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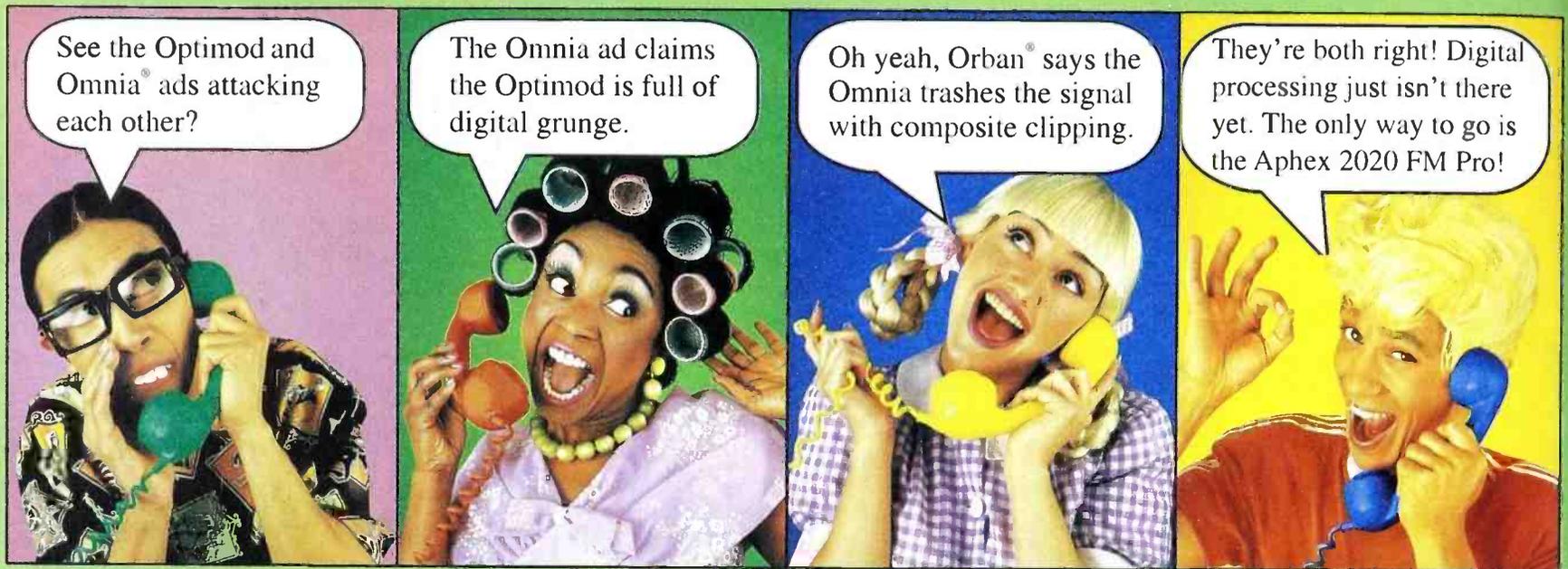
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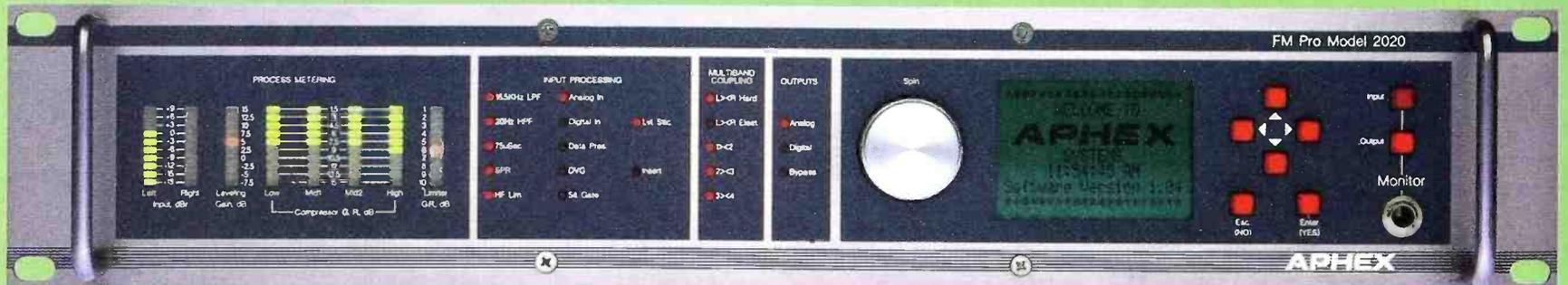
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Church leaders endorse non-comm LPFM

During the first meeting of its kind, a national coalition of religious leaders urged FCC Chairman **Bill Kennard** to authorize low-powered FM (LPFM) stations and license them as widely as possible throughout the US. That is, with one catch: The new LPFM stations should be licensed as non-commercial broadcasters.

"In our view, the present concentration of control of radio stations in a handful of powerful corporations is a threat to our democratic institutions. For commercial purposes, audiences are deliberately segmented by age, sex, race and ethnic origin, even by political bias," said Rev. Dr. **Joan Campbell**, General Secretary of the National Council of Churches.

While all of the leaders present during the roundtable discussions 5/13 in Washington, DC supported LPFM,

they cited varied reasons, including educational opportunities, community outreach to homebound citizens, networking with other local denominations and providing local news in languages other than English.

"We're finding fewer outlets, yet a greater need to convey information," said **Catherine Grincewich**, Assistant General Counsel, US Catholic Conference. "Low-power radio could be that voice."

Though Kennard seemed thrilled to hear the positive comments, he did say more details need to be worked out, such as non-commercial vs. commercial, how to license the stations and how to maximize their usage.

"We must do it [LPFM] in a way that protects existing broadcast signals and does not impede the conversion to digital radio," said Kennard. "We need to work together, and together with existing broadcasters, to make this work for everyone."—TS

Chancellor's AMFM Interactive: the details

Chancellor's (O:AMFM) Internet Corporate Initiative, AMFM Interactive (AMFMI—RBR 3/1, p.4), will be the Internet platform for all Chancellor radio properties, tying in all stations by the end of the year. Capstar stations are yet to be determined—the official merger should be done by Q3. Ultimately in charge of AMFMI, Chancellor Media Services CEO **Steve Hicks** is holding a board meeting on 5/18 to determine many of the final details. The formal announcement is coming later in the week. Already, AMFMI Human Resources is hiring Internet Content Managers and Directors in top 20 markets.

At this point, under the AMFMI model, there will be little, if any, traditional banner advertising opportunities for on-air advertisers to get on the sites. Says **Chuck Armstrong**,

Chancellor's SVP, Entertainment and New Media: "It's not going to be a traditional ad model. Unless it's something that makes sense for the listener, something consumer-centric or value-added that can be tied to the radio station, it won't come on the site—we won't allow it to be a value-added promotional clear- inghouse for advertisers."

Great, but how can AMFMI be anything but a cost to Chancellor without banner ads (e-commerce from online CD sales won't do it alone)? The way revenues will materialize is through six major partners, including an Internet service provider (ISP), search engine, long distance carrier, music fulfillment house, movie/VHS fulfillment house and e-mail server. Not all of these partners have been decided yet. Here's how Armstrong explains the AMFMI revenue model: "We want to establish the value of the company first. The average cost per customer for somebody like @Home

or RCN [ISPs] is around \$100 per person. If we, through our active listener database, can deliver 2.5M people out of the 66M metro/80M TSA to a co-branded ISP service that we do, then take \$100 X 2.5M and you get \$250M in revenue, just from that one partner. People will pay us to drive traffic to them, we aim to become their local on-ramp. It's \$250M a partner over 18 months, each—that's what it costs to be one of the six partners."

Each station's site will offer customized content, live webcams in the studio, a station database, e-mail between DJs and listeners, polling, interactive playlists, news, online yellow pages, CD purchase links and more. AMFMI's beta test sites in Philadelphia are expanding this month to include Boston and New York stations. Said Armstrong: "The real test is Philadelphia. We're rolling out all the different functionalities. We had a

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soft launch [early this month] with WIOQ-FM (www.q102philly.com) and WYXR-FM (www.star1045fm.com). We will have the rest of the sites up and kicking by the end of the month [WJZZ-FM, WUSL-FM, WDAS-AM/FM]." All Philadelphia stations will use Real Networks' (O:RNWK) RealAudio and RealVideo players for the live streaming test, appearing as station-customized players.

AMFMI's vision is to be a network of local "mini-portals," revolving around a central hub. Currently, four Internet architecture companies are vying to be the system's backbone. AMFMI will employ a main distribution point or hub, with all Chancellor station Web sites across the country linked to this main host as spokes. To keep costs down and logistics in con-

trol, each format will have its own platform. Stations will plug in their localized elements such as yellow pages and local entrants for national formatic contests. Armstrong notes that using XML technology, stations can "take those common elements and make them uncommon" to give each station a customized look. Central content staff will create features like "CHR Artist of The Day," for promotional tie-ins with the stations and record labels. The Internet Content and Marketing Directors at each site works in combination with the Marketing Director and PD on a daily basis to co-develop in-market, artist-based promotions.

AMFM Radio Networks may get to link its personalities' Web pages to stations where appropriate.—CM

Revenues keep Marching on: Q1 up 15%

Double-digit revenue gains are continuing unabated in the early part of 1999. Local revenues were up 15%, which, combined with a 10% gain in national business, resulted in an overall gain of 13% for the month of March. Year-to-date, business is up 15%. This is an enormous gain over what is at the moment the highest-grossing radio revenue year ever, and it comes well ahead of an expected surge in advertising expenditures upon the advent of Y2K. Radio sales forces are partying like it's 1999.

All five regions enjoyed double-digit gains in local business, led by a 17% surge in the Southeast. National business fared best on the coasts (East up 15%, West up 12%), with more modest gains in the other three regions (6%-8%).

"We're seeing sales figures from smaller markets equaling or exceeding those from many of the industry's larger markets," said RAB President/CEO **Gary Fries**. "These...results are ...additional evidence that radio is growing on a strong foundation of enthusiastic support from listeners and advertisers alike."—DS

March 1999	Local	National	Jan.-Mar. 1999	Local	National
All markets	13%	10%	All markets	15%	14%
East	13%	15%	East	15%	21%
Southeast	17%	6%	Southeast	19%	10%
Midwest	11%	7%	Midwest	13%	11%
Southwest	11%	8%	Southwest	12%	12%
West	14%	12%	West	16%	12%
Local & Nat'l revenue March 1999			Local & Nat'l revenue Jan-Mar. 1998		
All markets			All markets		
			Source: RAB		

Dille and Hicks to keep licenses

An FCC administrative law judge has cleared the way for veteran broadcasters **John Dille** and **David Hicks** to keep their licenses after they were accused of misrepresentation to the FCC concerning Hicks' WRBR-FM South Bend, IN (Dille tried to finance his control of WRBR through his children's interest in the station).

Chief Administrative Law Judge **Joseph Chachkin** has accepted the deal proposed by the Mass Media Bureau (RBR 3/15, p. 3) under which

Dille's Pathfinder will pay a fine of \$30K and Hicks Broadcasting \$20K. The judge also ruled that the two are qualified to retain their broadcast licenses.—TS

Katz gets Knox

Former Interep VP Marketing of the Urban Radio Format Network **Brian Knox** has joined Katz Media Group's Urban Dimensions division. Dimension's President **Bonnie Press** said Knox "is one of the leaders in sales and marketing of Urban radio."—KM

NAB's request unfounded, says MMTC

It could be a political ploy, says the Minority Media and Telecommunications Council (MMTC) of the NAB's recent request to the FCC for more time to complete technical studies of LPFM.

The current deadline for comments is 6/1, but NAB President **Eddie Fritts** has complained that IBOC field tests will not be completed until 12/15 and at least 60 more days are needed (*RBR* 5/3, p.3).

"The NAB's sudden interest in these rules disguises the NAB's real inter-

est—inhibiting competition from new entrants," wrote MMTC Executive Director **David Honig** in a letter to FCC Chairman **Bill Kennard**. "An extension of time will not add much useful information to the record."—TS

AAF conducts benchmark survey

Last month it was a new committee formed to examine multicultural advertising practices (*AdBiz* 5/99, p.AB4). Now the American Advertising Federation Foundation (non-profit educational foundation of the AAF) is following that up with a new survey.

NEWS ANALYSIS

Radio of the future? Nah.

Yahoo! (O:YHOO) announced last week that it was adding ten channels of "radio" to its Internet portal—streaming audio with traditional broadcast elements such as jocks and spots.

It was the first streaming project announced by Yahoo since it cut a deal (still pending) to buy Broadcast.com (O:BCST), so we figured it ought to be worth checking out.

We went to the web site radio.yahoo.com expecting to sample the new "radio" offerings, but instead encountered a single "button" for Yahoo!Radio. OK, that's dumb, we thought, but we clicked the button. Still no "radio," but rather a requirement that we sign up for Yahoo's "personalized services" before we could even sample the new "radio" stations.

The sign-up form demanded, of course, that we select a user ID and password. Then it asked for a bunch of personal and demographic information. We answered all of the questions that we knew the answers to, then just made up the rest. Is this user friendly? Not a chance. Would any real radio station dare to pull this kind of crap on its listeners? No way.

At long last, we were able to go back to the entry page and log-on. We checked out the "Celtic" channel, "Alt.Rock," "Y!Jazz," "Electronica," "Y!R&B Jamz" and "Y!Country" before we lost all interest.

The Yahoo!Radio channel selector is just the usual Spinner console, using RealAudio. Not surprising, since Spinner built the site. It shows the song title, artist name, album name and the channel you are on as each song plays. Most of the tunes were very abbreviated versions, just a single verse (or less), then a brief pause before the next song.

We never did hear an announcer (or an ad, for that matter, although there were a few banners). It was just another boring Internet jukebox.

If you want to check it out, but don't want to bother with the sign-up, feel free to use our ID. The user name is "melkarmazin" and the password is "cbs."—JM

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The nations largest advertisers, advertising agencies, media companies and AAF's corporate membership received survey packets last week. In total, 550 organizations will be asked to provide information about minorities in their advertising and marketing divisions. They will also be asked to describe on-going diversity initiatives in their organizations.

An FCC study (*RBR* 1/18/99, p.3) had indicated a bias on the part of advertisers against minority-targeted and minority-owned stations. The survey will set a baseline for evaluating future advertising practices. The results will also help develop plans and policies to combat ad bias. The AAF expects survey findings to be out no later than September.—KM

Arbitron goes "top secret"

New this Spring—Arbitron to conduct ExitPoll studies in ten markets. This study will reinterview the diarykeepers of 89 stations in New York, Los Angeles, Chicago, San Francisco, Philadelphia, St. Louis, Miami, Boston, Seattle and Phoenix. In the Fall of 1998, some diarykeepers were already asked to detail their attitudes and perceptions towards music-formatted stations in six markets.

What's different about this ExitPoll is that results of the survey will not be made available to the press and consequently the public. "Image data directly from diarykeepers is much different than the quantitative and qualitative data that Arbitron usually sells. ExitPoll clients don't want non-clients to get insights from norms created from the research that the ExitPoll subscribers invest in," said **Bill Rose**, VP Marketing, Arbitron Radio.

The study will also include, for the first time, the reinterview of diarykeepers of Spanish language stations in New York, Los Angeles, Chicago and Miami.—KM

At deadline:

Greater Media's WXXM-FM Philadelphia (Modern AC) flipped to "Jammin' Gold 95.7," possibly beating any designs for Chancellor doing its now ubiquitous "Jammin' Oldies" in that market. CBS is also getting into the groove with WZMX-FM Hartford flipping to "Dancin' Oldies" 5/6.—CM

Pittman building AOL TV

America Online (N:AOL) announced four partnership deals with TV companies that are supposed to move the company toward Internet/broadcast convergence.

- DIRECTV Inc. will collaborate with AOL on a new service which will combine DIRECTV's satellite TV programming with what's called "AOL TV's enhanced interactive television Internet service."
- Hughes Network Systems will design and build the dual purpose AOL TV/DIRECTV set-top box.
- Philips Electronics will produce an advanced set-top box for AOL TV.
- Network Computer Inc. will provide the software for AOL TV.

These partnerships "are major building blocks for AOL TV," said **Bob Pittman**, President, AOL.—JM

V-Chip to get a force of its own

The FCC is stepping up its commitment to the V-Chip (adopted last year) by establishing a task force to be headed by Commissioner **Gloria Tristani**. The V-Chip allows parents to block television programming they deem as harmful for their children and is expected to be in every television set by 1/1/2000.

According to Chairman **Bill Kennard**, the new V-Chip Task Force will educate parents about the technology, ensure that the V-Chip works and gather information on the usage and effectiveness of the V-Chip.

"The V-Chip is a modern tool to help parents raise their children in a modern world," said Tristani. "I look forward to working with a variety of industry and consumer groups to make this technology available and accessible to parents in the coming months."—TS

Harris to market DTV set top box

Offering TV viewers the ability to watch local DTV broadcasts on their analog sets, Harris (N:HRS) is launching RCA's DTC100 set-top box in August (\$649 retail). The unit converts digital signals to an analog display. It can be used with the DIRECTV satellite service, and delivers the same quality pictures for local stations. "You would connect it the same way you connect any cable box, VCR or S-Video [satellite]. This also allows people to combine local broadcasts— analog and digital—with regular DIRECTV and DIRECTV HD channels," said **Bruce Babcock**, VP, DBS software and new products planning, Harris.

Consumers will still have to buy new HDTV sets to get that level of picture quality, however, the DTC100 can provide near HDTV quality pictures on high-resolution analog sets.—CM

TV deal news

- Journal Broadcast Group is paying \$30M for KMIR-TV (Ch. 36, NBC) Palm Springs, CA, which will be the company's fourth TV property. *Broker:* Kalil & Co.
- Boston University is selling its three commercial TV stations, all independent UHF's in the Boston market, to DP Media. That's **Devon Paxson**, son of **Bud**, so you can guess what network they'll soon be carrying.
- CBS (N:CBS) will be producing 12 to 14 hours of its prime-time shows in DTV next season, as well as analog, at an added cost of \$10M. However, **Mel Karmazin** and his fellow shareholders won't have to pay a dime. Mitsubishi Electric has agreed to pick up the tab to convert the programs from film to digital in an effort to boost public demand for DTV sets. It's the first such deal between a receiver maker and a TV network.—JM

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Passing IBOC waveforms: an update on progress

As USADR continues to bring broadcasters on board as both investors (*RBR* 1/11, p.2) and field testers (beginning this Summer) of its AM and FM IBOC systems, the latest phase involves working with the equipment manufacturers. Through its technology and marketing development alliance program, manufacturers offer equipment and resources for testing and R&D. Harris, while not officially a member of the alliance, has demonstrated its DX and Gates series can pass USADR's AM waveform; its ZCD FM series has passed the FM waveform in the lab with minor adjustments. Nautel and QEI have signed on; Energy-Onix and BE have the contracts in hand. USADR has announced which models from each have successfully passed IBOC waveforms in the lab (*RBR* 4/19, p. 6). Continental says it will join the alliance soon (*RBR* 5/10, p.3).

USADR is working closely with manufacturers, testing and analyzing transmitters using its AM digital and FM hybrid analog/digital exciters that were co-developed with Xetron Labs of Cincinnati. Some are saying USADR may offer a digital module/exciter unit that will go into existing FM analog exciters. "The way we see the IBOC market developing is there is going to be a generation of transmitters that will come out with integral exciters, exciters manufactured by Harris, QEI, BE, etc., that will all have a module of the USADR exciter in them—both AM and FM," said **Jeff Detweiler**, Sales and Marketing Manager, QEI.

All progress and breakthroughs from each individual company are kept under non-disclosure agreements, therefore not all information is available. However, manufacturers did share common knowledge on passing the waveforms, what they're doing to improve linearity and efficiency, and

what air chain choices broadcasters have as IBOC becomes available.

How the alliance is working

"I've been extremely impressed with the level of expertise in the transmitter industry and their ability to deal with innovation and change necessary to pass IBOC signals through FM transmitters," USADR VP Broadcast Engineering **Glynn Walden** told *RBR*. "We've had modules in here from major transmitter manufacturers. We test them and send them back the results. They further optimize those results and send their modules back for further analysis. In some cases, like Nautel and Harris, we've actually sent them signal generators to generate the AM waveform so they can test their transmitters. Harris and Nautel each have an exciter they can test with." While everyone is excited about the preliminary results, there still needs to be a formal certification process and USADR is working with the manufacturers to define that process.

With all the money flowing in from broadcaster investments, USADR is employing 30 engineers in-house and 10 outside who directly or indirectly provide reports for manufacturers testing and tweaking for IBOC. "They've given me a combination unit, a hybrid [analog and] digital signal into our amplifier [the SSA-1000C FM 1kW] and it works. It works with regard to performance on the digital, and it also works with regard to the bandwidth occupied," said **Bernie Wise**, President, Energy Onix. "I got reams of data on what they did on this unit. They have digital only through the unit and they have analog and digital through the unit...this is the performance and this is what the mask would be on a combiner that has this kind of ratios."

Newcomer to the IBOC arena, Continental Electronics is now showing interest in providing products of its own. VP Engineering **Dan Dickey** is trying to dispel the consensus that Continental's work with Eureka-147



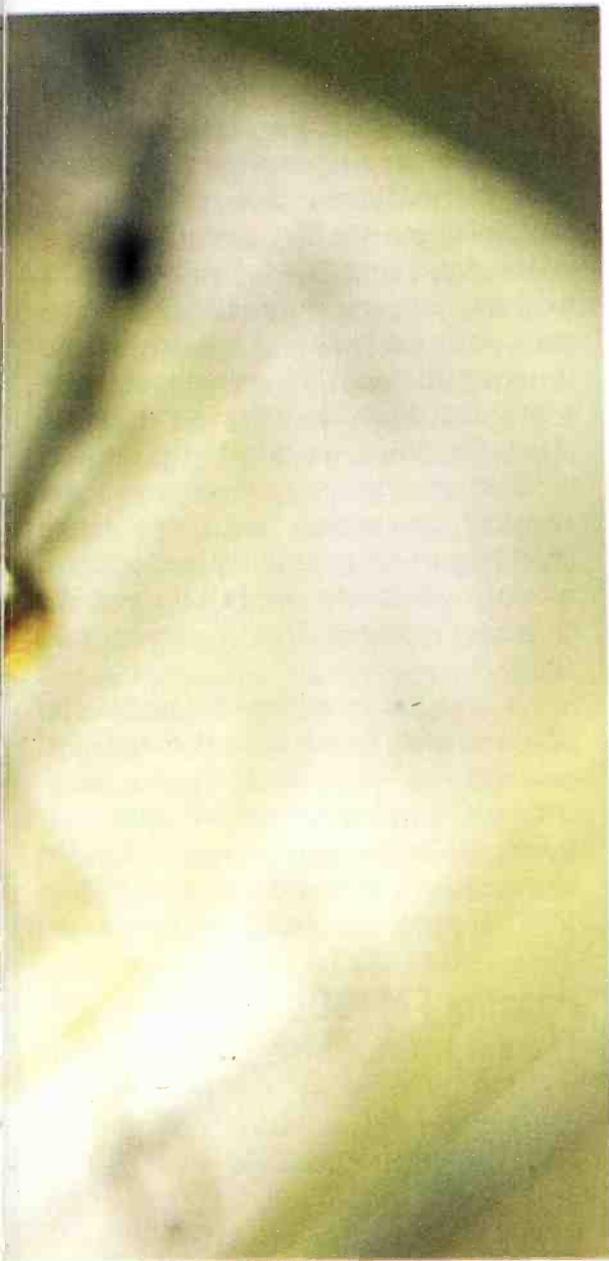
Fine tuning: A technologist adjusts the IPM compensation for optimum AM IBOC performance on the XL 12 model at Nautel's lab in Halifax, Nova Scotia.

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With specifications like this, it's hard to believe one would ever go down, but statistics show that a Harris DX transmitter might go off the air once every millenium or so. But, we doubt it.



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precludes it from IBOC. "We are working on a transmitter development that is a software-based modulator. If we had the specifications and any of the proprietary software that we would need, we could make it into an IBOC transmitter. We already have a transmitter now that we use for Eureka 147 that should transmit both the IBOC and FM combined signals with no problem."

BE, like Harris, is clear in recognizing that work with USADR isn't exclusive. Lucent Digital Radio and Digital Radio Express are still in the picture, competing for the standard. Says BE VP, RF Systems **Rick Carpenter**: "We're on-board, but we're paying attention to all the proponents because you can never tell exactly what's going to happen here. USADR has certainly been the most aggressive in courting the transmitter manufacturers, although we certainly have had talks with Lucent and DRE. USADR is the one with the program in place, and you work with the people that are ready."

Passing AM IBOC

While the numbers are soon to climb, only two manufacturers so far have passed USADR's AM IBOC waveform—Harris (the DX and Gates series) and Nautel (the XL series). The roadblocks to some transmitters are allowing for enough "headroom" for the digital signal's peak power (both AM and FM are multiples higher than the average power), its operational noise level and lack of stability, i.e. in existing older tube transmitters. "It all boils down to low distortion, low-noise transmitters. AM transmitters generate the analog signal, the amplitude modulation, directly in the transmitter. Just add an AM IBOC exciter to some of the models like DX series, Gates series, Nautel's XL 12 and probably ND series, and you have both generated from the same transmitter," said Walden.

Manufacturers differ on which modulation techniques are superior for AM IBOC signal integration—pulse duration modulation (PDM) or amplitude and phase modulation. What they agree on, however, is many existing AM transmitters will need at least an upgrade. "A conventional AM plate modulator transmitter, or even an older generation using single PDM modulation, will have a very difficult time producing the correct answer at

the output of the transmitter. With a conventional modulator, it's very difficult to get the information in the amplitude part and the phase to come together aligned in time correctly. This is because the AM modulator has a certain time delay," said Harris' VP, Advanced Product Development, **Geoff Mendenhall**. "If you go to higher-order PDM, like we use in our lower-power transmitters [one and five kW], we use four phase PDM. Then the delay in that modulator is less and it's easier to deal with. In our higher power [10kW+] DX series, we don't have a modulator, so the problem goes away completely. We just take the whole thing and put it together digitally in the output of the transmitter. This is the differentiator with our DX technologies—we invented it."

Nautel, using PDM, designed its XL series to accommodate IBOC in whatever peak power level a future standard might need. "There's several systems out there and there's no standard. So, when we developed the XL, we deliberately brought out a series of transmitters which had more power level headroom just to try and accommodate whatever would be needed," Nautel President **David Grace** told RBR.

As Walden mentioned, the Nautel ND series is being tested for "IBOC compliance," and is likely to pass, possibly employing minor modifications. BE's Carpenter says his AM transmitters are soon to be sent to USADR for testing and approval.

Passing FM IBOC

The FM hybrid IBOC waveform that USADR is offering for testing has passed through a handful of amplifiers/transmitter models so far—Energy Onix model SSA-1000C, QEI model Quantum 600E, BE model FM 500C1 and Harris' Z5CD. None of these models could pass the waveform with existing Class C biasing, however changing the biasing of the transistors to a less efficient, but more linear class AB did the job.

Broadcasters are left with a number of choices in upgrading to IBOC, choices best made in considering their current power levels. One way is to combine a digital transmitter with the existing analog transmitter, losing 90-95% of the digital power going up to the antenna. Combining the digital and analog signals after each are

amplified is inefficient. "Right now for FM, we're really talking about the same debate that raged for years in TV, between separate aural and visual amplifiers and combined aural and visual amplifiers. The equivalent of aural is the analog transmitters. The linear digital transmitter runs at a much lower average power. To combine those two would raise the power bill that the station consumes considerably," said Dickey.

Wise sums this up with a rough example of how the numbers could crunch for a station with an existing 35kW transmitter: "The average power of an IBOC signal, to give you the same coverage as an analog is 22dB down, so it could be about 200 to 1 with respect to the existing transmitter. So a 35kW transmitter divided by 200 is 175 watts. So you need 175 watts of average power. Let's say the peak is four times that—700 watts. Now if I have 100% efficiency in the combining, all I need is 700 watts. Let's assume I have a 10dB loss of efficiency—then I have to generate 7,000 watts—raise the power of the IBOC by 10 times."

Combining analog and digital is so lossy because combining two different kinds frequencies—analogue and digital—is much more difficult than combining two analogue frequencies. Says Carpenter: "You can build lossless combiners, but the problem you run into is it would cost more than buying a couple more transmitters, and it would be maybe the size of your living room."

Another way to IBOC, and the method USADR and manufacturers are working most toward is to combine the digital and analogue signals in a hybrid exciter. The downside is broadcasters would have to buy a more powerful amplifier, or upgrade the existing amplifier, to keep the current analogue power level. "Can I buy a transmitter today and know that I can do common amplification of DAB later? The answer is yes, but you will have to buy a bigger transmitter than just for the analogue signal. And so the issue is—depending upon the particular system that's chosen, how far down the DAB is below the analogue, and what the peak-to-average ratio of the DAB waveform is—the transmitter ultimately has to put out more peak power than just an analogue. Significantly more, up to twice," said Mendenhall.

When all the digital carriers add up at certain instances of time, there's a big peak power spike, and that has to be passed. "If you clip that, then you cause out-of-band distortion products. So the transmitter, even though it's running at a fairly low average power, the peaks are going way up," said **Jim Woods**, VP, Radio Broadcast, Harris.

And to drive both signals through one amplifier, the analogue class C mode, efficient for FM analogue's constant wave, has to be changed to a linear class AB. "And efficiency drops dramatically [40-50%] when you do that. Also, the maximum power output that you could get drops dramatically," said Mendenhall. "With a new Harris ZCD series, they run the analogue and IBOC exciters right into it. But in order to do that, you have to drop the power of the transmitter for the analogue signal to accommodate the digital and you also have to change the biasing."

To avoid efficiency losses from combining altogether, another choice is to use a completely separate digital air chain—antenna and digital transmitter. This is the method Digital Radio Express used in its San Francisco tests with KSAN-FM's auxiliary antenna (*RBR* 9/21/98, p.13). Finding another site could be real problem, especially in large markets with already combined signals. "They use these huge common antenna systems like at the Empire State Building. If you have to, then you have to put a combiner on the output transmission line, and then you have to go through the expense of a higher power transmitter to compensate for the loss in the combiner," said Wise.

Another option suggested was to polarize the DAB signal vertically, the analogue horizontally.

Efficiency improvements

USADR and the transmitter manufacturers are well aware that broadcasters are more likely to accept and adopt IBOC with lower upgrade costs and a low upgrade on the power bill. One key to both is improving the efficiency of combining the digital and analogue signals into one amplifier. Right now, the throughput efficiency is between 50-60%, which is not bad. Says Walden: "We don't want people to have to buy a 20kW transmitter for a 10kW radio station. We're working with the manu-

facturers to develop transmitters that do not have to be significantly larger than the station's existing transmitter to pass the analogue and digital signals simultaneously."

"It looks like we're all kind of in the same boat here. We're all using the same devices, components and combining technologies, were all at about the same level of throughput—50%. USADR has it fairly well figured out through the fine magic of pre-distortion or optimization, that we will be able to get the linearity we need and make them all work. There are a couple of transmitters—fairly narrow-band, probably half-wave cavity transmitters—that might be difficult to get to play this, but the rest of them should, including many of the tube models," says Detweiler.

The majority of advancement will come from optimization in the USADR exciter and improved linearities [what you put in is what you get out—minimal degradation] in amplifiers. "Amplifiers are non-linear. By knowing what the non-linearity is, you can throw in a correction. If you know you have this amount of degradation going through the system, you can compensate (optimize) by pre-distorting the waveform at the input, a pre-emphasis of the carrier," said Detweiler. "The way that's going to be accomplished is by doing some form of characterization—in other words knowing what your amplifier does when a waveform goes through it—and then compensating for those anomalies ahead of the system. If you know it's going to be a -3 coming out, you put in a +3 to make it linear. So we're going to do an optimization method by pre-distorting."

"We've been taking a look at that. One of the things that we have talked to everybody about is the pre-distortion thing works the best if you can run the feedback around the whole system. And so you have to have access to the exciter to make the best improvements. You can certainly do the loop around the exciter and the loop around the transmitter, but it works 10dB better if you can do an overall correction of the whole system," said Carpenter. "USADR is interested in giving the manufacturers some sort of [software] port—whether we end up writing our own pre-distortion codes or they write one for each of the manufacturers, and that could be 25 or 30 if this thing goes worldwide."

by Jack Messmer

de Castro & Hicks tout merger plan

Chancellor Media (O:AMFM) and Capstar (N:CRB) both reported record-breaking Q1 results last week (5/12) as both companies promoted their coming merger as a win-win for shareholders.

In Chancellor's conference call with analysts, Radio & Outdoor Group President **Jimmy de Castro** took exception to a questioner's suggestion that he had been less than enthusiastic about the merger, which has been pending for nine months (*RBR* 8/31, p. 12). "I absolutely believe we need that fuel," de Castro said, referring to the added bulk of Capstar's stations.

Later, in what was likely Capstar's last quarterly conference call, CEO **Steve Hicks** summed up what Capstar had to gain from the merger that it didn't already have as a sister company to Chancellor: "The sister thing is like kissing your sister—it isn't the

same thing as being married."

Hicks indicated that the shareholder vote will be 6/30, with the merger closing shortly thereafter. Capstar approval is guaranteed, since Hicks, Muse, Tate & Furst owns majority control. Despite one analyst's recommendation of a "no" vote, Chancellor shareholders are also expected to approve the merger.

Chancellor reported Q1 revenues up 50% to \$350.3M. Operating cash flow gained 57.4% to \$123.9M. On a pro forma basis, radio revenues rose 17.8% and cash flow 23.8%. Also pro forma, radio/outdoor/rep revenues rose 14.4% and cash flow 19.1%.

At Capstar, net revenues shot up 121.6% to \$142M and cash flow gained a whopping 205.4% to \$49.8M. On a same station basis, revenues rose 11.8% and cash flow 20.1%.

SLC to the Maximum

Bruce Buzil, Aaron Shainis and their associates are buying another move-in signal, with yet another company created separately from their main group, Marathon Media. In this case, Maximum Broadcasting Company LLC is paying \$1.5M for the construction permit to build KAIO-FM Randolph, UT. As it stands, the CP is for a Class A on 102.3 MHz and wouldn't cover more than a few thousand people. The price tag betrays where the real value lies—a pending upgrade to a full Class C, which would make it a viable signal for the Salt Lake City market. Maximum has the right to cancel the deal if, for some reason, the FCC doesn't approve the upgrade.

The seller, Randolph Broadcasting LLC, may not be familiar, but one of its principals is—**Vic Michael**. He's been out applying for new CPs and buying up existing ones since filling his bank account by selling his Cheyenne, WY stations to Jacor two years ago.

Sunburst grabs a growing station

Nicol/Excel Broadcasting's KLIS-FM Palestine, TX is currently a Class A station at 96.7 MHz, but it already has a CP to upgrade to Class C2. In addition, it has a rulemaking petition pending to change its city of license to Frankston. That would allow the new 50kw signal to city-grade a big chunk of the Tyler-Longview market, which explains why Sunburst Media is buying the station for \$793K. Sunburst already has one AM and four FMs in Tyler-Longview, but the relocated KLIS will have contour overlaps with only three of the FMs.

Jacksonville duo to Concord

Mark Jorgenson's Concord Media has stepped up to buy WZNZ-AM & WBGB-FM Jacksonville, FL, the left-overs from Clear Channel's (N:CCU) spin-offs (*RBR* 2/15, p. 12) for the recent Jacor merger. Concord will pay \$4.3M for the pair, which is currently in the hands of Trustee **Charles Giddens**.

New Century Arizona, LLC

has agreed to transfer the assets of

KHOT-FM

Paradise Valley (Phoenix), Arizona

for

\$18,300,000

to

McHenry Tichenor, Jr., CEO of
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Radio One's new owners

Now that Radio One (O:ROIA) has completed its IPO (*RBR* 5/10, p. 5) and become the newest radio stock on Wall Street, the nation's largest African-American-owned radio group is no longer a closely-held, family corporation. Of course, the two family members who previously owned all of the voting stock still own a lot of it—and the price has been running higher and higher on Wall Street, increasing their net worth.

At last Wednesday's (5/12) closing price of \$39.50, founder **Cathy Hughes'** stock was worth \$101M and son **Alfred Liggins'** stake was worth \$136.7M.

Here is a look at Radio One's largest shareholders, post-IPO:

Owner, title	Class A* Shares	Class B* Shares	Class C* Shares	Equity Pct.	Voting Pct.
Catherine Hughes, Chair	—	851,536	1,704,740	14.6	21.4
Alfred Liggins III, CEO	33,040	2,010,308	1,419,646	19.8	49.9
Scott Royster, CFO	—	—	49,191	0.3	—
Mary Catherine Sneed, COO	229,422	—	—	1.3	0.6
Alta Subordinated Debt Partners III LP	1,419,795	—	—	8.1	3.5
Syncom Capital Corp. & S.C. Venture Partners	1,184,318	—	—	6.8	2.9
Alliance Enterprise Corp.	587,971	—	—	3.4	1.5
BancBoston Investments	437,910	—	—	2.5	1.1
Fulcrum Venture Capital	273,420	—	—	1.6	0.7
Opportunity Capital Corp.	97,471	—	—	0.6	0.2

*Class A shares have 1 vote each, Class B shares have 10 votes each, Class C shares are non-voting

Source: Radio One SEC Form 424B1 filed 5/7/99

Big City revenues up

Big City Radio (A:YFM) saw Q1 revenue growth of 40% at \$3.4M. But the company is still struggling with negative cash flow, which widened to \$1.9M, compared to \$1.1M last year.

Michael Kakoyiannis explained, "During first quarter, we introduced a new morning show at our Modern Rock Alternative in Los Angeles and completed the purchase of our second station cluster in Chicago, 92KISS-FM."

Big City continues to acquire stations and attributes the red ink to

being in the early stages of development venture.—KM

Radio One cash flow up 40%

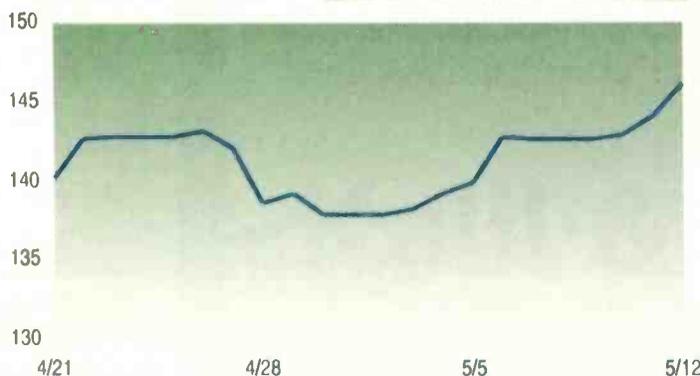
In its first report as a public company, Radio One (O:ROIA) said Q1 net revenues rose 48% to \$11.8M and cash flow gained 40% to \$4.2M. On a same station basis, revenues gained 28% and cash flow 46%. The company said some dilution of its financial results is expected as it works to absorb a number of recent acquisitions.

The Radio Index™

RADIO BUSINESS REPORT
Value of the Radio Broadcasting Industry

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The deals listed below were taken from recent FCC filings. *RBR's* Transaction Digest reports on all deals that involve assignment of a station license (FCC Form 314) and substantial transfers of control of a licensee via a stock sale (FCC Form 315), but not internal corporate restructurings (FCC Form 316). All deals are listed in descending order of sales price.

\$58,000,000—* KESZ-FM Phoenix from OwensMAC Radio LLC (Buck Owens, Michael Owens, MAC America Communications) to Citicasters Co. (Lowry Mays), a subsidiary of Clear Channel Communications (N:CCU). \$2.8M escrow, balance in cash at closing. **Superduopoly** with KNIX-FM, KMXP-FM & KZZP-FM. Broker: Blackburn & Co.

\$22,000,000—KEDJ-FM & KDDJ-FM Phoenix (Sun City-Globe AZ) from New Century Arizona License Partnership (George Kriste) to Big City Radio-Phoenix LLC (Michael Kakoyiannis, Stuart & Anita Subotnick), a subsidiary of Big City Radio (A:YFM). \$1.5M escrow, balance in cash at closing. Note: These two signals in the Phoenix market do not overlap and this application was filed before Big City's subsequent purchases in the Phoenix market. Broker: Star Media Group; Gary Stevens & Co.

\$11,249,001—WAHR-FM Huntsville AL, 100% stock sale of W.A.H.R. Inc. from Arnold Hornbuckle (59.4% before closing) and William Lane (39.7% before) to

STG Acquisition Services Inc. (Steve Shelton, 51% after closing, Michael Linn, 49% after). \$505K escrow, \$8.99M (less \$500K escrow) to Hornbuckle at closing, \$1 to Hornbuckle for non-compete agreement, \$2.2475M (less 5K escrow) to Lane at closing, \$2.5K to Lane for non-compete agreement.

\$11,000,000—* WBZA-AM & WZHF-AM Washington DC (Alexandria-Arlington VA) from OIA License LLC, a subsidiary of OIA LLC (John Douglas), to Mega Communications of Arlington License LLC, a subsidiary of Mega Communications (Alfredo Alonso, George & Adam Lindemann). \$11M cash. **Superduopoly** with WKDV-AM, WKDL-AM & WINX-AM. LMA since 3/26.

\$3,500,000—WORC-FM Worcester (Webster MA) from Chowder Broadcast Group LLC (Eric Seltzer) to Montachusett Broadcasting Inc. (Robin Martin, James Williams Jr., Susan Cochran, Melissa Phillips). \$175K escrow, balance in cash at closing.

\$2,050,000—WKCD-FM New London CT (Pawcatuck CT) from Saltaire Communications Inc. (Lois & Gary Girard) to Back Bay Broadcasters Inc. (Peter Ottmar, Estate of James H. Ottmar, David Ottmar, John Maguire, Barbara Ottmar, Brian Daisy). \$102.5K escrow, \$1.25M (less escrow) in cash at closing, \$800K note. LMA since 4/14. Note: No contour overlap with WWKX-FM Woonsocket-Providence RI. Broker: Media Services Group

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Company	Mkt:Symbol	5/5 Close	5/12 Close	Net Chg	Pct Chg	5/12 Vol (00)	Company	Mkt:Symbol	5/5 Close	5/12 Close	Net Chg	Pct Chg	5/12 Vol (00)
Ackerley	N:AK	16.750	17.812	1.062	6.34%	222	Harris Corp.	N:HRS	38.875	39.062	0.187	0.48%	2681
Alliance Bcg.	O:RADO	0.625	0.562	-0.063	-10.08%	11	Hearst-Argyle	N:HTV	26.125	25.875	-0.250	-0.96%	1565
Am. Tower	N:AMT	21.000	26.000	5.000	23.81%	8088	Heftel Bcg.	O:HBCCA	54.875	61.625	6.750	12.30%	1273
AMSC	O:SKYC	16.625	14.562	-2.063	-12.41%	803	Infinity	N:INF	26.437	27.500	1.063	4.02%	13271
Belo Corp.	N:BLC	22.062	23.375	1.313	5.95%	2224	Jeff-Pilot	N:JP	70.250	68.937	-1.313	-1.87%	2549
Big City Radio	A:YFM	4.500	4.125	-0.375	-8.33%	835	Jones Intercable	O:JOINA	49.250	58.000	8.750	17.77%	6180
Broadcast.com	O:BCST	117.750	125.500	7.750	6.58%	5097	Metro Networks	O:MTNT	50.062	51.875	1.813	3.62%	732
Capstar	N:CRB	26.375	27.625	1.250	4.74%	522	NBG Radio Nets	O:NSBD	2.625	2.687	0.062	2.36%	143
CBS Corp.	N:CBS	44.375	46.187	1.812	4.08%	26717	New York Times	N:NYT	34.812	35.125	0.313	0.90%	3466
CD Radio	O:CDRD	24.500	26.000	1.500	6.12%	1003	Otter Tail Power	O:OTTR	38.187	38.625	0.438	1.15%	1326
Ceridian	N:GEN	34.000	36.562	2.562	7.54%	4459	Pacific R&E	A:PXE	0.687	1.000	0.313	45.56%	96
Chancellor	O:AMFM	55.062	56.937	1.875	3.41%	37541	Pinnacle Hldgs.	O:BIGT	19.750	19.875	0.125	0.63%	1631
Citadel	O:CITC	29.125	33.875	4.750	16.31%	1075	Radio One	O:ROIA	24.000	39.500	15.500	64.58%	7677
Clear Channel	N:CCU	70.375	69.000	-1.375	-1.95%	14470	RealNetworks	O:RNWK	205.750	94.500	-111.250	-54.07%	14478
Cox Radio	N:CXR	50.000	51.312	1.312	2.62%	49	Regent Pfd.	O:RGICIP	4.500	5.000	0.500	11.11%	880
Crown Castle	O:TWRS	20.375	18.250	-2.125	-10.43%	105601	Saga Commun.	A:SGA	20.000	20.125	0.125	0.63%	75
Cumulus	O:CMLS	16.625	17.750	1.125	6.77%	818	Sinclair	O:SBGI	13.812	14.062	0.250	1.81%	4364
DG Systems	O:DGIT	5.125	6.562	1.437	28.04%	2167	SportsLine USA	O:SPLN	35.500	42.625	7.125	20.07%	14857
Disney	N:DIS	30.062	29.187	-0.875	-2.91%	96036	TM Century	O:TMCI	0.781	0.937	0.156	19.97%	20
Emmis	O:EMMS	42.000	45.500	3.500	8.33%	2213	Triangle	O:GAAY	0.058	0.055	-0.003	-5.17%	67120
Entercom	N:ETM	37.500	36.000	-1.500	-4.00%	3032	Tribune	N:TRB	83.125	81.437	-1.688	-2.03%	3789
Fisher	O:FSCI	62.250	61.000	-1.250	-2.01%	40	WesTower	A:WTW	30.500	30.000	-0.500	-1.64%	57
Gaylord	N:GET	32.125	31.750	-0.375	-1.17%	342	Westwood One	N:WON	33.062	35.312	2.250	6.81%	188
Granite	O:GBTVK	7.312	6.937	-0.375	-5.13%	764	WinStar Comm.	O:WCII	46.062	52.875	6.813	14.79%	19545

SportsLine expanding overseas

Dow Jones—SportsLine USA Inc. (O:SPLN) plans to establish broadcasting partnerships with European networks through its new SportsLine Europe Ltd. unit, according to CEO **Michael Levy**.

The SportsLine Europe venture, introduced Tuesday (5/11), will help the Internet media company put people, servers and editorial bureaus in Europe, Levy said. With these resources in place, SportsLine will seek out broadcasting agreements that promote the company's Web sites during sports events.

SportsLine Europe was formed with the help of investments from Intel Corp. (O:INTC), MediaOne Group (N:UMG) and Reuters Plc (O:RTRSY). The unit will be based in London.

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American Tower earnings more than double in Q1

American Tower Corporation (N:AMT) announced a big jump in Q1 earnings. Compared to year ago figures, revenue was up \$42.4M from \$17.9M. Cash flow almost tripled from \$6.4M in 1998 Q1 to \$17.2M.

American Tower's Chairman and CEO **Steve Dodge** said demand for existing towers remains strong and expects continued growth in 1999. The Boston-based company operates more than 3,400 towers in 44 states and DC.—KM

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Scott Studios offers *three* different systems in *three* price ranges to suit *any* budget.



This is the user-friendly Scott 32 System, with 30 sets of 30 hot keys, phone editor and all songs and spots on line for instant play! It seamlessly mixes uncompressed and MPEG digital audio!

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Scott's Spot Box delivers the *simplicity* of a triple-deck "cart" player plus *compact disc quality* digital sound.

Spot Box has only the one screen, so announcers always know what's playing. On the left of the screen, three digital players have clear labels on each spot. VU meter bars show levels. Buttons show countdown times and flash as each recording ends.

At the right of the screen, "Cart Walls" let you pick and play any recording by name, number or category. Or, number keys at the bottom load spots quickly from your log.

Scott's Spot Box includes a recorder and costs as little as \$5,000. Options include log imports from traffic computers and music on hard drive.

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Scott 32 options include recording Voice Trax while hearing surrounding songs and spots, time or temperature announce, *Invincible* seamless redundancy with self-healing fail-safes, newsrooms, 16-track editors and auto-transfer of spots and voice trax to distant stations via Internet.

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