

DX MONITOR

PUBLISHED BY
THE INTERNATIONAL RADIO CLUB OF AMERICA

VOLUME 11, NUMBER 6 NOVEMBER 3, 1973

DX CALENDAR

All times are Eastern Standard Time

Mon. Nov. 5	0300-0330	WBRI	1500 Indianapolis, IN	5kw	D3
Mon. Nov. 5	0330-0400	KWYK	960 Farmington, NM	1kw	D1
Tues. Nov. 6	0100-0110	WVAM	1430 Altoona, PA	5kw	U2
Mon. Nov. 12	0200-	WGIR	610 Manchester, NH	5/1kw	U4
Tues. Nov. 13	0015-0115	WTSN	1270 Dover, NH	5kw	U4
Mon. Nov. 19	0330-0400	KTAE	1260 Taylor, TX	1kw	D1
Mon. Nov. 19	0330-0400	KBND	1110 Bend, OR	10/1kw	U2
Tues. Nov. 20	0015-0030	WAHT	1510 Annville, PA	5kw	D3
Sat. Nov. 24	0145-0200	WBCB	1490 Levittown, PA	1/.25kw	U1
Sat. Nov. 24	0200-0300	WPDC	1600 Elizabethtown, PA	.5kw	D3
Mon. Nov. 26	0100-0200	WMBA	1460 Ambridge, PA	.5kw	D3
Mon. Nov. 26	0115-0300	WSAR	1480 Fall River, MA	5kw	U4
Mon. Nov. 26	0330-	KRCO	690 Prineville, OR	1kw	D1
Mon. Nov. 26	0515-0530	WFLN	900 Philadelphia, PA	1kw	D3
Mon. Dec. 3	0200-0300	WBVP	1230 Beaver Falls, PA	1/.25kw	U1
Mon. Dec. 3	0300-0330	KMAV	1520 Mayville, ND	.25kw	D1
Mon. Dec. 10	0130-	WHLM	550 Bloomsburg, PA	1kw	U4
Mon. Dec. 10	0300-	WRUF	850 Gainesville, FL	5kw	U2
Mon. Dec. 17	0200-	KINY	800 Juneau, AK	5kw	U1
Thur. Dec. 20	0230-	KFKA	1310 Greeley, CO	5/1kw	U2
Mon. Jan. 21	0300-0400	KABQ	1350 Albuquerque, NM	5/.5kw	U2
Mon. Jan. 28	0400-0500	KCRA	1320 Sacramento, CA	5/1kw	U4
Mon. Jan. 28	0515-0545	WTSO	1070 Madison, WI	10/5kw	U4
Mon. Feb. 11	0200-	WHIS	1440 Bluefield, WV	5/.5kw	U1

BROADCASTING INFORMATION

(as compiled by Mike Worst)

From the October 15, 1973 issue and the CRTG.

KGGM	610	5-U	Albuquerque, NM	requests	KRKE
KIZZ	1150	1-D	El Paso, TX	granted	KISO
CHVD	1230	1-D	4-N Dolbeau, Que.	to 10-D,	4-N
KCHY	1530	10-D	1-N Cheyenne, WY	requests	KNIE

WBRI will use march music and religious music. Send reports to Caryl Flood, CE, 4802 E. 62nd St., Indianapolis, IN 46220. Test arranged by Carl Dabelstein for NRC.

KWYK will welcome taped reports. Program details unknown. Send reports to Bill Wiggleton, KWYK, 960 W. Main, Farmington, NM 87401. Arranged by Carl Dabelstein for NRC.

WVAM will give extra IDs during its usual frequency check. Reports go to CE Bruce McCray Schiller, 2727 W. Albert Drive, Altoona, PA 16602. Arranged by Gene Vonderembse, NNRC.

WGIR--No details of test given, or length of test. Write to Norman J. Gagnon, Technical Director, P.O. Box 487, Manchester, NH 03102. Arranged by Frank A. Testa for NNRC.

WTSN also gives no program details. Reports go to Wilbur Remick, Jr., CE, P.O. Box 400, Dover, NH 03820. Arranged by Frank A. Testa for NNRC.

KTAE will welcome pre-paid phone calls to 512-352-3531. Reports go to A.J. Zrubek, Box 1160, Taylor, TX 76574. Arranged by Carl Dabelstein for NRC.

THE INTERNATIONAL RADIO CLUB OF AMERICA--a non-profit club devoted to listening to distant radio stations on the broadcast band (540-1600 khz). IRCA is a member of the Association of North American Radio Clubs (ANARC), dedicated to promoting cooperation between the major radio clubs in North America.

CLUB OFFICERS: President--Richard C. Evans, Box 2048, Gary, IN 46409 (219-981-3232); Secretary--Treasurer--Carl Dabelstein; Board of Directors--Bob Foxworth, Nancy Gantzer, Percy Kesteven, Ed Krejny, Father Jack Pejza, John Zondlo.

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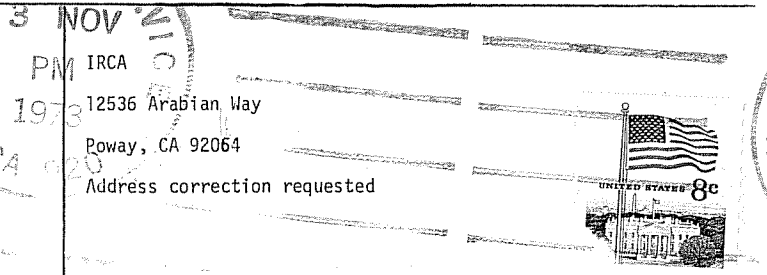
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IRCA publishes the IRCA Foreign Logs, listing over 1500 foreign stations heard on the broadcast band. Vol. 1, \$2.25 Vol. 2, \$3.00 to members; combination rate, \$5.00 for both.

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12536 Arabian Way

Poway, CA 92064

Address correction requested

EXP 4/6/74 V11N28 1
Michael G. Worst
3608 Phinney North
Seattle, WA 98103

FIRST CLASS

WBND will have a proof of performance test; 10 kw non-directional at 0330-0400; 1 kw directional (faded out to East) 0400-0430. Call letters in voice and CW every 15 minutes. This will probably be on the air at least 2 hours. Write Jim Wardrope, CE, K KBND, P.O. Box 1071, Bend, OR 97701. Information from Stephen E. Pitts for NNRC.

WAHT will have a frequency check with a 1000 hertz tone. Send reports to Bill Margut, CE, WAHT, Box 15, Lebanon, PA 17042. Information from Gene Peterson, NNRC.

WBCB will have a frequency check with 1000 hertz tone. Reports go to John P. Super, CE, P.O. Box 1490, Levittown, PA 19054. Information from NNRC's Gene Peterson.

WPDC will be on with FM transmitter as well, on 106.7 mhz. No program information available. Write Leo Salter, Engineering Consultant, P.O. Box 1600, Elizabethtown, PA 17022. Arranged by Gene Peterson, NNRC.

2 FLASH TIPS

WCRO-1230 heard tentatively by Paul Mount with rock music to 0230, also easy listening music; UNID QRM. Code at 0230, mostly "M", "N", and "O" through 0233, 3 sets of code heard. Paul also noted regular NSPs WHN, WWDJ-970, were off MM 10/21 all morning. WWDJ had TT and open carrier; WHN just an open carrier.

Your reports of DX Specials heard (or not heard) are welcome here in Flash Tips. Just drop us a line (postcards are fine); regardless of where you live, if you get it in the mail Monday, we should get it by our Saturday deadline.

MORE DX CALENDAR WRITEUPS ON PAGE 8

DX ROUNDUPS

EASTERN

Editor: Mike Mitock, 975 Osborn Ave., Lorain, OH 44052

Thanks this week to:

- (RLF) Robert Foxworth-GPO Box 2111- New York, NY 10001; rx--HQ-150 and 3'altaz loop, HQ-129X, GPR-90
- (JMP) Jim Poterba-949 Queens Drive-Yardley, PA 19067; rx--HQ-200 w/SM-1
- (DAS) Dave Schmidt-42 Chelwynne Road-Castle Hills, New Castle, DE 19720

- *****
- 540 WGTO FL Cypress Gardens; s/off good 1859 10/11, fair aurora in progress. No SSB, promotes sister stn TV on ch 48.(JMP)
 - 610 WIOD FL Miami; even with WIP (2105) 10/13 (RLF)
 - 620 WVNJ NJ Newark; seemed testing w/day pattern as extr. loud, repeating IDs 0248 10/8.(RLF)
 - 710 WOR NY New York; was off around 0200 MM 10/8, nothing notable hrd tho. (RLF)
 - 880 WCBS NY New York; w/ET-TT/OC most of morn 10.15, no sign of BBC-881, drat... (JMP)
 - 920 WTCW KY Whitesburg; fair u/WHBB OC w/s/on 0559 10/13, then into nx 0600. WHBB s/on seconds later.(JMP)
 - 960 CKWS ON Kingston; noted AN 10/15 w/rr and female announcer, NSP now?(DAS)
 - 970 CKCH PQ Hull; believe this was the FF 10/15 equal w/WWSW 0215. WWDJ not there. (DAS)
 - 1090 WBAL MD Baltimore; ET-OC 0038 10/15.(JMP)
 - 1110 WSLV TN Ardmore; ET w/Dixie noted ending at 0135 w/WBT on OC, 10/15.(DAS)
 - 1140 WCJW NY Warsaw; strong o/WRVA w/light MoR and local wx, anmts, etc. 1818-29 10/14.(JMP)
 - WRVA VA Richmond; ET-OC 0311 10/15.(JMP)
 - 1150 KWKY IA Des Moines; f/c per list noted 10/15 0132 w/ID getting thru CKOC CJRC.(DAS)
 - 1220 CKCW NB Moncton; was atop 1842-1850 10/11 WENC s/off under at 1845, PFC briefly at 1900. CKCW in again at 1920, fair, WGAR dominant by 1930. CKCW is rock, contests, \$12.20 giveaways, etc. WGAR is rock too, and sounds similar. Next day, 10/12 no sign of them, just strong CKSM o/u WGAR. This one seldom hrd here evenings.(RLF)
 - 1230 WERI RI Westerly; hrd s/off 0005 MM 10/8 to return 0500, mentioned AM and FM. Hrd thru WINF fairly well on GPR and LW; in the hash with HQ-150 and loop. They are fairly often hrd here nights, tho weak, and are in weekly daytime under WFAS, thanks to path over L.I. sound.(RLF)
 - 1250 WDAE FL Tampa; noted w/WTAE off 10/15, 0320 w/contest promo and rr. First time hrd in years.(DAS)
 - 1250 WEER VA Warrenton; s/off just after WLEM, 1829 10/9, w/FM promos and no SSB. (JMP)
 - WLEM PA Emporium; good s/off o/WTAE et al 1827 10/9, no SSB. 1250 finally opened up at SSS...(JMP)

- 1270 KFJZ TX Fort Worth; noted w/UPI news 0302 10/15, equal with CJCB. Cuban nulled, WXYZ off and reported.(DAS)
 - 1290 WHIO OH Dayton; noted s/on at 0059 10/15. Has had very short SP's on MM's in past around 0030.(DAS)
 - 1350 WEZY FL Cocoa; way on top of freq. w/rr 10/15 0101, WSLR very weak, WWBR not noted on.WEZY reported.(DAS)
 - WWBR PA Windber; if DX TEST on, not hrd; if not on... just WHWH(semi-local) ET-OC and WSLR between 0100 and 0130 10/15.(JMP)
 - 1450 CHEF PQ Granby; very strong w/FF nx 2300, FF and EE MoR till t/out 2315, OM and YL anncrs. Way o/everybody, 10/13.(JMP)
 - 1460 WMBA PA Ambridge; anncd as on ET 10/8 u/ AN around 0230.(RLF)
 - 1470 WWHY WV Huntington; s/off way o/WSAN local w/little other QRM..faded up over Monaco-1466 whilst logging rpt there, 10/14 1859.(JMP)
 - 1480 WBTS AL Bridgeport; regular f/c noted 10/15 0326 w/many IDs and playing "Santa Claus is Coming To Town". Wonder what brand he smokes-hi! (DAS)
 - 1530 WOBR NC Wanchese; was the s/off at 1915 9/30 who mentioned FM at 95.3, this was a CP that has just come on. Tnx TRS for log help.(RLF)
 - 1530 WRBX NC No city given; stn hrd here 9/28 was indeed this call, as per NRC log updater in DX News 40-29. (RLF) (For everyone else's convenience please, when you send in reports include city.Tnx)
 - 1550 KKJO MO St. Joseph; ET-RR/OC 0448 10/13. (JMP)
 - 1550 WAAY AL Huntsville; noted AN 10/15 w/rr. NSP?(DAS)
 - 1550 WPJD TN Daisy; f/c noted per list 10/15 0245-0300 w/organ music.(DAS)
 - 1550 WRIZ FL Coral Gables; hrd in SS w/"Radio Centro" IDs, fairly good at 7pm s/off 10/13. All SS until flakey sounding EE ancr reads s/off anmt. WAAY came atop for a couple of minutes at 1920 w/CBE looped; should have been on nite pattern then. Soon out, and WSAO Sentobia, MS in weak at s/off, CBE still looped at 1927. I have dreams of hearing KRGO/KOBY s/off here someday, when CX are right.(RLF)
 - 1580 WILA VA Danville; strong w/s/off mixing w/WPUV 1844 10/14, first time well enuf for rpt.(JMP)
 - 1580 WSUP NY Patchogue; was ETing SatM 10/6, IDing as 5kw 0140 and later as 10 kw, strong her, numerous IDs, rock mx (they're now c&w daytime).(RLF)
 - 1590 WETT MD Ocean City; audible all day u/WEEZ noted 10/15 1245 w/time check. Pest. (DAS)
- unIDs
- 1080 ET 0230 MM 10/1 was WEEP, Pittsburgh, RJE picked out on tape.(RLF)
 - 1250 Various pitched TT (no doubt a PoP) 10/15 0030-0110 w/WTAE on. No IDs hrd.(DAS)

1520 My tentative behing WHOW 2000 9/29 was indeed WHIC Hardinsburg, KY as tape replay yielded "retune your radio now to WHIC-PM at 94.3". Tnx TRS for help. Also found an ID for KMPL, Sikeston, MO a few seconds before exactly 2000, who were evidently the hourly CBS news sounder hrd then, had noted this before but not the KMPL call ID. Thank goodness for tapes. (RLF)

1520 Hrd behind WTGR 1923 9/29 mentioning Savannah evidently was WNMT, Garden X City as they are a Sav, suburb. WNMT s/off at 1928, not 1920 my typo. Other unID behing WTGR s/off 1930 with only "1000 watts power" hrd was likely WKMG, Newberry, SC acc RJE who has nra before. WXPQ too far west, per SR-SS map. (RLF)

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NOVEMBER 3, 1973

R/Cs
2nd Sat: WYWY-950 (JMP) 3rd MM: WLSV-790 (JMP)
WPJD-1550 (JMP)
WTON-1240 (JMP)

Thanks to one ~~xxx~~ and all. 73's and good DX. Carol
Reports To: Mike Mitock, 975 Osborn Ave., Lorain,
Ohio 44052

630 WMAL DC Washington; Fair, w/EL mx, comedy, local spots. Had to loop EM to get it, to null CMQ (that strong!). No sign of WPRO. 0113--0130 9/27 (PRM)

900 CKVF PQ Unknown; Tape ID sounded like that. Had rr 1844-1857, ID "CKVF The Tower of Sound". Mentions of CBC, Phone 563-9090 To win tickets. Looped toward PQ, 10/1. somebody know?? (PRM)

910 WSBA PA York; 9/27, Fair to good mixing w/ WGBI w/rr, nx 0030, Accu-wx. Lotta fades but enuf for rpt. Sent quick v/c and CM. (PRM)

1050 WHN NY NYC. Noted off 9/27, in passing. Off AN only WINS (yup) in. (PRM)

1220 CKCW NB Moncton; Surprise 9/3 while listening to WGAR. Had midnight news in NB. Fair to good in null of WGAR 2257-2302 fade. (PRM)

1310 WCAM NJ Camden; 10/8, 0130 ID by YL, mentioned that I was listening to gospel on "WCAM, Camden, NJ". Gave PA, NJ Phones. (PRM)

1370 WSPD OH Toledo; Good w/MOR mx 0136-0140 9/15. Looks like a reg. w/WFEA off s/off this SM. (PRM)

1460 WRAD VA Radford; weak to good w/ many fades 8/27 w/ 25 minutes of un-interrupted mx! ID at 2015. New. (PRM)

1480 WASR MA Fall River; Fair o/WHOM OC 10/8 0005-0018 w/rr. Regular w/WHOM off. (PRM)

1490 WXIT WV Charleston; Fair w/ Paul Simon rr. ID's before and after song, on 8/27 at 0410. (PRM)

1580 WHEX PA Columbia; came o/ WPGC to announce s/off. Mentioned "Central PA Farm Station" promo. "Let's All Join in Harmony", instead of SSB. s/off 8/28 at 1959. (PRM)

1580 WPGC MD Morningside; rr mx o/u/ WHEX and another very good signal. 8/28 at s/off w/ mention of "FM 95". First on 1580! (PRM)

1480 WCFR VT Springfield, in good o/WGSB/WISM 10/15 with s/on 0600, a good bet for Vermont. (DP)

570 WAAX AL Gadsden, C&W, Wx and s/off 0200 10/16. If you haven't hrd their s/off, it's an experience. (JCK)

600 KOGO CA San Diego, 10/15 0407 noted with news ending, fair. (KDF)

620 WNNR WV Beckley, on top w/WTMJ off with rock 0616 10/22. (DP)

630 WEJL PA Scranton, fair w/spot for tire co. 0645 10/17. (JCK)

690 WVOK AL Birmingham, good s/off with "Dixie" 1915 10/18. (JCK)

790 WMC TN Memphis, u/WTAR/WAKY w/promo 1928 10/18. (JCK)

KFYO TX Lubbock, good on SRS w/Livestock prices 0727 10/17. (JCK)

910 KGLC OK Miami, good w/C&W 0252 10/5 (AWO)

930 KWOC MO Poplar Bluff, in mess w/Cons. Dept. PSA 1917 10/14. (JCK)

950 KMER WY Kemmerer, s/off 10/12 2045 following "Evening Echoes". (BN)

1000**KKIM**NM** Albuquerque, very strong on r/c w/tone & ID's 0210-0225 10/15. Slight QRM from KTOK. (REM)

1050 WCEF WV Parkersburg, w/rock 1920 9/27, fady. (JCK)

1070 WINA VA Charlottesville, 10/15 0439 with brainteasers & phone in mixing with WIBC. (KDF)

1230 WJBC IL Bloomington, my most wanted IL. Inffair thru mess w/spot 0532 10/22. (DP)

WQUA IL Moline, good signal atop mess with music 0542 10/22. (DP)

WCOL OH Columbus, 10/22 0230 poor under mess with ID. (KDF)

1250 CHWO ONT Oakville, fair w/MOR o/u WTAE 0117 10/8. (AWO) W/"Passport to Pleasure" contest during WTAE fade 0231 9/11. (JCK)

KFKU KS Lawrence, 2000 10/17 IDs as the educational voice of the University of Kansas. (MH)

1270 KFJZ TX Fort Worth, fair w/R&R 0146 10/8. (AWO)

1320**WKIN**TN** Kingsport, good on ET 0423 10/5. (AWO)

1330 WHBL WI Shaboygan, s/off w/"Battle Hymn of the Republic" u/WFBC 2359 9/17. (JCK)

1340 WMID MA Atlantic City, a complete surprise w/ID popped thru mess 0550 10/22. (DP) (BN)

KGPCND** Grafton, ID 0300 after TT 10/15

1350**KRNT**IA** Des Moines, ET ID 0120 10/15 OC. (BN)

WGSW SC Greenwood, 10/16 0601 good w/SSB s/on, SID. (KDF)

WKLX? VA Portsmouth, o/Whistler w/ID's "WKLX-1350". There is no KLX or CKLX. 0115 10/6. (JCK) (And I can remember when WHAS got into trouble with the FCC for dropping the "W". It was felt that "HAS" could be mistaken as a Hungarian station someway--rce)

1370 WOTR PA Corry, fair signal u/WSPD with s/on 0600 10/15. (DP)

1400 WKNR MI Battle Creek, 10/15 0504 very good w/SSB s/on, into rock (KDF)

KSIMMO** Sikeston, fair on f/c 0253 10/6. (AWO)

1410 WPOP CT Hartford, 10/15 0239 good w/SID and MOR music. (KDF)

1420 WTCR KY Ashland, SSS regular, s/off 1945 9/22, no SSB. (JCK)

1440 WHHY AL Montgomery, w/rock 0150 10/13, in mess, not in nite pattern book (JCK) (They published it in an updater, Charley.--rce)

KQRS MN Golden Valley, 10/14 1946 very poor w/ID and rock music. (KDF)

WNFL WI Green Bay, s/off w/studio loc., address given, no SSB 0112 10/13. (JCK)

1460 WMBR FL Jacksonville, 10/15 0302 ID obligingly slipped in under WACO. (KDF)

prm is Paul Mount, 471 Emerson Ave., Teaneck, NJ.

Thanks alot, Paul! That's it for this week. Pending BoD approval of my appointment, deadlines here will be the same as Carol's: Tuesdays, one week (and 4 days) before issue date. Next deadline here will be 10/30, and weekly thereafter. I would also like to ask that reporters pull ALL r/c's, and list them sepatrley at the end of their reports. 73 until next week!

CENTRAL
Editor: Richard C. Evans, Box 2048, Gary, Ill 46409

OF SPECIAL INTEREST:

600 WCAO MD Baltimore, finally hrd AN 10/15 & 10/22 w/Oldies rock. (KDF)

740 CBNM NFDL Marystown, s/on 0430 10/15 well on top of freq. for real surprise and new province! (BN)

970**WMAY**IL** Springfield, f/c is 1st Sun. 0215-0225 (irregular). Pattern is NNE-SSW w/major lobe SSW. (REM)

- WACO TX Waco, 10/15 0300 fair signal w/IDs as "Waco" and Wx on the hour. (KDF)
- 1490 WOLF NY Syracuse, in fair w/Rock over mess 0133 10/15. (DP)
- WSGB WV Sutton, in poorly at s/on in mess w/vocal SSB and announcement 0500 10/22. (DP)
- 1510 CJRS PQ Sherbrooke, unkn. but apparently the S-7 FF signal 0417 10/15. (BN)
- 1530**KWLA**LA**Many, L&C on r/c w/tone & many IDs 0145-0200 10/15. (REM)
- 1540 KBXM MO Kennett, 10/14 1928 w/s/off w/SSB poor; v/l. (KDF)
- 1550 WKBA VA Vinton, fair w/C&W 1837 10/13(JCK)
- 1570 KTER TX Terrall, 10/21 2000 w/gospel to s/off, cx somewhat auroral this PM. (KDF)
- 1580 KTGR MO Columbia, 10/18 1917 dominant with Top 40 music. (KDF)
- 1600 KATZ MO Saint Louis, good on SSS 1914 10/12. Lost by 1930, WWRL. (JCK)

PER THE LIST:

- 1st FRI: WPHG-980 (AWO) 3rd MON: KVOP-1400 (BN)
 KFVS-960 (REM) WKIG-1580 (REM)
 KTCS-1410 (REM) (irregular)
- 2nd MON: WANY-1390 (REM) KWLA-1530 (BN)
 WGOH-1370 (REM) WBTS-1480 (BN)

A TIP OF THE HAT THIS WEEK TO:

- KDF - KARL FORTH, 630 S. Ardmore, Villa Park, Ill.
 MH - MIKE HOGAN, 4811 Euclid, East Chicago, Ind.
 JCK - "CHARLEY" KELEHER, 3924 Sleepy Hollow Lane, Fort Wayne, Indiana 46804
 REM - ROBERT MCKINNEY, RR #2, Clinton, Ill. 61727
 BN - BILL NITTLER, 603 W. 1st, McCook, Neb. 69001
 AWO - AL OGRIZOVICH, 3836 Sleepy Hollow Lane, Fort Wayne, Indiana 46804
 DP - DAVID PETERSON, 800 Humboldt, Winnetka, Ill.

I hate to do it, but I must. This is a call for volunteers to take over the CDXR. I just don't have the time I thought I had to do this column as well as be president, hold a full-time job, and take college courses, and give each the deep attention it deserves. If you want the job, let me know. For Keith Birlingmaier, I think the merits of DX include the ability to travel this country and others without leaving your home. It is an opportunity to hear different viewpoints on the news and current events, as reflected by different regions. Once within an organized radio club, it is an opportunity to correspond with or meet new people and friends, or perhaps a spouse. For me, after twelve years in the hobby and almost nine in the club, it's being able to look back at many wonderful memories, and wondering what lies ahead. Still, there's stations left to be heard, lurking right around the corner, and saying "Come, listen to me". These, then, I feel are the merits of DX. Must be going. Report often. 73.

WESTERN

Editor: Jeff Brasier, 10341 Shirley Ave., Northridge, CA 91324

No reports received by press time. FJP

DX FORUM

EASTERN

Editor: Bruce Heimburger, 1710 Cambridge Rd., Ann Arbor, MI 48104

Paul Mourt - 471 Emerson Ave - Teaneck, NJ 07666
 Greetings from the land of TTT (Teaneck's Trio of Three). If you don't know who the other two are, welcome to the IRCA. (??-Brh) Summer DX was fine, 19 new ones as compared to 18 this spring. Of course, I got to stay up a lot more. Only difference noticed was more QRN. I have started to DX SSS now, and in my 1st 3 days I've hrd WPGC, WHEX, WRAD, & WVAB as new ones. Also one on 1550, sounding like a progressive FM stn, w/man w/deep voice. I think this is same one as John Sally hrd. Ideas? As usual, a few veries have come in: v/q-CBE WJR WHYC WNOX WMEX WSPD 3WE WJWL+CM WHAM WSBA KYW WMAL +CM WOR+CM; v/l-WLAN+CM, SC WBCB WVL+CM; v/f- CKPH

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WHK CHAM; v/r-WRAD; v/ppc-WTAE WARM. It's getting that I'm writing to every new stn I hear. Some goals for new season may be: to hear a TA, to hear something further west than KXEL, and who knows what else. Hrd cnty #6 in HIUA-860. On 10/1 on 1980 I hrd a WFTU & WGIL, mentioned Buckingham, 11 past 10 while 11 past 7 here, w/RR. Help? Dave Schmidt - 42 Chelwynne Rd. Castle Hills New Castle, DE 19720

Should be a very good season for all of us this year, TA's noted strong on 10/8 & 10/15, especially the BBC-1214 (WCAU was on). Veries: v/l-WMBA KWKY for f/c; v/ppc-WVMT for f/c. Federal district court in Camden, NJ has issued a restraining order against Carl McIntire for his one day broadcast on R. Free America, it was effective 10/1, the permanent type. McIntire said on TV interviews that he was going to be back on the air again anyway, this time on a different freq., but that's a little hard to tell right now. WHLW-1170 had a statement on the air on 9/20 from McIntire, an apology for the interference that WHLW claimed was happening. After being in radio 6 years, it's not surprising that WHLW complained. Any stn that would lose 10' off their signal always makes a stirk about it, that's very typical of many. So for those who have tapes of RFA, hang on to them, they'll be collectors items. 73s.

Larry V. Flegle, WDX4KVB
 1004 E. Powhatan - Tampa, FL 33604

Hello everyone. CX are slowly getting better here. I have hrd a few new stns. Only verie is v/l WROA. Would like to hear from other Collins rx owners (R-388-51J3 here). By the way, you might try WDCL (ex-WCWR)-1470 at SSS. Programming is automated MoR. I haven't been very successful setting up CPC tests but will continue to try. CPC tests really help get those hard stns. 73s.

CENTRAL

Editor: John Zondlo, Shales Hall, Box 120, Muncie, IN 47306

Al Ogrizovich-3836 Sleepy Hollow Lane-Ft. Wayne, IN 46804

Hi gang! Well, to tell ya the truth, DX here is pretty good. Verie wise here is kinda yuk, but I better just be a little more patient. Verie wise here: v/q WGL, WGST, WILL, WTEB, WERC-Dore Frantz, WTVN. Veries from Whiting: v/l WDOV-Bruce Jeffries, WARY-Archie Erickson, KTOP-Eldon Schienker, WFAW-Clifford J. Groth. Other than that mail has been slow. In regards to Bruce Portzer hearing WGL, I don't believe it as we have a null towards him and we don't have an FR. (Stranger things have been known to happen-jz) How 'bout a newspaper? Well, until then keep the peace as I don't want it. Best of x.

John Zondlo-Shales Hall Box 120-Muncie, IN 47306

Greetings. Short column this week, eh? Where is everyone? Notice that we're on a weekly schedule now, so have your reports to me on Wednesdays, 10 days before date of publication. NOTE- for the deadline of November 21, send reports to me at 5617 Maryland-Hammond, IN 46323. I'll probably be up there during quarter break from school. Not much in the way of DX lately, but things are sure looking good in the Roundups. Looks like a great season is upon us. Remember to report to both the Roundup and Forum sections- we'd all like to hear from you! 73.....

WESTERN

Michael G. Worst, 3608 Phinney Ave. N., Seattle, WA 98103
 Deadline Wednesdays.

Jon E. Pearkins, 6137 Service St., Burnaby 1, B.C.

In case you haven't given any thought to it, reading the papers and keeping on top of the radio/TV news is very helpful in getting either most wanted or unID stations. As DEE mentioned some years ago, you can find out about national or international disasters and be able to log stations that would not be on RS when the freq. is clear and best reception possible. But, further than that, you can get an idea by listening to a few snatches of a newscast on an unID'ed station through a lot of QRM (i.e. - a few words here and there in the jumble) of where it is if you know how "big" the story you are hearing is. For instance, my recent reception of what I believe was CBH-860, was possible (my conclusion that it was CBH, that is) because of the mention of "Frobisher Bay," which I



DXWW

Editor: Ron Schatz, Box 2814, AMF, Miami, FL 33159
AC305-945-4915 eves Deadlines: Tuesdays

FJP RETURNS AGAIN!

The word still didn't get out to most members in time for this issue that the new DXWW Editor is Ron Schatz, and thus this week's reports were still sent to me. Hopefully this should be the last time I will have to type up the whole column; by next issues, most reporters will realize that Ron is the new editor.

REPORT FROM AUSTRALIA-- Bob Padula

Conditions have been most unusual here for openings to Europe and Africa: local sunrise at present is around 1855 GMT (4.55 am) and some surprisingly good signals are noted, from the west, until an hour later! This compares favorable with the last "good" season, back in 1965.

- 611 ... Kenya, Nairobi, national service, Swahili announcements, march music 1815 10/19.
- 620 ... Egypt, Batra, AA service, clock chimes and AA ID 1930 9/29.
- 650 DZRH Philippines, on late occasionally, such as 9/29, in period 1900-2000, with full ID and call letters at 1947, then Tagalog news; announces as "MBC_DZRH" (manila broadcasting company).
- 656 ... Tanzania, Dar-es-Salaam, very consistently heard recently, in period 1700-2000, Swahili service, dominates the frequency. Nulling reveals Israel, and there's a Russian hiding underneath as well! A report emerging from NZ claims reception of Spanish Sahara on this spot: find that hard to believe, as such a reception would have to be via the long-path, across Asia, Europe, etc. I'll believe that one when I see it! [Spanish Sahara has been heard in NA--see TA section. As far as long-path reception, see Foxy's article.
- 728 ... Uganda, Bukedi, EE service, with news items 1900, another regular one 10/20.
- 737 ... Israel, Quadima, AA music and news 1925-1930 9/29; topped from L. Marques.
- 836 ... USSR, listed as Lutsk, Ukraine, Ukrainian px (not RR) apparently local service) 1850, through to past 1940, well over an hour past dawn 10/20. [That's twice in a short time I've seen that abbreviation "px"; what does it mean? Ed]
- 841 ... Iran, Quazvin, national music 1925 10/19, Farsi ID for "Radio Iran" 1930, then news in Farsi. Somewhat regular.
- 854 ... Romania, Bucharest, Rumanian talks/ballads 1920-1950 well past local dawn; this one is probably the most regular of the eastern Europeans 10/15.
- 944 ... USSR, listed Rostov-da-Donu, well heard with RM-2 px, RR, 1910-1930. Never heard this outlet before; frequency is usually blocked by strong splash from a local 24-hour operator on 930 (3UZ). 10/19.
- 980 ... USSR, listed Alma Ata, strong with R. Moscow relay 1910 //998 (Kishinev); another new one for me, unheard before now 10/19.
- 998 ... USSR, Kishniv listed, R. Moscow Home Service 1840 quite strong 10/19, 10/20.
- 1061... Turkey, Diyakakir, TT vocals, TT announcements 1820-1830 10/19, consistent signal most days.
- 1070... USSR, R. Moscow Home Service, 1835-1900 10/19, two sites listed; loop bearing tends to suggest Kazakhstan rather than Ukraine.
- 1088... Albania, Tirana, Home Service program with Albanian news 1900 after Albanian ID 10/20.
- 1097... USSR, Taldy Kurgan, Kazakhstan listed, presumed location one one heard with R. Moscow Home Service 1910-1939 10/20. Unheard previously.
- 1106... Egypt, Batra, Hebrew service, well heard here, ID and clock chimes 2000 10/19.
- 1115 RAI Italy, Bo'ogna/Bari listed, RAI-2, my best logging for RAI yet! Not heard before, noted 1940-1945 well past local dawn, 11 pop songs, announcements, //845. Was looking for Africans! 10/20.
- 1142... USSR, Riga listed, presumed so, R. Moscow Home Service 1930-1945 10/20, well past dawn; unheard before, was looking for Athens.
- 1151 ... Romania, Cluj, Rumanian talks, music 1920-1945 10/20, excellent level.
- 1160 ORTF France, Strasbourg, FF announcements, music, pops 1910-1930 10/20. First time noted here, mixed UnID station, possibly Bulgaria. Signal strength little weaker than Lille-1376.

5

NOVEMBER 3, 1973

- 1196 VOA West Germany, Munich. Excellent 10/20, Polish, with short EE report 1915-1930, well past sunrise when first noted. First time hear since Jan. 1965! Very significant and important logging for me, as local 24-hour operator (3KZ)-1180 usually destroys this frequency.
- 1232 TWR Cyprus, Trans-World Radio relay heard in Australia in 1800-2000 period, such as at 1905 when had AA on 10/19. Can be followed up to 2000 when local Australian station opens on 1230 (2NC).
- 1241... USSR, Kiev listed, believed so, Ukrainian commentary 1915-1920 10/20, well past dawn, previously unheard.
- 1376 ORTF France, Lille is usually the first of the French outlets to fade in, along with Nice-1554; FF talks and music 1810-1845. Fades in and out with USSR, and am still anxious to log Swazi Radio, which has in fact been heard here in Melbourne recently by another ARDXC colleague, and also over in South Australia. 10/19.
- 1394 ... Albania, Tirana, Overseas Service, IDs 1930 10/20, into Polish.

AUSTRALIAN DAYLIGHT SAVINGS TIME-- Bob Padula

As from last weekend of October, Daylight Savings will be observed in Victoria, Tasmania, New South Wales, and South Australia. No change in times will be observed in Queensland, Western Australia, or Northern Territory. Eastern Summer Time will thus be used in Vic., NSW, and Tas (GMT+11) Central Summer Time in SA (GMT+10 1/2). Queensland will remain on normal Eastern Standard Time (GMT+10), Northern Territory will stay on Central Standard Time (GMT + 9 1/2) and WA will be on WA Standard Time. (GMT +7). So, we will have the usual confusion with no less than 5 different time zones. In effect, this means that stations in Vic., NSW, and Tas. which now sign off at 1400 GMT, will close down at 1300. This gives us a shot at NA and Canadians, particularly those east of the Rockies, after the 1300 GMT period.

REPORT FROM SWEDEN-- Tom Carlsson, Uppsala, Sweden

The new DX season has started very promisingly, indeed. I've been very busy lately, but when I've had time to listen, some interesting things have been noted. Lots of North American stations have been heard in the northern part of Sweden, but here in the southern part, Central America and South America have been dominating the trans-Atlantic frequencies.

- 633 ... Iran, a new Iranian station noted here in the early evenings. Strong, but 629/638 slop. Location?
- 750 HJDK Colombia, Medellin, La Voz de Antioquia heard on 10/13 at 0530.
- 860 ZYD68 Brazil, Rio de Janeiro, R. Mundial, "The Rock of Rio." 10/15 0225. Strongest Brazilian in competition with 1180-Globo.
- 980 HJES Colombia, Cali, R. El Sol, a very nice surprise on 10/14 0520. Spot for Todelar coverage of "Campeonato de Futebol." Gothenburg is off this time Sundays, opens 0455 weekdays.
- 1000 PRB9 Brazil, Sao Paulo, R. Record 10/14 0457 with QRM from the 998 Russian.
- 1030 LS10 Argentina, Buenos Aires, R. del Plata with rock 10/15 0247. Gave ID as Radio Noticias.
- 1220 YV.. Venezuela, Radio Aeropuerto with a "Radio Aeropuerto con la hora" jingle. Later Radio Eldorado, Rio de Janeiro, took over the frequency. Both these stations are new here. 10/15 0200.
- 1248 ??? Arab station on late for Ramadan 9/29 0030. According to some sources this is Oman. However, a Swedish DX-er has IDed the station as Dubai (1250 kHz).
- 1265 ... St. Kitts, Radio Paradise with religion 10/15 0200. Deutschlandfunk on 1268 created quite a problem here.
- 1560 WRSJ Puerto Rico, San Juan, R. San Juan with IDs and news atop the hour 9/30 0500.

LISTENERS' LOGGINGS-- TRANS-ATLANTIC

- 656 EAJ203 Spanish Sahara, R. Sahara is my UnID of last week according to Al Merriman. Has been heard for last couple days (10/20-25) best from 0620 until fades out about 0640. (GM,C)
+Strong clear signal here 2326 9/30, measured as 655.9923; best signal on EAJ203 ever heard here. Seemed to be special occasion. Noted as late as 0055, gone at 0105 recheck, so probably off at 0100; (GPN, E, NRC, condensed)
- 737 ... Spain/Israel, Barcelona/Tel Aviv. Tuned in 0058 to find IS from Barcelona being repeated; seems to be 13 notes on a vibraphone type instrument) on 10/8. Cut carrier at 0100 leaving Israel alone on the channel in AA. Music (non-Ramadan fare) and lots of AA talk, good at times. (GPN,E,NRC, condensed)

746 ... Kenya, African station first noted here 10/1 at 0312 weak with fast fade, peaked to fair level at 0325 with western music and man announcer in what could have been EE. Characteristic fast trans-equatorial fade noted often before from Tanzania, Angola, etc. DF says North or East Africa. (GPN,E,NRC, condensed)

1205 ... Israel, tentative, very weak carrier noted 0230 10/8; Israeli on 737 good at the time; this assumed to be 10 kw Israeli Forces station on for War Alert. (GPN,E,NRC, Condensed)

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1130 AIR India, Calcutta SM 10/21 1550-1600; first time this season clear enough to tape; commentary in EE by male announcer, followed by female giving ID at 1555 in EE. Exotic Indian music mixing with JOQR's US rock music. Slow fades. KLEI blasted on at 1559 (CAB,HI)

VERIFICATIONS

860 HILR Dominican Republic, Santo Domingo, R. Clarin in about one month using IRCA SS form and 2 IRCs. Sent form letter and terrific red, white, and blue pennant. V/s: Neit R. Nivar-Baez, Administrador. (GWJ,E)

1200 YVOZ Venezuela, Caracas, R. Tiempo sent brown and white hour glass on gold QSL card, specific, in 1 month for SS report form and 2 IRCs. V/S: Bob Rangel, Relaciones Publicas. (GWJ,E)

REPORTERS

BAP 4 Bertram Podall, New York, NY
 CAB 1 Credo Bisquera, Waianae, HI
 GM 1 Gene Martin, Denver, CO
 GPN 4 Gordon Nelson, Watertown, MA, NRC
 GWJ 5 George Jensen, Baltimore, MD
 JMo 2 Jerry Monroe, Alden, NY
 JT 6 John Tull, Kansas City, MO
 MLH 4 Mike Hogan, East Chicago, IN
 TRS 4 Tom Sundstrom, Willingboro, NJ
 ASL 2 Albert Lobel, El Cajon, CA

LATIN AMERICA

590 CMW Cuba, Havana, 10/16 0145-0155, with slight interference, male SS announcer; strong. (MLH,C)

640 CMQ Cuba, Havana, 10/14, 0300-0306, no QRM, male news announcer, then vocal and instrumental music. (MLH,C)

690 XEN Mexico, D.F. 10/16, SS music under CBF in slight null, some fading. (MLF,C)

700 YVMH Venezuela, Maracaibo, R. Popular noted 10/17 from 0015-0024 with LA music, many IDs and TCs and ads. Signal poor with moderate fading and QRM from unknowns. (GWJ,E)

730 XEX Mexico, D.F. noted 10/20 from 0429-0439 with poor signal and much QRM a la CHIR with news and sports. (GWJ,E)

735 HCBG1 Ecuador, Quito, R. Melodia 10/22, with music from tune-in 0350-0400 ID, "R. Melodia...en Quito", and several more announcements, back to music. Another good ID 0430. Pop music. Signal fairly good at times. Probably Tull's UnID in 9/22 DXWV. (TRS,E)

760 YVQQ Venezuela, Puerto la Cruz. No WJR. Man in SS giving news; gongs between each item 0500 10/22. (BAP,E)

800 XEROK Mexico, Cd. Juarez, Chih. under CKLW, SS language weak, much fading 10/16 0230-0245. (MLH,C)
 +Probably the one under CKLW and PJB with Oldies but Goodies show 0830 10/15 MM. Kept mentioning you could call Hollywood for the album for less than the price of a pack of cigarettes. Loop bearing seemed to indicate XEROK. No ID heard.

820 CMCA Cuba, Habana, seemed better than 10 kw, 0445 10/22 (BAP,E)

830 ??? UnID with bird calls at 0330 10/13. Couldn't make out anything else. (BAP,E)

834 ... British Honduras, Belize 0320 10/13 with "Latin American Review"(news), even a personal message afterwards, into jazz. Good. (BAP,E)

885 ZJB Montserrat, Plymouth suspected 10/15 0015-0045; very weak. Man in EE, woman later on; only made out 10-12 words. (JT,C)

925 PJA6 Netherlands Antilles, Aruba. 10/22 0057-0103, good signal. Time tone on the hour. Good ID with R. Victoria mentioned. Spot for J.C. Superstar show. (JT,C)

960 ZFB Bermuda, Hamilton noted with soul music and local spots and SIDs. ZFB Circle Sound. Signal poor with considerable QRM and fade. (GWJ,E)

960 HJHN Colombia, Magangue, R. Sutatenza 10/23, noted with excellent signal atop frequency 0120+ with several R. Sutatenza IDs and "Republica de Colombia" at 0130. Auroral conditions obviously continuing. Regulars Belize, 4VEF-1035, others all above stations that are either side of them. (TRS,E)

990 XECL Mexico, Mexicali, BC 10/15 1000. Fair with slop from KFWB-980 and KML0-1000. According to announcer, station in Calexico, not Mexicali. (ASL,W) [The two cities really are separated only by a fence. Ed]

1155 YSCF El Salvador, San Miguel, Ondas Orientales 10/22 was my UnID from 10/8. Excellent signal at s/off 0530 with NA, gave complete ID right to indicating "Central America". New. (TRS,E)

1225 TIBB Costa Rica, San Jose, Radio BB 10/22 with call standing out clearly above WCAU splatter in voice-over s/off 0600, given by woman, not a complete ID by any manner of means. WCAU is a pain in the... (TRS,E)

1275 ??? UnID 10/13 0300-0315. Low level, looped to LA. (JT,C)

1380 XEKT Mexico, Tecate, BC 10/15 1020. Good, no QRM. Several IDs and spots. (ASL,W)

1435 ??? UnID, 10/13 0200-0220. Just a hat, very weak. Looped to LA. (JT,C)

1535 ??? UnID, 10/12 0250-0305, low level, no audio detected, just carrier looping to LA. (JT,C)

1595 ??? UnID 10/12 0215-0235, slow SS music. Some organ music. Level up and down like a yoyo. Man and woman on the half-hour with ID, level was down though, and all I could read was the time. Drat! (JT,C)

TRANS-PACIFIC

650 KORL Hawaii, Honolulu, second time heard since 1/72; fair signal at best. Had to loop SS on same channel to hear them; talk show on; 0902-0906 10/15 when WSM



PIETERMARITZBURG FIRST

Medium wave to tune out

Daily News Reporter

NATIONAL medium-wave transmitters are being phased out by the SABC from the end of the year.

First on the list of cities that will have to rely solely on FM transmission from New Year's Day are Pietermaritzburg, East London and Kimberley.

For a long time now and we feel that people will have installed the necessary receivers by now," said Mr Nixon.

Durban listeners will follow suit soon afterwards, when the existing medium-wave transmitters in the area are gradually phased out.

On December 31, the medium-wave transmitter at World's View, which now serves Pietermaritzburg, will close down and listeners in the Capital will have to tune into the FM transmitters at Botha's Hill, Greytown or Mooi River.

QUITE ADEQUATE

At present, the medium-wave transmitters carry the English, Afrikaans and Springbok programmes. The FM transmitters broadcast these programmes as well as regional station programmes and Radio Bantu.

"We have found that FM reception in these Natal areas is quite adequate and there should be no problems," the SABC's Natal regional manager, Mr Arthur Nixon said today.

"FM has been in operation

FROM THE DURBAN, SOUTH AFRICA "DAILY NEWS" OCTOBER 16, 1973



Several articles have appeared in past bulletins regarding the calculation of great circle azimuth bearings and distances. The following method is most likely one of the most efficient but its accuracy decreases as the great circle distance increases. However, for BCB work out to 4500 miles or so, the accuracy is quite tolerable.

Let RX and TX be the two locations on the Earth's surface; A be the latitude of RX, B the longitude of RX; D the latitude of TX; and E the longitude of TX. All angles are measured in degree measure: (°) degrees, (') minutes, and (") seconds although for DX work seconds of arc can be omitted unless RX and TX are very close. Standard conventions on algebraic signs are N-latitude and W-longitude are non-negative while S-latitude and E-longitude are negative. Now calculate:

- F = A-D
- G = B-E
- H = (A+D)/2
- J = ATAN (ABS[F/G] SEC [H]) ...degrees
- M = (69.06) ABS(G) COS(H) SEC (J) ...statute miles
- K = (0.5) ABS (G) SIN (H) ...degrees
- S = J+K ...degrees
- T = J-K ...degrees

The bearings are obtained by a quadrant-type decision logic as follows:

Sign (F)	SIGN (G)	ANGLE (RX)	ANGLE (TX)
0	+	90°+T	270°+S
0	-	270°+S	90°+T
-	-	270°+S	90°+T
-	+	90°-S	270°-T
+	-	270°-T	90°-S
+	+	90°+T	270°+S
+	0	180°	0°
-	0	0°	180°

and for the last two cases: M = (69.06) ABS (F)

Notes: ATAN is the arc or inverse tangent function whose values here lie in the range 0° J 90°. ABS (X) is the absolute value or magnitude of the quantity X; that is, ABS (X) = X unless X is negative, in which case ignore the negative (minus) sign. For example: ABS (-0.178) = 0.178. M is the great circle distance between RX and TX, Angle (RX) is the bearing of TX as measured at RX, Angle (TX) is the bearing of RX as measured at TX and both these angles are measured clockwise positive from True Geographic North at the respective locations.

Some examples follow: In every case RX has coordinates 35° N, 85° W (A=35°, B+85°).

Note: Integral values of latitude and longitude are given here only to simplify the text of this article.

TX Coordinates	D°	E°	Angle (RX)°	M (Miles)	Angle (TX)°
35° N, 60° W	35	60	82.83°	1414.27	277.17°
35° N, 100° W	35	100	274.30°	848.56	85.64°
45° N, 120° W	45	120	301.70°	1976.20	99.20°
47° N, 60° W	47	60	49.34°	1544.21	245.74°
30° N, 110° W	30	110	263.38°	1496.50	69.94°
25° N, 70° W	25	70	123.84°	1132.14	311.34°
49° N, 85° W	49	85	0°	966.84	180°
22° N, 85° W	22	85	180°	897.78	0°

Editor's Note: As described by Fish over the phone, this simplified version of the GCD and GCB calculations is based on the mathematics of an oblate spheroid, rather than a sphere. I worked out a couple and the results compare quite closely with results previously gotten using the formulas given in "DX Mathematics, Part II" as given in the September 8 DX Monitor (Vol. 11, No. 1). Most trig tables don't give the secant function, which is called for in this formula; just remember that the secant is the reciprocal of the cosine (divide by the cosine instead of multiplying by the secant.)
FJP



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knew was not a current news item in the United States and the rest of the world, but very likely just another CBC Focus feature item. In other words, if you hear a news item about Albuquerque on an unID station, you better know if there is an item of regional or national importance about Albuquerque, before you go to your atlas and log and pick the closest station as the solution to your unID. The best way to know is to have a wire service teletype in your house, but a serious listen to a few different newscasts will do a good second best. It's always good to know network news voices too. 73 and Good DX. Hope you can ID your unID.

Michael G. Worst, 3608 Phinney N., Seattle, WA 98103
Hi gang. Bruce Portzer and I have gotten together and decided to put in a bid for the 1974 convention. It would be held in Renton, Wash., just south-east of Seattle. I've finally got all the kinks ironed out and everyone's report should get in the bulletin a little faster now. Sorry for any inconvenience. I typed all of Jon's report because it was the only one in this week. I want to thank everyone for double spacing. 73



In 1974!!!

Father Jack Pejza, 3266 Nutmeg St., San Diego, CA 92104
Too tired to listen MM 10/22 even though Monday was a free day. This publishing business can get to you, hi. Usually it takes SDPC about three hours on Saturday morning to fold, staple, address and stamp one issue and prepare the next issue for the printer. Your comments on format, contents, etc. are appreciated. For instance, we've used only one staple in the last few issues, as opposed to two for previous ones. How is your copy coming through the mail? We would also like to have comments on the loose-leaf format. While many members like it, because of the ease of binding or filing, apparently others would like a magazine format similar to that used by other DX clubs. We are using this format partly because it's cheaper than the magazine format, but we are willing to look into a magazine format again if a sufficient number of members like it better than the loose-leaf format. 73 de FJP.



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FROM THE EDITOR'S DESK

Another gentle reminder that the cost of membership plus subscription to DX Monitor has not changed. It will still cost you \$9.50 a year (first class) or \$13.00 airmail for both. A couple of members who have renewed have sent only \$7.50 total. That is the cost of a subscription to DX Monitor, but it does not include membership dues of \$2.00. Those who did send only \$7.50 have had the \$5.50 applicable for subscription pro-rated for 25 issues of DX Monitor.

I had a chance to look through some of the early issues of DX Monitor recently, thanks to Randy Seaver. One feature which struck my eye was an irregular column, giving forecasts of what to look for during the next couple of months. Would anyone be interested in seeing such a column, or more precisely, would anyone be interested in doing such a column? Write me, and I'll send you a sample of what appeared before. We finally made it back up to twelve pages this issue, thanks to filler material from Glenn Hauser, Denzil Baker, and Bob Foxworth's article. Let's keep it that way for the rest of the DX season! It's your bulletin; it's up to you to contribute.
FJP

WMBA will use rock music with many IDs (both voice and jingles). Pre-paid phone calls are welcome to 412-266-1110. Reports go to Richard Allen Pantaleo, CE, WMBA, Ambridge, PA 15003. Only reports with return postage will be answered. Rich is interested in just what his 500 watts will do, so make a real effort and try! Arranged by Dave Schmidt for NNRC. WSAR will use daytime directional array, code IDs, and station jingles every 4-5 minutes. They will play semi-pop rock albums Write to Robert Wotzig, CE., P.O. Box 927, Fall River, MA 02722. Arranged by Frank A. Testa for NNRC.

KRCO gives no program information. Write to C.R. "Bob" Matheny, President, KRCO, P.O. Box K, Prineville, OR 97754. Arranged by Stephen Pitts for NNRC.

WFLN will have a frequency check with 900 hertz tone. Write WFLN, 8200 Ridge Ave., Philadelphia, PA 19128. Arranged by Gene Peterson, NNRC.

WBVP will feature music and announcements. Write James Roush, Chief Engineer, WFLN, 1400 Seventh Ave., Beaver Falls, PA 15010. Arranged by Gene Peterson for NNRC.

KMAV--no program details given. Send reports to Austin Kramer, General Manager, KMAV, Box 918, Mayville, ND 58257. Arranged by Carl Dabelstein for NNRC.

WHLM--no details on programming. Send reports to A.F. Hogg, WHLM, 107 W. Main St., Bloomsburg, PA 17815. Arranged by Gene Vonderembse for NNRC.

WRUF will have an equipment test with station IDs, tones, and recorded music. Write E.A. Slimak, CE, WRUF, P.O. Box 14444, Gainesville, FL 32601. This is a University of Florida station. Arranged by Gene Vonderembse for NNRC.

KINY probably won't get out too well, as the CE told Larry Ledlow, Jr. of NNRC who arranged the test that the station lost its tower some years ago, and is now using a 1/4 wave longwire. No details on programming or length. Write Dave Moore, CE, KINY, Juneau, AK 99801.

KFKA--no program details available. Write to J. Roger White, Staff Announcer, KDKA, 1025 Ninth St., P.O. Box K, Greeley, CO 80631. Arranged by Gene Vonderembse for NNRC.

KABQ is a Spanish language station, but will give IDs both in English and Spanish. Operates at 500 watts with a null 19° west of true north. Write Hubert Beavers, CE, KABQ, 1309 Yale S.E., Albuquerque, NM 87106. Arranged by Gene Vonderembse for NNRC.

KCRA will play Beatles records with IDs in CW and voice. They will mention NNRC. Reports to Gary L. Wann, KCRA News Radio 132, 310 Tenth St., Sacramento, CA 95814. Arranged for NNRC by Gene Vonderembse.

WTSO has no program information available. Write to Sherman Stern, Chief Engineer, WTSO, 5721 Tokay Blvd., P.O. Box 44, Madison, WI 53701. WTSO tries to have a 15 minute test every Monday morning starting at 0530 EST. Arranged by Gene Vonderembse for NNRC.

WHIS--no program information available. Write Chief Engineer, WHIS, Broadcast Center, East Cumberland Road, Bluefield, WV 24701. Arranged by Gene Vonderembse for NNRC.

570 kcs. (526 m.)

KGKO	N	1000(5)
KMTR	N	1000
KVU	C	1000(5)
TIFCV	575	100
WBN	CI	500(11)
WVAM	D	350
WVCA	A	1000
WVAX	C	1000(15)
WVWJ	Qa	1000
WVWJ	Qb	1000
WVWJ	Qc	1000
WVWJ	Qd	1000
WVWJ	Qe	1000
WVWJ	Qf	1000
WVWJ	Qg	1000
WVWJ	Qh	1000
WVWJ	Qi	1000
WVWJ	Qj	1000
WVWJ	Qk	1000
WVWJ	Ql	1000
WVWJ	Qm	1000
WVWJ	Qn	1000
WVWJ	Qo	1000
WVWJ	Qp	1000
WVWJ	Qq	1000
WVWJ	Qr	1000
WVWJ	Qs	1000
WVWJ	Qt	1000
WVWJ	Qu	1000
WVWJ	Qv	1000
WVWJ	Qw	1000
WVWJ	Qx	1000
WVWJ	Qy	1000
WVWJ	Qz	1000

- a Fort Worth, Tex.
- a Los Angeles, Calif.
- a Tacoma, Wash.
- a Alajuela, Costa Rica
- a Youngstown, Ohio
- a Marinette, Wis.
- a New York, N. Y.
- a Syracuse, N. Y.
- a Columbus, Ohio
- a New York, N. Y.
- a Syracuse, N. Y.
- a Ashville, N. C.
- a Santa Clara, Cuba

- KGKO Broadcasting Co.
- 1000 Cahuenga Blvd.
- Russ Building
- Carlos Videca Aguirre
- 17 N. Champion St.
- M and M Broadcasting Co.
- 1657 Broadway
- Second and Capitol
- Ohio State University
- 315-Stratell-Syracuse Bldg.
- 315-Stratell-Syracuse Bldg.
- Ashville Citizen-Times Co.
-

580 kcs. (516.9 m.)

CFPR	...	50
CHRC	...	100
CKEL	...	100
CKPR	F	1000
CKUA	F	500
KMJ	EKN	1000
KSAC	Z	500(11)
WCHS	...	500(15)
WDBO	C	1000(5)
WDBO	CZ	1000(5)
WILL	D	1000
WTAG	R	1000
XEMU	...	250

- a Prince Rupert, B. C.
- a Quebec, P. Q.
- a Toronto, Ont.
- a Fort William, Ont.
- b Edmonton, Alta.
- a Fresno, Calif.
- a Manhattan, Kans.
- a Charleston, W. Va.
- a Orlando, Fla.
- a Topeka, Kans.
- a Urbana, Ill.
- a Worcester, Mass.
- a Piedad, Negras, Coah.

- Box 132
- Victoria Hotel
- 444 University Ave.
- 104 1/2 S. May St.
- University of Alberta
- Van Ness and Calaveras
- State College of Agriculture
- 22312 Canatu St.
- 533 R. range Ave.
- 11th and Torska Blvd.
- University of Illinois
- 20 Franklin St.
- Cl. Radiofónica de P. Negras

590 kcs. (508.2 m.)

CMCY	...	15000
KHO	ER	5000
WEEL	CX	1000(5)
WKZO	BDX	1000
WOW	R	5000

- a Havana, Cuba
- a Spokane, Wash.
- a San Diego, Calif.
- a Kalamazoo, Mich.
- a Omaha, Nebr.

- Av. de los Presidentes 509
- Sprague and Post
- Columbia Bldg. Sys.
- Burdock Hotel
- 17th and Farnum

600 kcs. (499.7 m.)

CFCF	BF	500
CFOC	F	1000
CJOR	...	500
KFSD	...	500
KFSD	B	1000
TIGPH	605	1000
WCHS	...	500(11)
WICC	BM	500(11)
WMT	BM	1000(5)
WRRC	C	1000(5)

- a Montreal, P. Q.
- a Saskatoon, Sask.
- a Vancouver, B. C.
- a St. Pierre, Miquelon
- a San Diego, Calif.
- a San Jose, Costa Rica
- a Baltimore, Md.
- a Windsor, Conn.
- a Cedar Rapids, Iowa
- a Memphis, Tenn.

- 1231 St. Catherine St. W.
- 216 First Ave. N.
- Radio Club St. Pierre
- U. S. Grant Hotel
- "Alma" Hotel
- 811 W. Lonsdale
- Stratfield Hotel
- Paramount Hotel
- WRCC Broadcasting Service

610 kcs. (491.5 m.)

CHNC	F	1000
KFAR	...	1000
KFRK	AX	1000(5)
WGLE	DM	500
WDAF	R	500
WIOD	Ne	1000
WIP	X	1000
WMBF	Qa	1000

- a New Carlisle, P. Q.
- a Fairbanks, Alaska
- b San Francisco, Calif.
- a Cleveland, Ohio
- a Kansas City, Mo.
- a Miami, Fla.
- a Philadelphia, Pa.
- a Miami, Fla.

- P. O. Box 101
- Midnight Sun Bldg. Co.
- 1000 Van Ness Ave.
- 1224 Huron Road
- 1729 Grand Avt.
- Biscayne Blvd.
- 35 S. Ninth St.
- Biscayne Blvd.

620 kcs. (483.6 m.)

KGW	R	1000(5)
KFAR	N	1000
KWTF	C	250(11)
TIPG	C	625
WFLA	D	1000(5)
WFLA	D	250
WLBZ	MN	500(11)
WSUN	Na	1000(5)
WTAJ	N	1000(5)

- a Portland, Ore.
- a Phoenix, Ariz.
- a Wichita Falls, Tex.
- a San Jose, Costa Rica
- a Tampa, Fla.
- a Greensburg, Pa.
- a Bangor, Maine
- a St. Petersburg, Fla.
- a Milwaukee, Wis.

- 325 Adler St.
- 711 Heard Bldg.
- 807 Hamilton Bldg.
- La Voz de la Victor
- Tarr Building
- Penn Albert Hotel
- 100 Main St.
- Recreation Pier
- 333 W. State St.

630 kcs. (475.9 m.)

CFCO	F	100
CFCY	F	1000
CJRC	F	1000
CKOV	F	1000
CMCD	...	15000
KPRR	D	500(11)
KGFX	D	200
KVOD	B	1000
WGBI	M1	500(11)
WMAJ	BX	250(5)
WPRO	CX	500(11)
XEZ	...	2000

- a Chatham, Ont.
- a Charlottetown, P. E. I.
- a Winnipeg, Man.
- a Kelowna, B. C.
- a Havana, Cuba
- a Columbia, Mo.
- a Pierre, S. Dak.
- a Denver, Colo.
- a Evansville, Ind.
- a Washington, D. C.
- a Providence, R. I.
- a Merida, Yuc.

- William Pitt Hotel
- Canadian National Hotel
- Royal Alexandra Hotel
- Box 249
- Av. de los Presidentes
- 9th and Elm Sts.
- 203 W. Summit Ave.
- Continental Oil Bldg.
- 519 Vine St.
- National Press Bldg.
- 15 Chestnut
- Av. Colon

640 kcs. (468.5 m.)

HOK	...	50000
KF	R	50000
WDFN	...	12500
WGAN	CL	500
WHKC	LM	500
WOL	D	5000
XEBX	...	250
YSS	...	500

- a Colon, Panama
- a Los Angeles, Calif.
- a St. John's, Nfld.
- a Portland, Maine
- a Columbus, Ohio
- a Ames, Iowa
- a Sabana, Cosh.
- a San Salvador, E. S.

- Apartado 33
- 1600 S. Hone St.
- Broadcasting Corp. of Nfld.
- 645A Congress St.
- 22 E. Gay St.
- Service Bldg., State College
- Concilio concoido
-

From the March-April 1940 RADEX:

NORTH AMERICAN BROADCASTING STATIONS BY FREQUENCIES WITH MAILING ADDRESSES

KEY TO SYMBOLS

As Shown in the Index by Frequencies

Frequencies are given in kilocycles per second, and wavelengths in meters. Night power is shown in watts in the first column and daytime power is shown in parentheses in kilowatts. Thus: 1520 (100) 250 watts. Exact frequencies, when not multiples of ten are shown in the second column.

- Second Column Symbols
- A--Status in doubt.
- B--National "Blue" Network.
- C--Columbia Network.
- D--Daytime only.
- E--Minor Network.
- F--Canadian Network.
- G--Specified Hours.
- H--Assigned tower power but using this one under Special Authorization.
- J--Assigned tower power but using this power under Special Authorization.
- K--Licensed for facsimile.
- L--Limited time.
- M--Mutual Network.
- N--National "Red" and "Blue" Networks.
- P--Has Construction Permit only.
- Q--Station not in use.
- R--National "Red" Network.
- S--Synchronized.
- X--Has Permit to change power.
- Y--Has Permit to change location.
- Z--Has Permit to change stations.
- a-b-c--Small letters show stations using same trans-
- mitter.
- 1-2-3--Figures denote stations sharing time.
- ?--Reported but not officially confirmed.
---No information.
- a--Verifies for return postage.
- b--Verifies only occasionally.
- d--Verifies for government postal card.
- e--Verifies free.
- f--Verifies for 10 cents.
- g--Card for postage; vari stamp for 10c.
- z--No information available.

540 kcs. (552.2 m.)

CBK	F	50000
-----	---	-------

- a Watrous, Sask. Canadian Broadcasting Corp.

550 kcs. (545.1 m.)

CFNB	F	1000
CAW	...	2500
KFUD	Z	500(11)
KFYR	N	1000(15)
KDAC	...	500(15)
KSD	TR	1000(5)
KTSA	C	1000(5)
WDEV	C	1000
WGR	C	1000(5)
WKRC	C	1000(5)
WVSA	D	500

- a Fredericton, N. B.
- a Havana, Cuba
- a St. Louis, Mo.
- a Bismarck, N. Dak.
- a Corvallis, Ore.
- a St. Louis, Mo.
- a San Antonio, Texas
- a Waterbury, Vt.
- a Buffalo, N. Y.
- a Cincinnati, Ohio
- a Harrisonburg, Va.
- York St.
- Paseo de Marti 105 altos (Apt-do 1301
- 801 DeLuna St.
- 320 Broadway
- State Agricultural College
- 12th and Olive Sts.
- Gunter Hotel
- Radio Station WDEV
- Rand Building
- Cincinnati Star-Times Co.
- Main and Market Sts.

560 kcs. (535.4 m.)

KFMA	N	1000
KLZ	CX	1000(5)
KSFQ	C	1000(5)
KVTO	D	500(15)
WFL	BA	1000
WHD	C	1000(5)
WIS	N	1000
WZAM	C	1000

- a Beaumont, Texas
- a Denver, Colo.
- a San Francisco, Calif.
- a Springfield, Mo.
- a Philadelphia, Pa.
- a Gary, Ind.
- a Columbia, S. C.
- a Miami, Fla.
- Hotel Beaumont (Box 2950)
- Shirley-Savoy Hotel
- Russ Building
- St. Louis at Kimbrough
- Widener Bldg.
- 504 Broadway
- Liberty Life Ins. Co.
- 327 N. E. First Ave.



POST OFFICE BOX 369 - CHICO, CALIFORNIA 95926

DX GET-TOGETHER

The traditional Saturday-after-Thanksgiving DX Get-together will be held this year at the home of Linda and Randy Seaver, 755 Coleman Court, San Diego. Instructions on how to get there will be published later. Hope to see you there.

GEOMAGNETIC INDICES

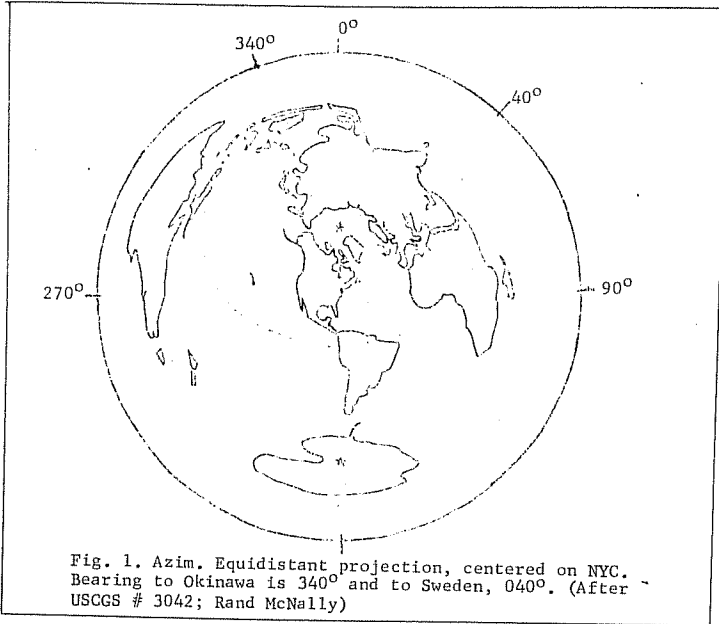
OCTOBER 17-23

22	19	18	14	30	18	7
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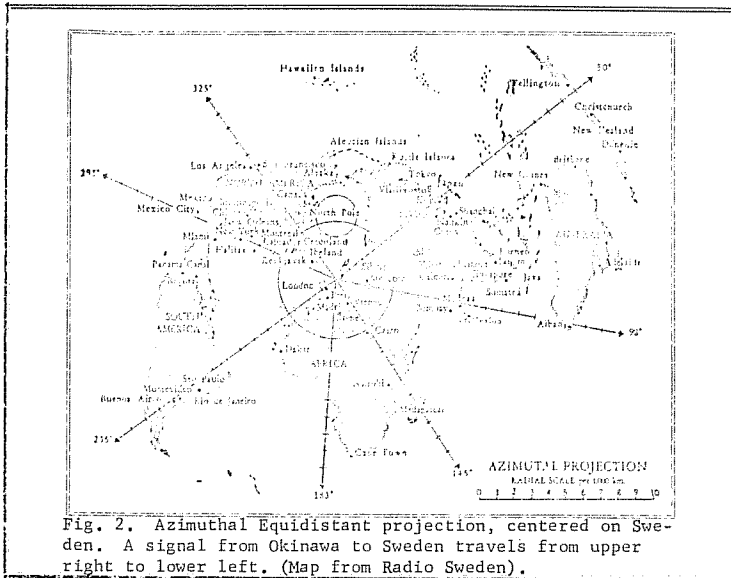
RADIO CONDITIONS SHOULD BE GOOD UNTIL OCT. 29, WHEN A RECURRENT INCREASE IN GEOMAGNETIC ACTIVITY IS EXPECTED TO BEGIN. AFTER OCT. 31 CONDITIONS SHOULD IMPROVE.

Gene Martin's comments on page 9 of the 20 Oct 1973 DXM are misleading in several respects.

1) The width of the beam, as he puts it, is not of concern in a direct sense (unless it was 360° wide). What is of concern here is the point of origin (Okinawa) and the point of reception (ECNA, herein assumed NYC area). Physics laws say that electromagnetic signals travel in a straight line, and this straight-line path does not go near Scandinavia. It HAS to arrive from over the N.W.T. Stanbury is correct in that the bearing of this path is 340° at the NYC end. A look at Fig. 1 will readily verify this fact. Fig. 1 is a small scale version of the famous # 3042 Azimuthal Equidistant, with point of tangency at New York City. The 3042 is about 3 feet in diameter, and bearings may be read to within less than 0.25 degree on it. This map will also verify Hauser's comment that the long path from Okinawa to ECNA would cross over a point SW of Perth, W.A. (the antipode of NYC), cross Antarctica near Queen Maud Land, and come up nr Porto Alegre, Brazil, then over Guyana - an impossibly long path, for MW, as it hits long stretches of sunlit areas.



Refer to Fig. 2 now, to consider a signal leaving Okinawa and arriving at Sweden. If the signal beam were 3000 miles wide at the time it got to Sweden, which is reasonable to assume, it would merely widen out as it continued (in a straight line, & making a wedge-shaped pattern of infinitely many straight lines) on towards South America. Remember that, on this map, any signal path running through the point of tangency will appear as a straight line on this map, from end to end. In Fig. 2, this point is Sweden. On this map shown, this path would be APPROXIMATELY along the lines marked 50° and 235°. (These figures are NOT EXACT; the numbers actually are the orientation of R. Sweden's SW service, in fact beamed to Japan and to SA; thus



Finally, it makes no difference whether the signal originated from a directional antenna or from a single monopole tower, or a wire flat-top for that matter. Once it's gone into the air, that's it.

2) The question arises as to whether a "tilt mode" might come into play here. I think it is fair to state that this is a quite infrequent occurrence. Further comment on the applicability of this would have to come from GPN. In my own opinion, there is no room for consideration of this mode as a repeatable factor in the propagation path. So, the comment re "straight-line" propagation must stand.

3) Gene's comparison of SW vs. ECB signals being able to go around the long way is completely invalid. I myself have contacted, on the 14 mhz ham band N.S.W. Australia, by long path, over the Indian Ocean, in the late afternoon with a pwr input of 20 watts and a simple dipole antenna, also Malaya, over the S. Pole etc. Yes indeed, this mode is completely valid on short waves. Now, as one moves lower in frequency, this becomes increasingly difficult. On the 3.5 mhz hamband, such contacts may be made only in exceptional circumstances (use of excellent receiver, full allowable xmtr power, high & efficient antennas, a low-noise receiving site) AND when path conditions are favorable. Moving further down, to 1 mhz, the manmade factors cannot overcome the fact that path conditions are never favorable. The geometry of the earth, and of the solar illumination on it, provide that part of that path will be in sunlight, and D-layer absorption will ruin the path for MW propagation, although of no effect on the SW fqs. Numerous references will cite this. These laws of physics are the reason BC stations just happened to wind up on the MW fqs and the international broadcasters on the SW fregs. It wasn't always so, as anyone who reads "200 Meters and Down" and studies the history of Amateur Radio in the 1920 era will learn.

4) Gene's remarks in the 5th para. ("...exact counterpart"), while factually correct, are in this context misleading. It is true that the N.Z. DXers DO hear European signals at both their LSR and LSS. The reason for this is that these points (Iberian Penin. and N.Z.) are just about 12,000 miles apart, close enough so that darkness conditions can meet both points at the same time. Additionally, a trans-Equatorial path is involved. While the causal factors involved in long-distance T-E propagation on the ECB are not well understood, it is known that 10,000 to 12,000 mile propagation along such a path is readily possible, given favorable propagation conditions. As reference, witness the many such loggings that have been made. Note that, in such an instance, the signal travels nowhere near an auroral zone, and travels entirely through darkness (not along a sunset terminator line). New Zealand is fortuitously located for such skip. A signal may leave Iberia to the SE and travel over the Indian Ocean path to arrive at NZ from the NW, at their LSR. This is the common time for such reception of Europeans. Or, the signal may leave Iberia as a TA signal and cross the Pacific Ocean path and ar-

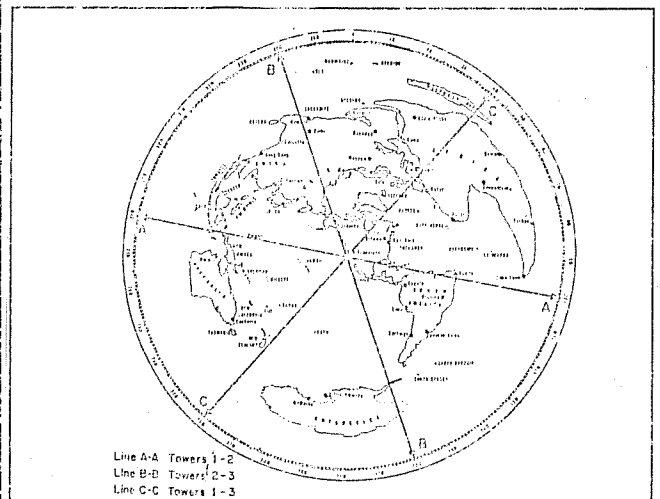


Fig. 3. Azimuthal Equidistant centered on San Francisco. (Lines A, B and C should be ignored for purposes of this article.)

rive in N.Z. at their LSS. This latter condition would correspond to 2 or 3 AM EST - a time at which an ECNA DXer might expect to hear either a TA (albeit far westerly ones) or a DU. Indeed, this writer has heard Tarawa-844 hetting Rome 845. Note that the signal path is a straight line great circle route in both cases, as in the first paragraph of this paper. Incidentally, at the latter case point, the path passes over the Eastern U.S.

An interesting possibility is raised here, regarding an European DXer logging New Zealand. Note that a ham contact has been made over this path on the "top band" 1.8 mhz, from England to New Zealand. The English ham stations are limited to ten watts input on the 1.8 mhz hamband... This writer is of the opinion that, at the equinoxes, March and September, when the sunset terminator line is favorably positioned, it could be possible for a European DXer, especially one situated in Iberia to hear New Zealand at either LSR or LSS. If it has been done, I am not aware of it. This is especially so, as the channels are "split freqs" for each other. The limiting factors are likely (a) a higher urban, manmade noise level in European countries, especially England, it being a more industrialized area than New Zealand is, (b) a higher natural noise level than N.Z. has, (5,6,7) and (c) perhaps less time available for listening, or dedication, or sophistication on the part of DXers in southern Europe, coupled with the apparent absence of DXers in Iberia, the most favorable region. It should be further pointed out under (a) that many N.Z. DXers DX from rurally located "cribs" with long antennas, Beverage Waves in some cases, while European DXers are confined to suburban areas, with loops or short wires at best.

Consultation of an azimuthal equidistant map with point of tangency at Wellington, N.Z. reveals that Portugal's land mass is the antipode of Wellington, going completely around the rim of the map. Lisbon shows up as a dot on the edge of the circular rim of the map. So, Portugal's "bearing" can be any number you want to pick. So a Portuguese signal could propagate to N.Z. by either path that was open at the time. Again of course, sunlight considerations limit the possible paths to two.

It is quite likely that the Portuguese stations Cushen refers to are on 1578 and 1594, as being the ones heard in their evening. These are among the last signals to go out in the morning here; Porto on 1578 has been heard by the author past 0330 ELT several times, it is then small wonder that their signal can keep going on to N.Z. over the Pacific path. Too, high-band is obviously best for this sort of skip. Witness the receptions of Australian 4QD on 1550 in Finland a couple of seasons ago.

10

5) There is a possible exception to the long-path rule on the ECB. There has been speculation that, with excellent world-wide propagation and low auroral activity, a ECB signal might travel greater than 12,000 miles by running along the sunset terminator line, connecting a transmitting and receiving point at which the sun was rising/setting at the same time. An example of this might be with sunset in the Malaya area of the Far East and sunrise at ECNA. At the right time of the year, it would then be theoretically possible for a long path to connect these two points (SE Asia and ECNA) & passing over the south polar region. It must be remembered that the short path would be just as possible here, too, and even more likely due to the smaller distance involved. It would seem that use of terminated Beverage Waves, properly sited, would be the only way to discern true L-P reception of this sort, if it occurred. Note that this anomalous condition is severely limited, geographically. Thus, again due to solar illumination of the Earth, no E-W paths exceeding 12,000 miles are possible, just polar transverse paths. Note too, that auroral absorption will be a severely limiting factor. Note additionally that there will always be some residual weak D-layer absorption all along this path. There has been no evidence I am aware of to show that such a LONG PATH reception has ever taken place on the ECB, or even that it COULD take place. But it is an interesting speculation, nonetheless. Of course, at the best, any received signal may be expected to be extremely weak. The presence of the Dawn Enhancement may be a positive factor. Ham W1BB, when contacting TP stations on the 1.8 mhz ham band, notes that the received signal fades up out of the noise, peaks for a few minutes and fades out again, just at LSR at his Winthrop, Mass location. This effect might happen along the sunset terminator line, although I don't really know. It seems to me to be the same factor that makes sunset skip DX so productive and enjoyable. 1954-era reports of Australians being heard on ECNA on Sunday mornings around 7 AM (many U.S. domestics had still not s/on for the day by then on SM's!) are apparently the same effect. But perhaps the effect only works for signals arriving perpendicular to the sunrise terminator, and not along it. On the other hand, witness the July receptions of Chile etc. in the Western U.S. after the Eastern U.S. had faded out; just at LSR at both points, and with often strong signals. Obviously, more work is needed in this respect -- including implementation of the ITU proposal to put Aussies and Zedders on 8 khz spacings as Alan Taylor as alluded to a couple of times in DXWW!!

But perhaps such a long path propagation has in fact already occurred ...and there was no one listening to hear it. A large, dedicated corps of DXers with plenty of time, quality equipment, technical understanding, quiet locations and room for good antennas would be necessary for such a study effort. This, of course, is the kind of program only the Dept. of Defense is capable of mounting. And, that means, that WE will never find out what has been done so far in this area. But, it can't stop one of us from trying.

* * * * *

Index and Supplemental Reading Guide

- 1) Long vs. Short Path, Tech. Corr. (Stephenson), p. 45, QST, July 1957; and reference cited therein.
- 2) DXing à la 3.5 mc, Sykes, p. 20, CQ, February, 1951.
- 3) Examples p. 7, I.D.X.D., DX News, 15 July 1967. See also, "Al Slater's interesting observations...", I.D.X.D., DX News, p. 1, 3 August 1968.
- 4) Noise and Receiving Antennas, Schultz, p. 93, 73, May 1972; also, Limits of Midday MW DX, Nelson, DX News, 25 Nov 1972 and 7 Dec 1972.
- 5) Atmospheric Noise and Receiver Sensitivity, Hyder, p. 32, QST, Nov. 1969.
- 6) High Frequency Atmospheric Noise, Clinch and Graf, p. 42, QST, Oct. 1971.
- 7) C.C.I.R. Report #322 (discussed in detail in Ref. 5 & 6).
- 8) Bulletins of the Arctic Radio Club, Växjö, Swede.
- 9) "160 Meters", Prop. column, Jacobs, p. 61, CQ, Oct. '73. See also:

"On Reciprocal Paths", I.D.X.D., DX News, p. 1, 30 March 1968. Comments on p. 2 and 3 of I.D.X.D., DX News, 2 March 1968. "DX Conditions..." I.D.X.D., DX News, p. 1, July 6, 1968.

* * * * *

It is hoped this article will spur interest in and discussion of long-range MW ECB reception. Comments are invited; and it is the author's wish that such comments appear in the pages of this bulletin.

ROBERT L. FOXWORTH

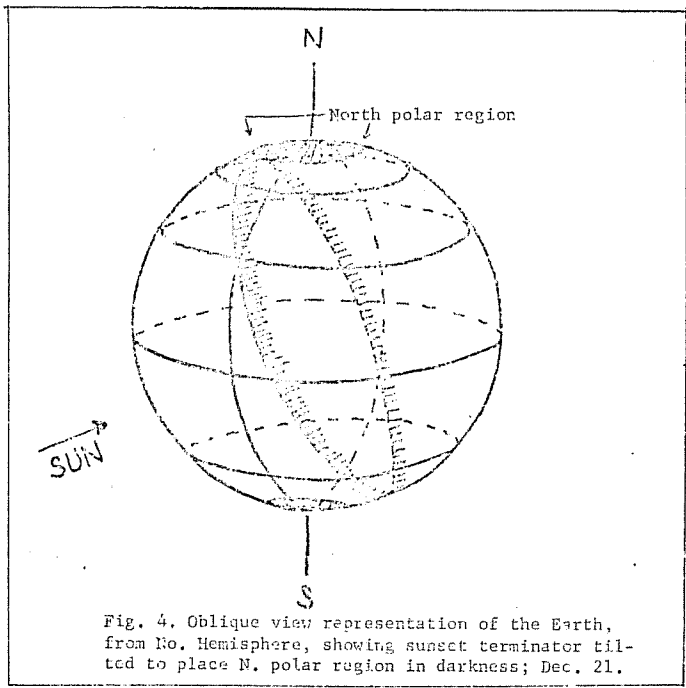


Fig. 4. Oblique view representation of the Earth, from No. Hemisphere, showing sunset terminator tilted to place N. polar region in darkness; Dec. 21.

Radio challenge

LONDON Britain's first legal commercial radio station goes on the air Monday to challenge a 50-year monopoly by the state-controlled British Broadcasting Corp.

Operating under the slogan "You've Never Heard Anything Like It," the station, London Broadcasting, will transmit news and comment 24 hours a day to a potential audience of over 8 million Londoners.

More commercial stations are to follow. London Capital, concentrating on entertainment programs, opens Oct. 16 and stations for Manchester, Glasgow, Birmingham, Tyneside and Swansea are scheduled to start broadcasting next year.

The advent of commercial radio comes after a prolonged campaign by media interest claiming that the BBC's four channels do not cater adequately to the potential listener.

The point to BBC statistics showing that the average British radio listener tunes in for less than nine hours a week. The comparative U.S. figure is estimated at between 12 and 14 hours.

Edited by Torre Ekblom for WRTH, via Glenn Hauser. The times listed are in GMT, station numbers refer to World Radio-TV Handbook 1973.

ARGENTINA:	3)	560		delete this station (ARPA)
	32)	910	LR5	ex 990 R.Excelsior(RAK)
	36)	990	LR4	ex 910 R.Splendid, px:24h (RAK)
	71a)	1430	LV26	1/0.25 new R.Rfo Tercero, Rfo Tercero(ARPA)
	72a)	1440	LV27	"-" new R. San Francisco (ARPA)
	72b)	1440	LT41	0.25 new R.La Voz del Sur Entrerriano, Gualaguaychú. (ARPA)
	73a)	1450	LT44	1/0.25 new R.Portin Yunka, Formosa (ARPA)
	73b)	1450	LV28	"-" new R.Villa Maria, Villa Maria (ARPA)
	80a)	1470	LT43	0.25 new R.Mocovi, Charta (ARPA)
	80b)	1480	LT39	"-" new Emisora Victoria, Victoria(ARPA)
	80c)	1480	LU35	"-" new R.Balcarce, Balcarce (ARPA)
	80d)	1480	LV23	1/0.25 new R.Rfo Atuel, Gral.Alvear (ARPA)
	80f)	1490	LT42	0.25 new R.Iberá, Mercedes (ARPA)
	82a)	1500	LT34	"-" new R.Nuclear, Zárate (RAK,ARPA)
	82b)	1500	LT45	1/0.25 new R. San Javier (ARPA)
	83a)	1500	LV25	"-" new R.Unión, Bell Ville (ARPA)
	86a)	1510	LU36	0.25 new R.Coronel Suárez, Cnel.Suárez(ARPA)
	87b)	1520	LV24	"-" new R.Manantiales,Tunuyán (ARPA)
	88a)	1530	LM5	1 new R.Libertador Gral. San Martin(ARPA)
	88b)	1540	LT35	0.25 new R.Mon, Pergamino (ARPA)
	88c)	1540	LU37	"-" new R.Gral.Pico, Gral.Pico(ARPA)
	89a)	1550	LT32	"-" new R.Chivilcoy, Chivilcoy (RAK,ARPA)
	89b)	1550	LT40	"-" new R.La Voz de la Paz, La Paz (ARPA)
	89c)	1550	LU34	"-" new R.Piñón, Piñón (ARPA)
	89d)	1560	LT33	"-" new R.Nueve de Julio, Nueve de Julio(ARPA)
	89f)	1560	LT38	"-" new R.Gualaguay, Gualaguay (ARPA)
	90a)	1580	LT36	"-" new R.Chacabuco, Chacabuco(ARPA)
BRAZIL:	14)	580	ZYE512	R.Londrina (RV)
	28)	630		10 R.Itatiaia (stn)
		3315		1 " " (stn)
	97)	900	ZYB74	R.Nordeste (stn)
	115)	970	ZYB45	R.Edna. do Nordeste (stn)
	117)	970	ZYB303	R.Imembui (stn)
	121)	980		100 R.Nacional,Rio de Janeiro (stn)
	161)	1110	ZYF73	R.Planalto de Araguari (stn)
	189)	1170	ZYA005	R.Dif.Mearim (RV) s
	200)	1210		10 R.Universo, px:24h (Mvd)
	201)	1210	ZYG004	R.Baré (RV)
	4)	1220	ZYD62	R.Eldorado ex550 (ARC)
	235)	1270	ZYH35	R.Clube Metrópole (Stn)
	246)	1320	ZYE293	R.Dirceu de Marília (stn)
	251)	1320	ZYD64	R.Rio de Janeiro (stn)
	267)	1340	ZYH234	R.Soc. Oeste Catarinense (stn)
	305)	1350	ZYA52	ex1410 R.Educ.S.José,Macapá(stn)
	322)	1450	ZYB83	R.Caturité,(stn)
	325)	1450	ZYE87	R.Assuncao de Jales (stn)
	327)	1460	ZYD9	R.Dif.Acreeana px:1000-0600 (stn)
		4885		1 " " " "
	369)	1550	ZYE78	R.Educ. de Limeira (stn)
				ex 1550 R.Norte,Cas.19,Montero
BOLIVIA:	68)	1060		1.5 both sw & mw px: 1100-0900 (stn)
		4935		
CHILE:	5)	540	CB54	R.Cooperativa(R.Sur) Valdivia (gral)
	5)	590	CB59	1 R.Cooperativa(R.Condór) (Gral)
	14)	640	CB64	10 R.Cooperativa(R.Cautín) Temuco
	17a)	690	CB69	1 new R.Coyhaique, Coyhaique
	19a)	740	CB73B	1 new R.Aysen, Puerto Aysen
	31)	790	CB39	1 R.Bulnes, Santiago
	39a)	910	CB93	1 R.Pudeto, Ancud, ex1350
	3)	970	CB97	1 ex900 R.Agricultura,Valparaiso
	79)	1010	CB101	10 ex1300R.Pres.Balmaceda,Santiago
	47a)	1010	CA103	10 new R.El Loa, Chuquicamata
	59)	1090	CD109	R.Austral(R.Mineria) P.Arenas
	67)	1210	CB121	10 R.Unic.Técnica, Santiago
	72)	1250	CB125	5 R.Andrés Bello, Santiago
	76)	1260	CC126	1 R.Bío-Bío, (R.Corporación)
	80a)	1300	CB130	10 new R.Luis Emilio Becabarren,Santiago
	80)	1320	CA132	0.25 ex1300 R.Estrella del Norte,Maranon
	84)	1330		delete
	93a)	1360	CA136	0.25 R.Freirina, Vallenar
	46)	1380	CB138	50 ex1010 R.Magallanes,Santiago
	95)	1380/9610		delete
	97)	1400	CC140	1 R.Inéz de Suárez(R.Araucana)Concepción
	100)	1420	CA142	1 R.Alonso de Ercilla
	96)	1440	CA144	0.25 ex1400 R.Ataçama,Chacabuco 696,Copiapó.
	110)	1460	CA146	10 R.Antofagasta
	112a)	1510	CD151	0.05 new R.Arauca, Lebu
	122)	1530		R.Juan Godoy, Copiapó.
	136)	1580	CB158	0.05 R.Pulmahue,La Ligua.
	137a)	1580	CD158B	0.05 new R.Hillaray, Canete
	137b)	1580	CD158	0.05 new R.Continental, Collipulli
	47a)	9630	CE963	5 new R.El Loa, Chuquicamata

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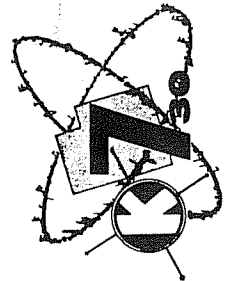
COLOMBIA:	4)	590	HJCR	100	R.Suanteza, Medellin (stn)
	7)	620	HJEL	20	R.Ciudad de Cali (ex R.Tricolor) (HK)
	37a)	940	HJFL	25	new La Voz del Progreso, Cúcuta (Gral)
	39a)	970	HJHE	50	new R. Península, Maicao (cho) (Gral)
	45a)	1020	HJLE	10	new R. Ambalá, Armero (TOL) (Gral)
	47a)	1030	HJPDZ	1	new La Voz de Fiedocuesta (Gral)
	48a)	1030	HJHO	10	new Transm. Surandes, Medellin (HK)
	57a)	1060	HJMG	1	new R. Prosperidad, Turbo (Caracol)
	61)	1080	HJDZ		ex 1070 R. Reloj, Medellin (stn)
	72)	1050	HJFZ		ex 1110 La Voz del Centro (IRCA, Gral)
	80)	1130	HJCO		Emisoras Eldorado (HK, Gral)
	245)	1170	HJGA	10	ex 1500 R. Boyaca, Tunja (Gral)
	88a)	1150	HJTE	1	new Brisas del Citara, Quibdó (Gral)
	97a)	1180	HJOV	10	new Emis. Cult. Surcolombiana, Neiva
	103)	1200	HJBX	2	R. Mira (stn)
	107)	1200	HJZW		R. Almirante (ex Armonías del Mar (Gral)
	115a)	1230	HJMJ	1	new R. Tribuna, Maicao (Cho) (Gral)
	131)	1260	HJLX	5	R. Cinco, Aéreo 2284, Villavicencio
	88)	1280	HJFI	1	ex 1150 Pregones del Quindío (Caracol)
	139a)	1280	HJMB	1	new R. Suroeste, Concordia (Ant) (Caracol)
	153)	1300	HJDG	1	ex 1310 Transm. Rio, Aéreo 364, Montería
	148)	1300	HJLD	1	R. Reloj, Calle 18 No. 8-47, Pereira (Car.)
	160a)	1320	HJMS	1	new R. Regia, B-bermeja, (San) (Gral)
	172a)	1340	HJKD	1	new Armonías del Sur, Neiva (Gral)
	179)	1340	HJPH	1	ex 1360 La Voz de Anserma (stn)
	181a)	1360	HJRA	1	new Ecos del Risaralda, Pereira (gral)
	182)	1360	HJTU	1	new R. Reloj, Cartagena (Bol) (Caracol)
	187)	1360	HJNI	1	ex 1370 R. Sabanas (Caracol)
	185a)	1370	HJFY	1	new R. Avenida, El Espinal (Toi), (Gral)
	205)	1400	HJHM	1	ex 1410 La Voz de Calarcá, Buga (stn)
	241)	1400	HJIT	5	ex 1490 Ecos del Atrato, Aéreo 78, Quibdó (Cho) (stn)
	200a)	1410	HJBH	1	new R. Magdalena, Santa Marta (Gral)
	203)	1410	HJEJ	5	R. Guadalajara (stn)
	213)	1430	HJJY	1	R. Lemayá, (ex Atenas), El Guamo (Caracol)
	224)	1450	HJRL	1	Antena de los Andes (ex Libanense) (stn)
	219)	1460	HJFL	1	ex 1440 Atalaya Agustiniiana (Gral)
	244)	1490	HJCL	5	ex 1500 R. Garzón (stn)
	266a)	1560	HJCP	1	new R. Galaxia, Arbeláez (Cun) (Gral)
	266)	1570	HJHE	1	ex 1560 Voces Rovienses (Caracol)
DOM. REP.:	41)	1100		5	Radio Nagua, Ap. 3, Nagua (stn)
	65)	1270		1	ex 1360 R. Ambiente, AP. 12, Bani. Mgr:
	64)	1360			R. Carlos Guerrero, P. 1030-0400 (stn)
					R. Rutas Musical, Ap. 10, La Romana
					Mgr: M.A. Penzo. px: 1000-0500 (stn)
	75)	1450		1	R. Tenares, Calle 16 de Agosto, Tenares, Dir. Gen: P.M. Bencosme G. px: 1100-0400
	68)	1410		5	R. Tricolor, Calle 18 Nr. 158, Ens. La F6 Sto. Domingo. Dir. Gen: H. Hernandez Llaverias (stn)
ECUADOR:	1)	540	HCFA2	10	R. Tropicana (stn)
	2)	550	HCDG1		R. Juventud (ex Ecuatoriana) (stn)
	7)	605	HCRF2	1	new R. Huancavilla, Guayaquil, Gua (Gral)
	19)	680			delete R. Javier (Gral)
	21a)	710	HCCJ2	1	new R. Canal Juvenil, Guayaquil, Gua (Gral)
		830			delete R. Reporter (Gral)
	40)	845	HCET6		R. Ambato (El Heraldo) (Gral)
	50)	900	HCRG1	2	R. Gemas, px: 24h. (stn)
	96)	900	HCOF4		ex 1130 R. Chone (Gral)
	72)	1010		2	R. Cenit, Manta (stn)
	166)	1010		0.3	ex 1440 R. Canal Estelar (Gral)
	75)	1020/1135			delete mediumwave outlets (stn)
	77)	1027			ex 1030 R. Rocafuerte (stn)
	79)	1045		0.5	Esc. R. Populares (syn)
	83)	1100			delete R. Reloj (Gral)
	94)	1125		1	R. Inty-Raymi (stn)
	102)	1175/4725	HCVR3	5	ex 1160 R. Via, Machala, new on sw, px: irr. (stn)
	115)	1210	HCGH1	0.5	R. Continental (ex R. América) (Gral)
	115a)	1210	HCMD4	0.5	new R. Presidente, Sta. Ana, Man. (Gral)
	118a)	1230	HCFG4	0.3	new R. Tropical, Esmeraldas, Esm (Gral)
	121)	1240	HCAD5		R. Musical, (Riobamba) (Gral)
	123a)	1250	HCMP4	1	new R. La Grande, Manabí, Man (Gral)
	72)	1300		1.5	R. Cenit, Guayaquil (stn)
	72)	1340/3355		1	ex 1100/3360 R. Cenit, Bahía de Caráquez (stn)
	146a)	1340	HCVL7	1	new Ecos del Oriente, Lago Agrio, Napo (Gral)
	146b)	1360	HCRJ5	0.25	new R. América, Riobamba, Imb (gral)
	147)	1370		0.3	R. Impacto (ex R. Pinas) (Gral)
	155a)	1390	HCPB3	0.25	new R. Intinan, Saraguro, Loja (Gral)
	155b)	1390	HCVL1	1	new La Voz de los Lagos, Atuntaqui, Imb. (Gral)
	158a)	1400	HCR7	1	new R. Curacay, Tena, Napo (gral)

--TO BE CONTINUED--

Credits: CM = Carlos Maslatón, (Argentina)
 RAK = Ricardo A. Kosloff (Argentina)
 RV = Robert Veltmeijer (Brazil)
 MvD = Maarten van Delft (Holland)
 HK = Henrik Klemetz (Spain)
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