



DX MONITOR

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THE INTERNATIONAL RADIO CLUB OF AMERICA

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Board of Directors: Messers Erickson, Evans, Hauser, Northam, Worst, and Dr. Wood.

Procedure for Submitting Proposals: Send 8 copies to the President. State the proposal and give your reasons for the proposal. For help in drafting a proposal, write the President; Percy Kesteven will be pleased to provide assistance.

Membership Dues: \$13 air mail, \$9.50 first class, \$6.50 third class. Third class not recommended. Outside USA & Canada: \$6.50 surface mail anywhere. Air mail: Central & South America, Caribbean, \$20; Europe & Med. Africa, \$25; Asia & Oceania, \$30.

Joint membership: \$1 to any relative (regardless of location) or any person living in the same household. Joint membership provides all benefits except receipt of DXM.

IRCA Foreign Log: Edited by Father Jack Pejza, 3266 Nutmeg St., San Diego, CA 92104.

\$2.75 to members, \$3.25 to non-members; check or money order payable to IRCA and mailed to Father Jack. Allow at least four weeks for delivery. At last note, only 15 of the original 200 copies were unsold; more are being bound.

Club Supplies: Not presently available; watch DXM for further information. If there is a particular item you'd like to see, write to HQ (DEE) or to the President.

DX Forum Line Limit: 15 lines typewritten. No limit on DX Roundup or DX Worldwide.

Bulletin Schedule: Weekly thru 4/7/73; thereafter, 4/21, 5/5, 5/19, 6/16, 7/14, 8/11.

Editors: WDXR, Miss Nancy Gantzer; WDXF, Bruce Heimburger; CDXR, Rick Evans; CDXF, John Zondlo; WDXR, Andy Hecker; WDXF, Bill Lipis. No CDXF this issue; reason unknown. No WDXR; insufficient number of reports.

Announcements

Any member desiring the address of any member may request by name (they are not available by area at this time) by sending a self-addressed post card or envelope to HQ. The IRCA mailing label or name & address will be attached. Send requests to HQ only.

IRCA goes through around \$100 worth of postage per issue and obtains quite a quantity of plate no. blocks. These will be made available \$3.20 per 10 plate blocks (face value) from HQ; payment by personal check only, no money orders. Limit 10 per member.

NRC's fantastic Nighttime Pattern Book is available at \$5 by book rate; check or money order, to National Radio Club, P. O. Box 99, Cambridge, MA 02138. Incidentally, dues in NRC are \$14 air, \$13 1st, and \$10.75 3rd; sample 25¢.

No DX CALENDAR this issue; last week's DX Calendar accurately reflects all info available as we "go to press," 2330 EST 1/5/73.

Bruce Portzer plans a Questions and Answers stencil very shortly; if you've a question about IRCA, DXing, the BCB or MW, or related topics, write Bruce at 14056 5th Ave. S., Seattle, WA 98168. Bruce is not a Technical Editor and most specific electronic questions are better sent to Grant Manning or Ralph Sanserini; return postage is a must, naturally.

TABLE OF CONTENTS

EDXR - pages 2 through 5	WDXR - none	"A Beginner's Guide to the
EDXF - page 6	WDXF - page 12	Ionosphere" - Father Jack
CDXR - pages 7 through 11	DXWW - 6 pages	Pejza - pages 13 thru 16
CDXF - none this issue	Flash Tips - page 12	Mailing Time: 0800 EST 1/6/73.

January 6, 1973

EASTERN DX ROUNDUP

Page 2

Editor: Nancy Gantzer-67 Liberty St.-Fredonia, NY 14063

Deadlines: Every Thursday, except for Jan. 20 issue--which is Wed. January 10.

Reporters this week are:

- (BLC) Brian L. Cartwright-106 Leila St.-Johnstown, PA 15905
Channel Master 6436-A; loopstick
- (JMH) Jeff Hodge-8850 Wenner Rd.-Williamsville, NY 14221
- (AH) Adolph Holmes Jr.-65 Intervale Rd.-Teaneck, NJ 07666
- (GWJ) George W. Jensen-4604 Anntana Ave.-Baltimore, MD 21206
- (RVN) Randy Minnehan-975 Chestershire Rd.-Columbus, OH 43204
DX-150A; 65' LW(N-S)
- (TJS) Tim Saltmarsh-33 Fowler St.-Penacook, NH 03301
- (TRS) Thomas Sundstrom-Box 205-Willingboro, NJ 08046 HQ-150; SM-2
- (MW) Matthew Wall-2006A S. Titan Circle-Griffiss AFB-Rome, NY 13440

- 540 KNOE LA Monroe noted w/regular service then into DX Test on 12/18 w/fair sig. 0150-0205. Female announcer on RS, easy listening mx and ID every min. during test after 0154 nx. (GWJ-MD) 12/18 on RS w/IDs and TCs 0147, 0153, nx 0155. Continued beyond 0200 for NNRC DX 0200+, noted at 0212 check. Exc. sig., new here. (TRS)
- 550 WGR NY Buffalo 12/19 0224-0232 fair w/nx, wx, & RR. (AH-NJ)
- 560 WOOF AL Dothan 12/11 ET exc. o/WFIL 0115-0130, IDs every five minutes. (BLC-PA)
- WGAI NC Elizabeth City 12/17 weak thru WIS w/s-off 0100, SSB.
- WFIL PA Philadelphia 12/21 0038 w/ID and mx. (MW-NY) (BLC)
- 570 WFAA TX Dallas 12/11 fair w/RR all alone 0132, couple of jingles and IDs. WKBN seems to be off HMs recently. (BLC-PA) 12/18 0144-0157 w/PSAA, mx, and many IDs, fair signal strength but in the clear. (JMH-NY)
- 590 CKEY ON Toronto 12/17 good o/CUB w/classical mx program, then ID and nx 0000. (BLC-PA)
- 610 WIP PA Philadelphia 12/14 2214 w/wx given. (MW-NY)
- 620 WHEN NY Syracuse w/ID and mx 12/14 2222. (MW-NY)
- 630 WMAL DC Washington 12/14 2220 w/wx for city. (MW-NY)
- 670 WMAQ IL Chicago 12/18 after WNBC s/off exc. signal, nx, wx, Stock show. (AH-NJ)
- 680 WPTF NC Raleigh 12/17 0005 w/nx and regional report. (MW-NY)
- 730 WLOR GA Thomasville 12/19 hrd w/Xmas programming promo and SIDs 1718, atop freq., quite clear, new. (TRS-NJ)
- WFMC NC Goldsboro 12/17 w/C&W mx, SIDs 1646 & 1650 following WPIK s/off 1645. Poor to fair sig., new. (TRS-NJ)
- WPAL SC Charleston 12/17 heard w/ID 1700 ending nx, into gospel mx prgm. Good signal following WPIT s/off 1700, no sign of WFMC, new here. (TRS-NJ)
- 740 WKIS FL Orlando noted 12/11 0330-0343 w/PSA program from U. of Florida, followed by Top 40 mx; fair signal w/OC GRM.
- WMBL NC Morehead City 12/17 heard 1655 w/ID just ahead (GWJ) of nx, picked out of jumble o/CBL among others. Better on 12/19 at 1700+. (TRS-NJ)
- CBNM NPLD Marystown 12/18 even though it's good signal when you get it, it's hard to be listening on the right morning. S/on anmts. and some chatter to 0432. (BLC-PA) 12/22 2353 V.J. Log says CBNM, but is definately CBNM. S/off for CBNM, CBN and CBG, also for a shortwave //, gave station info for all four stations, O Canada and GSQ strong w/CBL nulled. (TJS-NH) (As far as I know, it's still CBNM. Check again and let us know?-NG)

Editor: Nancy Gantzer-67 Liberty St.-Fredonia, NY 14063

- 760 WJR MI Detroit 12/19 0135-0200 exc. after WABC s/off. (AH-NJ)
- 790 WQXI GA Atlanta 12/15 0450 nx good o/WTAR, little QRM. (BLC)
- WEAN RI Providence 12/21 2316 w/Wilson's commercial, time, and ID, w/fair signal. (HW-NY)
- 840 WMOB AL Mobile 12/11 r/c weak way u/WHAS, began 0101 w/1000 cps. (BLC-PA)
- WVPO PA Stroudsburg 12/17 weak way u/WHAS w/talk 0713. (BLC)
- 850 WJW OH Cleveland noted on 12/17 w/pop mx, YL announcer (Jane James) then Glen Yarbrough w/nx, spots noted. 1754-1800 pattern change. (GWJ-ID)
- 900 WIAM NC Williamston 12/16 1640+ w/lots of local ads, some mx o/WJWL to WJWL s/off 1645, then exc., new. (TRS)
- 910 WSBA PA York 12/21 2337 w/time, ID and C&W mx. (HW-NY)
- 920 WJAR RI Providence 12/21 2345 w/Whaler hockey game and interview at intermission. (HW-NY)
- WOKY WI Milwaukee noted 12/11 0350-0358 (CJCY s/on) w/fair to poor sig. wx, SIDs, Top 40 mx, nx at 0355. (GWJ-MD)
- 930 WTAD IL Quincy in good 12/17 at 2325 w/forecast and light MoR mx. (RVM-OH)
- WCNR PA Bloomsburg 12/16 1632 ID and TC, then local gas station ad, good w/WPAT nulled, new despite being so close. (TRS-NJ)
- 950 WKGI VA Richmond 12/16 1655 w/C&W mx to 1700 s/off w/o SSB, WPEN completely nulled, exc. sig., new. (TRS-NJ)
- 960 WATS PA Sayre 12/11 ID weak u/WBOC 0030 at end of r/c. (BLC)
- 970 WWSW PA Pittsburgh 12/22 0003 w/sports and wx. (MW-NY)
- 1000 WKYB SC Hemingway 12/17 1707-1714 $\frac{1}{2}$ w/s-off anmt. at 1710. Good w/WCFL nulled. (JMH-NY) Noted on 12/17 1705-14 s/off w/many spots and SIDs, Theme From a Summer Place as s/off piece. (GWJ-MD)
- 1070 WHYZ SC Greenville 12/15 fair w/pop mx thru jumble 1630-1655. Lots of spots and at 1650 "WHYZ wishes you a Merry Christmas". (BLC-PA)
- WTSO WI Madison 12/18 0532-0543 very good w/ET as per DX Calendar, had info about the station & mx. (JMH-NY)
- 1080 WWDR NC Murpheesboro 12/16 apparently doing a remote at a volunteer fire house turkey shoot 1610+ w/lots of anmts. some pop mx. Completely wiped out WTIC 1620-25, new. (TRS-NJ)
- 1090 WTTM OH Wilmington 12/11 DX Test exc. w/no slop from WTIC. Used C&W w/jingles, live ID about every other record. (BLC-PA) Noted w/test per sked. on 12/11 0259-0315 w/best sig. of any test this season. C&W mx and many IDs and SIDs. Tone and OC from unid. did not bother them as much as they were o/u this and quite readable.
- 1140 CBI NS Sydney 12/11 s/off fair o/WRVA OC 0010. CBC stns. s/off consists of O Canada & GSQ. (BLC-PA) (GWJ)
- 1240 WIBU WI Poynette 12/15 0212-0216 s/off w/test using tones of various pitches, ID at 0216. Good strength but faded o/u background. (JMH-NY)
- WEKR TN Fayetteville 12/18 DX Test good w/C&W w/no WGBB. Detailed IDs between records, even gave when they went on the air in 1948. (BLC-PA)
- 1250 WTAE PA Pittsburgh 12/20 0206 w/sports, strong sig. (HW-NY)
- 1260 WCHV VA Charlottesville 12/18 on NNRC DX, ID picked out of jumble 0235. Telephone call confirmed same, said they were on 1 kw N power beamed South, later they were

- 1260 WCHV VA (cont.) better on 5 kw D, new. (TRS-NJ)
- 1270 WXYZ MI Detroit this one sneaked in u/WDR w/contest amt. (MW-NY) (Date and time??-NG)
- 1290 WHIO OH Dayton was dominant 12/20 0141 w/American Correctional Corp. and Navy commercials. (MW-NY)
- 1310 WJLK NJ Asbury Park 12/18 poor w/s-off thru jumble, unusually high amount of stns audible for the time. (BLC-PA)
- 1320 WVOJ FL Jacksonville 12/11 poor w/RR w/practically no QRM 0220. Many stns in good MMs after WJAS s/off 0200.
- 1330 WBTM VA Danville 12/13 good w/pop to 1700, then spoken (BLC) jingle and into network nx. (BLC-PA)
- 1340 WBBQ GA Augusta 12/18 poor-good w/r/c, faded upward to 0029 peak, good IDs at 0025 & 0030. (BLC-PA)
- WG AU GA Athens 12/18 poor on r/c thru WIZE 0117, IDs on the five minutes. (BLC-PA)
- WJPF IL Herrin 12/18 0132 good w/r/c thru pest WIZE, ID 0135.
- WEKY KY Richmond 12/11 fair 0234 o/jumble for a few (BLC) minutes w/pop & ID after wx forecast. (BLC-PA)
- WIZE OH Springfield noted very briefly 12/11 0319-0320 w/several local spots and good sig. which promptly faded back into the mess. (GWJ-MD)
- WBAC TN Cleveland 12/18 poor w/s-off thru jumble, WIZE predominating. (BLC-PA) (Time?-NG)
- 1350 WSLR OH Akron 12/18 0208 w/C&W mx. (MW-NY)
- 1360 WKOP NY Binghamton 12/16 fair to good for about an hour o/u WDRG, WSPD til 0500, finally hrd ID then. (BLC-PA)
- 1370 KAWW AR Heber Springs 12/17 fair w/s-on 0700 thru slop. (BLC)
- WHHI MD Braddock Heights 12/17 must have been this one w/the spot 0650, as said "the biggest car dealer in W. Maryland", and Leonardtown is in far East. (BLC-PA)
- WTAB NC Tabor City 12/17 fair w/many spots & pop 0645 thru jumble. (BLC-PA)
- 1420 WLNA? NY Peekskill 12/11 think this was them s/off 0200 way u/WHK. Besides chatter, at end made out "Concludes this broadcasting activity." This means a specific event, while most stations say another. (BLC-PA)
- 1430 WMNC NC Morganton 12/12 fair thru jumble w/talk & a few IDs.
- 1440 WKLV VA Blackstone 12/12 good o/freq. on SSS 1640. (BLC) Never IDed but many mentions of Blackstone. (BLC-PA)
- WHHY AL Montgomery 12/17 w/ID 0030, ad for local record shop, just o/someone else, w/RR mx. Some have already noted this one is missing from NRC Pattern Book. (TRS-NJ)
- 1450 WPAD KY Paducah 12/18 weak 0154 on r/c thru some other TTer, maybe WFTR. (BLC-PA)
- WC RS SC Greenwood 12/18 fair w/RR and a few spots. Mentioned "Here on Super 'CRS". (BLC-PA)
- 1470 WPGF NC Burgaw 12/18 heard per '73 FC list, ID 0020 w/TT, giving phonetic ID o/TT. WSAW had s/off 0007. (TRS-NJ)
- 1500 W DEN GA Macon noted w/test-very professionally done w/C&W mx, brief tones and many IDs 12/18 0235-0246, noted on freq. well after 0300, sig. very good no QRM. (GWJ)
- 1550 WRIZ FL Coral Gables noted 12/17 w/talk in SS, then late s/off at 1731-very detailed in EE, no SSB. (GWJ-MD)
- WTHB GA Augusta 12/18 weak u/CBE 0057 on r/c w/TT. (BLC-PA)
- 1560 WGLB WI Port Washington 12/15-16 PoP test according to note from Dave Faulkner. Tape ran 0200-0400 both dates, not heard. (TRS-NJ)

- 1580 WEYY AL Talladega 12/18 1741-1743 $\frac{1}{2}$ w/spot followed by s/off anmt. fair o/others on 1580. (JMH-NY)
- WCCR IL Urbana noted 12/18 0215-0230 w/f/c IDs at beginning and end, rest was TT. Signal very good especially for 250 watts. (GWJ-MD)
- KLOU LA Lake Charles very strong w/RR mx at 0245 on 12/18. Sounds a lot more than 1 kw. (RVM-OH)
- WVKK OH Columbus 12/20 1710 RR mx, spots for GE and a movie called "Troubleman", s/off at 1715 w/invitation to tune to WSFO-FM at 94.7, said station is owned by Scarborough Broadcasting Co. Strong o/CBJ. (TJS-NH)
- KLTR OK Blackwell 12/18 1801-1815 w/all nx, some spots and "Oklahoma News Central" s/off anmt. 1815; good strength but several fades. (JMH-NY)
- WILA VA Danville 12/20 1655 PSAs and a Community Calender, s/off for "Wonderful Radio" done by a DJ who screamed the station info, fair in fade. (TJS-NH) (Seems as if that DJ ALWAYS screams the s/off, at least every time I've heard him he has.-HG)
- 1590 WAKR OH Akron 12/20 0119 w/Golden Age commercial. (MW-NY)
- WCBG PA Chambersburg w/note wishing Merry Christmas at 0117 on 12/20, u/WAKR. (MW-NY)
- WMIN PA Mount Carmel good on f/c 12/18 w/TT and complete IDs, 0000-0015. (RVM-OH)
- KYOK TX Houston 12/14 fair w/nx 1704 thru jumble. Many mentions of Texas towns. (BLC-PA)
- WGOE VA Richmond 12/18 good 0020 w/RR mx. Must now be running at night, logs say daytime only, but it's been in nightly. (RVM-OH)
- 1600 KLAJ CO Lakewood 12/18 0402 w/ID just creeping thru on what is a good channel when WWRL is off. (JMH-NY)
- WINX MD Rockville 12/16 0045 noted here briefly (about five seconds brief, hi) w/"... here on WINX", may have been the RR heard earlier; fair u/WWRL. (TJS-NH)
- KATZ MO St. Louis 12/18 0309-0322 exc. while listening to WCWC test. Soul mx and SIDs. (JMH-NY)
- WLNG NY Sag Harbor 12/18 DX Test Tentative, but had some Xmas mx poor looped in the direction of S.H. 0334. Certainly not KATZ "The Black Rock of the Midwest" and checked to see it was not WAKR slop. (BLC-PA)
- WWRL NY New York was OFF from at least 0145-0300 (it returned to the air at this time). There was Chesapeake, VA test-Ripon may have been there but could not be IDed. Exc. opportunity missed by the VA station. (GWJ-MD)
- WWSK NC West Jefferson 12/18 ID heard 0000 sharp, into TT on FC as per '73 list, o/WWRL w/good sig., new. (TRS-NJ) Good o/WWRL on f/c w/TT and IDs every 3 minutes, ended at 0015, 12/18. (RVM-OH)
- MCPK VA Chesapeake 12/18 0230 poor on DX Test. First some carrier, feedback, and half of an ID audible. Never heard during rest of test. (BLC-PA)
- WCWC WI Ripon 12/18 on NNRC DX w/exc. signal 0200+. Called CE 0219, was first caller, later heard calls from Myers of OH, Poterba of PA, Musco of CT, Evans of IL, Hendricks of IN. Best on day pattern, but night pattern also topped freq. WWRL off! CE said he'd stay on to 0230 to try and make it to the West coast. New. (TRS-NJ)

January 6, 1973

EASTERN DX FORUM

Page 6

Editor: Bruce R Heimbürger - 1710 Cambridge - Ann Arbor, MI 48104

Deadlines: Fridays. Back to the Ann Arbor address

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Quentin K. Brown - 59 Kenilworth St. - Ottawa, Ont K1Y 3 Y5

Hi gang! Sensational cx & info-packed DXMs, what a combination & we have both right now. Seems the TAs made a quick recovery from the MWA this year. How d'you rpt Algeria-548? A fella could write a one word rpt for that one, "chanting!" How about that DXWW, great isn't it! I've hrd 40 some new foreign stns this winter, most on tips from either DXWW, foreign log or Jerry Osborne. With stns going NSP, foreign DX seems really 'in' except for DXers like Tom McCormack & George Sherman who log WSLT-1520 @ SR! Nice! Super interesting TP article by Jay Murley. Confirms everything that's been hrd (& and hrd) here. Highest latitude path hrd is Ottawa-Edmonton (BCX, last weekend), extrapolated to Australia still misses Asia by a good 2000 miles. If I'm ever to hear Asia, it'll be the other way, to Syria-782. A big welcome to all the new members and thanks to DEE for another year of fine publishing.

Jim Poterba - 949 Queens Dr. - Yardley, PA 19067

Greetings IRCans. DX has been picking up, as it usually does during Xmas vacation. Finally took a log on PJA6-925, one that has eluded me for so long thanks to WTTM which directs 1kW down my throat @ 1½ mi, hi. WCWC did very well all over the EC, judging from the calls that they received. Probably the most interesting DX Test so far this season. Some veries in this week: v/q-KGHL for state # 41, WGR, Andorra-818 country #19, Senegal-764-country #20, v/l-WSVS WLSH, v/f-WCRV KNOE, v/c-WRGM, v/r-WPNS, v/ppc-1HEN. Everyone be sure & try for the WCPK DX Test. This is a very friendly stn, & is most interested in receiving rpts. Looks like we may get a DX Test from WRGM-1540 too. The CE sez they run special ETs and are trying to be hrd in CA. I've written him to tell him that DXers would have a better chance of hearing this TEST is if was run on a MM....Right now, check 0000-0400 every 3rd Sun M, EST. 73s for now, a belated Merry Xmas & Happy New Year to everyone, and be sure to DX during the Xmas holidays.

Thomas R. Sundstrom - Box 205 - Willingboro, NJ 08046

Hope all IRCA members had a good holiday. Spirits here are a bit low as, by the time you see this, my wife will be entering the hospital for the fourth time in 3 mos. (including one 5-day period between Xmas & New Year's). (I hope it isn't too serious-Brh) Though we didn't send out any Xmas cards this year, thanks to all who sent us same. We just have not gotten into the Xmas swing of things. Around Thanksgiving we switched bedrooms in the house around, moving the baby girl into the 2nd largest room & I into the smallest--w/all the radio gear. It seems to have been a worthwhile move in that the peaks & nulls capable w/the SM-2 seem to have improved. Those who see EDXR pages will note I've been able to get total nulls on such locals as WPEN, WIBG, WVCH and...almost...WIP & WPIL; something which I've never been able to do before. I can only speculate that, with the equipment being on an outside wall before, the SM-2 may have been reacting to metallic elements in the insulation, whereas the interior walls are hollow. Too, I used co-ax to feed the LW in the attic instead of indoor antenna wire & perhaps there was radiation off that (even though it was separated by 6' from the SM-2). 73.

Bruce R Heimbürger - 1710 Cambridge - Ann Arbor, MI 48104

Well, I'm back again after a self-caused and unintentional one week vacation. The few reports that I left in Ann Arbor will be typed as soon as I get back. I have noticed hets on the TA freqs. lately, especially MM 12/25. WDR had the only audio I could detect but carriers were on 1602, 1578 & a couple more. Also noticed a couple of unID SS on 1155 & 1175. Didn't look for any FFs on late. I have about decided to take my rx back w/me so you should hear more from me DX-wise. 73s.

EDITOR: Richard C. Evans - Box 2048 - Gary, Indiana - 46409

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OF SPECIAL INTEREST:

- 980 MN WYOO Richfield, noted w/new calls (x-WPBC) 1200 12/5 over CKRM. Fair day signals. (JAM)
- 990 MAN CBW Winnipeg, sked: 0700-0230 weekdays, on to past 0400 on week-ends w/progressive rock program called "Progressions" produced in Winnipeg. OC on 0630 (JAM)
- 1050 MAN CKSB Winnipeg, weekdays sked: 0700-0200 and weekends on to 0309 with local rock show. (JAM) (Joe, are they 100% FF?-rce)
- 1090 CO KAAT Denver, on RS w/MoR as of 12/13, easy here in daytime. ID as "Radio Colorado, Voice of the Rocky Mountain Empire" or "Big Kat". (BN)
- 1290 ONT CJBK London, x-CJOE, first time hrd on new call letters, on top of WHIO 0019 12/23 w/jingle - RR Mx. (ST)
- ++++
- 550 ND KFYZ Bismarck, IDs as the "largest man-made electronic mama in the U.S." Has daytime coverage of three provinces and five states. (JAM)
- 560 SC WIS Columbia, fair w/greetings and program preview 0458 12/18. (KDF)
- 570 FL WFSO Pinellas Park, amazingly on top of freq. 0636 12/23 running a spot for "The Hitman" movie being shown in St. Pete, then an ID then RR. In for 15 minutes. Call to stn netted the information that they beam their 500 watts mostly north. (ST)
- WI WMAM Marinette, finally overtook WFSO 0706 w/spot mentioning Menominee, Michigan then into C&W Mx, 12/23.(ST)
- 580 MAN CKY Winnipeg, "Canada's Superstar was born on July 31 and is the 1972 version of Canada's friendly giant of the 60's" CKY plays all the Top 40 records with a generous slice of LP cuts and golden oldies to their programming. (JAM) (Do you have a v/s, Joe?-rce)
- KS KSAC Manhattan, 12/8 1800 ID as "The Voice of the U. of Kansas" (JM)
- KS WIBW Topeka, 12/10 1845-1900; stayed at 580 from KSAC on 12/8 since they share xmtr. Fair sig., but extremely fady, carrying K.C. Chiefs football game. (JM)
- 590 MT KGLE Glendive, good with some CKY splash 1300 12/7. Many spots for First Security Bank of Glendive. (JAM)
- 600 FL WPDQ Jacksonville, fair/good o/Cuban w/soul and rock Mx all morning. 12/18. (KDF)
- 610 FL WIOD Miami, 11/28 2145-2200 good signal with talk show with local judge. (JM)
- 650 HA KORL Honolulu, usually in MM w/weak signals, nothing spectacular. 12/4 0700. Maybe the weak EE station 1310 12/12 overriding WSM. (JAM) (Was that last time GMT by any chance, Joe?-rce)
- 660 NE KOWH Omaha, finally logged 07575 12/20 w/KOWH Information News. (ST)
- 680 MAN CJOB Winnipeg, carries all the Winnipeg Jets Hockey games of WHA. Like CFRW, CJOB Carries lots of KCND-TV Channel 12 spots in return for free spots on KCND.(JAM)
- 690 MO KSTL Saint Louis, weak but no fade. KSTL news, weather from Lambert Field, sports, then Kathryn Kuhlman Show 1320-1331 12/21. (GAB)
- 710 CO KBTR Denver, in almost every day from 1000-1600 under CFRG/WDSM. Dominates 710 nights. (JAM)
- LA KEEL Shreveport, 12/2 1800-1815 power cut, RR u/WOR, IDs as Kēl. (JM)

EDITOR: Richard C. Evans.

DEADLINES: Thursdays.

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710 WI WDSM Superior, very weak and fady, brief opening despite WOR QRM. MoR music 1715 12/21. (GAB)

730 MO KWRE Warrington, C&W Mx till world and national Nx 1355. Weak to fair strength, heavy WGN slop 1350-1358. 12/21. (GAB)

740 ALT CBX Edmonton, good days to Winnipeg 1230 12/12. s/on 0730 w/O Canada and short ann. as the "50,000 watt voice of Northern Alberta", then continous Mx. (JAM)

AL WBAM Montgomery, fair to good w/Joe Cook Show. Lots of QRM even with CBL nulled. 1732-1735, 12/21. (GAB)

750 ND KMMJ Grand Island, usually in here days w/fair signals. Sometimes in better than KRVN/KFAB. (JAM)

760 HA KGU Honolulu, might be the weak station all alone peaking at 1310 and gone by 1330. WJR almost non-existent. 12/11. Sure wouldn't mind hearing KPUA(JAM)

770 MN KUOM Minneapolis, fair days after WCAL goes off, but bombed out at SSS by WEW/WABC. (JAM)

MN WCAL Northfield, another Twin City station heard here in the morning with good signals. (JAM)

MO WEW. Saint Louis, local Nx and Wx followed by a Mx show. Fair to good strength w/WBBM splash. 1403-1410 12/21.

790 MI WGSW Saginaw, MoR Mx, very weak plus WBBM slop //// (GAB) Had a spot for Mazda, McDonalds, and others. 1411-1427 12/21. (GAB)

MT KGHL Billings, 12/11 0900-0930 (for a cumulative total of about 5 minutes). wk u/WAKY and WMC; managed to catch ID at 0920 (thanks for tip RTE). (JM)

800 ONT CKDR Dryden, excellent signals all night u/very auroral conditions. 12/3, format during days is MoR, but at night heavy rock back to back. (JAM)

IA KXIC Iowa City, fair u/CKLW with ID 0730 12/22. (DP)

MN KQAD Luverne RS 1735-1745 s/off well on top, no sign of usual KBRN. 12/25. (BN)

WI WDUX Waupaca, Good on SSS 1700 12/14 over CHAB/CFOB/CJLX/CKLW/XELO. (JAM)

810 ALT CHQR Calgary, good over semi-local KBHB/KCMO 1215 12/14*

850 ALT CKRD Red Deer, good all day o/KOA/WJJC 1200 12/13*(JAM)*

860 GA WDMG Douglas, w/fair signal 12/25 0508-0518 w/frequent fading under KONO. (BN)

MN KNUJ New Ulm, very weak u/KOAM/LPRTs all day 12/6. (JAM)

NE KOAM Pittsburg, fair thru CBKB/CBXF/KNUJ 1209 12/3 with news. (JAM)

870 HA KAIM Honolulu, probably my weak EE station u/CMCD 0630-0700 12/11 but never hrd ID because of the usual fade out on the hour. (JAM)

MI WKAR East Lansing, soul music, then a summary on black culture movement, then more music. Plenty of WLS splash. 1509-1524. 12/21. (GAB)

900 ONT CFBR Sudbury, for some reason, I never seem to hear an ID from this station. Bombs out 900 at SSS around 1900 with Radio Canada FF programs. (JAM) (Are they AN with French, Joe?-rce)

MO KFAL Fulton, a powerhouse noted many mornings dominating 900. 12/14. Plugs 900 as a clear channel. (JAM)

920 AR KARN Little Rock, xlnt w/s/on and into rock o/WOKY 0605 12/14. (DP)

IA KFNF Shenandoah, fair over KDHL/WOKY with C&W music 0713 12/21. (DP)

6 JANUARY 1973

CENTRAL DX ROUNDUP

Page 9

EDITOR: Richard C. Evans. HOME PHONE: 219-981-3232.

- +++++
- 920 KY WTCW Whitesburg, poor u/WOKY w/spot 0650 12/22. (DP)
 - MN KDHL Faribault, good thru CFRU 0845 w/ID. 12/13. (JAM)
 - MN KWAD Wadena, good w/s/off thru CFRY 0000 12/3. (JAM)
 - RI WJAR Providence, in fair w/end of NBC Nx, then local Nx u/o WOKY/KDHL/KFNF 0705 12/21. State 44. (DP)
 - SD KKLS Rapid City, fair on SSS 1700 12/13 w/ID actually over CFRY. CFRY's signals haven't improved at all since they went to 10 kw. They sounded better with 1 kw. CFRY 60 miles west of here. (JAM)
 - WI KXLY Spokane, fair to good w/ID and Nx 2200 12/9 thru CFRY. Big Country Music. (JAM)
 - 930 MD WFMD Frederick, good signal o/WLLL w/sports report 0734 12/21. (DP)
 - VA WLLL Lynchburg, fair u/WFMD w/ID 0730 12/21. (DP)
 - 940 NC WFNC Fayetteville, exc. signal w/local Nx 0727 12/21. (DP)
 - TX KTON Belton, 11/27 SSS s/off w/no SSB or anthem. (JM)
 - 960 MD WBOC Salisbury, probably was the stn running a spot mentioning Laurel, Del. (only 20 miles away), CBS Nx followed: 1803 12/20. (ST)
 - 980 MO KMBZ Kansas City, on top 0229 12/25 with ID/Wx. (ST)
 - 990 AZ KTKT Tucson, good MM's w/Powerline 0400. "KTKT Tucson" jingle 0430 and Silhouette. (JAM)
 - 1010 ONT CBLR Red Lake (CBLD Dryden) suspect these are the CBC LPRT noted w/CBW programs 0800 12/3. CBR nulled. (JAM)
 - 1050 MI WPAG Ann Arbor, snowmobile report sponsored by Land of Lakes Sports Centre. Very weak and fady with much QRM. 1545-1548. 12/21. (GAB)
 - NY WHN New York, 11/29 2000 ID, WHN Nx w/John Conley reporting; wk. sig. in rubble of several stns. (JM)
 - 1070 ONT CHOK Sarnia, CHOK Nx w/Chris Cook, then into mx. Good strength w/some severe fades. 1604-1610. WIBC nulled out. 12/21. (GAB)
 - 1070 AL WAPI Birmingham, good strength w/some fade. Rock music 1740-1747 12/21. (GAB)
 - 1100 OH WWWE Cleveland, solid, local-type signal in middle of afternoon: 1617-1628. Larry Kenny Show, sports challenge, then more music. 12/21. (GAB)
 - 1110 ALT CHQT Edmonton, fair days to Winnipeg over KFAB and good to 1827 antenna change. 12/12. (JAM)
 - KY WKDZ Cadiz, exc. signal w/Wx & s/off 1730 12/19. (DP)
 - LA WFCG Franklinton, logged w/a solid signal 1800 12/21 s/off. (ST)
 - 1140 ID KGEM Boise, state 49! finally logged w/many MMs of trying on 12/25, 0158 s/off, KSOO s/off earlier leaving KGEM blasting in. Taped rpt sent. Programming before s/off consisted of C&W Mx and Xmas Mx. (ST)
 - 1150 SC WTYC Rock Hill, on top for a minute w/end of Nx 0736 12/14. (DP)
 - SD KIMM Rapid City, good days over/under CKX. 1300 12/13 completely bombed out CKX. (JAM)
 - 1190**TN**WHMT Humboldt, on f/c 0143-0147 apparently off, 12/23, TT with same ID every minute. (rce)
 - 1220 ALT CJOC Lethbridge, fair all day o/CJRL (100 miles east) and KEYD 1300 12/11. (JAM)
 - 1240**KS**KAKE Wichita, ET TT ID 0230 12/25. (BN)
 - 1250 IL WIZZ Streator, weak u/WEMP w/MoR Mx 1216 12/21. (DP)
 - SC WTMA Charleston, on top w/Wx/ID Mx 0244 12/25. (ST)
- REMEMBER TO REPORT OFTEN. THOSE IN THE CONTESTS CAN REPORT ALSO!!!!

EDITOR: Richard C. Evans.

DEADLINES: Thursdays.

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1270 PQ CFGT Saint Joseph D'Alma, in weakly w/FF telephone talk show. 0237 12/25. (ST)

IN WORX Madison, was probably the station running a spot mentioning Madison at 0617 12/23. (ST)

NY WHLD Niagara Falls, fair at s/on mentioning FM-98.5 and into Nx, Wx 0700 12/17. (KDF)

1280 MN WWTC Minneapolis, very good days o/semi-local KVOX. No sign of KVOX all day on 12/14. (JAM)

NY WADO New York, xlnt w/s/on o/KTLK 0500 12/18. (DP)

1290 NY WBNF Binghamton, in o/u WHIO 2354 12/23 w/Wx-ID then WHIO took over. (ST)

1300**AL**WBSA Boaz, on the air for ET, 0332 12/25. (ST)

SD KOLY Mobridge, in good w/s/on ann. just before WTAQ s/on 0700 12/15. (DP) (JM)

1310 MO KFSB Joplin, 12/7 1800 ID only, quickly faded u/KCNW/WIFE

1330 MN WLWL Minneapolis, another daytime powerhouse w/good listenable signals daytime, even in better than KSTP WCCO WDGX day signals. (JM)

1350 PQ CJLM Joliet, on top w/FF Nx 0705 12/20. (ST) (JAM)

MN KDIO Ortonville, good w/Nx and phone-in program 1100 12/12

TX KCOR San Antonio, peaking in for an EE ID 1830, 12/22 then into SS programming. (ST)

1360 GA WAZA Bainbridge, poor in mess w/s/on annmt. 0600 12/16.(DP)

1370 PQ CFLV Valleyfield, in weak u/WSPD w/FF talk, 0326 12/25.(ST)

WI WCCN Neillville, xlnt signal w/s/off 1730 12/21. (DP)

1380 PQ CFDA Victoriaville, on top of weak WMEE 0220 12/25 with FF telephone-talk program. (ST)

NCWKKE** Asheville, ID on ET w/announced day power and pattern 0130 12/18. (KDF)

1390 ONT CHOO Ajax, poor w/WNUS nulled w/C&W and s/off 0000 12/15(DP)

SC WCSC Charleston, is no AN running RR, logged 0001 12/23 with jingle, RR u/WNUS (ST)

WV WKLP Keyser, fair w/WNUS partially nulled on 500 watt psa at s/on 0600 12/14. (DP)

1420 ONT CKPT Peterborough, fair u/WHK and unID C&W stn with SID 0536 12/13. (KDF)

IA WOC Davenport, 11/30 2200-2230 wk. but steady signal moderate Mx, Nx on hour and half hour. nice v/l. (JM)

1430 IL WCMY Ottawa, exc. w/s/off and SSB o/CKFH/WIRE 1730 12/20(DP)

1440 LA KMLB Monroe, good at s/off o/unID 0100 12/18. (DP)

TN WHDM McKenzie, on top of frequency 1739 12/23 with ID, Wx then faded out. (ST)

1450 PQ CHEF Granby, possible the one on top of mess w/FF telephone talk program. A good chance since they are 25 kw N. 0251 12/25. (ST)

IN WXVW Jeffersonville, good w/end of Ai Nx and into Rock 0106 12/18. (DP)

IN WASK Lafayette, 1302-1317 12/30, extremely poor under semi-local WVON, w/Nx, Wx, Rock Mx, spots. (rce)

1460 IL WIXN Dixon, Fair w/C&W Mx to 1729 s/off 12/16. s/off mentions KSO QRM reason for daytime status. (KDF)

TX WACO Waco, AN for Christmas 12/25. Hope that's all anyway. (BN) Heard here AN for bad Wx on 12/11, Bill. (rce)

1470 TN WEAG Alcoa, good signal at s/off w/Dixie 1730 12/22. (DP)

WI WBKV West Bend, weak u/WMPD w/s/off 1715 12/15. (DP)

1490 WY KOJO Laramie, good w/s/off 0059 12/11. (JAM) (DP)

1500 IN WAKE Valparaiso, finally hrd o/WZBN w/"Lifeline" 1315 12/20

LA KWRG New Roads, 12/3 1800 s/off with SSB. Extremely weak thru KSTP and QRN. (JM)

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1530 MN KSNM Shakopee, good to fair signals some days. Not bad at all for 500 w. at 400 miles. Also good at SR or SS. (JAM)

1540 WI WTKM Hartford, fair u/o KXEL w/s/off 1715 12/20. (DP)

1550 IA KIWA Sheldon, fair o/KQWB/CBE/KQXI/KRGO with mention of FM 1730 12/12. (JAM)

ND KQWB Fargo, good at s/off no SSB o/CBE 1745 12/22. (DP)

1570 PQ CKLM Montreal, on top of channel w/FF talk 0234 12/25. (ST)

1570 CO KLOV Lovcland, good 1720 12/13 over CHLO/KVRA/XERF with many mentions of their FM stations. (JAM)

GA WGHC Clayton, on top of frequency at 0600 with s/on 12/23 then over taken by WTLK s/on. (ST) (DP)

IN WIFF Auburn, good just after WBEE s/off w/s/off 1716 12/20.

IA KMCD Fairfield, poor o/u KVRA/CFOR w/spot and Nx 1732 12/15 (left blank by error--rce) (KDF)

KS KNDY Marysville, poor w/s/off 1800 12/15. (KDF)

LA KLLA Leesville, fair w/s/off after KTER 1815 12/17. (KDF)

OK KTAT Frederick, left alone o/u XERF w/Cowboys FB after KOLS/KTER/KLLA s/off's to 1828 s/off 12/17. (KDF)

OK KOLS Pryor, very good w/s/off annmts. Xmas greetings and SSB 1815 12/15. (KDF)

TX KTER Terrel, Weak s/off right after KOLS finished SSB 1814 12/17. (KDF)

ONT CFOR Orillia, 12/16 1815-1830; gud sig. then overpowered by XERF. Local church annmts & sports Nx. (JM)

1580 CO KPIK Colorado Springs, 12/13 1830-1834, weak u/QRN and slight WCLS QRM. Nx and Wx, ID 1831; C&W Mx. (JM)

MN KDOM Windom, good w/ID 1730 12/13. (JAM)

OK KLTR Blackwell, good at SSS 1710 12/13 over KPIK KAMI with ID. (JAM)

WI WTTN Watertown, xltnt at s/off o/CBJ no SSB 1714 12/15. (DP)

1590 WA KUUU Seattle, poor/fair mostly u/WJKR; several SIDs hrd and Xmas Mx 0509-0522 12/13. even audible on TRF. (KDF)

1600**WI**WCWC**Ripon, good signals on DX mixing w/KATZ, WWRL off with phone call from Jim Poterba 0230 12/18. (DP)

good on NNRC DX 12/18 w/history of NNRC 0207 (BN)

Good on DX Test o/u KATZ 12/18 to 0338 s/off. Very Interesting test. (KDF)

PER THE LIST:

3rd MON: WPJD-1550 TN (KDF) 2nd WED: KTYN-1430 ND (KDF)
 KXLR-1150 AR (KDF)

A TIP OF THE HAT THIS WEEK TO:

GAB - GEORGE BOULLES, 10420 Indianapolis Blvd., Highland, Ind. 46322
 rce - RICK EVANS, Box 2048, Gary, Indiana 46409
 KDF - KARL FORTH, 630 S. Ardmore, Villa Park, Illinois 60181
 JM - JIM MEYERSON, 7429 Teasdale Ave., University City, Missouri 63130
 JAM - JOE A. MARKEWICZ, 1394 Elgin Ave. West, Winnipeg, Manitoba R3E 1B6
 BN - BILL NITTLER, Box 295, McCook, Illinois 69001
 DP - DAVID PETERSON, 800 Humboldt, Winnetka, Illinois 60093
 ST - STEVE TAAFFE, Box 156, Dayton, Indiana 47941

I hope everyone reads the letter on the last page of the 12/23 DXM. It's something I've mentioned to some of the younger guys around here. I would like to hear comments on my idea of staggered terms for the board members. Steve Taaffe and John Zondlo were over here 12/30 and at Steve's suggestion, I tried for WASK-1450 resulting in stn 1275 hrd. Report on its way. V/q CFAC and v/l from WNPT who also sent along a newspaper and offered to send more from the area. 73.

January 6, 1973

WESTERN DX FORUM

Page 12

Editor: Carol Schweiger- 41 Lawndale Road- Stoneham, MA 02180

Deadline: Wednesday, 10 days before publication. Editor. Bill Lipis

Glenn Hobbs- 1072 Carolyn Ave.- San Jose, CA 95125

Its been almost a year since I reported last to the WDXF. So I think a re-intro is in order. I'm 16 and attend school at Willow Glen High. I DX on a Hallicrafters SX-100. My antenna system consists of a 2 fet amplified, 2' IRCA loop, a 150 ft. longwire, and a trap longwire. I'm a member of SPEEDX and I do alot of short wave DX. I'd like to see the '73 IRCA convention in San Jose. The DXers that give this town a bad reputation will not have anything to do with this convention. Most if not all arrangements have been made. And with the number of electronic firms and a couple of members with good connections with people in the broadcasting business, we could probably get some good guest speakers. The 1973 NRC convention will be in the east, so it is also only fair that there be a convention on the west coast, so the western part of the country can attend a convention that's not too far away. If for those members that wonder why I haven't been DX'ing lately, it's because of a family situation. Letters are welcomed here. 73. And remember San Jose in 73.

Credo A. Bisquera- 86-123 Kakaiapola St.- Waianae, HI 96792

Looks like the guys in the East and Central are really supporting their columns with their many reports. Too bad the DXers in the West are afraid of girl editors. (Do you think that's the problem!-CS) Maybe they would report more often???? Hi. I shouldn't talk because this is my first report to WDXF this season. Anyway, on the domestic scene, the highlight would have to be my first graveyarder logged after two years of DXing... 1230 KDAC, Fort Bragg, Ca. Never expected to nab one! Must credit Ralph Sanserino converted ARB that I purchased this past summer. New regionals of interest are two Neb. 880 KRUN, 1110 KFAB, and 1540 KXEL Iowa. I've also explored Trans-Pacific stns which I find exciting; simply because most of my loggings are not listed in Father Jack's Foreign logbook. Happy New Year. 73s.

Carol Schweiger- 41 Lawndale Road- Stoneham, MA 02180

Hope everyone had a merry Christmas and a happy New Year. Not much in the way of DX from here. Tried for the test on Dec. 25- WLIK; but I wasn't successful. Well, I guess I should make my New Year's resolution: to devote more of my time DXing. 73's. Every sport team in Boston is No. 1 (except maybe the Patriots!!!)

(WDXF reports now go to Bill Lipis, P. O. Box 325, El Cajon, CA 92022. Please show your support for the Western sections before they cease to exist. -DEE)

Flash Tips Larry Cowles, Tucson, has this on XELO: "Sent rpt to XELO for reception 12/12 and rcvd standard v/q from XELO...was in El Paso for NY's and was listening to them after midnight w/no call change noted...Steve Crosno Show (RR)... said he would be on every night 12-4am El Paso time (MST-DEE), Mon-Sat. Wall to wall RR w/only SS IDs." As of 2230 EST 1/5/73, their SS ID at end of "The World Tomorrow" was still XELO; no EE ID given; this per reception at Toyland, Riverside. Bruce Portzer, Seattle, notes that KRKO-1380, a WC pest, has been going off nightly around 0300, sign on either 0800 or 0900. These hrd w/KRKO off: WMEE KGMS CKLC CKPC WSIZ KWK HIJC KSWO KPSM KOTA KLIZ & KCIM. (!!!-DEE). One sad note: Your pub. starts working 5 hrs additional per week, 1 hr per day, effective imm. Won't help DXM publication!!! -DEE

Broadcasting Information (as compiled by Mike Worst) Dec. 11 issue

WKYC	1100	50kw	Cleveland, Ohio	granted WWWE
KAYE	1450	1kw-D 250w-N	Puyallup, Wash.	renewal denied
KXAR	1490	1kw-D 250w-N	Hope, Alaska	from SH to U
WLDB	1490	1kw-D 250w-N	Atlantic City, N.J.	renewal denied; off the air
new	1540	1kw-D	Circleville, Ohio	req. WNRE by 12-29-72.

A BEGINNERS' GUIDE TO THE IONOSPHERE

Father Jack Pejza

Part II. Radio Waves and the Ionosphere

So far we have seen that the atmosphere contains regions with high concentrations of electrons. We are now concerned in seeing what happens to a radio waves as it enters one of these regions. To begin with, in order to simplify the explanation, let's ignore the magnetic field of the earth which, as we shall see, is influential in the way that radio waves are absorbed.

A radio wave has associated with it an electric field. This field exerts a force on charged particles in the ionosphere. Since electrons are much lighter than the positive ions in the ionosphere, they are more strongly influenced by this electric field. In fact, the effect of the electric field on the positive ions can be ignored since it is negligible in comparison with the effect on the light electrons.

The force exerted on the electrons causes them to vibrate along a path which is parallel to the flux lines of the wave, and at right angles to the direction of the wave. The lower the frequency of the wave, the greater will be the size of the vibration of the electrons and also the average velocity of the electrons. Changes in the velocity of the electrons will be 90° out of phase with the electric field of the wave since the moving electrons offer inertia reactance to the forces acting on them. Since the electron is a charged particle, its vibrations produce a changing electric current, which in turn makes the electron act like a small antenna, taking energy from the initial wave and re-radiating it in a different phase. Since there are many electrons vibrating, the wavelets produced by each will be in phase in certain directions and out of phase in others. In general, the wavelets will add up to produce a strong wave in the forward direction; in other directions, the combined waves will produce a weak wave by destructive interference.

Since the phase is advanced by 90° in each of the wavelets produced by an electron, the combined wave from all the electrons occurs a little earlier than the original wave travelling through free space. To put it in another way, the phase velocity of the wave is greater than the group velocity. The result is that the wave appears to have travelled a little faster than the original wave, and will arrive earlier. As the wave travels into a region in which the electron concentration is greater, the re-radiated wave is greater so that in the combined wave the oscillation occurs even earlier than before. (The phase velocity increases.) The phase velocity of the wave depends on the frequency and on the concentration of electrons. The change in velocity is greatest for low frequencies and for high concentrations of electrons.

Refraction

Let us see what happens to a wave which hits the electron layer at an angle. Suppose that the concentration of electrons increases upward. The top of the wave enters this denser region first, and after being re-radiated, travels more rapidly than the bottom of the wave. As the wave continues to advance, the top of the wave continues to get further ahead of the bottom. The effect is that the direction in which the wave is travelling gradually changes: the wave gradually swings around until it is reflected back to earth. (See Figure 6). Waves that hit the layer at a small angle need only be bent a small amount before returning to earth. For larger angles of incidence, the wave must penetrate further into the layer. In doing so, the number of the vibrating electrons which collide with other gas particles increases, and hence the amount of absorption increases. The electric field of the wave increases in strength when the wave speeds up. The electrons are thus thrown into greater oscillation, with a greater loss of energy, even though the number of collisions may not increase significantly. Since the electrons oscillate at higher speeds, this means, in terms of the kinetic theory of gases, that their temperature has increased. Experiments have been planned, and perhaps conducted, to send extremely high energy radio waves into the ionosphere, heating the electrons to the point that they emit

visible light.

Let us see what happens to a radio wave which travels straight up. Using the same line of reasoning as in the preceding paragraph, the wave will be reflected straight down if its phase velocity becomes infinitely great so that it can swing over quickly enough. This will happen if the frequency of the wave is low enough or if the concentration of electrons is high enough. If the frequency of the wave is too high, or if the concentration of electrons is low, the wave will not reach an infinite phase velocity and thus will not be reflected, but will instead penetrate the electron layer, perhaps to reach another electron layer of greater density. Scientists use this phenomenon to measure the height and electron density of the different layers. Radio waves of different frequencies are sent vertically upward. By noticing which are reflected and from the time lapse, they can tell the height and electron concentration of the layers.

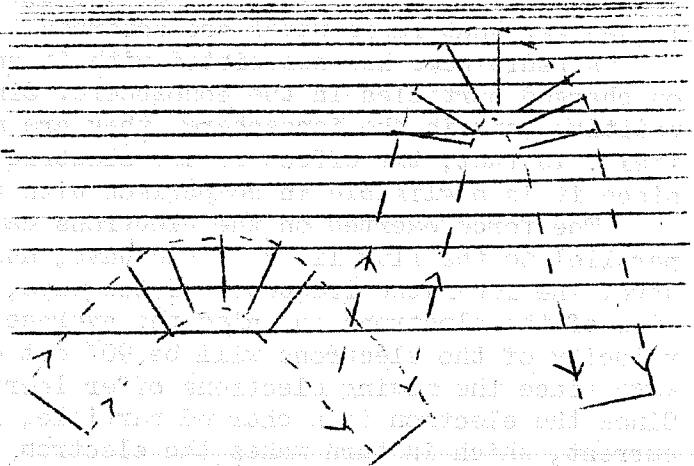
The highest frequency to be reflected from a layer is called the critical frequency. The critical frequencies for the various ionospheric layers are really only of theoretical interest to the medium wave DXer, since all frequencies in the broadcast band are well below the critical frequencies, and then will be reflected back to earth. The shortwave DXer or ham must pay heed to the critical frequency or a lower value known as the maximum usable frequency (MUF); otherwise, higher frequencies will simply continue through the ionosphere into space, being refracted but not enough to return to earth.

Even though all broadcast band frequencies will be refracted back to earth, this does not mean that a station will be heard via skywave only. A station closer than about 200 km (125 miles) will be heard primarily by groundwave, since the intensity of the groundwave is much greater than the skywave at this distance. At about 200-250 km, the intensity of the skywave and groundwave are about equal, and consequently at night there is often interference between the two waves, weakening the signal. Over 250 km (160 miles), the station will be heard primarily by skywave. Since, as we have seen, a wave entering the ionosphere at a small angle is not absorbed as much since it does not have to penetrate as far into the layer, waves refracted from the ionosphere have an optimum angle of refraction of about 10° . For angles smaller than this, there is too much absorption from the lower atmosphere. Because the earth is curved, the maximum distance away from a transmitter that a signal can be received is about 1200 km, with E layer refraction, and about 3000 km, with F layer refraction. Signals can reflect off the ground to once again hit the ionosphere. All long-range DX is of this multi-skip type.

Absorption

Electrons which are vibrating will occasionally collide with gas molecules. As they do, kinetic energy acquired from the radio wave is partially transferred to the gas molecule and partially radiated in the form of a disordered radio wave. This disordered wave adds nothing to the transmission of the original wave. The net result is that the passing radio wave becomes weaker because of the loss of energy by absorption. The amount of energy absorbed depends on the number of collisions and on the velocity of the electrons. Most of the absorption of waves takes place at the lower edges of the ionized regions because the atmospheric pressure is greatest

Fig. 6. When a wave falls obliquely on an atmosphere containing charged particles whose concentration increases upward, the top (A) of the wave front travels more rapidly than the bottom (B) so that the wave swings over and is reflected. A wave arriving more steeply must travel higher to find enough charged particles to reflect it.



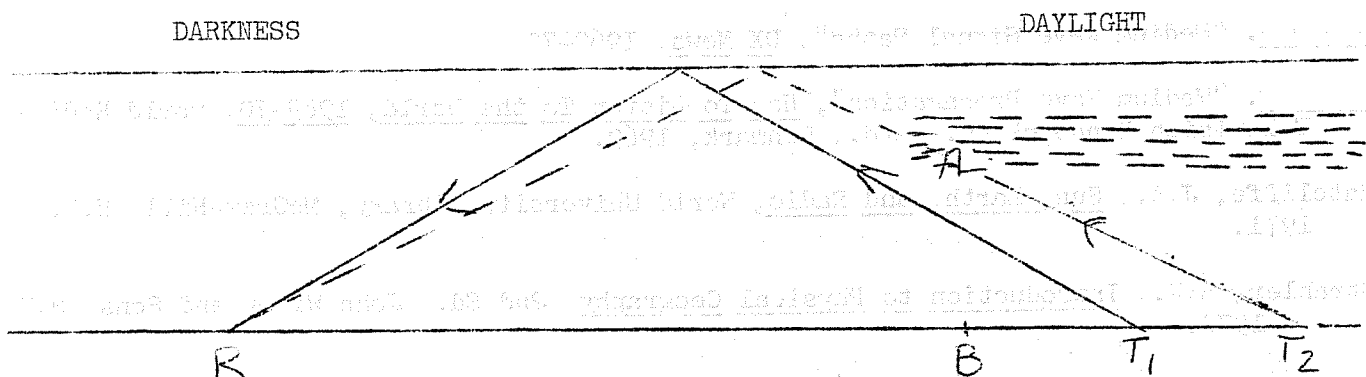
there. The possibility of collisions is greatest there because of the larger number of gas molecules. Since low frequency waves cause the electrons to vibrate more than high frequency waves, low frequency waves are absorbed more. This is why medium wave frequencies do not penetrate the D region in daytime. There is a relatively high gas pressure in this region, and the large oscillations produced by the low frequencies increases the possibility of collision to the point where the entire wave is absorbed.

Sky waves of considerable intensity, on the other hand, are returned from the E layer. Night-time skywaves frequently penetrate the E layer and are reflected from the F layer, particularly at the high-frequency end of the MW band, and at nearly vertical angles of incidence.

Sunrise Absorption

Under ordinary circumstances, a distant station east of a receiver will be received until absorbing layers of electrons build up to block the path of the waves. (See Figure 7.) Point A in the diagram is the control point. The amount of absorption at this point determines whether the signal will reach the receiver or not. The main factor governing absorption in this case is sunlight. When sunrise occurs at this point in the ionosphere, the concentration of electrons builds up very rapidly, thus decreasing signal strength very quickly. Gordon Nelson has computed for particular paths the time at which such absorption will occur. He calls these times "E20 times" since they indicate the time when a drop of 20 db in signal strength occurs because of the absorption of the E layer. The E20 times change from month to month because of the changing angle of the sun. E20 times are not identical with the time of sunrise at either the transmitter or at point B, directly below the control point. However, for most cases, the E20 times fall within a few minutes of sunrise at the transmitter site. This allows us to use the time of sunrise at the transmitter as a good indicator of the latest time that good reception can be expected. It is extremely rare that there is reception via skywaves for more than ninety minutes after transmitter sunrise. Sunrise at the control point usually causes the electron concentration to build to such a point that only a small portion of the strongest skywaves can penetrate it.

There should be analogous E20 times for stations to the west of a receiver, that is, there should be a predictable time at which a western station will fade in. This is less predictable, however, since it takes some time for the already existing ions to recombine, reducing the amount of absorption to the point where the signal can penetrate. Since the transmitter is still in daylight in such cases, noise levels also will be generally higher. Thus signals travelling eastward should be expected to fade in later than their westward counterparts fade out. More work needs to be done in this particular area.



Signals from T2 are absorbed at A. Signals from T1 are still able to reach R without being absorbed.

Figure 7

The Earth's Magnetic Field

The magnetic field of the earth also influences the moving electrons of the ionosphere. Any charged particle in motion, such as an electron, produces a magnetic field around it. The interaction between the magnetic component of the radio wave and the magnetic field of the electron causes it to vibrate back and forth on a line at right angles to the direction of the wave. Now if a third magnetic field, that of the earth, is added, the electron will then move in an elliptical path. The exact shape of the ellipse depends on the frequency of the wave and the strength of the earth's field at that spot. At high frequencies the ellipse will be long and narrow, but as the frequency is lowered, the ellipse becomes closer to a circle. At certain broadcast band frequencies, the path of the electron becomes a spiral. The exact frequency at which this occurs depends on the strength of the earth's magnetic field at that point. The direction in which the electron is travelling is reversed at the same instant that the electrostatic flux of the wave changes polarity. At these frequencies the electron velocity can increase without limit. The electron takes out more energy than it re-radiates. At these frequencies, called the gyro-frequencies, the wave is thus weakened. The smallest gyro-frequencies occur near the equator, about 680 kHz over Brazil; the largest occur near the poles, for example, about 1700 kHz near New Zealand. Thus reception from certain directions on certain frequencies becomes almost impossible.

Conclusion

In this brief article I have attempted to present as clearly as possible without a great deal of mathematics, a description of the ionosphere and the ways that radio waves are affected by it. By no means has this been a complete or detailed analysis. However, I hope that some understanding of the ways in which radio waves are affected by the ionosphere will help the DXer to avoid wasting time and energy in looking for stations which simply could not be heard because of conditions in the ionosphere preventing such reception.

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Todelar Network List--- Angel Garcia

This was sent to me by German Tobon Martinez, Gerente of Radio Tequendama, in Bogota. He mentioned that there were 63 stations in Colombia, and 8 affiliates in Ecuador, but he didn't list the Ecuadorian stations. (List originally by city; rearranged by frequencies, and call letters added by FJP)

Frequency	Calls	Location	Power, kw	Slogan
630	HJFD	Manizales	20	Radio Manizales
640	HBJJ	Santa Marta	10	La Voz de Santa Marta
650	HJXX	Bogota	10	Emisoras Monserrate
660	HJJI	Cali	10	Radio Uno
770	HJKH	Bogotá	30	Radio Tequendama
800	HJBW	Bucaramanga	10	Radio Atalaya
860	HJEP	Buga	10	Voces de Occidente
870	HJLA	Ibague	10	La Voz del Tolima
890	HJCE	Bogotá	10	La Voz de Bogota
890	HJEY	Cali	10	La Voz de Cali
910	HJDO	Medellin	10	La Voz de Rio Grande
920	HJAE	Cartagena	10	Emisoras Fuentes
930	HJCS	Bogota	10	Radio Continental
940	HJGB	Cali	10	Radio Eco
980	HJES	Cali	10	Radio El Sol
1010	HJBN	Pasto	10	La Voz del Gareras
1020	HJDP	Neiva	10	Radio Colosal
1030	HJDJ	Duitama	10	La Voz de los Libertadores
1050	HJNG	Palmira	1	Radio Palmira
1060	HJGU	Bucaramanga	1	Radio Bucarica
1060	HJMV	Chiquinquirá	1	Radio Furatena (ex-1170)
1080	HJIS	La Dorada	1	Radio Pontona
1080	HJFF	Cali	10	Radio Musical
1090	HJPM	Armenia	10	La Voz de Armenia (ex-1080?)
1120	HJJC	Cartago	1	Radio Cartago
1130	HJAC	Barranquilla	10	Emisoras Rio Mar
1140	HJCL	Girardot	10	Radio Girardot
1140	HJDL	Medellin	10	Radio Cristal
1140	HJNS	Valleupar	10	Radio Gustapuri
1160	HJAZ	Montería	5	Emisora Sinu
1170	HJJE	Tuluá	1	Villa de Cespedes
1190	HJMW	Sahagún	1	Radio Baraji
1190	HJCV	Bogota	10	Radio Cordillera
1200	HJBX	Villavicencio	1	Ondas del Meta
1200	HJLR	Sogamoso	5	La Villa del Sol
1200	HJCD	Fusagasugá	1	Emisora Nueva Epoca
1210	HJFF	Pereira	10	La Voz Amiga
1210	HJBE	Cúcuta	10	Radio Internacional
1250	HJOK	Barranquilla	1	Emisoras ABC
1260	HJHU	San Andrés (Islas)	1	Radio Morgan
1280	HJNQ	Barbosa	1	La Voz del Rio Suarez
1280	HJEB	Ciénaga	1	La Voz de Ciénaga
1280	HJCM	Pitalito	1	Radio Sur
1300	HJOG	Cartagena	1	La Voz de las Antillas
1330	HJAD	Cartagena	1	Radio Vigia
1340	HJ..	Buenaventura	1	Buenaventura (Note 1)
1370	HJ..	Espinal	1	Radio Avenida (Note 2)

1370	HJEA	Popayan	1	La Voz del Cauca
1390	HJNY	Barrancabermeja	1	Radio Pipaton
1400	HJJJ	Ipiales	1	Ipiales
1410	HJBY	Florencia	1	Ondas del Ortuaza
1430	HJLU	Ricsucio	1	Armonias del Ingruma
1430	HJBD	Pamplona	1	Radio Pamplona
1440	HJBM	Honda	1	La Voz de Honda (Note 3)
1470	HJAL	Sincelejo	1	Radio Sincelejo
1470	HJIM	Medellin	1	Radio Ya
1470	HJHQ	Ubaté	1	Emisoras Valles Unidos
1480	HJFC	Pereira	1	Radio Centinela
1490	HJTM	Ocaña	1	Radio Sonar (Note 4)
1490	HJTL	Cúcuta	1	La Voz del Progreso
1550	HJLT	Santander de Quiliachao	1	Ecoss de Quilichao
1560	HJLP	Tuluá	1	Radio Espacial
1590	HJJQ	Zarzal	1	Radio Zarzal

Notes (FJP)

1. Listed with various calls: HJAM in FBIS'72; HJJS in WRTH'72; HJIS in Colombian list of RFS in NRC.
2. Not listed in any of my lists
3. Listed on 1470 in WRTH'72 and RFS Colombian list
4. Ex-1520, per WRTH Updater in NRC; listed on 1290.

Annual DXWW Report and FJP Awards

I took over as editor of DXWW with the November 23, 1968 issue, and I am proud to say, DXWW has appeared in every issue since then without exception. It has been my custom the last three years to give a summary of the progress of this column.

	Pages	Average pages/ issue	Reporters
11/68-11/69	144	4.5	84
11/69-11/70	232	6.8	83
11/70-11/71	184	5.4	102
11/71-11/72	186	5.45	106

This year DXWW ranged in size from 2 pages to the largest DXWW in history, 18 pages. Three times we hit 9 pages; only two issues had a small DXWW of 2 pages.

The average reporter (if there is such a thing) submitted 3.5 reports. Actually 36 reported more often than that; 37 sent in only one report.

The Ignatz Follansby Award, for the most faithful reporter, goes to C.M. Stanbury II, who sent in 19 reports, plus many other items of interest. Stan has been in the running for this award for the last three years. Runner up is Russ Edmunds, with 17 reports, many actually submitted before he became an IRCA member. Honorable mentions go to Paul Petersky (15); Bill Feidt (13); Gene Martin (13); Bruce Portzer (13); Art Peterson (13); George Jensen (13); and Glenn Hauser (11). Gene Martin was the winner last year; Glenn Hauser the year before. The underlined names have been on this list for the last three years. It is people like these that I would especially like to thank for their cooperation and continued support.

I would like to announce that next year, an additional award will be made to the DXer who reports the largest number of stations. While all of the people on the above list have faithfully sent in reports, not all have reported the same number of stations. There are other DXers who, while they just missed making the above list, probably submitted reports on many more stations. That is the reason for this new award. By comparing the two lists, perhaps I (and you) can decide who is really the top foreign DXer of the year.

The Kurt Leonhardt Award for most controversial reports also goes this year to C.M. Stanbury II for his continuing series of reports on the state of broadcasting in Sharjah.

Geomagnetic conditions were unsettled for about 48 hours, 12/22-24, but are expected to remain quiet through January 3. Solar activity is also expected to remain low throughout this period.

Listeners' Loggings-- Latin America

- 527 TI.. Costa Rica, Cartago, R. Rumbos is a powerhouse compared with the LA on 532. ((BBA, E, NRC) (Listed as TICAL, 250 watts. Ed)
- 532 ??? UnID LA here 0328 11/26, very weak LA music. Possibly an off-frequency Ecuadorian? (BBA,E,NRC)
- 660 XERPM Mexico, D.F. running AN with what sounded like a live rock concert, noted 12/25 0801. Probably only AN for Christmas. (JB,C)
- 700 TIHB Costa Rica, San Jose, Radio Reloj de Costa Rica, 12/24 0356-0359 with man with news on earthquake, then under TGHR, ID at 0358. (SHM,C)
- 800 XELO Mexico, Cd. Juarez was XEROK for at least a week starting 12/4. They had rock music, jingles like WLS and no spots. But 12/26 noted them with ID in SS as XELO. (IJB,C)
- 800 PJB Netherlands Antilles, Bonaire 12/18 0430, Christmas wishes and carols. News from Trans-World Radio, Dan Harvey announcer. 12/25 1030, religious talk about how men waste time. End of EE transmission. Quite strong both times, no other station interference. (ASL,W)
- 805a XEPRS Mexico, Rosarita Beach, B.C., strong spur from 1090 kHz at 1005 12/25. Had to be 805, between PJB and KGO-810. My receiver is not selective to more than 5 kHz. (ASL,W)
- 805 ??? UnID. Bill Feidt's R: Cerro Hombro also heard here, 12/25 0256 with "El Condor Pasa", 0258, R. ... similar to above by YL; then EE music; fade in and out. (GH,C)
- 910 YVRQ Venezuela, Maiquetia, R. Aeropuerto, new harmonic on 1820, thanks to RFS tip; 12/20 0410 AST TC, chimes, ad for Isla Margarita resort. (GH,C)
- 910 ??? UnID, 2 or 3 stations here 12/25 0910. One had a YL announcer and Christmas music. An ID given at 0900 as R. Mundial or something similar. They also had chimes and ID at 0915. There was also another station with Radio Variedades ID by man at 0901. LA music also heard, but don't know if it was the same station. Any info on either would be appreciated. (JB,C) (Radio Mundial is probably HCGR5, Riobamba, Ecuador, with new power of 1 kw. Can't find any Radio Variedades listed. Ed)
- 945 HC.. Ecuador, Guayaquil listed. 12/23 0040-0055, very low level; into noise most of time; looped almost due N/S. SS music; just too much noise. Listed as HCDE2 in NRC LA Log; HCEE2 in IRCA Foreign Log. (JET,C) (Should be HCDE2, 10 kw. Ed)
- 950 XEGM Mexico, Tijuana B.C. OC from 0900 till at least 1130 12/25. (ASL,W)
- 1000 ??? UnID. 2 or 3 SS stations, one on top most of the time. Rolled their "R"s very pronounced. Mentioned "Kumbaya". (12/23 0115-0205. (JET,C)
- 1010 ??? UnID 12/23 0210-0250, uptempo SS music; mentioned both Bogota and Barranquilla. Signal was local in level one time and then into noise. Had a cuckoo clock sound on ID. (JET,C)
- 1013 HOU Panama, David, 12/21 0340-0400 s/off; SS DJ, some EE Christmas records. Poor signal, LV de Baru ID with much static. Lots of sideband splatter. (JET,C) (I thought they were now on 1025? Ed)
- 1015 ??? UnID, 2 SS stations 12/21 0402-0415 about 50-70 Hz apart; only occasional SS. Some tone tests though. (JET,C)(Or hets? Ed)
- 1025 ??? UnID, two stations about 80 Hz apart, 12/23 0305-0310. (JET,C)
- 1100 ZDK Antigua, St. John's, with s/off 0205 on 11/26. Have only heard s/off at that time, not at later listed time per WRTH'72. (BBA,E,NRC) (Rich Eddie also reported s/off at 0205 10/23. Ed)
- 1100 YNQ Nicaragua, Managua, La Líder presumed an earthquake victim, as harmonic no longer heard on 2200. E.g., 0422 12/24. (GH,C)
- 1130+ TGVR Guatemala, Guatemala, 12/25, good with occasional fades 0455-0525. Festive SS vocals, mentions of Emisoras Unidas de Guatemala. ID as Radio La Voz de la Costa Sur at 0525 taped. Slight slop from KWKH. (SHM,C)

- 1332 CMJS? Cuba, Ciego de Avila from 1330? Reloj Nacional good 12/25 0720. (GH,C)
- 1335 ??? UnID 12/25 0721 SS talk; cf RFS's UnID last season in IRCA Foreign Log. (GH,C)
- 1435 PJF1 Netherlands West Indies, Saba taped 0015-0056 11/5, definite: ID as "PJF1, The Voice of Saba." (RM,E,NRC) (Page Taylor adds note that calls are not PJF7, as originally reported to be. Ed)
- 1435 ??? UnID, 2 stations with 1 MHz SAH, very low level, 12/26 0120-0133. Some EE religious music and Christmas music; S meter was beating from 0 to S4. (JET,C) (Saba and Kelkboom? Ed)
- 1445 HJGM Colombia, Sogamoso, R. Sogamoso 12/25 0723 AN EST TC, ID; again at 0953. Also 12/23 a station heard on this frequency at 0418 in SS, mentioned Huasteca; 0425 CST TC, so maybe something else. (GH,C)
- 1449 TGMS Guatemala, Mazatenango, R. Nacional, harmonic of 2898 kHz, 1156 NA, 1158 poetic s/on, then program, "Buenos Dias, Campesinos". (GH,C)
- 1450 XEJD Mexico, Poza Rica, Ver., R. Tropicana, new harmonic on 2900 kHz, 12/19 1204, music; ID, TC. (GH,C)
- 1454.5 YNTJ Nicaragua, Jinotega, Ecos de las Brumas is stronger this year than last, reflecting WRB-reported power increase to 5 kw, most of which appears to radiate on 2909 kHz, where heard 12/24 0054 ending relay of national net on earthquake relief; ;ID. (GH,C)
- 1459 HJAL Colombia, Sincelejo, R. Sincelejo, 12/25 0756 "El Mundo de la Musica": 0908 ID in verse, nominally 1460. (GH,C)
- 1470 ??? UnID 12/25 0736 SS under XESM, all talk; SAH between these two dominated domestic stations. (GH,C)
- 1488 TI.. Costa Rica, R. Puntarenas heard 12/25 0728 with SS versions of NA carols, 3-minute fast CST, 0801 wrapup, then son; 0805 check, off. No mention heard of R. Columbia affiliation. (GH,C)
- 1520 HJLQ Colombia, Barranquilla loud and clear 12/25 0825 with tropical music and many IDs as Radio Minuto. Some QRM from WKBW. (JB,C)
- 1525 TIEEAW Costa Rica, Turrialba?, R. Columbia 12/25 0758 s/off with own theme song to tune of "Get Me to the Church on Time" over HNL here above 1500; 0805 still OC. (GH,C)
- 1548 TIASF Costa Rica, Cd. Quesada heard with TC as "hora de Costa Rica" by fast talking SS male and R. Cima ID 12/25 0720. Usually on this late, or just for Christmas? programsounded live. New country. (JB,C)
- 1560 XEVIP Mexico, D.F. on late for Christmas program in EE with Xmas music, jingle "1560, R. VIP", station personnel wishing you a Merry Christmas, and SS ID on the hour. Heard 0835 12/25. (JB,C)
- 1565 HJZT Colombia, Manizales, R. Sensación, heard on 3130 kHz, 12/25 0400 with "la frecuencia Súper..." (GH,C)

Trans-Pacific

- 1420 ZM2AP Western Samoa, Apia, Christmas morning 12/25 1031 with male announcer in EE, TC, s/off, followed by music, faded out. Local KCCN off. Taped. Fair. (CAB,HI)
- 1550 4QD Australia, Emerald in poor/non-existent with classical or soft music and occasional talking with Assie-accented EE, but I could not understand what they were saying; had long fades, noted the 6 pips on the top of the hour, 0930-1000 12/18. 4QD noted all alone on the frequency until 1000, when CBE s/on covered it, except for the pips. Country #33. (MM,W)
- 1560 DYLA Philippines, Cebu City, Sat. Morn 12/23 1546, according to WRTH, this is listed for 1550 kHz, but with AFNT Taiwan bombing in, it has to be 1560. (I'm using my back-up receiver, which has dial calibrations way off.) In Filipino dialect, spot for Christmas; TC, male announcer in EE with MoR music; ID given followed by s/off; good reception. First Filipino. (CAB,HI) (Reported earlier as drifting to 1555 and back to 1550 by Bundy on Truk. Strangely, only Cebu City station listed in FBIS is 500 watt DYAV on 1550. Ed)

Trans-Atlantic

- 548 ... U.S.S.R. Leningrad/Odessa 2218 12/8 with male/female announcers, in RR, lengthy discourse apparently not news or political, as delivery was totally dispassionate. Typical Mayak programming. (RJE,E,NRC)
+Briefly with woman in lengthy talking in RR, dominating channel 2215 12/8 Oran noted weakly under. Gone in about 4 minutes. (PT,E,NRC)
- 638 ... Czechoslovakia, Prague at 2224, 12/8 with newscast in Czech, strong over RNE. (RJE,E,NRC)
- 701 ... Czechoslovakia, Banska-Bystrica et al amidst splashes from WLW/WOR 2231-2233 on 12/8; a woman talking interspersed with segments of guitar music; possibly an appreciation lesson. (RJE,E,NRC)
+Amazingly potent signal appearing from nowhere 2223-2233 on 12/8 with guitar segments, high-pitched woman talking or lecturing. (PT,E,NRC)
- 737 ... Israel, Tel Aviv, Kol Israel positively logged. Noted from 2243 tune-in to 1807 s/off; programming in Hebrew with Israeli pop music and alternating man and woman announcers. Noted weaving in and out with RNE which was carrying an opera at the time; frequently totalling dominating the channel. Woman announcer prior to s/off 1806:30: "Kol Israel...Shalom," then the "Hatighvah", the Israeli national anthem. (GPN,E,NRC)
- 737 ??? UnID signal first noted here 0700-0800 12/9 in harsh-sounding language by very deep-voiced male announcer mixed with RNE and bearing significantly farther north than RNE. Very deep and lengthy fades. Hopefully Iceland. Bears watching. (PT,E,NRC)
- 854 ... Romania, Bucharest at 2206 on 12/7 with news in Romanian by female announcer with low voice; mixed with Murcia. (RJE,E,NRC)
- 890 ... Algeria, Algiers 2210 on 12/8 with quiet music, e.g., "There from Love Story" in null of WLS. (RJE/PT,E,NRC)
- 890 ... Austria, Linz 2 surprisingly mixed with Algeria, WLS from 2212-2217 on 12/8; lengthy commentary by man in GG accented dialect. (RJE/PT,E,NRC)
- 1043 ... Belgium, Liege noted 2239-2243 on 12/8 in FF with male announcer between music; Dresden and Sebaa-Aioun also mixed, making for difficult logging... couldn't tell who was who, hi. (RJE,E,NRC)
- 1142 ... Algeria, Oran/Constantine noted 2245 on 12/8 with high-pitched male chantings. (RJE,E,NRC)
+Same as above, but lots of low-pitched hets or a jammer present; interestingly, same kind of low-pitched noise on 1304 signal. Reception of this one best early sunsets prior to building up of Cuban jammer. (PT,E,NRC)
- 1160 ORTF France, Strasbourg noted 2155 12/8 with powerful signal, FF vocal MoR followed by male announcer; in null of a weak WJJD. (PT,E,NRC)
- 1204.6 ??? UnID in AA 2122-2130 12/3; fair signal with chanting; believe s/off is about 2302. Average of 14 bearings is 57°, which suggests middle East, not North Africa. (RM,E,NRC)
+UnID in AA 2150 on 12/8 with slight audio; can't split from ORTF until mechanical filters are installed; DF seems slightly higher than France, but that's preliminary. (GPN,E,NRC)
- 1214 ... Albania, Tirana s/on 0430 11/19 excellent with IS, anthem. Good bet for West Coast reception. (BBa,E,NRC)
- 1241 ORTF France, common frequency heard 2115 12/8 badly hetting 1240 domestics, "patchily audible" for very early SSS reception. (RJE,E,NRC)
- 1414 ... Spain, probably Pamplona heard here 2245 12/6 with SER network ID listing several frequencies including 1414. No local ID, but latest EBU shows only one Spain on high side, EAJ6, Pamplona, with 2 kw, SER, drifting between 1413 and 1415. Nominally 1412. (BBa,E,NRC)
- 1594 ORTF France, several listed here; 0515 on 12/8 with US pops, including "Stars and Stripes Forever"; a surprise, listed 1 kw. (BBa,E,NRC)

Verifications

- 760 4V?? Haiti, Cayes sent personal letter from N.Y. dated 12/18 for report of 10/22. Very specific along with material on the station and religious items. V/1 signer was Edwin S. Walker, Network Manager. Uses a 5 kw transmitter with phasing towers giving signal an equivalent power boost

760 4V.. +of 10 kw in this direction. Address in Haiti is Radio Lumiere, Reseau? Cultural Haitien, B.P. 1050, Port-au-Prince, Haiti. (GWJ,E)

Reporters

ASL	3	Albert Lobel, San,Diegò, Calif. , DX 150A, 3' loop
BBA	8	Bill Bailèy, Massachusetts, NRC
CAB	2	Credo Bisquera, Waianae, Hawaii, HQ-140X, 3' loop
GH	14	Glenn Hauser, Von Ormy, Tx. HQ 160, 560' LW
GPN	2	Gordon Nelson, Watertown, Mass, NRC
GWJ	1	George Jensen, Baltimore, Md.
JB	6	Jim Boyd, Tulsa, Okla. TRF
JET	7	John Tull, Kansas City, Mo. NC173, 36" loop
MM	1	Mike McCullough, San Jose, Calif. ARB, SM-1
PT	7	Page Taylor, Butler, N.J., NRC
RJE	9	Russ Edmunds, Wayne, N.J., NRC
RM	2	Ray Moore, Massachusetts, NRC
SHM	2	Steve Moss, Austin, Tx. DX-150A, 2' box loop

Things to look for-- Gene Martin

Look at all the TP Goodies on 640! Not one of them is listed as heard in the IRCA Foreign Log. Now observe the Jan. 3 sunrise schedule along the Pacific Coast: San Diego 1455 GMT; Los Angeles 1459 GMT; San Francisco 1526; Seattle 1559; Vancouver 1604, and in Edmonton 1553. The Los Angeles sunrise comes 60 minutes before Seattle's. At all the Far Northern points in midwinter, 640 becomes a clear channel open across the Pacific for a significant number of minutes each morning. After KFI fades out, even Edmonton will still have a path of darkness to all those TPs, although some of them may have signed-off by then. Even before the KFI fadeout, it might be profitable in the Northwest to look for TPs there with KFI nulled. The situation looks very similar on 760 with KFMB fading out for NW DXers and leaving Hawaii, New Zealand, Japan, etc., open there by themselves before sunrise.

Harmonic Policy--Glenn Hauser

I do honestly feel that you might broaden your rationale a bit. "Solely for the purpose of establishing that such a station is actually in operation." It seems to me that a fair amount of program details will be just as useful in the hypothetical future reception by someone on MW, if originating in a harmonic report, as they would if originating in a fundamental report. I hope you follow that rather complicated statement. Another reason is to give an idea to the strictly-MW-only DXer the relative technical standards existing at various stations (and countries). The fact that it is putting out a harmonic of a certain strength may well have a bearing on how well (or poorly) it is getting out on its fundamental. For instance, Ron Schatz and I agree that Ecos de las Brumas must be putting out at least half its power on the second harmonic, since no one has managed to hear it yet on 1454.5. Harmonics are often associated with frequency variation, and various distortions in the audio on harmonics may also be typical of the fundamental. For instance, XERTP-1600 had a terrible signal on the fundamental as we drove around the area listening on a car radio--even though its harmonics have now been greatly, but not totally, suppressed.

FJP Sorry I missed the DX-get-together today (12/30) at John Clements' place in Newhall, but vacation is rapidly drawing to a close and work still has to be finished off. Anyone who subscribes to Broadcasting, I'd appreciate it if you'd send me any changes listed for Hawaii, Alaska, Puerto Rico, or other U.S. territories. Haven't done much DXing this vacation, other than MM 12/18. Other Christmas time activities have interfered. With the beginning of a new year, let's hope everyone makes a New Year's Resolution to DX frequently, and report frequently as well. Dan Sheedy snatched a slightly used SPR4 out from under me; he claims he's going to start DXing again. Maybe I'll get a chance at another bargain if I keep watching the newspaper ads. Only a few IRCA Foreign Logs left in the present batch; you might have to wait a while if you delay too long. Send your \$2.75 to me now, and find out what goodies lie in wait for you, if you DX often. 73 de FJP: the first in '73.