

DOMESTIC DX DIGEST - EAST

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DIS & DAT FROM DX LAND

■ **Stephen Ponder** checks in after a long absence from DDXX-E with some catches made while motoring through Oklahoma and Arkansas. Lot's of "station particulars", like slogans, ads & networks. Good luck on your Verie attempts, Stephen. Three EMPIRE STATERS debut!! **Chet Smith** of Verona, NY, **William Kurrsch** of Ontario and **Jay Rowallo** of Endicott tell us what's being heard from Upstate. Welcome to the pages of **DX News**, Gents!
■ Remember, keep your reports to the point, submit in the format shown here, and don't let the loggings mildew before sending them in. The deadline is Saturday's mail. On with the show...

SPECIAL

- 730 WPIT PA PITTSBURGH - now on to 2200 w/possible sked expansion; 24 watts pwr @ nite; there goes 730! (JM-PA)
- 820 WCZE IL CHICAGO - 10/15 now running LK; will have to listen to LK on WHAM as 820 is actually ruled by WBAP, and I'm only 60 miles from Chicago; WCZE makes 820 sound like a regional (WPF-IN)
- 850 KOA CO DENVER - 10/16 0239 w/LK; I get a nice agho effect w/WKBZ as they carry LK but are 1 sec ahead of KOA; KOA back to Talkradio @ 0438 recheck (WPF-IN)
- 1330 WSSY IL EVANSTON-CHICAGO/NORTHBROOK 10/11 1754 (Gee, I remember when stns came from only one city-WRH); ending 1st hr of Westwood One Radio Net show Musical! w/Chuck Southcott (B'way & movie soundtracks), pgm ads; SID AM 13-30 WSSY! Evanston-Chicago @ 180G, then back to show; also uses sign Sunny 13-30, the mx of the North Shore; format is AC/ETHaddress remains 4320 Dundee Rd, Northbrook, 60062; ex: WSAW (DP-IL)
- WSSY IL EVANSTON - 10/20 0754 Sunny 13-30 slogan; the North Shore's new radio stn w/MOR mx; a day regular; ex: WSAW (WPF-IN)
- 1410 WDOV DE DOVER - sked: 24 hrs NSP w/The Oldies Channel, ROK OLD (DS-DE)
- 1460 WHBT WI RACINE - 10/11 1444 sign Breezin' 100-point Seven; ads: AT&T, New Rascals, Sprite; jazz, New Age songs; per DJ, will (has changed) change to WBZN on 10/13 IFM; was CHR; another slogan: Milwaukee's new comfort zone; fair; mod slop de WCEV; nullable @ times (DP-IL)
- 1490 WIEZ PA LEWISTOWN - sked: 24 hrs, per Ken Hart, CE (DS-DE)
- 1510 WWHN IL JOLIET - 10/11 1550 OLD mx; brief ID that sounded like AM 1510, WAKE; more OLD; ID @ 1600 Remember When, AM 15-10, WWHN Joliet; more OLD; probably not via satellite; new; ex: WJRC; poor w/co-channel ripple (WAUK?) (DP-IL)

DX TESTS

- 760 WJR MI DETROIT - 10/18 0114 Tslightly below middle-C; OC @ 0122; recheck @ 0128 hrd v/high-pitched tone until 0129, then OC again; R. Relej Cuba slightly readable underneath w/ticks & pips (buy 'em a collar-WRH) (DP-IL)
- WJR MI DETROIT - 10/18 0204-0310+ OC, ID @ 0208 then TT; Cuban time stn was a 7 on the S-meter; TT was blasting WSB; WJR noted back on RS @ 0359 (WPF-IN)
- 1410 WHLN KY HARLAN - 10/6 0500 This is WHLN, Harlan, KY on 1410 kHz conducting a freq test; TT; at 0508 anncr said the test was concluded; good (JHD-PA)
- 1600 KCRG IA CEDAR RAPIDS - 10/12 0428 tune-in, 0449 tuneout ET, TT+0449, mx, TT again @ 0447 (huh?-WRH); v/strong (RCE-WI)

UNIDS & UNIDS ID

- 640 UNID ?? - 10/15 0059 in & out w/annct ...4 to 8 PM...Family Radio, W???...Radio, W???REL drama Unshakled @ 0102; WHLO?? v/poor; o/u WWLS, bldg GRM (DP-IL)
- 750 UNID ?? - 10/17 0037 mx by Fleetwood Mac, Springsteen, Heart, UNID, Dennis DeYoung; poss ID, another UNID song; not a Mexican; o/u/strong WSB w/Fistell w/whip (?-WRH); fading; fair, then weak & v/poor (DP-IL)
- 1280 UNID ?? - 10/21 2250 SS w/tlk, mx u/WPKY; (ZYJ455, R. Tupi,RJ Brazil?? (WEK-NY)
- 1470 UNID ?? - 10/2 two stns noted between 0810 & 0835, one playing ranchero mx, maybe an American stn like KSIR-CO?? The other played Turn Me Loose by Loverboy @ 0833-a Canadian ROK rod, but wrong format for CJVB-BC; judging by cx, I'd guess these guys were from CO, UT, OR or WA; any help? (NJW-MB)

MIDNIGHT TO MIDDAY

- 530 CJFT! ON FT ERIE - 10/15 0618 finally hrd! Fleetwood Mac & Ben E. King tunes; DJ Bob Nancy? w/TC 20 mins after 6, 6:20, C-J-F-T... & tik about airing World Series & Leafs' loss; Bank of Nova Scotia ad; DJ tik w/slgm 5-30 C-J-F-T & TC; temps (8C/48F) & recap of Leafs HKY; fair, then poor, new (DP-IL)
- 550 WKRC OH CINCINNATI - 10/12 0052-0107 wx, sps, OLD; v/poor o/semi-lcl WSAU (RCE-WI)
- 560 WRTH IL WOOD RIVER - 10/12 0115-17 w/sps, wx; v/poor (RCE-WI)
- 600 WKLW KY PAINTSVILLE - 10/18 0809+ good o/u/WCAO/WICC w/ads, OLD, ID This is \$ 600 WKLW...a BMG B'cast stn+nx, wx (JM-PA)
- 630 KXOK MO ST LOUIS/CLAYTON - 10/19 0229 mx bed I've been waitin' so long, then ID on top The Big 6-30, K-X-O-K, St Louis; MBS Hdlines, SID Big 6-30 K-X-O-K, back to Best Of King; new from IL; was nx-tlk (DP-IL)
- 640 WOI IA AMES - 10/13 0858 w/ID, mx about Iran, then faded to WNNZ (CS-NY)
- WWLS OK NORMAN/MOORE - 10/15 0101 Sonny & Cher OLD, brief ID WWLS-It's Too Late by Cornelius Bros & Slater Rose (You sure? That wasn't a T40 hit for Them-WRH); v/poor;

in tight null due to bldg GRM that persists around 840; o/u 2 UNIDS (1 REL, 1 KFI?); new, OK #9 (DP-IL)

- WWLS OK MOORE - 10/20 0728 w/OLD & ads; unn, looking for WNNZ; o/u/WOI (WPF-IN)
- 650 CKOMT SK SASKATOON - 10/20 0757-0800 tent w/mx by Human League+nx, wx (-4C) in downtown Saskatoon; v/poor-WSM already gone (WPF-IN)
- 690 KGGF KS COFFEYVILLE - 10/16 0717-27 good o/XETRA/CBF; minimal WLW slop; Agri-nx, ads; that these guys should have still been on nite pattern; retry for verie(JM-PA)
- 780 KSPI OK STILLWATER - 10/13 1000 w/ID 1st w/nx in Stillwater, 780 KSPI, Cowboy Country & ad for Mexico Joe's in Stillwater (SHP-OK)
- 790 WTAR VA NORFOLK - 10/12 0138 poor w/OLD (RCE-WI)
- 800 KXIC IA IOWA CITY - 10/12 0228-0300 strong w/OLD, frequent ments of the all-new 850, KXIC, Kicks (RCE-WI)
- 810 WBLW GA ROYSTON - 10/9 0710-15 fair, o/u/WQIZ w/GA Radio Net updates, lcl ads, wx, gone to early WEDO s/on; WGY absent; new, but not improved (JM-PA)
- 850 WKBZ MI MUSKEGON - 10/19 0632 ad for George Kay auto dirship serving SW MI; sps & wx, outro W-K-B-Z nx brought to you by George Kay-; ID, TC; mx by Chad & Jeremy & Rita Coolidge; last hrd in '82 in WI; poor, rippling fades (DP-IL)
- 930 WFOL OH ELYRIA - 10/15 0407 just popped in w/MOR mx on Night Flight AM \$ 930; nx feature, re:Lake Erie pollution w/tlk by Lorain Cnty official; new o/WAMX/Cuban(WPF-IN)
- WYNI AL MONROEVILLE - 10/14 0703 strong w/SSB, 2 rooster crows & s/on+lcl ad, wx & birthday messages; faded; WTAD in null; hrd B4 on 1510 (JM-PA)
- 970 KCFP OK TULSA - 10/15 1144 w/ID AM 970 KCFP & promo for KFCO Tulsa Community Calendar (SHP-OK)
- 980 KGTM TX WICHITA FALLS - 9/27 0328 w/C&W, IDs as AM \$ KGTM & AM 9-90 KGTM; v/poor w/Mexican during CBW SP (NJW-MB)
- 1000 WLUP IL CHICAGO - 10/12 0322 w/ROK; 1st time hrd here since moving here 7/9(RCE-WI)
- 1050 WADC WV PARKERSBURG - 10/14 0719 v/good w/Radar Wx & Stay tuned to the MYL on 1050 AM, WADC; I visited them! (JM-PA)
- 1180 KKAR NE BELLEVUE-OMAHA - 10/14 0129 w/It's 12:29 on KKAR. Mutual Nx is next+nx, folo by LK (SHP-OK)
- 1220 KRMC OK MIDWEST CITY - 10/13 1030 w/Good morning, OK, we're yourWord Stn, KRMC, Midwest City-Oklahoma City+REL pgm (SHP-OK)
- 1230 CKMP ON MIDLAND - 10/22 0141 w/ID ..24 hrs a day from 1230, CKMP+John Cougar Mellencamp tune (CS-NY)
- 1240 KOKL OK OKMULGEE - 10/15 1129 w/ID AM & FM, KOKL, Okmulgee+ONN Nx, folo bu promo for O.U. FB (SHP-OK)
- WBAX PA WILKES-BARRE - 10/15 0657 ID, ment of nxupcoming @ :00; BBD mx, another ID @ 0659+nx (CS-NY)
- 1250 WYKH WV RUPERT - 10/14 0633-38 v/good in WTAE null w/PSA, wx, lcl ads, C&W mx; surprisingly strong at SRS every day & o/my lcl (JM-PA)
- 1260 WNRK DE NEWARK - 10/11 0653 weak w/wx for Newark (chance of rain in AM w/70% chance by evening; ads for lumber & hardware center & restaurant (JHD-PA)
- 1270 KTFI ID TWIN FALLS - 10/1 0818 fade-in w/lcl ads & wx, MOR; poor (NJW-MB)
- 1280 WTTX VA APPOMATTOX - 10/9 0600 partial s/on fading to din; new (JM-PA)
- 1300 WLIR NY SPRING VALLEY - 10/24 0600 s/on w/all particulars; poor (WRH-NY)
- 1310 WXMC NJ PARSIPPANY-TROY HILLS - 10/24 0558 full-data s/on+BBD (Sentimental Journey); poor (WRH-NY)
- 1330 WTRE IN GREENSBURG - 10/20 0746 w/...heard twice daily on WTRE+MOR; would be a 1st-timer, but will not count with so little info (WPF-IN)
- 1340 WKSX NY JAMESTOWN -10/16 0700 w/ID+nx about Iranian attack on American tanker in Gulf of Suez; WRNY nulled (CS-NY)
- WLBC IN MUNCIE - 10/16 0827 faded up w/end of Eagles song+The Police on LBC-104; 1st-timer (WPF-IN)
- 1350 WCBA NY CORNING - 10/13 0608 faded up w/ID; probably on PSA; 6-mile distant WRNY nulled (CS-NY)
- 1380 KGLD MO ST LOUIS - 10/12 0345-0415 w/OLD from 50s, 60s, 70s; good, but some fading (RCE-WI)
- 1400 KART ID JEROME - 10/2 0836 ad for Evans Grain Co, farm roundup; poor & lost to KWNA @ 0838 (NJW-MB)
- WBAT IN MARION - 9/28 0122 briefly faded in w/ID as 14-hundred WBAT, song by female, poor+v/poor (NJW-MB)
- KWNA NV WINNEMUCCA - 10/2 0839 RED Speedwagon tune, 0840 promo for Winnemucca Face To Face show featuring an interview w/the director of Humboldt Cnty Library+Van Halen song (?), hi-WRH); poor; 1400 #22 (NJW-MB)
- 1410 WPOP CT HARTFORD - 10/6 0504 good w/ID, lcl mx, ad for Boston Village, wx, YMCA PSA, more nx; frequent IDs, time (JHD-PA)
- 1420 WOC IA DAVENPORT - 10/12 0450-0500 w/Talknet, NBC Nx @ :00 (RCE-WI)
- 1430 KLO UT OGDEN - 10/2 0808 lcl nx, ads, KLO Accuwx, 0810 ID Len Allen w/your favorite mx on KLO+Lou Rawls groaner; fair w/KEZW (NJW-MB)
- 1450 WMOH OH HAMILTON - 9/28 0116 w/Cyndi Lauper song, IDs 14-50 WMOH & AM \$ WMOH, promo for OSU Buckeyes FB B'cast; more POP mx; 0137 promo for Charlie Tuna Countdown show; fair on otherwise dead GY freq (NJW-MB)
- KGFF OK SHAWNEE - 10/14 1123 w/ad for Shawnee Shoe Shop, ID AM 1450 KGFF folo by C&W song (SHP-OK)
- KENA AR MENA - 10/16 1125 w/KENA, voice of the Ouachita's by female; ad @ 1128 for Washburn's Furniture inMena (SHP-AR)

1470 WHI4 IL CHICAGO HEIGHTS - 10/12 0038 GOS pgm w/WMBD; ID given several times @ 0041; poor (NJW-MB)
 1480 KRXR ID GOODING - 10/2 (also 10/3) 0811 lcl rx by male & female, many AM-1480 IDs, C&W, ad for Evans Grain Co @ 0818 (also hrd afew minutes later on KART-1400), wx for Southern Idaho; fair up to at least 0829 (NJW-MB)
 1500 KSTP MN ST PAUL - 10/9 0315 fair, w/LK (RCE-WI)
 1140 KDYN AR OZARK - 10/16 1140 w/KDYN, Dynamite Country folo by ad for Pam's Food Mart in Ozark (SHP-AR)
 1560 KCJJ IA IOWA CITY - 10/12 0500-0522 plenty of ads, PSAs, OLD mx; strong @ 1st, but fading (RCE-WI)
 1580 KJET WA SEATTLE - 10/1 0830 16 K-Jet ID; mx by Simple Minds, The Smiths, Echo and the Bunnymen, New Order; fair w/KCNN (NJW-MB)

MIDDAY TO MIDNIGHT

530 CJFT ON FT ERIE - 10/14 2235 good w/lgl ID, then back to Cards/Giants BB (CS-NY)
 600 WCAO MD BALTIMORE - 10/22 2122 w/Capitol's Mailbag; good (WEK-NY)
 640 WNNZ MA WESTFIELD - 10/22 2117 New England's Oldie Stn in AM \$; ad for Book Ends & Westfield Shop; good (WEK-NY)
 680 WPTF NC RALEIGH - 10/18 2337 Atlantic Starr mx; slogan P-T-F, tlk abt weekend events like NCSUF6 & state fair; Bing Crosby tune; tent ad then fade out & lost to TVI; poor then v/poor; WMAQ slop (DP-IL)
 WCAW WV CHARLESTOWN - 10/22 1808 w/C&W mx, WCAW, 6-80 Charlestown ID; fair (WEK-NY)
 WCAW WV CHARLESTOWN - 10/22 1808 w/C&W mx, WCAW, 6-80 Charlestown ID; fair(WEK-NY)
 WDBC MI ESCANABA - 10/15 2054-2104 w/Encore pgm w/Jim Lange, BBD mx & ads, 51^o in downtown Escanaba; no CFTR or WPTF in hvy WMAQ splash (WPF-IN)
 720 CHTN PI CHARLOTTESTOWN - 10/20 1900 v/strong w/nx, noted here per Musco tip; ex: 1190; Another channel shot Dept; one final note: Yeeeh! (DS-DE)
 CHTN PI CHARLOTTESTOWN - 10/19 1830-2030 w/mix of Ac & ROK; trying for PA but this creaming freq; sounds like 10Kw, 24hrs annod; many ads for PEI, no net nx, but hrd 5 mins of lcl rx & sps @ :00; ex:1190 (RM-CT)
 WWII PA SHIREMANSTOWN - 10/30 w/ads & CHR; ments APR Nx & Sps-kills CHTN until 1830 prw cut to 50 watts to 1915 s/off; address: 8 West Main St, 17011; info from Dean Lebo, GM (RM-CT)
 750 WNDZ IN PORTAGE - 10/10 1900-18 s/off w/REL mx; fair>decent; again 10/11 1905; poor (RCE-WI)
 760 WCHP NY CHAMPLAIN-PLATTSBURG-MONTREAL!! - 10/21 1800 PSA for Canadian phone # hawk-ing Family Cassettes dealing w/Rebellious Teens; strong, atop freq; ID @ 1800; gone @ 1805 recheck; new; how 'bout that Int'l ID!?!; gotta be a 1st (JN-NY)
 780 WTAR VA NORFOLK - 10/3 2357 Jaguars song, Dick Bartley on the United Stns' Solid Gold Saturday Nite; SID We've got it for you in VA, W-T-A-R! Norfolk; CBS Nx w/slight echollWBBM-780 (hence on 7-sec delay); poor w/WBBM slop (DP-IL)
 WTNV NY WATERTOWN - 10/22 1754 w/Elton John's Tiny Dancer~nx w/Pearl St Bridge closing annmt; good (WEK-NY)
 WWAZ RI PROVIDENCE - 10/22 2310 Remembering the good old days;EZL mx; fair(WEK-NY)
 820 CHAM ON HAMILTON - 10/21 1812 w/Metro trffc rpt sponsored by a meat mkt; cash jack-pot promo; ID 820 CHAM (JN-NY)
 830 CFJR ON BROCKVILLE - 10/21 1818 Brian Adams plays the mx you love weeknites on 830-CFJR~Michael Jackson rod, resulting in quick tune-out; new (JN-NY)
 840 CHUR ON NORTH BAY - 10/21 1822 promo for upcoming Chubby Checker concert; wx~Chris Rea song; new; in WHAS null (JN-NY)
 850 KFUD MO CLAYTON - 10/10 s/off 2000 sunset @ Denver (my SR/SS pgm computes Denver's 10/10 SS at 1830 MDT-WRHK REL prgmmg, fair~poor (RCE-WI)
 WHDH MA BOSTON - 10/22 2300 w/nx & wx; fair (WEK-NY)
 WAIT IL CRYSTAL LAKE - 10/10 2000-2030 s/off, C&W mx; poor~KFUD s/off (RCE-WI)
 920 CKNX ON WINGHAM - 10/21 1840 Nothin' but the best in Country from 920-CKNX~George Strait tune; wx for midwestern ON; many IDs, dominating briefly, then down (JN-NY)
 960 WAMX WV HUNTINGTON - 10/21 1848 W-Mix, the new 93.7; CHR; River Cities ref & ad sweep: Cal Water Bed, KY Health Care, Bonanza; ment Portsmouth-Ashland-Huntington; Another 1/2 hour MIX of favorites; ex: WGN? (JN-NY)
 950 KFSA AR FT SMITH - 10/15 1634 w/lcl wx, A-95 ID, mx by Dionne Warwick (SHP-AR)
 980 WQXC MI OTSEGO - 10/17 1835 ROK mx, female w/ID, TC 21 B4 ?; Kalamazoo Weekend Calendar & wx, ads for lumber co., Church Of Christ in Monroe, auto parts store in Otsego; SID & Swingout Sister mx; new; poor in WCUB null, mod fading (DP-IL)
 WILK PA WILKES-BARRE - 10/22 2350 wx& OLDies (WEK-NY)
 1040 KRAD OK PERRY - 10/14 1640 w/ID KRAD AM-1040 & ad for Stillwater Savings & Loan (SHP-OK)
 1050 WDZ IL DECATUR - 10/18 2325 George Benson song, then Decatur's ? on Decatur's favorite, W-D-2 before fading underneath WLIP-CHUM; new; poor (DP-IL)
 1060 KLSZ AR VAN BUREN - 10/15 1719 w/ID Class 102 FM, KLSZ, ad for Orville's Kerr-McGee in Van Buren (SHP-OK)

1080 WTIC CT HARTFORD - 10/9 2107 female w/wx, temp @ Bradley Apt, several IDs inserted; outro I'm Debra Young on your News & Info leader, W-T-I-C A-M 10-80!; IDs~Mark Davis tlk show (522-WTIC);poor in KRLD-1080 null, w/KAAY, co-channel QRM(DP-IL)
 1110 WBT NC CHARLOTTE - 10/18 2320 ad of World Series game on CBS; SID A-M 11-10 W-B-T; slogan B-T into Best of the Bands show; then KFAB faded in; poor~v/poor;riply co-channel QRM (DP-IL)
 1140 KPRW OK OKLAHOMA CITY - 10/12 2015 w/ID You're never alone w/AM 1140 KPRW, The Power; ad for Atlantic Starr concert in the OKC Myriad Centre (SHP-OK)
 CJTRT PQ Trois-Rivieres - 10/9 2203 mx, spsiCJRC-1150 so RML net in FF; ~female MOR tune; poor, o/u/WRVA in slight null (DP-IL)
 1150 KNED OK McALESTER - 10/15 (no time) ad for Bob's Pharmacy in McAlester, ID Solid Country Gold, KNED-AM~Roger Miller song (SHP-OK)
 1180 WJJD IL CHICAGO - 10/7 2042 talking about big band groups; audio clips from band performing in L.A.; unusual hearing WJJD w/so many lcls here; good (JHD-PA)
 WFEN MI FENTON - 10/22 2220 w/Fleetwood Mac Contest folo by RED ROK mx; faded u/WYNS (WEK-NY)
 WJJD IL CHICAGO - 10/22 A-M 11-60, promo for Clark Weber Show; Four Lads tune (WEK-NY) (AAH, Clark Weber. One of my favorites from the good old days of WLS-WRH)
 WFEN MI FENTON - 10/22 2220 w/Fleetwood Mac Contest folo by RED ROK mx; faded u/WYNS (WEK-NY)
 WYNS PA LEHIGHTON - 10/22 2330 w/Heartache Tonight, 11-60 Wins ID, then Venus in Blue Jeans; faded u/WJJD (WEK-NY)
 1180 WLDS IL JACKSONVILLE - 10/11 1918 Cards BB in 8th innWMOX, so on Cards net; ad break @ 1921, ment Jacksonville in wx, back to game; v/poor~poor u/WHAM(DP-IL)
 1220 CKCW NB MONCTON - 10/21 1844 ID, ad for stereo store, anti-drug PSA, ad for Richey's Discount Carpet; gone by 1848 (CS-NY)
 1230 KFPW AR FT SMITH - 10/15 1700 w/ID Thanks for listening!This is KFPW, AM 1230, Ft Smith~SNN Nx (SHP-AR)
 1240 WAIN NY WATERTOWN - 10/3 1330 hrd w/OLD format, lgl ID; WGVA nulled; fair (CS-NY)
 1250 WTAE PA PITTSBURGH - 10/21 2300 w/nx & wx Joe DiNardo (of AcouWx-WRH) 4Cast; good (WEK-NY)
 1280 WCRT AL HOMEWOOD - 10/15 1951 OLD mx; no sign of WNDW/WIBV; 1st time hrd since moving from Birmingham, if they did indeed, move (WPF-IN)
 1270 KWPR OK CLAREMORE - 10/15 1203 w/ID Your stn is Community Radio, AM 1270, KWPR, Claremore, OK folo by wx for Tulsa-Claremore (SHP-OK)
 WWCA IN GARY - 10/13 1805 ? Net nx reported a couple of weeks ago is NBN (National Black Network) (WPF-IN)
 1280 KXXL CO DENVER - 10/2 1753 ad for Don's Transmission, Cool Radar Wx, ID as Cool FM; OLD by The Lovin' Spoonful; fair~good w/CIFX-1280 splatter (NJW-MB)
 WGBF IN EVANSVILLE - 10/13 2308 popped up w/promo for stn contest w/list of places in area to get BS on G-B-F; slogan ..W-G-B-F; v/weak; new; poor~v/poor o/u/WMRO & mess (DP-IL)
 1290 WKLB KY MANCHESTER - 10/15 1944 s/off (a minute early, or 15 late?) o/u/WHIO & Lee Shannon C&W Show on WFIG?; 1st-timer, anyhow (WPF-IN)
 WFIG SC SUMTER - 10/15 2000 just broke thru mss w/ID good to have youin 1290 country, WFIG, Sumter; 3rd new one this SSS period; o/WHIO & others (WPF-IN)
 1340 KXXY OK OKC - 10/12 2033 w/Your Country Connection, 96 KXY & ad for Casa Bonita, 39th & Portland (SHP-OK)
 1350 WBEM PA WINDBER - 10/10 1819 This is WBEM; u/WOYK-York; weak (JHD-PA)
 WHRS NH LACONIA - 10/10 1512 fair; several ads mentg Laconia; hearing C&W mx here made me stop & listen, especially since many PA stns were carrying PA FB(JHD-PA)
 WHWH NJ PRINCETON - 10/10 1810 good, in WOYK null; ID by man who introduced his own show; mx by Elvis (JHD-PA)
 1370 KVVY OK HOLDBENVILLE - 10/15 1258 w/KVVY by female, promo for afternoon Bluegrass show (SHP-OK)
 1380 WBCI IL CHICAGO - 10/10 2058 good w/U of IL-Chicago HKY (RCE-IL)
 1400 KNOR OK NORMAN - 10/12 2100 w/SNN Nx, folo by We're the stn w/today's mx and the very best of yesterday (SHP-OK)
 WABY NY ALBANY - 10/18 1558 w/ID, nx & wx; hrd w/MYL format (CS-NY)
 WSJM MI ST JOSEPH - 10/11 1848 Solid Gold Scrapbook w/Dick Bartly & ROK OLD; promo @ 1855 for Serial # Sweepstakes on A-M 14, WSJM; ad for lawnmower dir in Stevensville, IN; slogan Spirit of the SW, AM-14 WSJM St Joseph (DP-IL)
 1410 KTCS AR FT SMITH - 10/15 1732 w/Country Lovin', KTCS folo by ad for Crawford Cnty Motors in Van Buren (SHP-AR)
 1420 KTJS OK HOBART - 10/14 1708 w/KTJS, Great Plains Country, I'm Susie O'Donnell folo by Earl Thomas Conley song (SHP-OK)
 WHK OH CLEVELAND - 10/21 2245 w/OLD Judy in Disguise & Chapel of Love; good (WEK-NY)
 1440 WRRO OH WARREN - 10/21 2230 Solid Gold 14-40 w/Kinks & Bob Segar; PSA for Blood Drive & Newton Falls Comm. Ctr; good (WEK-NY)
 1450 KHHW OK ALTUS - 10/1 2143 C&W, promo for Jackson Cnty United Way, lcl ads, TCs, ID by female @ 2159 KHHW Altus, OK; fair w/KZZJ (NJW-MB)

DOMESTIC DX DIGEST - WEST ①

Nancy Hardy, 2301 Pacific Avenue, Aberdeen, WA 98520

Welcome to another DDXD-West! Deadlines here are Saturdays. If you are in the Mountain or Pacific time zones, please report!

SPECIAL

- 1250 KCIW AZ WICKENBURG - 10/14 2059 noted with s/off annc. Owned by Consolidated Communications Network & gave address & business hours. Fair, not much QRM. New. Ex-KUUK. (ØW-CO)
- 1600 KRXY CO LAKEWOOD - Local station went back to these calls, ex-KMVP. Dropped sports format & is now CHR with 24-hour simulcast of KRXY-FM ("Y-108"). Changed calls in late Sept. per call to station. (ØW-CO)

MIDDAY TO MIDNIGHT

- 830 KNCO CA GRASS VALLEY - 10/6 2314 fair with promo for "Snow Date" contest, ad. No sign of usual WCCO this evening. (DM-AB)
- 1250 WRFN KS TOPEKA - Station has been silent for several weeks now, and apparently is a thing of the past after 60 years of broadcasting. Don't know when or if they plan to return, or why they went silent. (ØW-CO)
- KBRF MN FERGUS FALLS - 10/15 2133 weather for "Central Lakes area," followed by Millsap tune. Pretty regular, though not strong, now that WREN is gone. (ØW-CO)
- KALO TX PORT ARTHUR - 10/15 2033 blocs of soul music, frequent slogans as "Kay-Low, your Heart & Soul Station." 2100 ID as "K-A-L-O Port Arthur-Beaumont-Orange." Good on peaks, but long fades and QRM. New, TX #78. (ØW-CO)

MIDNIGHT TO MIDDAY

- 530 WNHC788 WA SEATTLE - "Highway 520 Traffic Advisory" 8/31 0303 with Seattle & Bellevue highway traffic conditions. (DM-AB)
- TIS WA SEATTLE - Sea-Tac Airport TIS 9/2 0659 with parking info, fair, causing QRM to/from 2MC on 531. (DM-AB)
- 830 KIKI HI HONOLULU - 9/2 0512 greatest hits from 50's, 60's. Used to be an easy one out here, but not this season. (DM-AB)
- 1230 KDOV OR TALENT - 10/24 1100 atop ending ad for Medford car dealer, dual ID for Talent-Medford, into relig. program. New for me, last heard on 1350 kHz years ago, whereas KYJC Medford was a nightly regular on 1230 before they moved to 610. (BH-WA)
- 1250 KPRE TX PARIS - 10/15 0743 C&W music, school lunch menu; ID's as "Stereo 1250 KPRE." Fair at best, o/u QRM. Not needed, but seldom heard in the past with WREN on. (ØW-CO)

SPURS, MIXING PRODUCTS, ETC

- 580 CKUA AB EDMONTON - Is heard from 440-450 kHz (best in FM mode) with highly FM'ing product, audible easily 300 km from xmtr! Has been here for many months. (DM-AB)
- 860 CBKF2 SK SASKATOON - Was noted on 430 kHz (½ x 860) at 0849 10/?.(DM)
- 830 ---- Mixing between CHQT-880 & CJCA-930. Audible 300 km from xmtr, usually blocks KIKI in AM's. Here ever since 'QT moved to 880. (DM-AB)
- 1620 ---- Mixing between CJVB-1470 & CHQM-1320 Vancouver. Audible most AM's, blocking ?RPH reception from Australia. (DM-AB)

REPORTERS

BH-WA/Bill Hardy, Aberdeen, WA/FRG-7, Radio West loop
DM-AB/Don Moman, DX'ing at Cardinal Divide DX site/TS44s, 1000' Beverage
ØW-CO/John Wilkins/Wheat Ridge, CO/R399A, R1000, 4' box loop

- 1460 WBET MA BROCKTON - 10/12 1754 fair w/ID & contest asking listeners to send a post-card to the stn; ID w/city (JHD-PA)
- WPRW VA MANASSES - 10/12 1804 v/good w/lcl nx: Search party finds subjects, Fire kills children, VA scientist studying common cold (JHD-PA)
- KOCL AR PARIS - 10/15 1840 w/KCCL by female, then ad for Farmer's Insurance in Paris & lcl wx (SHP-AR)
- 1470 WJDY MD SALISBURY - 10/12 1815 You can be a winner, but only if you enter the contest; CLs & address; mx (JHD-PA)
- 1490 KOKC OK GUTHRIE - 10/14 1541 w/AM 1490, KOKC, I'm Joe Frank Thomas, then ad for Stillwater Savings & Loan @ 1543 (SHP-OK)
- WDRG NY PORT JARVIS - 10/18 1753 hrd during WAQX fade w/2 IDs & stn promo; still there @ 1803 w/nx (CS-NY)
- 1510 KACJ AR GREENWOOD - (no date) 1816 w/Country 106-We spell country K-A-J-J (FM call) folo by ad for Harry Robinson Pontiac-Buick (SHP-AR)
- 1540 WPGR PA PHILADELPHIA - 10/11 1821 good w/ID Philly Gold, WPGR; ID, wx, ads: De B Furs, Street Corner Band-Melody West, Roy Rogers; jx; OLD (JHD-PA)
- KNNT MO KENNETT - 10/15 1800 just caught s/off w/FM 105.5 KTEI, Piggott, AR invite; in KXEL null, lcl WLOI already gone; another new one (WPF-IN)
- 1560 KKID OK SALLISAW - 10/15 1800 w/ID KKID AM & FM, Sallisaw-Ft Smith folo by CNN Radio Nx; ad: George Glenn Insurance in Sallisaw (SHP-AR)
- WHEZ MI PORTAGE - 10/18 1840 ad for Back Forty restaurant, It's WHEZ Oldies Nite; Kalamazoo-area wx for WHEZ Wx Command; ID Make it easy on yourself, more OLD; poor-vv/poor w/WGSR? underneath (a C&W stn); lcl QRM; new (DP-IL)
- 1580 WNZT PA COLUMBIA - 10/11 1840 good w/lots of ads for York & Lancaster; s/off going a minute late; this stn often IDs as The Great Communicator (JHD-PA)
- WPGC MD MORNINGSIDE - 10/11 1752 good w/promo for FM awarding \$85 to those answering I listen to WPGC when asked by the WPGC Money Man; mx; AM ID The new WPGC; stn sometimes airs 18 or more rcds in a row, making IDing v/hard (JHD-PA)
- KOKB OK BLACKWELL - 10/14 1820 w/ad for Domino's Pizza in Blackwell, then KOKB folo by lcl wx (SHP-OK)
- 1580 KDLB OK HENRYETTA - 10/15 1315 w/ad for American Exchange Bank of Henryetta, then lcl wx (SHP-OK)
- WTRW WI TWO RIVERS - 10/15 2017-24 steady & strong, tent; believe this was the one in WAKR null looping NW/SE; CNN Nx from CNN-2 Net w/o video (WPF-IN)
- KCNN MN EAST GRAND FORKS - 10/15 2200 popped up w/ads, on on or for MBS + ID; CNN nx; 1st timer; my 5th new one of the night (WPF-IN)
- 1800 KUSH OK CUSHING - 10/14 1630 w/ID KUSH in Cushing, Angie Burns is next after nx into ONN Nx (SHP-OK)

REPORTERS:

- RCE-WI Richard Evans//Wisconsin Rapids, WI//
- JHD-PA John Demmitt//Bellefonte, PA//ICF-SEW barefoot
- NJW-MB Niel Wolfish//Winnipeg, MB//ICF-2010 + LW
- SHP-OK Stephen Ponder//vacationing in Moore,OK//Toshiba RP-F11
- SHP-AR Stephen Ponder//vacationing in Ft Smith, AR//Toshiba RP-F11
- DS-DE Dave Schmidt//New Castle, DE//HQ180A, R390 + SM2; R390A + LW
- CS-NY Chet Smith//Verona, NY//Modified DX-180, R800 + 80' LW, Palomar Loop
- DP-IL Dale Park//Evanston, IL// A hot Realistic Miniset 18
- JN-NY Jay Novello//Endicott, NY//CRF-1 + DA9
- RM-CT Ron Musco//Poquonock, CT//
- WEK-NY William Kurrasch//Ontario, NY//R-5000 + LW
- JM-PA John Malicky//Pittsburgh, PA//Superadio II
- WPF-IN Wendell Ford//Westville, IN//
- WRH-NY Ye Editor//Johnson City, NY//RF-2800B barefoot



SOME ABBREVIATIONS & SPECIAL SYMBOLS USED IN DDXD-E

TT:Test Tones DC:Open Carrier TC:Time Check QRM:Interference SID:Singin ID CID:Code ID jx:jingle lcl:local lgl:legal mx:music Nx:news
 vx:weather sps:sports HS:high school FB:football BB:baseball BKB:basketball HKT:hockey >:after <:before =:equal with or equal to
 ||:parallel with :00: on the hour +:to or into SS:Spanish FF:French REL:religion or religious GOS:gospel ROK:rock 'n' roll EZL:easy listening
 BBD:big band CMW:country & western AC:adult contemporary UC:urban contemporary ContChr:contemporary Christian OLD: oldies
 CHR:contemporary hit radio TLK:talk AP:Associated Press UPI:United Press International MBS:Mutual Broadcasting System MCRN:Music Country Radio
 Net MRN:Motor Racing Network SSB:Star Spangled Banner LK:Larry King BW:Bruce Williams PH:Paul Harvey tik:talk s/on:sign on s/off:sign off
 SRG:sunrise skip SSS:sunset skip

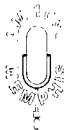
73. Bill

KLYR

P.O. Box 188
Clarksville, AR 72830

WSWG

POST OFFICE BOX 1888
GREENWOOD, MISS. 38930



50,000 WATTS

1188 MINNA PLACE • Suite 200
MEMPHIS, TENNESSEE 38104



Lifeline Communications Corporation
P O BOX 90
THOMASVILLE, GA 31799

WDKN RADIO

AM-1260 - FM-102
P.O. BOX 607
DICKSON, TENNESSEE 37055

Y K
W 1100 R
Puffer Broadcasting Inc.
WELLS RIVER, VERMONT 05081-0675

STATION PROFILE

Tony Fitzherbert, 356 Jackman Avenue, Fairfield, CT 06430

STATION PROFILE: WKBW - 1520, Buffalo, N.Y.

EDITOR'S NOTE: Andy Rugg supplied most of the material for this Station Profile. He obtained it with a verification of a reception report which he sent to WKKB in the Spring of 1987. The remainder of the information is from the editor's file. Hearty thanks are due Andy for sharing his material with us.



WKSE-FM
98.5

Dr. Clinton H. Churchill began a long radio career with a call from the Lord. An evangelist associated with the Methodist Episcopal Church, he opened the Churchill Evangelistic Association's Tabernacle on April 12, 1925 at 1420 Main Street, in Buffalo. To expand his evangelic efforts beyond the walls of his church, Dr Churchill acquired a 1kw Western Electric transmitter in September, 1926. Therefor the Word was to be broadcast to the rural areas of Western New York. Churchill applied for a broadcast license from the Radio Division, Bureau of Navigation, Department of Commerce in early October of 1926. Studios were built atop the Tabernacle, and a transmitter was erected in a vacant lot adjacent to the church. On October 15, the radio division granted sequentially - issued call letters WKBW, and the authority to operate the station. The Churchill group originally requested the call sign "WAY", in keeping with the religious intentions of the organization, but those call letters were on a ship in the marine radio service. On October 18 and 19, brief tests of the station were conducted, using the WKBW call. WKBW signed on the air on October 20, on 1380 kc, with a power output of 500 watts. Of course, the first broadcast was presided over by Dr. Churchill.

Most early programming consisted of live broadcasts of services from the Churchill Tabernacle, with Dr. Churchill at the microphone. The station was on the air for only a few hours each day. By late 1927, WKBW's air slogan was "Well Known Bible Witness", in keeping with the call sign.

In December, 1927, the Federal Communications Commission granted WKBW a power increase to 5000 watts, and a move in transmitting facilities. In March, 1928, WKBW installed two towers on Sweet Home Road, in suburban Amherst. In a major frequency - reallocations plan effective at 3:00Am on November 11, 1928, WKBW switched to 1470 kh, the former dial position of time-sharing WKEN and WSVS (two sets of call letters which have moved to Dover, DE and Crewe, VA).

In 1929, WKBW affiliated with C.B.S., and began sharing CBS programming with Buffalo's WMAK, the original Niagara-area Columbia outlet.

In the fall of 1929, WKBW's licensee name was changed from the Churchill Evangelistic Association to WKBW, Inc. The station began commercial operation. Also in late 1929, the Buffalo Broadcasting Corporation, an early broadcasting conglomerate, began operating WKBW. A new broadcasting complex on the 18th floor of the recently constructed Rand Building was opened in 1929 for use by the Buffalo Broadcasting Corporation's four stations. WGR (550), WMAK (900), WKEN (1040), and WKBW made up the group, and Buffalo's "BBC" owned or controlled the programming of four of the city's six radio stations. Dr. Churchill continued to maintain a studio for WKBW atop his church.

WKBW altered its dial position slightly - from 1470 kh to 1480 kh in February 1930. Rev. Churchill's "Back Home Hour" was now being heard over the entire CBS network by March, 1930. On November 15, 1930, WKBW began sharing its CBS programming with sister station WGR.

On February 4, 1936, WKBW and WGR both joined the Mutual Broadcasting System, while retaining their affiliation with CBS. On February 23, 1937, the F.C.C. granted a construction permit to WKBW to move its transmitter 25 feet, and to build a new 400 foot high vertical radiator, to be shared with WGR. In July, 1937, the new facility was operating, and WKBW was on the air daily from 7:00AM to 1:00AM.

A construction permit was granted in 1940 to increase power to 50 kw. In the NARBA Treaty frequency reallocations, on March 29, 1941, WKBW moved to 1520 khz. WKBW became a fulltime CBS outlet, and with the drop of Mutual programming, WGR absorbed the MBS network feed in Buffalo. On October 30, 1941, WKBW's power went to 50,000 watts from a new \$350,000 transmitting plant in Hamburg, N.Y. This was a two story structure shared with WGR. Behind the building was built two towers for WKBW, and a three tower array for WGR. The two stations share a common grounding system. WKBW became Buffalo's only 50,000 watt AM station.

In 1946, WKBW became an ABC affiliate, and was acquired by Broadcasting Foundation, Inc., a subsidiary of the Churchill Tabernacle, for \$515,000. WKBW's studios were moved back to property owned by the Tabernacle. In 1951, WKBW dropped ABC, and became the Buffalo outlet for NBC.

In 1958, it was obvious to WKBW management that NBC programming could not compete with television, so on July 4, the station's listeners tuned in to hear "Futersonic Radio", a 24 hour top 40 format. WKBW's audience grew manifold as a result of this switch. WGR, and tiny WNIA and Gordon McLendon's WYSP - 1400 sought to imitate the format. However, KB's signal, and financial backing propelled the station to the #1 slot in the Niagara frontier for two decades.

The non-stop rock and roll, hosted by many D.J.'s who sat behind WKBW's microphones, while on their way to the larger New York and Chicago markets, was augmented by "KB Action Central News" at :15 and :45 after each hour. This news, edited to communicate urgency and a sense of being on top of everything, always started with local events - murders, robberies, even auto accidents and barn fires in the adjacent rural counties. After the local events, national and world news was aired.

WKBW became a household word with teenagers across the "Great Northeast". Teens in rural areas of New York, Pennsylvania, and New England on up into the Canadian Provinces, without a local top 40 outlet, listened to WKBW nightly. KB had one formidable competitor, in the form of rocker WPTR - 1540, in Albany. The two stations were always among the first in the country to get newly released records, which were aired with appropriate fanfare.

WKBW sold the station in June, 1961 to Capital Cities Broadcasting for 14 million dollars in cash. Capital Cities owned radio and television stations, as well as newspapers in many areas of the country.

WKBW founder Clinton Churchill died on August 26, 1973. Services from his tabernacle were a mainstay on WKBW for over 30 years. WKBW's licensee was changed to Capital Cities Communications, Inc in the same year.

On October 1, 1978, WKBW moved to a restored 1901 carriage house at 695 Delaware Avenue, in the city's Allentown district, a gentile apartment and residential area north of the business section. It broadcasts today from this refurbished two story facility. The station operates 24 hours daily, and is New York's 30 oldest radio station.

On March 18, 1985, Capital Cities announded purchase of the ABC Network. Thus, they had to sell WKBW. In the summer of 1985, Price Communications purchased WKBW, andin that WKBW's call stayed with the TV station, the radio call had to be changed. The new owners applied for, and were granted the call WKKB. Thus, the station still ID's as "KB Radio".

On October 8, 1968, Price Communications acquired WKSE-FM-98.5. With facilities located on Grand Island, the station was moved to WKKB's building. WKSE is a CHR station, ironically following the same format which propelled WKBW to the top of the ratings 15 years ago. WWKB presently formats oldies, playing hits from the fifties, sixties, and seventies...again, ironically, the same music which brought about their success. The oldies format is sublimented by talk at night.

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14 A SURVEY OF AVAILABLE MEDIUM WAVE
FIELD STRENGTH PREDICTION METHODS

Randall J. Seaver, (c) 1985

1. INTRODUCTION

The prediction of the field strength of Medium Wave radio waves at night has been of interest to the radio broadcasting community since the inception of radio in the 1920's. Predictions are necessary to enable estimation of interference to adjacent and co-channel stations and to permit allocation of new stations.

Field strength predictions are of interest to DXers because they provide a data base for comparison of receptions of individuals. If observed field strengths were consistent with predicted field strengths, then the prediction method could be used to systematically evaluate potential target stations.

The field strength prediction methods described in this survey article have been summarized and defined in:

- PoKeampner, Margo
- "Comparison of Available Methods for Predicting Medium Frequency Sky-Wave Field Strengths",
- U.S. Department of Commerce,
- National Telecommunications and Information Administration,
- Institute for Telecommunications Sciences,
- Boulder, CO 80303 USA
- NTIA Report 80-42
- June 1980
- (Available from Dept. of Commerce NTIS as PB80-211444)

The summary of this report is:

"The chronological development of the available methods for predicting medium frequency sky-wave field strengths is presented with a brief discussion of each method. Measured field strengths for 36 medium frequency skywave paths are compared with the predicted field strengths from several prediction methods. Based on the rms errors between observations and predictions, the 1938 Cairo Curves provide the best estimates of the sky-wave field strengths for very long paths worldwide. A new prediction method developed for use in North and South America only, provides improved estimates of the sky-wave field strengths for paths < 3500 km."

The report was concerned only with the reliability of existing methods of predicting long-distance propagation of MF radio waves at night. It was prepared to support the second session of the International Radio Consultative Committee (CCIR in French) of the International Telecommunication Union (ITU) in Buenos Aires in 1981 where a frequency plan of assignments in the MF broadcasting band in North and South America was to be drawn up.

2. AVAILABLE MEASURED FIELD STRENGTH DATA

There are two basic sets of measured field strength data that have been used for comparison of prediction methods. These are:

- a) The International Broadcasting Union (IBU) conducted three measurement campaigns in the northern hemisphere during the winters of 1934/5, 1935/6, and 1936/7. The campaigns involved paths ranging from 5000 km to 11900 km and frequencies close to 1000 khz. This resulted in 36 transmission paths which are tabulated in Table 1 below. This data was used to develop the Cairo Curves, which will be discussed in more detail in Section 3.

TABLE 1. PROPAGATION PATH DATA (1934-1937 IBU DATA)

Path No.	Transmitter Location	Receiver Location	Freq. (khz)	Dist. (km)	Sunspot No.	Observed (dB) *
1	Northern Ireland	Ottawa, Canada	977	4797	100	-14.1
2	Sackville, Canada	Chatonnaye, France	1070	5272	0	2.6
3	Moncton, Canada	Chatonnaye, France	1070	5298	0	0.0
4	Northern Ireland	Washington, DC	977	5346	100	-18.2
5	Rennes, France	Ottawa, Canada	1040	5426	100	-13.5
6A	Rennes, France	New York City	1040	5573	20	-9.0
6B	Rennes, France	New York City	1040	5573	100	-21.0
7	Masirah Is, Oman	Leucate, France	1410	5706	0	18.3
8	New York City	Brussels, Belgium	860	5791	100	-17.0
9A	New York City	Eindhoven, Neth.	860	5839	20	-13.6
9B	New York City	Eindhoven, Neth.	860	5839	100	-15.1
10	Masirah Is, Oman	Limours, France	1410	5884	0	10.8
11	Akita, Japan	Darwin, Australia	770	5885	0	17.5
12	Rennes, France	Washington, DC	1040	5910	100	-18.5
13	Singapore	Brisbane, Australia	790	6055	0	-1.0
14A	New York City	Berlin, Germany	860	6287	20	-19.5
14B	New York City	Berlin, Germany	860	6287	100	-31.0
15	Rome, Italy	Tsumeb, SW Africa	845	6795	0	5.5
16	Martinique	Jurbise, Belgium	1310	7001	0	0.0
17	Ban Phachi, Thai.	Brisbane, Austr.	1580	7198	0	3.0
18	Ismaning, Germany	Tsumeb, SW Africa	1602	7526	0	-1.1
19	Akita, Japan	Brisbane, Austr.	770	7584	0	8.5
20	Bangkok, Thailand	Helsinki, Finland	1580	7882	0	-7.5
21	Cairo, Egypt	Klang, Malaysia	620	7886	0	0.7
22	Rome, Italy	St Denis, Reunion	845	8240	0	9.8
23	Buenos Aires	Washington, DC	1070	8383	0	2.0
24	New York City	Buenos Aires	860	8518	0	2.0
25	Buenos Aires	New York City	1070	8536	0	2.0
26	Pittsburgh, Pa	Buenos Aires	980	8622	0	2.0
27	Akita, Japan	Melbourne, Austr.	770	8644	0	5.0
28	Poro, Philippines	Helsinki, Finland	1140	8791	0	-5.2
29	Buenos Aires	Ottawa, Canada	1070	9043	0	2.0
30	Swan Island	Helsinki, Finland	1157	9333	0	-22.0
31	Kuwait	Darwin, Austr.	1345	9986	0	-7.0
32	Rennes, France	Buenos Aires	1040	10786	100	-9.9
33	Buenos Aires	London	1070	11127	100	-11.5
34	Buenos Aires	Brussels, Belgium	1070	11298	100	-13.5
35	Buenos Aires	Eindhoven, Neth.	1070	11400	100	-7.5
36	Buenos Aires	Berlin, Germany	1070	11903	100	-17.0

* Measured Field Strength in dB relative to 1 μV/m

- b) The FCC curves for sky-wave propagation are based on recordings on 500 transmission paths at frequencies ranging from 640 to 1190 khz and distances of 160 to 4000 km during early 1935, and an extensive measurement campaign on 27 paths ranging from 300 to 3500 km and transmitting on frequencies from 540 to 1500 khz taken between 1939 and 1944. The FCC curves will be discussed in more detail in Section 3. The measured data for the 27 paths taken in 1944 is presented in Table 2 below.

TABLE 2. PROPAGATION PATH DATA (FCC 1944 DATA)

Path No.	Transmitter Location	Receiver Location	Freq. (kHz)	Dist. (km)	Observed (dB) *
US 1	New York City	Baltimore, Md	880	300	44.8
US 2	Des Moines, Iowa	Grand Island, Neb.	1040	425	44.8
US 3	Rochester, NY	Baltimore, Md	1180	430	44.7
US 4	Raleigh, NC	Baltimore, Md	680	432	44.7
US 5	Denver, Colo	Grand Island, Neb.	850	568	46.5
US 6	Cincinnati, Ohio	Atlanta, Ga	1530	592	47.9
US 7	Cincinnati, Ohio	Atlanta, Ga	700	623	44.2
US 8	Minneapolis	Grand Island, Neb.	830	623	38.0
US 9	St. Paul, Minn	Grand Island, Neb.	1500	627	41.2
US 10	Cincinnati, Ohio	Baltimore, Md	700	662	41.5
US 11	Cincinnati, Ohio	Baltimore, Md	1530	687	44.9
US 12	Dallas, Tex.	Grand Island, Neb.	820	898	43.9
US 13	Salt Lake City	Grand Island, Neb.	1160	1155	40.3
US 14	Cincinnati, Ohio	Grand Island, Neb.	700	1203	30.6
US 15	San Antonio, Tex.	Grand Island, Neb.	1200	1262	39.7
US 16	Watrous, Sask.	Portland, Ore.	540	1434	25.6
US 17	Guatemala City	Kingsville, Tex.	1020	1636	37.5
US 18	Belize	Powder Spr., Ga.	834	1850	35.0
US 19	Los Angeles	Grand Island, Neb.	640	1900	23.6
US 20	Dallas, Tex.	Baltimore, Md	820	1959	24.2
US 21	Minneapolis	Portland, Ore.	830	2278	10.4
US 22	St. Paul, Minn.	Portland, Ore.	1500	2305	10.9
US 23	Dallas, Tex.	Portland, Ore.	820	2598	13.9
US 24	Chicago, Ill.	Portland, Ore.	890	2818	0.1
US 25	Cincinnati, Ohio	Portland, Ore.	700	3188	0.1
US 26	New Orleans, La.	Portland, Ore.	870	3297	13.3
US 27	Atlanta, Ga.	Portland, Ore.	750	3494	-1.9

* Median (50%) Measured Field Strengths in dB relative to 1 μ V/m for a transmitter power of 1 kW

All of the data in these tables have been normalized to represent an effective monopole radiated power of 1 kw, thereby removing the effects of transmitter power from the measurements using the standard equation:

$$F_p = 10 \log P \quad (\text{dB})$$

where P is the effective radiated power in kilowatts

F_p is the field strength gain in decibels relative to 1 μ V/m.

3. PREDICTION METHODS

The field strength prediction methods recommended by PoKempner (1980) are presented in the sections below. Full details on their derivation can be found in PoKempner (1980).

Cairo Curves

The Cairo Curves are shown in Figure 1. The North-South curve represents trans-equatorial propagation, and the East-West curve represents propagation at high latitudes. The curves are solely a function of distance, and the effects of transmitter power can be added to the predicted field strength. A curve of the inverse distance is also shown; the difference between the inverse distance curve and the other curves is the additional loss due to ground losses, absorption losses, etc.

The original curves were in terms of the quasi-maximum value (exceeded not more than 5% of the time). For the median values, these curves should be reduced by 9 dB, according to the CCIR 1978 meeting.

FCC Curves

There are two sets of the FCC curves for sky-wave propagation. Both sets of curves are contained in the FCC Rules and Regulations.

Figure 2 shows the 1935 data for field strength exceeded 10% and 50% of the time, based on vertical polarization and second hour after sunset at the west end of the path. The 1935 curves were adopted by treaty in 1960 by Canada, Cuba, Mexico, the Dominican Republic and the Bahama Islands and are used for determining frequency assignments for international clear-channel broadcasting stations.

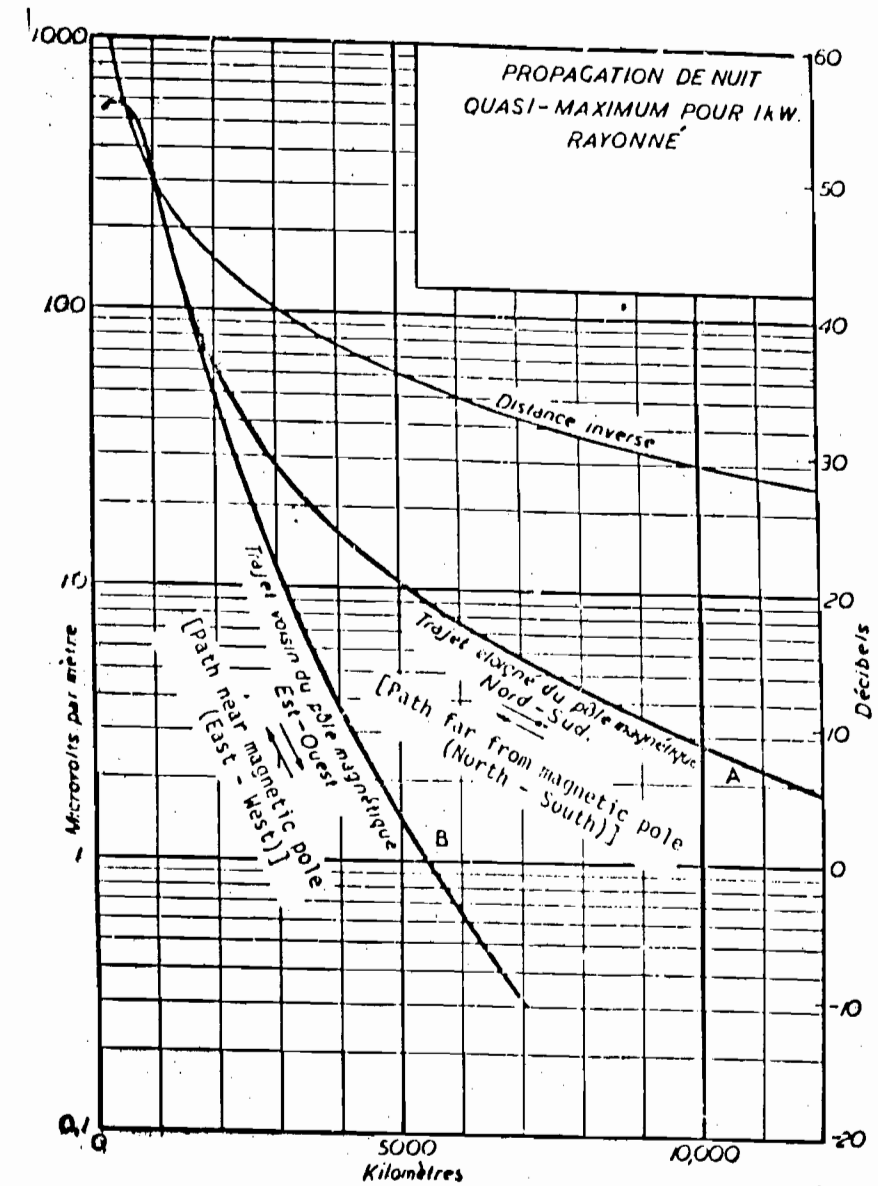


Figure 1. Quasi-maximum field intensity at great distances for propagation at night for a radiated power of 1 kW.

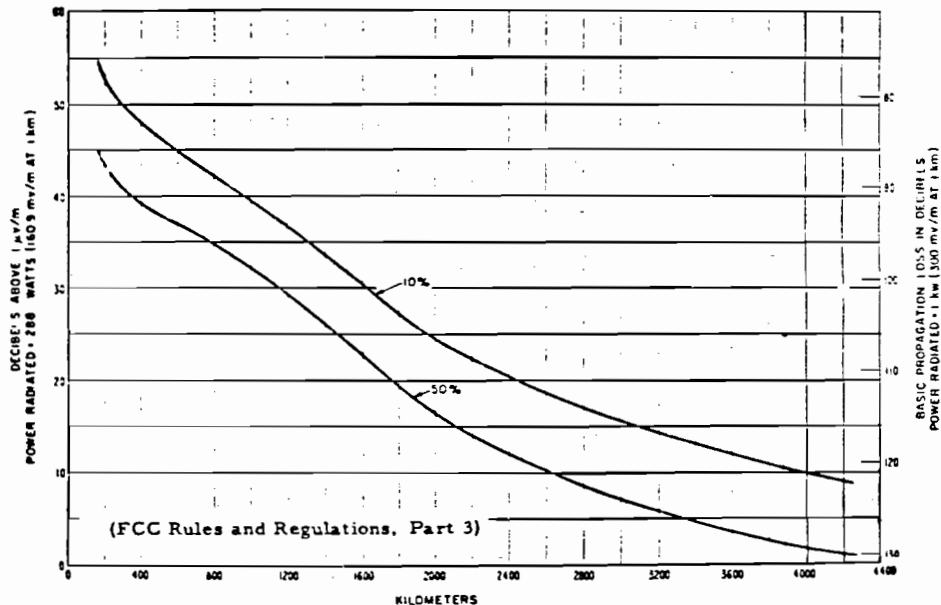


Figure 2. U.S. sky-wave field strength exceeded 10 percent and 50 percent of the time at 1000 kHz. Based on 1935 measurements, vertical polarization, and second hour after sunset at west end of path (Barghausen, 1966).

Figure 3 shows the 1944 curves for field strength exceeded 10% and 50% of the time, based on vertical polarization and second hour after sunset at the path midpoint, as a function of geographic latitude and distance. Minimum solar activity occurred in 1944, and the highest skywave field strengths were measured, and therefore this data represents the worst case for determining service areas and interference. These curves are used by the FCC for determining frequency assignments for domestic non-clear-channel broadcasting stations.

The FCC curves only extend to a range of about 4000 km, and should not be used beyond that distance.

CCIR 1978 Method

The recommended CCIR (Recommendation 435-3) sky-wave field strength prediction method is:

$$F_0 = 106.6 - 2 \sin \phi - 20 \log p - .001 kr p - L_p + G_s$$

where: F_0 is the annual median field strength (dB above $\mu V/m$) at the reference time (6 hours after sunset 750 km from the terminal where the sun sets last)

ϕ is a geomagnetic latitude parameter, calculated from the transmitter and receiver geomagnetic latitudes.

p is the slant propagation distance in km, calculated by the equation:

$$p = \sqrt{(d^2 + 4 h^2)} \quad (\text{km})$$

where d is the ground distance (km)

\rightarrow h is the virtual height of the ionosphere.
 $h = 100 \text{ km}$ for E-layer ($f < f'$)
 $h = 220 \text{ km}$ for F-layer ($f > f'$)

$$\text{and } f' = 350 + \sqrt{[300^2 + (2.8 d)^2]} \quad (\text{kHz})$$

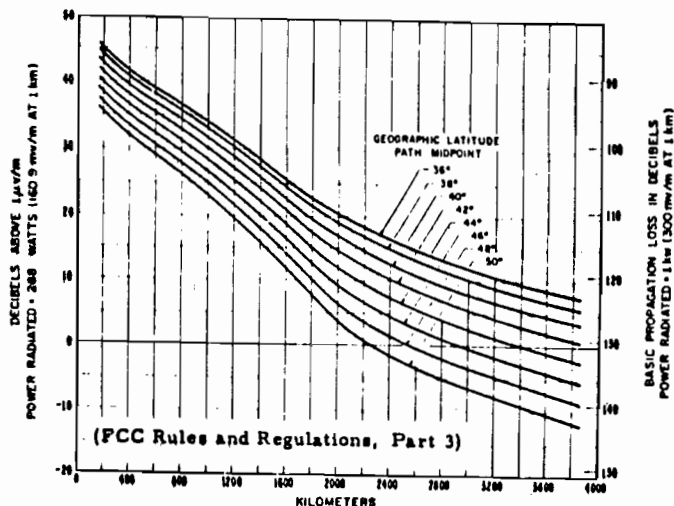
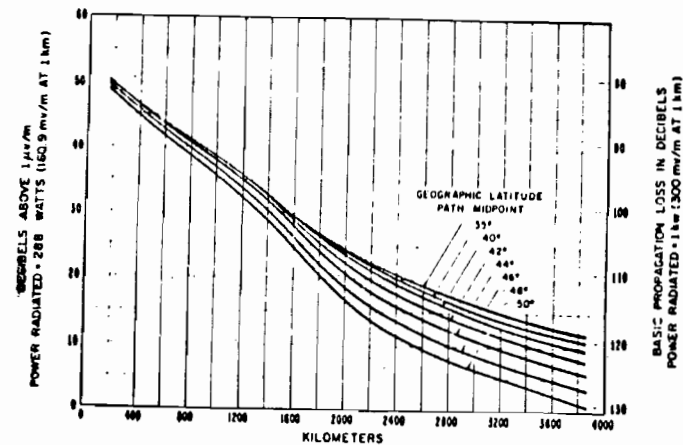


Figure 3. U.S. sky-wave field strength exceeded 10 percent (upper curve) and 50 percent (lower curve) of the time at 1000 kHz. Based on 1944 measurements, vertical polarization, and second hour after sunset at path midpoint (Barghausen, 1966).

kr is a loss factor, defined as:

$$kr = k + .01 b R$$

$$\text{where } k = 3.2 + 0.19 (f)^{0.4} \tan^2 (\phi + 3)$$

f is frequency in kHz

b is a solar activity dependence factor,
 $b = 1$ for Europe and Australia,
 $b = 4$ for North America
 $b = 0$ elsewhere

R is the 12-month smoothed Zurich sunspot number

L_p is the excess polarization-coupling loss (dB)

G_s is the sea gain correction (dB)

20 Pokempner (1980) contains the figures and maps required to determine the geomagnetic latitude parameter, the polarization loss and the sea gain.

Wang 1979 Method

This is a proposed modification of the recommended CCIR 1978 prediction method. Wang suggested that the basic loss factor, k, be changed to:

$$k = (0.0667 |\phi| + 0.2) + 3 \tan^2 (\phi + 3) \quad (\text{for } 0 < \phi < 60 \text{ deg})$$

Wang claimed that this increases the accuracy in high- and low-latitude areas without affecting the prediction in average latitude areas and assumes no frequency dependence.

For the solar activity dependence factor, b, Wang proposed modifying the CCIR fixed values for each continent to:

$$b = 0.4 |\phi| - 16 \quad (\text{for } |\phi| > 45 \text{ deg})$$

$$b = 0.0 \quad (\text{for } |\phi| < 45 \text{ deg})$$

These equations attempt to simulate the auroral zone effects by assigning a high solar activity factor, b, above 45 degrees geomagnetic latitude. Unfortunately, Wang proposed no upper limit on the value of b, and a geomagnetic latitude of 90 degrees results in a b value of 20. An upper value of b = 4 may be more reasonable.

Other Methods

Pokempner (1980) lists other methods considered by the CCIR during its evolution of field strength prediction methods. One of the methods considered was that of Knight (1973), which provides graphs and curves for determining the number of hops, ground loss at transmitter and receiver, polarization coupling loss at transmitter and receiver, ionospheric loss, intermediate reflection loss, and corrections for two or more propagation modes. The Knight method was tested for 152 paths by the EBU, but it tended to be laborious and time-consuming, especially for long distance paths. Therefore, the Knight method was not compared with the other methods in the Pokempner report.

4. COMPARISON OF PREDICTED AND MEASURED VALUES

Pokempner (1980) provides the observed and the predicted field strength values for 36 paths measured in the early 1930's, including some paths from which the Cairo Curves were derived. The various CCIR prediction methods were probably developed from most of the 36 paths. Twenty-two of the paths have at least one terminal in North, Central or South America, and the remaining 14 paths are representative of other CCIR regions.

The following conditions were established for the CCIR 1978 and Wang methods:

F_o is the annual median half-hourly median field strengths for an effective monopole radiated power of 1 kw, relative to local midnight at the path midpoint(s). Average ground conductivity is assumed, typically 3 to 10 mS/m; and the antennas are assumed to be omnidirectional short verticals.

However, the Cairo Curves are based on the quasi-maximum measured field strengths, which is about 9 dB above the median field strength. The Cairo Curve data should have 9 dB subtracted from it to be consistent with the CCIR 1978 and Wang methods.

The observed field strength and the predicted field strengths using the Cairo Curves, the CCIR 1978 and the Wang methods are presented in Table 3 for the 36 paths, grouped according to path. The CCIR 1978 and Wang methods include the method for determining sea gain, and this is included where applicable. The Wang method was not used to predict field strengths on the Europe, Africa, Asia and Pacific paths.

Because the Cairo Curves were derived from measured field strengths, the effects of sea gain, polarization loss and solar activity are included in the curves.

21 The CCIR 1978 and Wang methods predict median field strengths, and should have 9 dB added to them for comparison with the measured field strengths listed, since the measured data is quasi-maximum field strengths. The CCIR 1978 method data has been modified by adding 9 dB to the predicted median field strengths for comparison purposes in the second column for the CCIR 1978 data.

The root-mean-square (RMS) error between the measured and predicted field strength values are also shown in Table 3 for each prediction method.

TABLE 3 - COMPARISON OF MEASURED AND PREDICTED FIELD STRENGTH VALUES

Path No.	Freq. (kHz)	GCD (km)	R	Cairo Curve	CCIR 1978	CCIR + 9 dB	Wang 1979	Observed
1. North America to Europe								
1	977	4797	100	-3.8	-42.0	-33.0	-68.5	-14.1
2	1070	5272	0	-7.6	-17.8*	-8.8*	-20.4*	2.6
3	1070	5298	0	-7.7	-19.4*	-10.4*	-22.3*	0.0
4	977	5346	100	-8.0	-40.3	-31.3	-61.8	-18.2
5	1040	5426	100	-9.0	-40.2	-31.2	-59.3	-13.5
6	1040	5573	20	-9.8	-21.3*	-12.3*	-23.9*	-9.0
6	1040	5573	100	-9.8	-32.4*	-23.4*	-48.0*	-21.0
8	860	5791	100	-11.5	-29.0*	-20.0*	-48.5*	-17.0
9	860	5839	20	-11.7	-18.4*	-9.4*	-26.6*	-13.6
9	860	5839	100	-11.7	-30.1*	-21.1*	-50.2*	-15.1
12	1040	5910	100	-12.1	-37.7	-28.7	-50.0	-18.5
14	860	6287	20	-14.4	-22.1*	-13.1*	-30.6*	-19.5
14	860	6287	100	-14.4	-34.7*	-25.7*	-55.5*	-31.0
RMS Error				8.4	17.2	10.1	31.7	
2. North America to South America								
23	1070	8383	0	3.4	-5.7	3.3	9.3	2.0
24	860	8518	0	3.1	1.7*	10.7*	15.6*	2.0
25	1070	8536	0	2.9	0.6*	9.6*	15.0*	-2.0
26	980	8622	0	2.7	-7.2	1.8	7.9	2.0
29	1070	9043	0	1.8	-11.9	-2.9	3.5	2.0
RMS Error				2.4	8.3	6.9	10.6	
3. South/Central America to Europe								
16	1310	7001	0	6.6	-9.9*	-0.9*	-6.1*	0.0
30	1157	9333	0	1.4	-31.1*	-22.1*	-27.7*	-22.0
32	1040	10774	100	-1.3	-12.2*	-3.2*	9.1*	-9.9
33	1070	11127	100	-1.8	-17.7*	-8.7*	3.8*	-11.5
34	1070	11298	100	-2.3	-15.3*	-6.3*	7.4*	-13.5
35	1070	11400	100	-2.5	-16.0*	-7.0*	6.8*	-7.5
36	1070	11903	100	-3.2	-18.2*	-9.2*	5.6*	-17.0
RMS Error				12.5	7.1	4.9	16.1	
4. Europe, Africa, Mideast, and Asia								
7	1410	5706	0	9.6	16.9*	25.9*		18.3
10	1410	5884	0	9.2	4.9*	13.9*		10.8
15	845	6795	0	7.0	11.0*	20.0*		5.5
18	1602	7506	0	5.2	-2.2	6.8		-1.1
20	1580	7882	0	4.6	-7.3*	1.7*		-7.5
22	845	8240	0	3.7	7.6*	16.6*		9.8
28	1140	8791	0	2.3	-9.1*	-0.1*		-5.2
RMS Error				7.2	3.6	8.4		
5. Mideast, Asia and Pacific								
11	770	5885	0	9.2	15.4*	24.4*		17.5
13	790	6055	0	8.9	16.4*	25.4*		-1.0
17	1580	7198	0	6.2	11.0*	20.0*		3.0
19	770	7584	0	5.0	3.1	12.1		8.5
21	620	7886	0	4.6	5.8*	14.8*		0.7
27	770	8644	0	2.6	-2.7	6.3		5.0
31	1345	9988	0	0.4	7.4*	16.4*		-7.0
RMS Error				6.0	9.9	15.8		
TOTAL RMS ERROR				8.2	11.7	10.1	23.4	

* Includes Sea Gain in Calculation

NORTH AND SOUTH AMERICAN PATHS

Path No.	Freq. (kHz)	GCD (km)	Cairo Curves	CCIR 1978	Wang 1979	Observed
US 1	880	300	46.8	52.8	52.6	44.8
US 2	1040	425	46.8	48.6	48.4	44.8
US 3	1180	430	46.8	48.0	48.0	44.7
US 4	680	432	46.8	49.2	48.8	44.7
US 5	850	568	46.7	45.4	45.1	46.5
US 6	1530	592	46.6	44.7	45.1	47.9
US 7	700	623	46.4	44.8	44.4	44.2
US 8	830	623	46.4	43.3	42.6	38.0
US 9	1500	627	46.4	42.2	42.6	41.2
US 10	700	662	46.2	43.3	42.6	41.5
US 11	1530	687	46.2	41.7	42.1	44.9
US 12	820	898	43.9	39.7	39.3	43.9
US 13	1160	1155	37.5	33.8	33.8	40.3
US 14	700	1203	37.2	33.8	32.5	30.6
US 15	1200	1262	36.6	34.1	34.4	39.7
US 16	540	1434	33.9	27.9	24.3	25.6
US 17	1020	1636	30.6	33.2	34.7	37.5
US 18	834	1850	29.1	30.6	31.4	35.0
US 19	640	1900	28.1	27.2	25.9	23.6
US 20	820	1959	27.7	25.4	24.6	24.2
US 21	830	2278	25.2	16.0	13.7	10.4
US 22	1500	2305	25.0	11.8	13.4	10.9
US 23	820	2598	23.3	18.1	16.9	13.9
US 24	890	2818	21.4	10.6	8.5	0.1
US 25	700	3188	19.1	9.0	5.4	0.1
US 26	870	3297	18.3	11.5	10.5	13.3
US 27	750	3494	17.2	8.4	5.9	-1.9
23	1070	8383	3.2	-5.7	9.3	2.0
24	860	8518	3.0	1.7	15.6	2.0
25	1070	8536	2.8	0.6	15.0	-2.0
26	980	8622	2.5	-7.2	7.9	2.0
29	1070	9043	1.7	-11.9	3.5	2.0
RMS Error			8.2	5.7	5.7	

Table 4 provides a similar comparison of predicted (Cairo Curves, CCIR 1978, and Wang 1979 methods) with observed data for 27 U.S. paths and 5 North America to South America paths. The CCIR 1978 and Wang 1979 predictions include the effects of sea gain where applicable. Due to the relative shortness of the U.S. paths, the 9 dB correction from quasi-maximum Cairo Curve values has not been applied. No sunspot effects are listed since most of the data was taken in one calendar year.

It is extremely difficult to draw valid conclusions from the comparison of prediction methods with the observed data because the reliability of the observed field strengths is uncertain. The IBU data was taken over several years, and at different times of the year. The effects of transmitter height (assumed a short vertical in the Cairo curves), the effect of solar activity and magnetic field effects, diurnal effects (the prediction methods assume path mid-point local midnight), and the known non-reciprocal propagation on East-West paths are other factors that may contribute to the uncertainty of the data.

Inclusion of the sea gain factor in the CCIR and Wang prediction methods is based on assumed locations of transmitters and receivers. The sea gain correction seems to bring the predicted field strengths on the paths between Europe and the Americas and between the Americas more into line with the observed data, but tends to worsen the correlation of the paths between Europe, Africa, the Mideast, Asia and the Pacific with the observed data. This may occur because the former paths are primarily overwater paths, while the latter paths are primarily overland paths.

On an overall basis, the Cairo curves seem to provide the best correlation with the observed data, with an RMS error of about 8 dB. This should not be surprising, since the Cairo curves were partially based on the observed data.

The CCIR 1978 prediction method is superior to the Wang method, which tends to over-predict the losses due to the Earth's magnetic field on high-latitude intercontinental paths. However, for the North and South American paths of Table 4, the CCIR 1978 and Wang 1979 prediction methods are equal in RMS error, and are both better than the Cairo curves. This is partially due to the Cairo curves being developed from the quasi-maximum field strengths rather than median field strengths as predicted by the CCIR 1978 and Wang 1979 methods. Also, the Wang method was developed specifically for North and South American paths and could be expected to be more usable on those paths.

5. CLOSURE

The major purpose of this article was to publish some of the field strength data and prediction methods available in the open technical literature. It was not intended to be an exhaustive study, but rather a summary and an example of what the broadcasting industry and regulating bodies are doing and have done over the past 50 years in the field of medium frequency propagation.

The author hopes to publish some of his experimental data gathered over the past five years, compared to predicted field strengths, in the future.

6. REFERENCES

Knight, P. (1973) "A Wave-hop method of ionospheric field-strength predictions", BBC Engineering 100, 22-34.

PoKempner, Margo (1980) "Comparison of Available Methods for Predicting Medium Frequency Sky-Wave Field Strengths", US Dept of Commerce NTIA Report 80-42.

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