sarnoff, its president, stood over his engineers with a blacksnake whip and told 'em to improve that tube in a hurry. They did an amazing job.

* * *

So Sarnoff brought his new color television set here for a formal demonstration. It wowed the customers. No

electric motors, no spinning discs and not even any extra dials and yet I'd say that it worked every bit as colorfully as CBS's job. Only difference was that Sarnoff's set runs on black and white as well as color and if he could put it into operation tomorrow, the present owners of TV sets never would know the difference.

About the only people hereabouts who did not see the demonstration were—you guessed it—the members of the FCC. Sarnoff didn't formally invite 'em.

But he did say he would have been delighted if they'd dropped in without an invite. They didn't and that just goes to show how people, like nations, can euchre themselves into magnificent jams. What happens next I have no idea.

All I know is that I was looking at two TV sets side by side. One picked up the program in black and white; the other in full color generated inside the tube.

So there was a beautiful brunet with diamond earrings who seemed to be wrapped in layer after layer of red, green, blue, and yellow bath towels. These she started to remove in a kind of strip tease and as she peeled 'em off, she said: "We are bringing wonderful, beautiful, colorful color into our homes." When the last towel came off there was the lady still fully clothed in a shimmering red evening gown.

* * *

The high point of the program, I guess, was still another lovely in one of the lowest cut evening gowns since Faye Emerson, announcing that she had something beautiful to show the people. So the camera slithered down her green-clad torso, picked up a white-covered table in front of her and came to rest—honest injun I swear I'm telling the truth—on a ham. Pink where it was sliced and studded with yellow pineapple slices and red cherries.

You get the idea. The thing works. Sarnoff said if it weren't for a war and a lawsuit he'd be able to get the sets into volume production in perhaps another year. Commissioners, I'd suggest you pull your hats down over your eyes and sneak in for a look.

Statement by Wayne Coy, FCC Chairman

(Issued as Press Release, Dec. 6)

SO much misinformation has been made available to the public to the effect that the Federal Communications Commission has refused to look at the improvements made in the Radio Corporation of America color system that I feel called upon to make a public statement setting the record straight.

The record in the color television proceeding was closed on May 26, 1950.

On July 31, 1950, while the Commission was considering the record evidence before it, the Radio Corporation of America filed a progress report with the Commission stating that they had made improvements in their system. This progress report did not ask the Commission to reopen the record to consider the improvements which the Radio Corporation of America said had been made in its system. The Commission did not receive any request either in connection with the progress report or otherwise from the Radio Corporation of America asking that the record be reopened.

In fact, a letter from David Sarnoff, Chairman of the Board of the Radio Corporation of America, to the Chairman of the Federal Communications Commission, under date of August 2, 1950, completely sets the matter to rest and makes it clear that the Radio Corporation of America neither asked that the record be reopened nor that there be any other delay in a decision in the color television matter. Mr. Sarnoff's letter is quoted herewith:

The Honorable Wayne Coy
Chairman
Federal Communications Commission
Washington, D. C.

Dear Chairman Coy:

We write with reference to the color television matter which is pending before the Commission.

Items have appeared in the trade press that there are those who are in favor of delay in the disposition of this matter by the Commission.

On behalf of RCA and NBC we wish to reiterate that we have not and do not favor any delay in the establishment, by the FCC, of commercial standards for color television.

Sincerely yours

RADIO CORPORATION OF AMERICA

By /s/ David Sarnoff

Chairman of the Board.

In a report dated September 1, 1950, the Federal Communications Commission found that the field sequential system (proposed by the Columbia Broadcasting System) was the only system ready for standardization. This report rejected the Radio Corporation of America system and the Color Television Incorporated system on the ground that they were not ready for standardization and set forth in particular the defects which the Commission found in these systems.

On September 28, 1950, the Radio Corporation of America filed comments on the proposal of the Commission dated September 1, 1950, to standardize on the CBS system in which they asked that the final decision be delayed and that the Radio Corporation of America be given opportunity to demonstrate its improved system on December 5, 1950.

In a report dated October 10, 1950, the Commission made final its proposal to establish the field sequential color television system as standard and rejected the petition of the Radio Corporation of America to delay final decision in order that they might demonstrate improvements in their system.

It is important to note the great difference of position of the Radio Corporation of America on August 2, before any decision, preliminary or otherwise, and their position after the September 1 report of the Commission. Radio Corporation of America did not ask to reopen the record to witness improvements which they reported on July 31, 1950, but after the September 1 report of the Commission rejecting the RCA and the CTI systems they have a sudden change of heart and want the record kept open to demonstrate improvements. It is perfectly clear that they want a decision on the record of the case which closed on May 26, 1950, if they could win the decision. But when they saw that they did not win the decision, they suddenly reversed themselves and set up a public clamor that the Commission had refused to look at the improvements in their system which they reported on July 31, 1950.

The Commission cannot and will not close its eyes to any new developments in the radio field—and this includes improved color television systems. In fact, the Commission set forth in its second report (dated Oct. 10, 1950) in paragraphs 15, 16 and 17 the procedure under which it would consider other television systems than the field sequential system which it approved in its report dated October 10, 1950. You may be sure that the Commission will follow the procedures outlined there in connection with the improvements in the RCA system or in any other system or in any new color television system which is developed.

The efforts of the Radio Corporation of America to make the public believe that the Commission refused to consider improvements in its system before reaching a decision in the color television case is an untruth—an untruth which is known to the officers of the Radio Corporation of America as is evidenced by the progress report of July 31, 1950, and General Sarnoff's letter of August 2, 1950. The efforts of the Radio Corporation of America to delay the Commission's decision adopting the field sequential standards after indicating that the field sequential standards were the only ones ready for standardization can only be understood to be a belated effort on their part to salvage

a situation in which they had lost their case before the Commission. You cannot ask for no delay in one breath (Aug. 2, 1950) and after losing your case expect to get your "second breath" for a new start.

The December 6 issue of the Washington Daily News has an editorial titled "Gorgeous Telecolor". I take no exceptions to any newspaper or anyone else having an opinion on color television. I do take exceptions to this editorial on two grounds:

First, the effort of the editorial to imply dishonesty on the part of the Commission in connection with the color television decision. If they had any evidence to support such a charge or inference, it is up to them to come forth with it or to forever hold their own dishonest tongues in making such inferences.

The second objection which I have to the editorial is to the following: "RCA didn't invite FCC to its demonstration yesterday. Checking on that, we discovered FCC had been invited several months ago to come and take a look at it, and had refused. Said the matter was closed. How do you like that?"

It is true that the Radio Corporation of America did not invite the Federal Communications Commission to its demonstration yesterday. General Sarnoff sent Mr. F. M. Russell, Vice President of the National Broadcasting Company, to explain to me that the FCC was not invited because their counsel had advised them that there would be an impropriety on their part if they invited the FCC to witness their demonstration during the pendency of the litigation over the Commission's decision before the Chicago court. The writer of the editorial could not have made a serious check with any one other than the Radio Corporation of America to have said that he had discovered that the FCC had been invited *several months ago* to come and take a look at it and had refused. The statements contained in this document are correct and I invite refutation of them. The writer of the editorial cannot have been referring to the petition filed by the Radio Corporation of America on Sept. 28, 1950, after the September 1 report of the Commission, because of the very language which he used. He said that he had discovered that the FCC had been invited several months ago to come and take a look at it, and had refused. The writer of the editorial knows the meaning of *several*. It is, according to the Oxford English dictionary, "A vague numeral of an indefinite (but not large) number exceeding two or three; more than two or three, but not very many." The writer of the editorial also knows from newspaper usage what the scale of counting is. It follows: one or two, two or three, a few, several, a dozen or so, a score or so, etc.

I make this statement because this lie about the Commission refusing to look at improvements in the RCA system is about to become big enough to be believed.

We're 'Incompatible'

Wayne Coy Says We Lie

(News story in *Washington Daily News*, Dec. 7)

AN editorial in yesterday's Washington Daily News was denounced as dishonest and a lie on two counts, in a publicity release issued by Wayne Coy, chairman of the Federal Communications Commission. The News replies in an editorial today, on page 44.

Yesterday's editorial discussed Radio Corporation of America's new color television tube, which had been given a showing here. The new tube produces color without any mechanical device such as is needed by the CBS machine which the FCC had approved. The CBS system reduces the quality of black and white reception, and makes necessary costly modifications on all existing sets. The RCA color system is compatible with existing black and white sets.

Yesterday's editorial concluded that the FCC "should re-study and rectify its present questionable position."

Mr. Coy said the editorial implied dishonesty on the part of the commission and challenged The News to bring proof or "hold (its) own dishonest tongue." The News had said the position of the FCC, in the light of the RCA demonstration, was "dishonest or silly."

Mr. Coy also criticized a statement that the FCC had refused to take a look at RCA's newest tube.

Said Mr. Coy: "The writer of the editorial cannot have been referring to the petition filed by the Radio Corporation of America on Sept. 28, 1950, after the Sept. 1 report of the commission, because of the very language which he used. He said that he had discovered that the FCC had been invited several months ago to come and take a look at it, and had refused. The writer of the editorial knows the meaning of *several*. It is, according to the Oxford English dictionary, 'A vague numeral of an indefinite (but not large) number exceeding two or three; more than two or three, but not very many.' The writer of the editorial also knows from newspaper usage what the scale of counting is. It follows: one or two, two or three, a few, several, a dozen or so, a score or so, etc.

"I make this statement because this lie about the commission refusing to look at improvements in the RCA system is about to become big enough to be believed."

In today's editorial, The News quotes, with dates and letters, from the RCA petition, as evidence which supports the charge that FCC refused to look at the new development.

Last night, the following comment was issued by Brig. Gen. David Sarnoff, chairman of the board of the Radio Corporation of America:

"I have just read the statement of Chairman Coy. My letter of Aug. 2d was written for the purpose of denying items which had appeared in the trade press that manufacturers, including the RCA, were in favor of delay in the adoption of commercial standards for color television. We were not then nor are we now in favor of such delay. Mr. Coy cannot fairly use my letter as an excuse for the commission's failure to comply with the request contained in our letter of July 31, 1950, to the commission enclosing copies of our progress report, in which we stated:

"If members of the commission or its staff are interested in obtaining further information on the work referred to in this progress report I will be glad to furnish it or arrange visits for them to see the work and discuss the results with RCA engineers. I request that you kindly supply a copy of this report to each member of the commission."

"No reply to our letter was ever received from the commission.

"I think this quotation suffices to show that the commission was requested in advance of its first report of Sept. 1 to view the progress which had been made by RCA and which was reported to the commission on July 31.

"The reference to 'commercial standards' in my letter is defined in my testimony before the commission. I said:

"I believe that the standards to be set by this commission should meet three basic requirements.

"1. The commission has proposed that the width of the channel be six megacycles. That requirement should be met.

"2. The color pictures, by whatever system transmitted or received, should not be inferior in quality and definition to present black-and-white pictures.

"3. The color system should be compatible with existing black-and-white standards.

"In thereafter adopting standards for an incompatible degraded system of color television it is obvious that the commission totally ignored the basic requirements 2 and 3 of my recommendations for commercial standards.

"(Signed) DAVID SARNOFF."

The Tube Blew

(Editorial in *Washington Daily News*, Dec. 7)

PART of a handout which Wayne Coy of the FCC got out yesterday threw a big ripe verbal tomato at our Wednesday editorial on color television.

Two points burned him:

First, he didn't like our paragraph, "Comes now the RCA with a demonstration which makes the FCC position either dishonest or silly." Mr. Coy said we implied the commission was dishonest and challenged us to come forth with proof "or forever hold (our) own dishonest tongues in making such inferences."

If, as and when we can prove that Mr. Coy, or the FCC, or anybody else anywhere is dishonest, we'll print the news without asking his permission, of course. But what we said was clear enough, as you can see from the above quote.

To repeat, we simply said the FCC's position, in the light of RCA's demonstration, was either dishonest or silly. There's a choice. If Mr. Coy wants to take up the softer impeachment, we'll report his remarks as accurately as we can, and discuss them, we hope, with at least as much relaxed and balanced objectively and graceful good humor as characteristically adorns his public utterances in this shindy. Anyhow, we'll try.

Mr. Coy's second gripe is that we said RCA had invited FCC to come and take a look at its new tube several months ago, and FCC had refused. Why this makes Mr. Coy so mad we don't know. It's in the record. Mr. Coy declares we weren't referring to the petition filed by RCA on Sept. 28, then follows with some gobbledegook about our use of the word "several," which may be Mr. Coy trying to be funny, and for all we know, he is. We just don't get it.

Anyway, here's what RCA's petition said:

"We believe that in a rule-making proceeding of the importance of this one, it is the duty of the commission, before making findings at odds with those of a group of scientists of the stature of the Condon committee, to keep the record open and to inform itself as to the basis for the findings of that committee.

"We believe that in the circumstances the commission had the same obligation with respect to the RCA Progress Report. That report was given to the committee a month before its decision. If the testimony of the electronics experts to whom we have referred had been accepted, there would of course have been no need to consider a report which said that improvements which had been promised during the hearing had actually been accomplished."

"But a decision was drafted which rejected that testimony and outlawed a system on the basis of alleged defects which the Progress Report said had already been eliminated. This, we submit, was to turn its back on evidence when the commission had an obligation to look." (Italics ours.)

We now quote from a letter which is included in this petition and which was from RCA's Laboratories Division, on the letter head of C. B. Jolliffe, executive vice president, dated July 31, 1950, to Hon. T. J. Slowie, secretary of the FCC.

The letter stated 20 copies of a Progress Report were enclosed, and said "If members of the commission or its staff are interested in obtaining further information on the work referred to in this Progress Report, I will be glad to furnish it or arrange visits for them to see the work and discuss the results with RCA engineers."

There it is. In the record. Note the date. July 31, 1950.

Mr. Coy wound up his blast at us by saying that he made his statement "because this lie about the commis-

sion refusing to look at improvements in the RCA system is about to become big enough to believe."

We can't poll all of our readers about Mr. Coy's three-lettered word, but we certainly agree with Mr. Coy that in view of the unrefuted documents we have just quoted from, statements that FCC doesn't want to look at improvements in the RCA system certainly are likely to be believed.

Finally, the whole world, including Mr. Coy, knows that dishonesty does not mean specifically getting gold out of a little black bag in a little green house on K-st, in Harding Administration style.

There is intellectual honesty, and intellectual dishonesty, too.

Washington is full of well-to-do boys who know legally how to help a friend. There are lads who, as Government officials, accept compromises and later turn up in law firms of outfits which got the settlement. There are lads who, as officials, approve Government loans and then turn up as well-paid executives of the enterprises which get the money. There are graying New Deal crusaders now in private practice, selling their entree to bureaucracy's private offices. There is the official interpretation, which, ethical as all hell, hides behind the letter of the law to help a friend.

Whether or not Mr. Coy and the editor of this newspaper indulge in a boring "you're another" campaign will not add to or subtract from cynical speculation if FCC refuses to consider this latest television development on its merits, and instead persists in holding to a decision which, except for the war crisis that keeps color sets from being produced in mass quantity, would cost television owners and dealers literally hundreds of millions of dollars.

Anyway, as Fred Othman said in his column yesterday, "Commissioners, I'd suggest you pull your hats down over your eyes and sneak in for a look."

No hard feelings, Mr. Coy.

Reply of Chairman Coy

(Issued as FCC Press Release, Dec. 7)

CHAIRMAN WAYNE COY today made public a letter addressed to Mr. John T. O'Rourke, Editor of The Washington Daily News, together with a copy * of a letter from C. B. Jolliffe, vice president of the Radio Corporation of America, which is referred to in the letter to Mr. O'Rourke. The letters follow:

December 7, 1950

Mr. John T. O'Rourke
Editor, The Washington Daily News
Washington, D. C.

Dear Mr. O'Rourke:

No hard feelings, Mr. O'Rourke, but may I make an observation or two about your editorial "The Tube Blew," published in the Washington Daily News today.

I am aware of the letter of July 31, 1950, addressed to the Federal Communications Commission by Mr. C. B. Jolliffe, Vice President of the Radio Corporation of America. I am also aware of the fact that this letter did not ask us to reopen the record in the color television proceedings and that it was followed by a letter from Mr. Sarnoff, Chairman of the Board of RCA, stating in no uncertain terms that RCA did not want any delay in the color television decision. It is true that the RCA did ask any one of the Commission or its staff who was interested to take a look at the improvements which they said they had made, but the point has not been emphasized that the Commission and its staff could not take a look at the improvements and in any way consider what they saw in connection with the color television decision because what they would see when they looked would not be a part of the record in the proceedings which had been closed on May 26, 1950. The

July 31, 1950

Honorable T. J. Slowie, Secretary
Federal Communications Commission
Washington 25, D. C.

Dear Sir:

There are enclosed 20 copies of "Progress Report of RCA on Color Television and UHF" which was prepared for the information of the radio industry. It is expected that additional reports of this kind will be distributed from time to time. As they are issued, copies will be sent to the Commission for the information of the members and its staff.

If members of the Commission or its staff are interested in obtaining further information on the work referred to in this progress report, I will be glad to furnish it or arrange visits for them to see the work and discuss the results with RCA engineers.

I request that you kindly supply a copy of this report to each member of the Commission.

Very truly yours,
/s/ C. B. Jolliffe.

Newspaper's Last Word

THE *Washington Daily News* responded Dec. 8 to Mr. Coy's Dec. 7 letter to Mr. O'Rourke by printing it in full, with the following additional editorial note:

"Mr. Coy and Mr. Sarnoff most decidedly disagree as to what the July 31, 1950 letter meant. Mr. Coy says it didn't say come and look. Mr. Sarnoff says it did. And where we differ with Mr. Coy is in his conception of what constitutes admissible evidence.

"Suppose FCC were judge in a murder case, instead of in a controversy involving the possible unnecessary expenditure of hundreds of millions of citizens' dollars. What would you think of such a judge who would not reopen to consider reported new evidence because it might alter the verdict, which is, of course, exactly what new evidence is submitted for? Or who refused to reopen because the new witnesses would have to be cross-examined, or the record reopened?

"However, we're glad to let Mr. Coy say his piece, although we utterly disagree with his policy."

requirements of the law are that evidence to be considered must be submitted on the record and those testifying are subject to cross-examination. In the instance we are discussing (the RCA letter of July 31, 1950) there was no request for the reopening of the record and it is clear that unless the record was reopened for the purpose the "look which the Commission and its staff were invited to have would have been outside the record and intended only for the purpose of influencing a decision with evidence outside the record. And more than that, to repeat, we were urged by General Sarnoff himself to have no delay in reaching a decision in the case.

I think I should add that had the Commission accepted the Radio Corporation of America's invitation to "look" outside the record, it would have been error which probably would have been grounds for appeal to the court had the "look" been tied up with any decision favoring the RCA color television system. To have been able to consider such a "look" in connection with the decision-making process, it would have had to provide for a "look" by all the other parties to the proceeding and their opportunity to cross-examine on the basis of what they saw when they "looked."

The Commission had to decide the case on the basis of the record, but in making its decision on the record evidence before it, it provided a proper procedure for taking a "look" at the improvements in any system, including RCA's, and any improvements in any other color television systems or any newly proposed color television systems. As I pointed out in my statement yesterday, that procedure is set forth in paragraphs 15, 16 and 17 of the Commission's Second Report in the color television proceedings dated October 10, 1950.

As for Mr. Fred Othman's comment in his column in the *Washington Daily News* of December 6 suggesting that the Commission pull their hats down over their eyes and sneak in for a look, I can assure you that it is not necessary for us to do that. On October 10, as I have stated before, the Commission prescribed the way in which we would take a look at any improvements or any new color television systems. It will be done openly and above board and pursuant to the requirements of law.

Sincerely yours,

/s/ Wayne Coy
Chairman

ANOTHER EXCHANGE OF LETTERS RELEASED BY FCC

Editor's Note: Chairman Coy on Dec. 7 also issued press release making public his reply to an inquiry from W. F. Kennedy, president of Ott-Heiskell Co., Wheeling, W. Va. (Crosley distributor), regarding the Commission's request that RCA make its tri-color tube available to CBS (see Television Digest, Vol. 6:44-45). Full text of both letters:

November 6, 1950

Mr. Wayne Coy, Chairman
Federal Communications Commission
5215 Watson Street
Washington, D. C.

Good morning Mr. Chairman:

A news item carried in the *New York Times* of today is a bit disturbing if it correctly states the case. In a land where free enterprise and competition among free men is the rule it would seem to me—an individual on the sidelines—as very unfair, not to say unethical, to ask one man to hand over to his competitor the development of an idea that he had been working on.

Are we to understand that the government as a referee or umpire is requesting one man to tell another one just how he proposes to work. To me, let me repeat, if the news item is correct it is also an unthinkable procedure.

Cordially yours,

/s/ W. F. Kennedy

December 5, 1950

W. F. Kennedy, President
Ott-Heiskell Company
Wheeling, West Virginia

Dear Mr. Kennedy:

I have your letter of November 6, 1950, in which you refer to a news item commenting on the Commission's request that RCA make its tri-color tube available to CBS so that the Commission might view a demonstration of its use on the CBS field sequential color system. I regret that the pressure of business has caused me to delay in replying to your letter. It is a pleasant change to receive a letter from a fair-minded person who makes the effort to learn the facts involved before making up his mind. These are the facts:

The Commission has adopted final transmission standards for color television based on the CBS field sequential system—the only color system proposed to the Commission which met the minimum requirements for such a de-

velopment. The other two color systems proposed by RCA and CTI, did not meet these minimum criteria. The Commission was willing to adopt the CBS system on the basis of the evidence in the record of the color hearings which proved to its satisfaction that this system produces satisfactory color pictures on direct view tri-color tubes of at least 12½ inches in size, and on projection receivers. It was the Commission's sincere belief that any additional delay in reaching a final decision on color would not serve the public interest. For, the longer we waited before arriving at a final decision, the greater would be the number of receivers in the hands of the public which would require adaptation or conversion if, at a later date, the CBS system were adopted by the Commission. Therefore, despite the present limitation on the size of direct-view tubes under the CBS system, the Commission adopted this system with full confidence that the radio industry would succeed in constructing the apparatus necessary to eliminate this limitation.

RCA representatives testified at the color hearings that it was actively engaged in the development of a tri-color tube which is not limited in size to 12½ inches. This tube was demonstrated at the hearings on April 6, 1950, but the Commission was unable to make a determination that a successful tube had been developed at that time. All of the expert witnesses, however, including those testifying on behalf of RCA, were agreed that a successful tri-color tube when developed could be employed on the CBS system.

For example, on February 27, 1950, Dr. Engstrom of RCA testified in the color hearings that the tri-color tube could be used on the CBS system and that such a tube "would permit a picture the size of the diameter that the tube itself provided." On April 4, 1950, Dr. Engstrom testified that if CBS standards were adopted, RCA would "proceed to make whatever tubes others would wish to purchase and use." On April 11, 1950, he testified that "We are setting out to do everything we can to put ourselves in a position to have the tube available, to make it ready for whatever service it can render."

Thereafter, on May 3, and 4, 1950, General Sarnoff, Chairman of the Board of RCA, testified at the color hearings that if the CBS system were adopted, RCA "would make and sell tubes, including our tri-color kinescopes, and parts, to anyone" and that the Commission "is fully entitled to whatever information we have on this tube, to whatever demonstrations we can make, and that we are only happy to do so."

Finally, on July 30, 1950, Dr. Jolliffe, Executive Vice-President of RCA, submitted a Progress Report to the Commission, which discussed, among other things, RCA's

work on the tri-color tube, stating "It is hoped that the supply of tubes will be such that samples can be made available to the industry in the fall for their own study and development work."

In light of these representations proffered by RCA's top officials, I think you will agree that the Commission had a sound basis for its desire to view a demonstration of the tri-color tube on the CBS system, and for its expectation that RCA was prepared to cooperate in effecting such a test. In fact, on October 13, 1949, Dr. Charles W. Geer, holder of a patent on a tri-color tube, testified that he had received a letter from Dr. Jolliffe asking if Dr. Geer had available a tri-color tube which could be used in connection with the RCA color system.

Although the Commission has adopted final standards for color transmissions, we are not blind to further improvements in the art and we have welcomed continued experimentation in all phases of television broadcasting, including color. Thus in requesting RCA to make its tube available for testing on the CBS system, the Commission is seeking to arrange a technical demonstration directly related to its duties and functions under the Communications Act—to bring the best possible color television to the American people.

I recognize, of course, that the issues in the color hearings are subject to divergent views and opinions. However, I should like to note that the color decision was reached only after the Commission *en banc* had conducted extensive hearings which began on September 26, 1949, and were concluded on May 26, 1950. At these hearings the Commission heard the testimony of 53 witnesses, comprising 9,717 pages of transcript, during 62 days of hearing and received 265 exhibits in evidence. Demonstrations of proposed color systems were viewed by the Commission on eight separate occasions and comprehensive and detailed proposed findings and conclusions submitted by the parties were given careful consideration.

I am enclosing for your information copies of the "First Report of Commission (Color Television Issues)" (FCC 50-1064) issued September 1, 1950, and the "Second Report of the Commission" (FCC 50-1224) issued October 11, 1950. I believe that a careful reading of the Commission's findings and conclusions in the color hearings as set forth in these Reports will furnish the basis for an understanding of the problems involved, and of the Commission's opinion with respect to the solution of these problems.

Sincerely yours,

/s/ Wayne Coy
Chairman