dx news
the magazine of the National Radio Club

VOLUME 41 DECEMBER 17, 1973 NUMBER 9

"Support the N.R.C. -- It's YOUR club" -(Captain Glotz, the N.R.C.'s erstwhile "mascot" & resident cartoon character.)

ON THE INSIDE.....

NEW MEMBERS

A. B. Scholl, R.R. 1 ; Box 68, Brant Lake, N.Y. 12815 (rejoins)
John Oldfield, # 18, 10940 83rd St., Edmonton, Alberta, CANADA T5H 1M1
* Frank E. Dailey, RFD # 5; Route # 12, Preston, CT 06360 (rejoins)

RENEWALS

Clements, Pejza, Kenney, Franklin, Bergen, Falconer, McDonald, Lindblade, Seaver, F. Wheeler, Burket, Adamson.

NEW MEMBER KITS.....

As we go to press with this issue (12/12) the New Member Kits will go to the printer sometime tomorrow. They will be started upon as soon as the printer is finished with this issue, and hopefully will be done before we give him the next one. We anticipate mailing them out at the same time as we mail Issue #10, so that all should be received by early January. Again, we apologise for the delay, but extensive re-vamping of the Kit was in order, and we had to wait until the routine operations had settled down to near normalcy before doing the NMKs.

NOTES &c FROM NJPC....

Response to the group-rate order for WRTHs has been overwhelming, with nearly 70 orders received here 3 days before the cutoff date. Latest word says they will be available after 1/15/74.... Same story on availability of the new "How To Listen To The World".

The TA Log has been completed and will be mailed this week. All those who wrote or called asking to be included should please forward $3.00 a.s.a.p., or upon receipt of the log. Format is 15 sheets, both sides, offset, utilising last years' copy, liberally updated with white-out,hi. Still the most comprehensive one-source reference for TA info. Additional orders accepted as supply lasts, first come first served.

* NRC Log & Pattern Books are still available. Details on back page.

DOMESTIC DX SUPREMACY RATINGS for 2 DEC. 1973 (#15)

YR STD	NAME AND GENERAL AREA	HEARD TDH	HEARD SH	HEARD PH	TAPE TDT	TAPE ST	TAPE PT	VERIES TDV	VERIES SV	VERIES PV
40	*MORSS, Near Boston	3377	50	10	50	20	2	3467	50	10
23	*ALLEN, Near San Francisco	2959	49	8	0	0	0	2259	49	8
59	*DRAKE, Philadelphia	2177	50	10	0	0	0	2109	50	10
30	WHEELER, NW Penna.	2610	50	9	147	28	3	1583	50	9
52	*MILLAR, Near Seattle	1800	50	10	-	-	-	1563	50	10
60	HUGG, Montreal	1271	47	10	38	17	3	1246	47	10
58	*MEHRIMAN, Washington, DC	1147	49	10	0	0	0	1175	49	10
60	*WILLIS, Northern Calif.	1191	47	8	0	0	0	771	47	7
63	BOYD, Near Cleveland	1130	48	9	779	48	8	726	47	8
64	DUNNING, New York City	1202	42	10	562	40	8	695	42	8
59	*OLDFIELD, Edmonton, Alta.	1010	49	10	448	42	9	623	44	10
58	PHILLIPS, Kentucky AND Ala.	1606	48	4	4	4	0	564	44	3
71	POPERRA, Near Phila.	1043	47	9	0	0	0	512	45	8
62	MUSCO, Near NYC (Conn)	615	40	8	0	0	0	510	39	8
64	PORTNER, Seattle	972	44	7	150	34	7	467	38	7
69	*YINGLING, Baltimore	645	43	7	-	-	-	445	42	7
61	*ERICKSON, Los Angeles	900	42	6	0	0	0	442	38	6
69	FALCONER, Near Toronto	705	42	6	0	0	0	416	40	6
39	PIMPER, Salt Lake City AND	Neb. 1759	47	7	540	40	5	391	45	6
67	*MAKKEWICZ, Winnipeg, Man.	659	41	8	-	-	-	374	32	8
68	*BROCKWAY, Mid NY State	450	41	9	96	30	6	322	41	8
68	*HARDESTEN, Central Calif.	356	40	5	0	0	0	317	40	5
62	KEMPOOT, Toronto, Ont.	587	41	8	0	0	0	258	40	8
62	EDMUNDS, NYC	1111	46	8	453	41	7	237	41	6
62	ATKINS, Louisville, Ky	1072	47	7	18	16	0	232	40	4
70	*BIELINSMAIR, Near Chicago	390	36	5	3	2	1	215	35	4
69	KARCHEVSKI, Near San Fran.	249	36	5	197	35	5	198	36	5
68	*PH. PEJZA, San Diego, Cal.	443	38	6	-	-	-	191	34	5
63	*SHANNON, Near Pittsburgh	1312	49	9	419	47	6	190	47	6
72	STEPHENS, Norfolk, Vir.	319	36	4	15	13	1	130	29	4
67	*NEAL, Northern Calif.	519	42	5	299	41	5	92	38	5
68	*SHEA, Milwaukee	322	35	4	-	-	-	88	31	3
71	SORENSEN, North Manitoba	259	31	6	0	0	0	61	15	5
64	PACHO, Cleveland	448	37	6	0	0	0	43	34	2
7	*SCHEEL, Near Chicago (Iowa)	450	41	5	0	0	0	36	28	4
70	*ROGERT, Chicago	697	45	5	-	-	-	34	25	2
69	*DANTZLER, Buffalo, NY	708	46	7	344	46	4	31	21	1
68	HART, Dallas/Ft. Worth	953	42	6	953	42	6	10	5	0
69	*CRONIN, Near Seattle	341	32	5	0	0	0	3	3	0
67	*VAN HORN, San Antonio, Tex	397	38	3	0	0	0	-	19	1
21	HANSCH, Southern Wisc.	1066	50	10	60	50	10	-	-	-
68	*HOOGKERKIDE, Upper Mich.	1502	50	8	0	0	0	0	0	0
71	*SHAFFER, North Fla.	337	29	3	0	0	0	0	0	0
72	*WINKELMAN, Kansas City	228	30	3	0	0	0	0	0	0

This column, #15, is listed by total verias. See column #9 (DXN 18 Mar, 72) for comparison. * means up-date requested. @means no up-date in over a year and listing will be dropped in next column unless you send a card or letter to:

The NRC DOMESTIC DX SUPREMACY RATINGS
Bob Karchevski, PO Box 1171, San Carlos, Cal. 94070.

To new members, to see if you qualify for DOMESTIC DX SUPREMACY RATINGS, see page 15 of DX News for 29 Oct. 1973. To you long-time members already in the column, please up-date your totals or send notice that your totals are OK as is.

NATIONAL RADIO CLUB
BOX 127, BOONTON, N. J. 07005

C. P. C. TEST SCHEDULE

(for Dec. 17th TESTS, see last issue....)

THU.	Dec.	20 - 0230-	* KFKA-1310	Greeley, CO	5000/1000 U	NNRC
MON.	Jan.	7 - 0100-0530	* KBUC-1310	San Antonio, TX	5000 D & 500	IRCA
		- 0300-0330	* KPCA-1580	Marked Tree, AR	250 D	NRC
MON.		14 - 0200-	* WDBC- 680	Escanaba, MI	10000/1000 U	NNRC
		- 0600-0800	* WKNT- 920	Cortland, NY	1000 U	NNRC
MON.		21 - 0100-0200	* WCSH- 970	Portland, ME	5000 U	NNRC
		- 0300-0400	* KABQ-1350	Albuquerque, NM	5000/500 U	NNRC
MON.		28 - 0330-	* KFAY-1250	Fayetteville, AR	1000 D	IRCA
		- 0400-0500	* KCRA-1320	Sacramento, CA	5000/1000 U	NNRC
		- 0515-0545	* WTSO-1070	Madison, WI	10000/5000 U	NNRC
THU.		31 - 0645-0700	* KBTC-1250	Houston, MO	1000 D	IRCA
MON.	Feb.	11 - 0200-	* WHIS-1440	Bluefield, WV	5000/500 U	NNRC
WED.		13 - 0545-0600	* KLYR-1360	Clarksville,AR	500 D	IRCA
MON.		18 - 0130-0330	* ....-1505	The Valley, ANGUILLA	500 U	NNRC
SUN.		24 - 0230-0300	* KGVO-1290	Missoula, MT	5000 U	NNRC

KFKA - No program details. V/s: J. Roger White, Staff Announcer, KFKA, 1025 Ninth St., P. O. Box K, Greeley, CO. 80631. (Gene Vonderembse-NNRC)

Stan Morss notes that he wrote to all of the Boston area AN-7's to request they sign off one night per week as an energy-conservation measure. We'll reprint her being the rather cryptic reply he received from WEZE-1260 : " Thank you very much for your recen letter and suggestion for saving power. It certainly is a provocative suggestion for which I do ot have a ready answer. I appreciate your concern and thoughtfulness for he existing energy crisis." It's signed Ernest W. Kitchen, VP & GM.

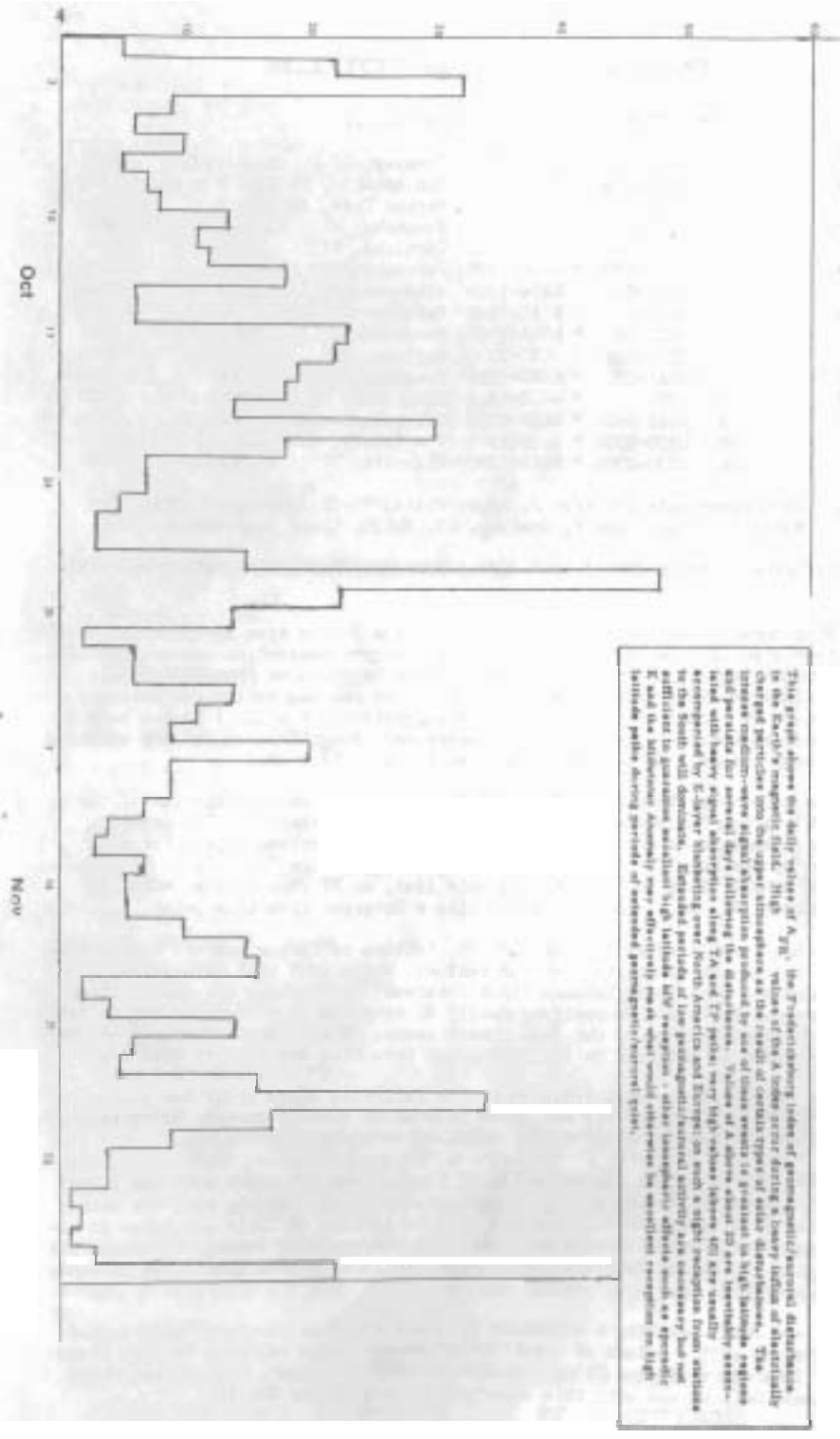
The holding pattern this time includes an article on modification of the SM-1 by Tom Sundstrom, a supplementary reference chart to PT's article which appears herein, an article fr GPN which arrived here after we'd set up the copy for this issue, the emainder of the Trans-Polar DX article, the latest "Back To The Bible" synd list, an FF report form, more LA changes, &c, &c. Issue # 10 looks l e a 24-pager from this point.....

We have completed mailing of some 350 letters to former members asking them to rejoin and if not to list the reasons. While most went unanswered, those which did were split between "lost interest" and various and sundry other reasons. We have also realised nearly 20 re-joins from these letter to date, with the latest group out less than 2 weeks. We also have another 6 who have indicated an interest in re-joining but have thus far not yet done so.

Our Box Score for membership shows the following since 9/29: New joins: 32, re-joins: 17, drops: 19, for a net gain of 30 over 2½ months. We're halfway to our goal stated a few issues back, so things are looking up.

DUES will be $15.00 Airmail & $14.00 First Class effective with the postal rate increase. Prorates will be accomplished in accordance with the method noted last issue. Foreign members will be advised of their new rates at renewal time. It will likely take us the better part of January to change all of the expiration dates on the address labels to correspond to the prorate, so bear with us.

We are still awaiting a volunteer from the audience who is an experienced DX'er to edit a column of question-and-answers plus relevant feature items of interest to novice DX'ers, and/or new NRC'ers. Won't someone out there please help us out with this important aspect of the NRC ????



international dx digest

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New stations, changes, skeds, etc...

AMERICAN SAMOA - Radio Samoa Ltd. has been denied temporary authority to operate WVUV by the FCC. They have an application before the FCC for permanent authority to operate WVUV. This would seem to indicate that WVUV is off the air. Does anyone know for sure? 1120 kHz, 10000 U1. (Broadcasting)

NEW ZEALAND - Hiline Entertainment and Marketing, Ltd. has applied for a license to operate a "Holiday Radio Station" for 28 days starting 12-26-73. Frequency applied for is 1570 kHz and the transmitter will be a surplus unit with a power of 300 watts. Location is Whangamata and the mailing address P.O. Box 9018, Hamilton North. Antenna will be a 80 foot vertical. * * * A new commercial station was sked to go on the air on November 16 from Wellington. Call is 2XW and they are on 1180 kHz with 5000 watts. Mailing address P.O. Box 558, Wellington. Sked will be 1730-1200 Z and programming will be MoR. * * * A new NZBC station to relay 4YA and 4ZB has been approved for Queenstown. No indication of frequency. * * * The NZBC has tentatively proposed several new stations. One in Central North Island (no city indicated) to carry the National Program on 540 kHz; and two to carry the YC Program, one on 790 kHz in Hamilton with 2 KW, and one at Taumaranui on 730 kHz with 20 KW. (NZDXT)

QATAR - Radio Qatar is building a new 800 kw. transmitter to operate on 750 kHz. They also have a new 10 kw. station on 955 kHz. (NZDXT)

SOUTH KOREA - Radio Korea has Japanese from 1300-1400 GMT on 970 kHz. (NZDXT)

INTERNATIONAL WATERS - Peace Media has plans to operate a station from International Waters off Tahiti to protest the French Nuclear Test Series in 1974. The transmitter will be the same one used by Radio Hauraki. Programming will be in French. No frequency indicated. (NZDXT)

Listeners Loggings...

550 -MEXICO XEPL Cuahtemoc, Chih. presumed the one in SS w/mention of Chihuahua 12/3 1237. Gone by 1241. Last heard in early 1971 on 545, 551 and 555 kHz.
548 -ALGERIA Oran w/strong carrier, shallow audio; classical mx program on /(Pejza) 11/23 at 2300. (Connelly)
600 -MEXICO XEDN Torreon, Coah. 11/28 0400-0420 w/"Casas delayer" old MoR mx show and lots of ads. ID as "La D-M". (Gleason)
650 -OKINAWA AFN(?) 10/28 1100 poor and weak ID, faded quickly. Tnx to GK's report (IRCA) I was watching. (Oldfield) John, you indicated this was VOA. Did you mean AFN or what? (ED)
655 -NORTH KOREA Pyongyang only TP heard 12/3 1243 weakly w/YL talking. (Pejza) * 10/28 0945-1005 bits of audio (yelling and screaming). 1105 stronger. More yelling and talking. (Oldfield)
660 -HAITI(Tentative) 11/11 1035-1040 quickly faded. Calypso mx and FF anmts. Noted that they've been heard in Denver and Seattle. (Oldfield) St. Lucia is a possibility here, also. (ED)
-MEXICO XERPM Mexico DF Radio Juventud 11/30 0105 w/US rock and 6 or 8 ads after each record. (Gleason)
660.8 NICARAGUA YNAM Mi Preferida, Managua 12/3 noted 0630-0700+, in and out of noise level at 2-3 minute intervals. When up, really good w/Q-multiplier taking out het on 660. ID's seemed to be mostly voiceovers, pop mx. Was my unid of a couple of weeks ago, much better this time. (Sundstrom)
665 -PORTUGAL (Tentative) Lisbon assumed 11/11 0530-0600 strong het. 0600 chimes and into talking in PP (?), definitely not SS. Weak audio w/fading every 40 seconds. (Oldfield)

719 -ENGLAND "News Radio 417" "This is London Broadcasting Company". Britains first commercial stn is on and 24 hours a day. Using mostly Canadian equipment and 30% owned by Selkirk Broadcasting (local CJCA-930). No frequency mentioned in announcements, just "417". (Oldfield)

720 -HAWAII (?) 10/8 0950 Jap girl and JJ songs. Clear channel but weak and fading. Didn't think KUAI was JJ? (Oldfield)

735 -NORTH KOREA 10/28 1105 weak and seemed // to 655. 1115 was definitely not // 655. Man yapping and yelling. (Oldfield)

750 -JAPAN 0950 10/8 noted the loud grumble that always comes just before JOIB breaks through. Drowned all else. (Oldfield)

760 -HAWAII KGU Honolulu 10/8 0955 noted S4 under WJR w/"Sports Voice of Hawaii".

775 -UNID 11/19 0140-0203 looped to SA. Poor level, in and out of noise. MoR mx. (Tull) /(Oldfield)

784.5-CUBA 12/5 0005 w/"Mundial Cuba 73". Baseball broadcast. Very strong het on the high side. (Gleason)

800 -NETHERLANDS ANTILLES PJB Bonaire 11/19 0205-0220 w/Religious program in SS. Many hymns, signal lower than usual. (Tull)

818 -ANDORRA R. Vallee d'Andorre o/Morocco and several others w/cuckoo clock IS and FF upbeat MoR w/female announcer, 10/15 at 2359. Very strong in excellent mid-band TA opening. Clearly audinle on portable rx w/weak het from 820.

-MOROCCO Rabat in fair o/Egypt w/Ramadan program on 10/8 from 0115 to 0218.

830 -GUATEMALA TGHB Radio Satelite, Mazatenango presumed the station/(Connelly) w/R. Satelite ID's and EST time checks 12/5. Ranchera mx. Too much KIKI for a report, although I tried. (Gleason)

844 -GILBERT & ELLICE ISIANDS VSZ1 Tarawa 10/8 0950 S5 man in EE and Polynesian language w/native songs plus US rock like "Surfari". Strong at 1030 recheck w/man and YL and their regular choir sung anthem 1036-1042 OC (s/off?). 10/28 0840 poor. 0940 stronger and giving semi-local CKRD trouble. Still strong at 1015. 11/12 0915 noted for a few minutes poorly. (Oldfield)

850 -MEXICO XEM Chihuahua, Chih. and XEUS Hermosillo, Son. mixing 12/3 1247 to 1300. XEUS w/ranchero; XEM w/smoother MoR-type mx. (Pejza)

855 -NETHERIANDS ANTILLES PJC2 Curacao 11/19 0225-0230. Great signal, easy listening mx. (Tull)

870 -HAWAII KAIM Honolulu 10/27 0906 w/WWL poor w/religion. 1027 ditto. (Oldfield)

-JAPAN (?) 10/28 1045 JJ fair w/some WWL. Too late for KAIM and they're not Japanese. (Oldfield)

-MEXICO XELY Morelia, Mich. 12/1 0045-0100 w/a Christmas marathon for clothing, etc. for children up til 0100 s/off. (Gleason)

875 -UNID Suspect TIGPH. Low level, lots of WWL slop. Man in SS and SS mx. On 11/19 0233-0245. (Tull)

925 -COSTA RICA TICM Radio Juvenil, San Jose 11/19 0250-0330 MoR mx. Slow SS between records. Open carrier on this signal part of the time. Fair level. Juvenil mentioned. (Tull)

944 -FRANCE ORTF Toulouse in very well on 11/17 at 0620. Strongest TA at the time. (Connelly)

-HONDURAS HRYW Radio Panamericana, Tegucigalpa. Tentative ID on this station w/loads of localized spots 12/3 around 1200 w/easy listening format. (Gleason)

945 -UNID SSer on 11/16 at 0530. Ideas? (Connelly) Likely R. Ifesa, HCDE2. (ED)

965 -UNID 11/19 0335-0400 MoR SS mx. Steady signal w/fair level. Some sideband splash from my most troublesome local. Lost sig 0400. (Tull) Likely the YN.

980 -MEXICO XEFQ Cananea, Son. After much trying, heard 0211-0230 11/30 w/MoR and soft rock and ID's as X E F Q. (Gleason)

990 -MEXICO XEHZ LaPaz, BCS. Heard 11/30 0230-0305 w/soft instrumentals and kid's show at 0305. Lots of national spots and ID by call letters. This is my 3rd BCS stn, and I am not sure any others are operating. (Gleason)

1000 -COLOMBIA HJAQ Radio Miramar, Barranquilla 11/24 at 0530 w/many ID's, frequently topping WCFL. (Connelly)

1010 -MEXICO XEVS Culiacan 12/4 0100 and after w/Radio Fiesta ID's and mostly ranchera mx. Not enough to report. (Gleason)

1025 -UNID LA's (2) 11/21 0150-0200 two SS stns. Strong 400 Hz het. Very little audio. (Tull)

1034 -PORTUGAL(Tentative) 11/21 0228-0245 ID w/3 or more chimes. Slow mx. Some PP (I think). Audio ¼ of the time. Had to null LA'S on 1035. (Tull)

WHEN REPORTING, PLEASE USE ONE SIDE OF THE SHEET OF PAPER ONLY

Out of order

1020 -TONGA A3Z Nuku'alofa 10/28 0845 fair. 0900 better and little fading on a clear channel. 11/12 1000-1006 poly mx and YL ancr caught just as KGBS signed off right at 1000. (Oldfield)

1050 -MEXICO XEG Monterrey, N.L. (someone had to report this one this year) 1108-1130 w/Laboratorios Mayo Show 11/30. This client is on a lot of high power XE's in early hours selling patent medicines. (Gleason)

1059.2-CUBA (?) Potent SSer atop KYW 11/16 at 0330. Heard on several occasions as a strong het. (Connelly)

1061 -PORTUGAL Norte 11/24 at 0016. S/off w/National Anthem. (Connelly)

1069A -COLOMBIA HJAH Emissora Atlantico, Barranquilla 11/24 at 0600 w/uptempo LA vocal mx, frequent tc's. KNX a weak background het seperable w/1 kHz filter. CBA off. (Connelly)

1080 -MEXICO XEDY Ciudad Morelos, B.C. "La Reina del Valle" 11/30 1320-1345 with ranchera mx show w/spots for San Luis Rio Colorado and Andrade, Cal.(Gleason)

1098A -UNID LA Hetting 1097 and 1100 on 11/16 0403. Could not extract audio. (Connelly) I would like to know who this one is myself. First noted last season and heard again a week or so ago w/US rock in EE and male and female announcers in rapid SS. Very poor signal, and only heard when LA's are in good. Loop says Costa Rica/Panama/Cuba. (ED)

1120 -MEXICO XETR Ciudad Valles, S.L.P. 11/30 1206-1243 w/Radio Ritmo ID's and instrumentals til 1230, then a show of Nortena mx. S/on of XE-Uno at 1245 killed this one. (Gleason)

1123 -USSR A Far East Russian is being heard on this frequency in New Zealand. Carrying the Mayak Program. (NZDXT)

1124 -LIBYA (?) Beida the possible source of OC here 11/16 at 0405. (Connelly)

-UNID TA (?) 11/21 0410, strong het. Some audio, light classical mx. Het from 11/25 LA, long fades into noise. (Tull) Spain most likely. (ED)

1135 -UNID 11/23 0445-0500 man w/talk in SS. Good level but weak audio. Looped almost due N-S. (Tull) A TG reported here last season. (ED)

1140 -MEXICO XEXF Leon, Gto. Radio Bajio 11/30 1246-1300 w/soft SS rock and at 1300 a religious message. Lots of "XEXF, Radio Bajio" ID's. (Gleason)

1210 -HAWAII KZOO Honolulu 11/12 0948 JJ poor w/some WCAU. Probably KZOO at this time. (Oldfield)

-UNID (Japan ?) 10/8 1100 pips and JJ. Weak and faded quickly. Not Hawaii. 10/28 1130 weak JJ. Both times on a clear channel. (Oldfield)

1214 -ALBANIA Radio Tirana in well 11/16. Atop BBC from 0455 to 0503 tune out. 9 note trumpet IS was followed by ID and news in unk language. (Connelly)

-GREAT BRITAIN BBC Radio One 10/27 some poor audio 0613 lasting only 6 minutes. (Oldfield)

-UNID 10/28 het began (maybe a s/on) at 1130. Same direction as JJ. Any TP's s/on at this time? (Oldfield)

1223 -SPAIN RNE Madrid 11/24 at 0021. Marginal copy of male ancr in SS. (Connelly)

1270 -UNID 11/23 0530-0545. 600 to 800 Hz below 1270. Bad het on signal. Man and woman in SS. Cuba mentioned. (Tull) There is a Cuban here. (ED)

1380 -MEXICO XEKV Villahermosa, Tabasco, Radio Mexicana. Took 2 days to ID this one which has been noted all through Nov. On 12/2 from 1000-1200 was able to pin it to Villahermosa w/ads, etc. Many clear "XEKV Radio Mexicana" IDs. All ranchera format, may be AN. Was usually on top of channel w/some XECO after the latters 1100 s/on. If you get both, XEKV is the one w/the more up-tempo mx. (Gleason)

1420 -HAWAII KCCN Honolulu 10/8 0930 w/old familiar ID: "At 1420 KCCN, Community Service comes first". All Hawaiian mx, lots of QRM. Poor and faded.(JO)

1425 -GREENLAND AFRS Thule 10/8 1055-1104 nx via CBS and NBC. Weak. No ID, but who else has nx via 2 nets and goes into soul mx? Page Taylor told me they moved. (Oldfield)

1435 -NETHERLANDS ANTILLES (?) Radio Kelkboom assumed stn here w/MoR format 11/17 at 0015. Weak. (Connelly)

1445 -NETHERLANDS WEST INDIES PJF1 Saba a possibility on 11/24 at 0100 w/muzak and female ancr in EE at low audio level. Also noted (!) ad for Chase Manhattan Bank. (Connelly)

1470 -MEXICO XEBBC Tijuana, B.C. 12/1 0403-0415 w/"Fogata Nortena" show w/Nortena music. The typical "RCN-la gue le gusta a Ud." jingle w/chimes after all records. (Gleason)

1475 -MALAYSIA Booming in agn 12/3 1127-1140. Pips at 1130 but much slop. (Pejza)

1475 -MALAYSIA (?) 12/5 1100 w/s/on and IS several times. Only word I got was "kiloHertz". Some slight fading but never totally out. If this is Malaysia it has a hell of a signal. After s/on, talk program, which could be anything. At 1105 had program of mx and announcer talk. Mx had a western-oriental mixed flavor. Stayed around for 1 hour. (Gleason)

1510 -GUATEMALA TGDZ Radio Centroamericana, Guatemala 1130-1200 w/easy listening instrumentals, EST time checks. Am I going nuts or is CA now all EST? Have heard HR's, TG's, etc. in EST. (Gleason) No word on any time change here Dave but I guess its possible. (ED)

-MEXICO XEOR Cortazar, Gto. 12/3 1210-1230 w/ranchera mx, ID as "O-R" and lots of spots for Celaya and Cortazar. (Gleason)

1529 -VATICAN STATE Vatican Radio finally after many frustrating years of trying made it here on 12/6, 2158 to 2215 s/off. In II, male and female ancrs. Some music. Excellent signal, almost completely in the clear at times. One of my most wanted stns and I'm probably the last EC DXer to hear them. Fair at s/off 10/15 at 2218. (Connelly) /(ED)

1530 -MEXICO XEXY Ciudad Altamirano, Gro. While trying to take a report on XEUR, this one w/½ kw. day signed on at 1208 and had news show. Was on top of XEUR at times. ID by call letters, dedication show of ranchera mx at 1220. New state, #15. On 12/2. (Gleason)

-MEXICO XEUR Texcoco w/tropical mx and Radio Onda ID's 12/3 1157-1215. Strangely enough, first time ever heard. (Pejza)

-MEXICO (?) Unid SS under XEUR poor at 1157, but on top at brief intervals. Heard one "Your Pan American Station" slogan in EE, but don't know whether it was XEUR or the unid. Same w/brief chimes at 1230. (Pejza) XEXY? (ED)

1548 -UNID On 11/24 at 0517 SS at fair strength. ID sounded like"Esta es Radio Santo" - format was LA MoR. (Connelly) This almost certainly Radio Cima, Ciudad Quesada, Costa Rica. They have been here for over a year. (ED)

1550 -AUSTRALIA 4QD Emerald, Qsld. 10/8 1020 fair w/play o/u CBE. WOKJ arrived at 1030 and killed 4QD. (Oldfield)

1570 -MEXICO My unid SSer here turned out to be nothing more than good old XERF. Tnx to Dave Gleason for ID. Still no word on the other unid. (ED)

1595 -NICARAGUA (?) No ID heard, but from accent, spots, etc. appears to be the Nicaraguan as heard again 12/3 1200 and on. The mx this time is more typical of CA, but perhaps the nortenas were on a special program or else I had an XE which has now returned home. (Gleason)

1600 -MEXICO XEAE Ciudad Acuna, Coah. 11/30 0225-0330 w/SS rock and XEAE jingles. This, like other boarder stns can be IDed by the US dollar prices in the ads. (Gleason)

VERIFICATIONS

840 -MEXICO XEFG Celaya, Gto. Nice letter in 2 weeks from Rene Olivares Gascon which mentions 1 kw Bauer xmtr. (Gleason)

860 -DOMINICAN REPUBLIC HILR Radio Clarin sent form letter on plain paper and pennant in 2 weeks for a taped report. Signer is Neit R. Nivar Baez, Administrador. (ED)

1115 -NICARAGUA YNP Radio Circuito, Leon sent nice v/1 in 10 days for taped report sent by registered mail. Signer is Oscar Enrique Lara R, Director Promotor. Apartado 64 is correct address. (Merriman)

1196 -MOROCCO Agadir sent QSL folder with no details in 2½ months by surface mail for a taped registered report. (Merriman)

1270 -MEXICO XEAW, Radio Exitos, San Luis R.C. Letter in 4 days from Lic. Alfonso Martinez P., asking for more reports. (Gleason)

1313 -NORWAY Radio Susie (Ukesender) sent card from Oslo Student Radio Club, Box 7, Kringsja, Oslo 8 in 3 weeks; power given as 700 watts. (Calkin)

1322 -ENGLAND (Pirate) Radio Jackie sent personal letter on RJ letterhead plus car stickers. One month from 70 Walton Rd., East Molesay, Surrey. Signer is Mike Knight. (Calkin)

1370 -MEXICO XEHF Nogales, Son. V/1 from C.P. Hector Uindiola, Gerente. Adr is P.O. Box 1266 in Nogales, Arizona. (Gleason)

1440 -MEXICO XEVSD, La Voz del Progreso sent v/1 with pix of equipment from Federico Riestra Castro, Gerente. Apartado 279. (Gleason)

1480 -MEXICO XEHM Ciudad Delicias, Chih. sent letter in 1 week w/photos of city and studio from Roberto Diaz G., Gerente. (Gleason)

1550 -MEXICO XEBG Tijuana, B.C. sent nice letter in 10 days from Lic. Mario Enrique Mayans C. Lists rest of Cadena Baja California XEMMM-800, XEDX-1010, XEKT-1380, XEMBC-1190 and XEDY-1080. (Gleason)

-MEXICO XENU Nuevo Loredo, Tamps. sent letter, pen, coverage map, and ratings from Miguel Villarreal I., President. Box 200 is address. (Gleason)

1594 -ENGLAND BBC Radio Leicester sent letter from M. Lane, E I C in 2½ weeks for mint stamps. (Calkin)

The people responsible for my having to spend 5 hours in front of a typewriter....

Gregg CALKIN - England
Mark CONNELLY - Arlington, Massachusetts R390A, Sharp Z-2500/FY72 portable, 250 /and 130' LW's.
Dave GLEASON - Scottsdale, Arizona SPR-4, Sanserino loop
John OLDFIELD - Edmonton, Alberta
Father Jack PEJZA - San Diego, California HQ-180AC, 2½' Sanserino loop
Thomas R. SUNDSTROM - Willingboro, New Jersey HQ-150 w/SB-620, HQ-140X, DX-150A
John TULL - Kansas City, Missouri NC-173, 36" FET loop /SM2 IM
NZDXT - New Zealand DX Times

That is everything received through Saturday, December 8. Support off a bit but condx haven't been the greatest. One problem has come up in the last couple of weeks that needs to be corrected and that is reports written on both sides of a sheet of paper. This is definitely a no no. In case some of you don't know how IDXD is put together, all reports are cut into strips and then arranged in frequency order. When both sides of the page are used this is impossible and it is a real pain to try to integrate these reports into the column. Its also easy to miss something when you are working with reports like this. So, if you have 2 pages worth of material, use 2 sheets of paper. It makes my job a heck of a lot easier. See you in 7. 73 DX REPORT REPORT REPORT REPORT REPORT REPORT REPORT

Remember the letter which appeared in these pages a few weeks ago regarding mandating SPs to conserve energy ? Well, the copy sent to Sen. Clifford P' Case (R-NJ) has yielded a reply. Senator Case enclosed a copy of the reply he received in response to his forward of my letter to the FCC from Anthony J: Thompson, Legal Assistant to Chairman Dean Burch, which reads :

" This refers to your communication dated November 14, 1973, enclosing a copy of a letter from Mr. Russell J' Edmunds, Parsippany, N J , concerning his suggestions for reducing the normal periods of operation and powers of broadcast stations as a means of conserving energy. The Commission is in the process of formulating a study group for the purpose of giving special attention to broadcast operations as they may be affected by the developing energy crisis. Upon activation of such a study group, you may be assured that careful consideration will be given to the suggestions contained in Mr. Edmunds' letter."

If you haven't already done so, we again strongly urge you to write to your legislators in this regard. Who knows, it may actually get something positive accomplished for the DX hobby, albeit in the guise of the energy crisis---- any port in a storm you know.

BRAZILIAN INFORMATION

by Robert Veltmeijer
Sao Paulo, Brazil

Hoping to eliminate some of the "No-info available" numbers on page 245 of the 1973 WRTVH edition, I checked these stations against the "Register of Brazilian Broadcasting Stations" issued by the Ministry of Communications. This list contained 760 broadcasting organizations with 1573 licensed stations, 77 TV organizations with a total of 248 TV stations are also listed. This list was issued in 1972 and updated till 31/12/71. Most of the "no-info" stations could be found but a few were not listed in this register. The new call-signs of the stations have been used. Here are the results of the "no information available" review:

13) 580 ZYM 25 R.Dif.Brasileira Prata, no info, not mentioned in register and also not on freq. check list of Dentel Department Sao Paulo, Paranast.

14) 580 ZYE512 R.Londrina, reads: ZYE512 R. Londrina power 1 kW 580 kHz. QTH: Rua Quintino Bocaiuva 41, Londrina, PR. 86 100.

59) 730 ZYV 53 R.Dif.Minas Gerais Ltda. reads: ZYF220 R.Dif. Minas Gerais Ltda. 730 kHz. pw. 250 w. QTH: Praça Joao Pessoa 9 2 and. Juiz de Fora, MG 36 100.

60) 730 ZYS 23 R.Nordeste de Macau, R.N. not in register. R.Nordeste Ltda is registered in RN Natal QTH: Rua Joao Pessoa 86, Natal, R N. However no outlet in Macau mentioned.

154) 1100 ZYU 50 R.Emiss. do Nordeste Flores da Cunha, RS reads: ZYH 072 R.Emiss.do Nordeste Ltda.Freq. 1010 kHz, pow. 250 w. QTH: Travessa Cavour, Flores da Cunha, RS.

177) 1160 ZYS 73 R.Clube de Londrina, PR. reads: ZYE 511 Radio Clube de Londrina freq. 1160 kHz. pw. 250 w. QTH: Radio Clube de Londrina, owner: Radio Cornelio Procópio, S.A., Rua Maranhao 35 2.and Edif. Denes, Londrina PR 86 100.

189) 1170 ZYE 26 R.Nazareth Belem do Pará: reads: ZYA005 Radio Dif. Mearim 1170 kHz. Pw. 1 kW. (using slogan Radio Nazaré ???) Our Lady of Nazareth is the Patron Saint of Belem. QTH: Rua 28 de Julho 258 Belem,Pa. 66 000. Owners:Mearim S.A. Caixas do Sul, RS. Praça Candido Mendes 374 which also operate R. Dif. Mearim on 4945.

201) 1210 ZYG004 R.Baré Cuiabá, reads: ZYG004 R.Baré 1210 kHz. pw. 1 kW. Cuiabá MG. QTH: of owners: R. Baré Ltda. Avenida Eduardo Ribeiro 566 Manaus AM. 69 000, ZYG004 is branch of Baré, Manaus.

221) 1250 ZYV 20 R.Cultura Caiari, Porto Velho, RO reads: ZYG 037 R. Cultura de Caiari, Porto Velho, RO on 1490 kHz. 250 w. QTH: Av. Carlos Gomez 730, Porto Velho, RO 78900 and/or: ZYA036 R.Educaçao Rural de Coari 1250 kHz 250 w. QTH: Praça Sao Sebastiao 157 Coari, Amazonas.

228) 1260 ZYG ?? R.Clube de Piauí 1260 kHz 10 kW(?) not in register under this name.

249) 1320 ZYL 25 R.Progreso de Maceió AL reads: ZYB046. ZYB046 R.Progresso de Alagoas 1320 kHz. pow. 250 w. QTH: Praça dos Palmares - Ed. Ary Pitombo 6. and Maceió AL 57 000.

252) 1320 R.Cultura de Piaui, Teresina PI, not found in register.

260) 1330 Empresa Jornal do Comercio Triunfo. This company has stations in Caruaru PE, Caranhuns PE Limoeiro PE, Pesqueira PE. Head office in Recife PE. No Triunfo mentioned neither 1300 kHz. However the (small) town of Triunfo exists in Pernambuco.

290) 1390 ZYS 46 R.Tingui, Piraquara, reads: ZYE 539 R.Tingui-1390 kHz, pow. 250 w. QTH: Av. Barao do Rio Branco s/n, Piraquara, PR.

295) 1390 ZYU 75 R.Porto Alegre, reads: ZYH 024 R.Alto Taquari de Porto Alegre 1390 kHz. 250 w. QTH: Rua dos Pampas, Morro Santa Teresa, Porto Alegre, RS 90 000. Same organization has stations in Encantado RS, Estrela, RS, Lajeado RS (also on 1390 kHz ZYH 088, Rio Pardo, RS.

312) 1420 R.Colonial Panambí 1420 kHz. mentioned in the register is: ZYH 262 R.Colonial LTD. 1490 kHz 250 w. QTH: Rua Dr. Bruno Bockhorn 18, Tres de Maio. Both towns, Panambí and Tres de Maio are in the same state RS. I suppose it is the same station.

342) 1470 R.Clube Epitácio, Presidente Epitácio 1470 kHz. reads: ZYE 355 R.Clube Epitácio 1460 kHz 100 w. Presidente Epitácio SP. Commercial name and QTH: R.Clube de Martinopolis Ltda, Rua José Sanches 539, Martinopolis SP.

356) 1510 ZYG 20 R.Dif.de Floriana 1510 kHz. reads: ZYA060 R. Dif.do Maranhao de Floriano PI 1510 kHz. 150 w. QTH: Rua Sao Pedro 204 Apt 1 Floriano PI 64 800.

362) 1540 ZYB 23 R.Dif.Itacoatiara, reads: R. Dif.de Amazonas de Itacoatiara 1540 kHz. 250 w. QTH: Rua Eduardo Ribeiro esquina (corner) Avenida Solimoes, Itacoatiara, AM.

365) 1540 ZYI R.Nordeste Nova Cruz 1540 kHz. not mentioned in register. Nova Cruz is in Rio Grand do Norte. Could be an outlet of R.Nordeste Ltda. Rua Joao Pessoa 86 Natal, RN 59 000

373) 1560 ZYN 33 R.Cultura de Santo Amaro 1560 kHz, reads: R. Educadora de Santo Amaro Ltda. ZYC 042 1560 kHz. 100 w. Rua Conselheiro Saraiva 10, Santo Amaro, BA 44 200

375) 1570 ZYS 8 R.Dif.de Paratins reads: ZYA 040 R.Dif.do Amazonas de Paratins 1570 kHz 250 W. QTH: not mentioned. Headoffice of this organization:R. Dif.do Amazonas, Rua Joaquim Sarmento 121 Manaus, AM 69 000.

If there should be any doubts about QTHs of a Brazilian station, I'll try to find it out for you. The powers mentioned are the official registered, there is no guarantee that the stations operate with this power, nor that the tx mentioned are really on the air.

Robert Veltmeijer
Largo do Arouche, 418 Apto.58
Sao Paulo - 01219 - Brasil

BRAZILIAN INFORMATION

by Robert Veltmeijer
Sao Paulo, Brazil

In the first days of November the Brasilian government cancelled the broadcasting licenses of several radiostations. In our region the following stations went off the air:

ZYR 98	540	kHz	Rádio 9 de Julho, Sao Paulo, S.P.
ZYR 96	9620	"	Idem
ZYR 97	11855	"	Rádio América (License of this freq. belonged to R.9 de Julho. MW 1410 R.América is normal)
ZYR 95	1260	"	R.Sao Paulo, S. P. (not Rádio Difusora de Sao Paulo)
ZYE 234	1240	"	R.Clube Hertz de Franca, S.P.
ZYR 215	1400	"	R. Dif. Rio Preto, S. P.
ZYF 62	720	"	R. Bela Vista de Uberlandia, M.G.
ZYR 268	960	"	R. Sociedade Santa Fé do Sul, S.P.
ZYD 46	3385	"	R.El Dorado, Rfo de Janeiro. This freq.has never been used by the station. M W outlet is used normally.

Although by law all broadcasting licenses can be revoked instantly at all times, this is the first time the Federal Authorities actually closed stations down in Brazil. Reasons given: "for technical or Fiscal administrative reasons", which was of course denied by the stations involved. Press reports mention a "future list of licenses to be cancelled to be published soon" involving "a great number of stations". If this should eventually happen, we will keep you informed.

RADIO MULHER in Sao Paulo has been operated for several years with women, by women and for women exclusively. No male speaker has ever been heard on 730 kHz. But now she achieved what must have been a dream for many of her listeners, she got married. So things will change after her wedding party when a group of men will be added to the (till now) exclusive female staff. The owner of the station of Granja Julieta had known for a long time that ZYR 80 was not competitive enough among the many commercial stations in Sao Paulo and decided that a change was necessary. And which change is better for a woman than a good marriage?

To prove however that even a "married" Radio Mulher (Radio Woman) will still have its privileges, the daily program "No men allowed here" will continue to be on the air from three till five in the afternoon. Also the well-known soccer reporter Miss Claudette Troiano will continue to broadcast the games in her nice voice. As far as we know Miss Claudette is the first girl in L.A. and maybe in the world, who chose this typical male profession. However a few male sport commentators will be added to the team. Some women-lib supporters will probably regret that the "uni-sex" times of Radio Mulher are over, and if you, fellow DXer, ever thought of marrying the only Brazilian woman (mülher) interested in radio, you are too late. Radio Mulher is married now!

THE FIRST RADIO BROADCAST IN BRAZIL

The first Radio broadcasting station in Brazil was on the air in Rio de Janeiro on September 7th 1922. Station S.P.C. was built on top of the Corcovado mountain for the duration of the "100 years Independence Exhibition" in 1922. After the exposition closed down the station was dismantled. Nobody believed in the usefulness of keeping it going. Now after 50 years there are more 1500 radio and 250 TV stations in Brazil.

The Compleat DX'er... Systematised DX & Record-Keeping

by Page Taylor

Every DX'er devotes some amount of time to the act of preparation or reference to aid him in his quest for DX. He may spend only the smallest amount of time in doing so, in contrast to some DX'ers who spend nearly as much time at research and preparation as they do at the dials. Nevertheless, the time is spent at the books. He may not make his own charts, lists, tables, or graphs, as we will recommend here, but he does do something. Most DX'ers have certain reference materials which they consider basic. They may choose the World Radio-TV Handbook, or the FBIS Lists or IRCA Foreign Log for International DX. If they specialise still further, they may use the NRC Latin-American or Trans-Atlantic Logs. If their interests are in logging North American "domestic" stations, they may choose White's Radio Log, or the Vane Jones Log, from which they will graduate to the NRC Domestic Log. Any or all of these can be considered as necessary and basic. If there is an intention to DX North America sunrise or sunset, the appropriate maps are in order, just as are the world sunrise-sunset maps and/or tables for the serious International DX'er. One whose interests lie in DX'ing North America may well want to use a frequency-check list as well, while the International listener equipped with a loop antenna may need a great-circle map prepared for his location. Regardless of the listener's fancy, the NRC Night Directional Antenna Pattern Book will prove to be an indispensible aid.

There are many varied reference sources and materials published for the radio hobbyist, which are widely accepted in DXing circles as basic "tools of the trade". The real purpose of this article, however, is to delve more deeply into the areas of reference and preparation for the DX session so that the least amount of time is wasted. Included here will be suggestions for implimenting research techniques far more subtle than are generally used; however, the benefits derived from these techniques will become quickly obvious in the form of more fruitful DX'ing hours, and, correspondingly, a more thorough working knowledge of one's own DX conditions. In time, the DX'er becomes so familiar with the procedures and materials discussed here that much of the work is done from memory or by habit -- the DX dial becomes more familiar; the amount of time spent on stations already logged waiting for an ID becomes minimised.

No claim is being made that reference is a cure-all, or that it will allow you to hear everything. However, careful work done away from the dials will allow you to have a far better chance at hearing what is possible, and to be able to ignore what isn't.

The material to follow is presented in a progression of "levels", allowing each DX'er to find his own particular level of attainment and work to the level above in each case, first for hobbyists specialising in International DX.

Level One: The DX'er beginning on this level should have in his possession copies of the World Radio-TV Handbook, the IRCA Foreign Log or the FBIS Lists. A basic familiarity with the format of these publications is necessary. In this way, it becomes increasingly apparent which stations have actually been heard in the past by other DX'ers, as well as which stations may have a chance at being heard. A careful perusal of either or both of these publications will soon have the DX'er becoming increasingly aware of the most favourable times of reception for certain desired areas of the world, schedules, languages, and time zones. A casual reading of this material will soon have the listener recalling a goodly number of pertinent facts about stations and countries with which he may have had only a slight familiarity in the past. It will be seen that many desireable "catches" in Central America close down at 0400 GMT; Brazialians may come on the air as early as 0800 GMT, and Venezuelans by 0830 or 0900 GMT. Many East European stations are broadcasting as early as 0300 GMT, Central Europeans by 0400 GMT, West Europeans by 0500 GMT and Iberians by 0600 GMT. Many Africans will not be on the air until 0700 GMT.

Level Two: Propagation: Can you recognise "auroral" conditions? A good high-latitude opening? Auroral conditions can be recognised by blockage of stations to the north of the DX'ers location which are normally heard. Perhaps the Canadian stations have "mysteriously" disappeared from the dial; or, if in Europe, the Scandanavian signals suddenly become inaudible. **Under such conditions, many** stations to the south either not normally heard due to blockage from the northern **stations, or because of nearby transmitters, will be heard. In North America,** receptions of unusual stations in Central America, the Caribbean, and Northern South America may be had. **In Europe, North African and Mediterranean area** stations will be favoured. A good high-latitude opening will produce receptions of Scandanavian, German, British and East European stations from North America, as well as good North American conditions from Europe, perhaps as deeply penetrating as KSL-1160, KOMO-1000 or KING-1090. **A DX'er should be aware of the type** of conditions he is experiencing at all times, before he endeavours to hear a station impossible under the prevailing propagation.

Level Three: Now, construct two separate lists, each containing twenty "target" stations which you would like to hear. Title the first list, "AURORA". Title the other list "HIGH-LATITUDE". Choose your twenty stations from the WRTH or IRCA Foreign Log, based on receptions that you consider possible from your area. Your list should contain all information which you consider essential to your logging of the station -- call letters,(if used), frequency, power, schedule in **your local time, language used. Keep these two short lists near the receiving** station; after the type of conditions have been determined, choose the **appropriate list, and check off each station as heard. If you find that there are** several which continue to elude you, it would be wise to check the source of information again, to try to determine why the station has not been heard. Perhaps your desired station broadcasts with too little power to reach your area; it may emply a directional antenna not favourable to your area, or there may be too much interference on the channel to warrant reception. It is wise to choose "split" frequencies as target stations, since these are often times easier to hear than far-distant Trans-Continental or Trans-Oceanic stations working on even (10 kHz.) frequencies in North America, or Copenhagen Plan channels in Europe. **When some degree of proficiency has been attained at constructing these** "want lists", perhaps you would like to expand the number of desired stations.

Level Four: So you want to hear all continents on the medium-wave band? A geographical list will aid in accomplishing this goal, used in concurrence with worldwide sunrise-sunset maps. **Now, title separate sheets with the name of each** continent. Again referring to our sources, choose two or three most viable stations from each area, taking care to list only those with schedules conducive to reception during times of the greatest darkness-to-darkness path. **Keeping** abreast of the International headline news often aids the radio listener in hearing Inter-continental DX not otherwise possible. **The high-powered Israeli** transmitter on 737 kHz. was heard widely in North America during the crisis in the Middle East of the autumn of 1973. Stations in parts of Africa and the Middle East embracing the Islamic culture often remain on extended broadcasting schedules during the Islamic Holy Month of Ramadan, as well as during Islamic New Year celebrations. **Many Latin-American stations remain on the air on an** extended basis for certain Feast Days, particularly around the times of the Christian religious holidays of Christmas and Easter. **These factors should** all be brought to bear upon construction of this set of reference lists.

Level Five: Tables constructed according to favourite listening times can prove to be useful aids. Separate lists should be constructed in one-hour listening **blocks for sunset and late evening DX.** These chronological listings will serve as a memory aid to sign-on and close-down times of desired stations, as well as listing those stations which are best received during these time blocks by other listeners in your area. Any other pertinent notes which you have gleaned about the desired receptions from club publications, other DX'ers or standard reference sources should be included on the list as an aid in identifying the desired station

Several examples of such lists are presented here for the reader's perusal:

SUNSET

Time(GMT)	Freq.	Location	Other
2200-	1529	Vatican	news, Italian c/d 2215; Madeira remaining
2300	533	Algeria	AA, //548; late during Ramadan
	1525	China	2300 ID, tuning signal, Russian programming;USSR also.

LATE EVENING

Time	Block	Freq.	Location	Other
0400-		548	USSR	Odessa+others; Majak; listed c/d 2300; on 0000Z
0500		1385	Kaliningrad	on 0400; Majak this time
		827	Sofia	on 0400; Foreign Service, Greek listed;Arabic heard
0700		665/737	Iceland	s/on; Interference Portugal/Spain
		1295	Manx Radio	s/on
0715		584	Faeroes	s/on; Madrid interference

fig.1

Level Six: In certain specialised instances, it has been found that the easiest and most comprehensible method to employ in searching out elusive DX targets is that of constructing a graph. **A simple bar graph can show at a glance the stations** operative on a chosen frequency during any of the darkness hours at the listener's location most likely to produce such receptions. **Thus, a study of the example to** follow will immediately show that Berlin is a perfectly conceivable target from North America on 1484 kHz., the International Common Frequency. **It will also** be noted that during certain months of the year, Gibraltar and Senegal are also within the bounds of possible reception. **It becomes advisable once again to** use these personally-tailored graphic presentations in concurrence with a set of worldwide sunrise/sunset maps, to determine those receptions most viable from the listener's own location. **Although it is realised that such persevering work** may become time-consuming and tedious, the dividends of unusual and rarely-reported stations will shortly become obvious.

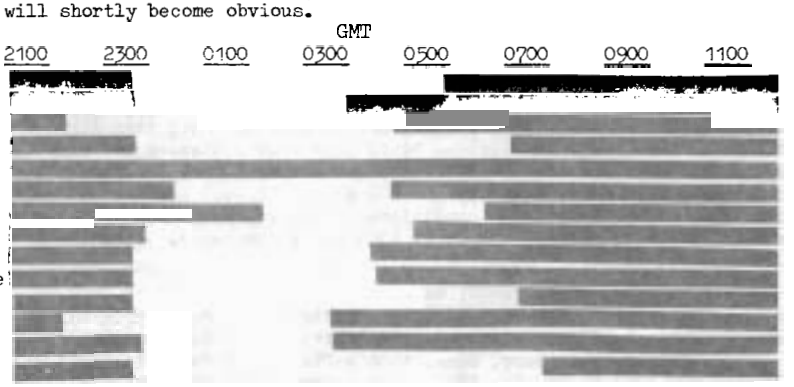


fig.2 1484 kHz

If the DX'er has gained a thorough grounding through the six levels suggested here, he should have arrived at a high degree of sophistication as an International medium-wave DX'er; if he continues to revise and up-date the information contained in his reference sources, he will arrive at the ultimate pleasure of adding many elusive and rare stations to his totals.

PART II: RESEARCH FOR THE "DOMESTIC" DX'ER

How can some of the methods previously suggested for International DX'ers be put to use by the listener specialising in receptions of United States and Canadian stations? **The methods are pretty much the same, but can be altered for this specialty.** Since there are infinitely more stations possible, a bit more involved study of the band conditions must be undertaken by the North American enthusiast . For those in pursuit of this most interesting facet of the hobby, many new and unique variables come into play: network affiliations, highly directional antenna patterns, foreign language programming, crowded channels, and rapidly changing programme formats. **Programming in the United States and Canada include such** diverse segments as Cherokee Indian, Cree, Eskimo, local variants of French within the Province of Quebec, educational, religious, country music, discussion, telephone talk shows, rock music, "easy-listening" music, Negro-oriented programming including "soul" and rhythm-and-blues music, and all-news, just to name a few. Station powers in some cases are drastically reduced at local sunset to prevent interference to the high-powered fulltime station(s) on the same channel. As an example, WSJC in Mississippi, operating during daylight hours on 810 kHz. must reduce power to only 250 watts at sunset in Mississippi. This station normally operates during daytime hours with the maximum legal power of 50,000 watts. If a DX'er armed with this information tunes to 810 kHz. several minutes prior to WSJC reducing power, chances are good that he will be able to log the station. With all the confusion and crowding normally associated with broadcasting in the North American continent, how can one hope to sort it all out into some reasonable order? It will be seen from the ensuing paragraphs that just about the only way to succeed in increasing one's domestic totals is through a systematised and progressive "level" approach.

Level One: Before a listener can hope to log very much North America DX, he needs to become thoroughly familiar with the condition of the dial at his location. He should have in his possession a copy of the National Radio Club's Domestic Log or Vane Jones North American Station Log. **Begin by constructing a list by frequency** beginning with 1600 kHz. and working down in 10 kHz. increments to 540 kHz. While listening during nighttime hours, fill in next to the frequency the station or stations heard which seem to be the loudest, including locals. **Add other** information as it becomes available, such as format of programming, languages if other than English, and ID times. It is not **recommended that other stations be** added to this list as they are heard - this will be done at a later time when methods of Logging and Record-Keeping are discussed. **Keep this list as a basic** reminder of the "regular" stations heard from your listening post. Now, do the same for all stations heard within daylight hours. You will find that these receptions are normally from the 200-300 miles (322-483 kilometers) range, and may be extended under optimum conditions in the winter months to a maximum practical range of nearly 1000 miles (1610.31 kilometers). **Samples of the form** to be employed follow:

	DAYTIME REGULAR RECEPTIONS			
1600	WWRL	New York, N.Y.	5000 watts	Negro programming
1590	WERA	Plainfield, N.J.	500 watts	daytime only; local oriented
	WQQW	Waterbury, Conn.	5000 watts	"easy-listening" music
1580	WCRV	Washington, N.J.	1000 watts	daytime only

	NIGHTTIME REGULAR RECEPTIONS			
1600	WWRL	New York, N.Y.	5000 watts	Negro-oriented
	WUNR	Boston, Mass.	5000 watts	religion;some Spanish
1590	WQQW	Waterbury, Conn.	5000 watts	"easy-listening" music
1580	CBJ	Chicoutimi,P.Q.	10000 watts	CBC French
1570	CKLM	Montreal, P.Q.	50000 watts	French: rock music

fig.3 ⌂

Level Two: After a thorough grounding in local dial conditions has been gained, the listener may proceed to a more sophisticated means of increasing his "domestic" loggings. **Since most listeners, due to committments, must decide on a listening** period, either at sunset or late evenings, it becomes increasingly obvious that some degree of specialisation must now be attempted. **The easiest and most** beneficial manner in which to deal with increasing one's loggings is through a basic understanding of propagation. **If most stations to the north of the DX'ers** location seem to be blocked by rarely-heard stations from the south, "auroral" conditions prevail, and other stations from the same geographical area should be **sought. If, on the other hand, an unusual number of stations are being heard** from certain states, cities or specialised areas, concentration during the DX session should be on these areas. Classical trademarks of "auroral" conditions will find a higher than usual background noise level, somewhat like a "hissing" sound, strong regularly-received stations to the north either missing or highly disturbed, and plentiful receptions of regional-channel stations in the Deep South. Such openings may also become apparent at local sunset, when regularly-received stations on regional channels are replaced by country-and-western music, and announcers with deep southern "drawls". Depending on the listener's favoured DXing period, lists of stations which may well be received during auroral conditions should be drawn up. **These lists may be done according** to the geographical area being sought, such as "MOST-WANTED KENTUCKY DAYTIMERS", or "NEEDED FULL-TIME STATIONS IN FLORIDA". **If most DX'ing is done at local** sunset, these lists may be drawn up according to month, by sign-off times of wanted stations. **Such an example follows:**

DECEMBER (EST):

1700: 1500 kHz.: WLWL
1510 kHz.: WEAL, WYRU, WLKR, WLGN
1520 kHz.: WKNT, WINW, WIRI

1715: 1500 kHz.: WKBX, WEAC, WVOC, WGIC, WSWS, WZBN
1510 kHz.: WSJW
1520 kHz.: WIDD, WNMT, WDSL

fig.4 ⌂

Level Three: After some considerable time has been spent exploring the dials, the listener will notice that certain frequencies seem to be somewhat more free of interference than others. A careful record of these "semi-clear" channels should be made, along with information compiled from published references about stations still needed on these frequencies. In **a great many areas of North** America, it has been found through the years that 1580 kHz. is one of the spots on the dial with the greatest possible yield of stations signing off at local sunset. **On a good night, when the band is fairly quiet, coast-to-coast receptions** of daytime stations has been obtained on this frequency. It is advisable to choose either this frequency or another which you may find to be relatively clear of interference, and persevere through an hour's worth of 15-minute sign-off segments. **As many as fifteen new catches may be gotten in one sitting, using** this method. The same method may be employed for late - night listeners, when certain domestic channels become less crowded. A check of Canadian Broadcasting Corporation frequencies following 0107 EST sign-offs in Ontario and Quebec will immediately yield such possible receptions as CBU/XETRA, 690 kHz., KRMG/CBX/KCBS/WKIS, 740 kHz., XEMO/KONO/HILR/XEUN, 860 kHz., WINZ/KHOS/CJGX, 940 kHz., and KKJO/KKHI/XEBG/HJAX/WKFE or 4QD, 1550 kHz., all dependent upon the location of the DX'er and prevailing conditions.

Level Four: Many smaller stations in North America still schedule regular **monthly or bi-monthly frequency checks.** Such checks are conducted between the hours of 0000 and 0600 EST (0500-1100 GMT), and normally consist of a standard audio tone (usually 1000 Hz.) for a duration of fifteen minutes. **Station** identification may be given at the beginning and end of the test, although in some generous cases, identification is made as frequently as one-minute intervals. A list of frequency checks is compiled annually by NRC and IRCA; reference to these lists should be made by listeners DXing these hours to aid in identification of testing stations, as well as in selecting probable "target" DX stations.

Level Five: It becomes desireable at this juncture to construct another list, based on "at-the-dial" experience, of stations which tend to act as "indicators" **of certain types of openings. Such openings may favour reception of stations** on very high latitude paths into Canada's Maritime Provinces, or stations not often heard from such diverse locations as The Pas, Flin Flon, North Battleford, Peace River, Edson, Dawson Creek, Prince George, Whitehorse, Yellowknife, or Frobisher Bay, depending again on the location of the listener. **A sample list** of "indicator" stations showing such conditions follows:

"Indicator Stations" Favoring West Coast North America
(from author's location in New Jersey)

Frequency	Station
640	KFI
690	CBU/XETRA
740	CBX/KCBS
790	KGHL (frequency check)
850	KOA
860	XEMO
940	CJGX
960	CFAC
1000	KOMO (Monday morning only 0300 EST+)
1020	KGBS (Monday morning only)
1030	KTWO (Monday morning to 0200 EST)
1060	CFCN (Monday morning only)
1070	KNX
1090	XEPRS/KING
1140	KRAK/CKXL/KGEM (Monday mornings only)
1160	**KSL (noticeably louder than usual)**
1180	KOFI (Sunday mornings only)
1190	KRDS/KEX (Monday mornings)
1260	CFRN
1270	CHAT
1530	KFBK
1550	KKHI
1560	KFMC

fig.5 ⌓

It may be observed that such a list may be readily modified for anyone's peculiar set of DX'ing circumstances. If 75% of the listed stations are audible, it is then fairly indicative of an opening to the area in question, and more stations, particularly those on regional channels, may then be sought.

Level Six: There is no substitution quite as valuable as the "chronological list". Although admittedly time-consuming in setting up, the results are often pleasantly surprising. **With paper and North American station references at hand, the DX'er** need now set down his desired stations by one-hour time blocks, assuming late evening listening times. **This listing will incorporate all possible frequency** checks, close-down times for desired stations, special DX test programs, and any other factors which one may glean and consider of "tip-value" in producing a logging of the station(s) in question. **Such a sample list may look like this:**

Integrated Want List - Second Monday Morning

0100-	550	KFYR	"K-Fire", rock format
0200 (EST)	940	CJIB	CJGX "GX-94" indicator
	960	KOOL/KAEL	CFAC "Calgary's Brand of Radio" indicator
	990	WCAZ	Frequency check (0115-0130)
	1020	KGBS	indicator, watch for A3Z from 0300 EST
	1030	KTWO	NBC, off 0200 EST; heard 2-3 times per year
	1340	WAGN	Frequency check (0115-0130 EST) Michigan

fig.6 ⌓

A little time spent away from the receiver at "systematising" one's DXing efforts can result in an entirely new and more productive perspective on the hobby.

III: LOGGING AND RECORD-KEEPING

Now that the DX'er has learnt the systematised approach to the hobby, he must decide upon a means of "logging in" his newly-heard stations. **Some means of** keeping a permanent record of stations received becomes a necessity, for several reasons. **Such a permanent record will ultimately permit the DX'er to determine** if a station is "new" or already in the log; secondly, a neat, orderly method of record-keeping allows the statistics-minded to compile information about his catches that may otherwise become a burdensome task. **Formats of this log are** as varied as the listener's own ingenuity. The record should be made as legible and graphically-appealing as possible.

The initial job of "logging in" stations is done at the receiver under actual listening conditions, and may take the form of scraps of paper, prepared forms, or modified amateur radio logbooks. If the hobbyist enjoys receiving QSL cards or verification letters from his stations, it is advisable to copy down the required program information on still another sheet of paper, to avoid the pitfall of containing too much information on the same sheet, thereby losing "the forest for the trees". **If stations are taped, the counter reference number** of the station should be entered on the logging sheet for future reference. A sample of a representative night's logging follows (it is wise to keep in mind that for logging forms, reduction to extreme simplicity provides for easier reference at a later date):

7 November 1973 Sunset session Tape: BASF C90 Side One

(Tape:260) 790 WTNC 1708 EST ad for Ford Truck Center; WAEB mixed; NEW - enter
(Tape:330) 910 WORD 1720 Spartanburg local weather; in the clear; rarely hrd
(Tape:530) 1525 China 2300 GMT potent with tuning signal, "Govorit Pekin" - nice
(Thru 570) " " usual format, male/female announcers in Russian; East is Red.
954.7 4VCD news in French through 0002 GMT, when ID. Surprise, tape not running---!&*¢@ (remainder deleted)

fig.7 ⌓

The above example is a copy of the actual logging sheet used for the date quoted; obviously, many more stations were heard, but only the very important or unusual loggings were noted on the sheet. Many other routine sunset domestic and Trans-Atlantic stations were heard, but none needed or desired for tape.

Several alternative methods are available for keeping the permanent log. Some DX'ers prefer to enter all information on index cards, alphabetised by call letters or countries in which there are no assigned call letters. **Others** use a loose-leaf notebook arranged by frequency, interpolating "split" frequencies where necessary.

What type of information should be contained in the log? In as much as the minimum of cross-referencing is desireable, the call letters of the station when applicable, location by city,state, and/or country, power in use when heard (if unknown, use listed power), date and year first logged, time, tape reference, signal quality, and sources of interference should be entered. **Of course, the** final choice of content remains up to the individual DX'er. In certain cases, a simple notebook listing only stations, frequencies, powers and locations will suffice. **A sample card log from a DX'er with "data-mania" might look like this:**

EAJ8 San Sebastian, Spain 1025 kHz.
8 kW. 0600-0630 GMT 22 October 1973
Tape #15 Side One; #476-593 S7 to 10db/S9
French rock music program "Radio Océan" IDs
Spanish ID at 0630 GMT
A-index 18

fig.8 ⇨

A simplified notebook entry, on the other hand, might appear like this:

1025 EAJ8 San Sebastian, Spain 8000 watts 22.10.73

The information set down on the logging sheets used while DXing should be kept in a file folder for review once every several months. In this way, all pertinent data from these sheets may be copied into the permanent log or onto the file cards with a fairly regular interval of elapsed time. Once the information is copied out into the permanent log, the old logging sheets may either be re-filed for later analysis or discarded. Many DX'ers enjoy keeping additional records, including such information as "total number of domestic stations heard", "number of foreign stations heard", "number of stations logged in the Netherlands Antilles", "Total U.S. States and Canadian Provinces heard" and "total countries or politically self-governing areas logged". It becomes a simple matter, while transferring information from logging forms to permanent records, to enter a "tally mark" next to the state, province, continent, or politically autonomous region desired, thereby providing the listener with a permanent and continuous record of data regarding the most important achievements to be attained within his hobby. Several examples of such "tallies" follow, executed in the traditional method:

Alabama: ~~𝍸 𝍸 𝍸 𝍸~~ 111
Alaska: 1
Arkansas: ~~𝍸 𝍸~~ 111

Alberta ~~𝍸 𝍸~~
British Columbia 111
Manitoba ~~𝍸 𝍸~~

Germany (Federal Republic): ~~𝍸 𝍸 𝍸~~ 11
Germany (Democratic Republic): ~~𝍸~~ 111
Brazil: ~~𝍸 𝍸~~ 1
Syrian Arab Republic: 111
Dahomey: 1
Costa Rica: ~~𝍸 𝍸 𝍸~~ 1
Gilbert and Ellice Islands: 1

◊ fig.9 ◊

Total Number of Stations Heard - United States: ~~4424~~ ~~4763~~ ~~1675~~ ~~1826~~ 2113
Total Foreign Stations Heard: ~~106~~ ~~346~~ ~~458~~ ~~529~~ ~~678~~ 796
Total Stations Heard - All: ~~1230~~ ~~1579~~ ~~2433~~ ~~2504~~ 2909

As larger totals are reached, the previous total may be lightly struck out, while still allowing the DX'er to see his growth over the months and years of his pursuit.

Since the inception of DX'ing as a hobby of long-distance radio reception back in the 1920's, it has evolved into a loosely-bound pursuit of leisure time with few universally-accepted ground rules. It has been the intent of this article to expose those of similar interests to some of the systematised methods currently in use by some enthusiasts, and is not intended as a sine qua non of DX'ing expertise. Since this hobby has become somewhat liberated from the strict and unimpeachable dictums of the '30's and '40's, the individual DX'er must, in the long run, evolve his own personalised system of logging, "counting" stations, and deciding pretty much for himself that which constitutes a "country" for radio purposes.

But, there remains little doubt that if he is to succeed in his quest for new loggings, he must, at least, become "systematised".

Using 2 Loop Antennas to Generate Asymmetrical Receiving Patterns

by
Mike Levintow

DX'ers who are familiar with the Worcester SM-1 antenna may have experienced highly skewed or shallow nulls and nulling patterns, which vary depending on the exact location in the house the antenna and receiver are set up. The SM-1's relatively small magnetic field, in comparison with, say, a four-foot box loop, makes the antenna highly susceptible to skewing from the placement of large metallic objects, electrical wiring, etc. in the vicinity of the loop. Such skewing effects may be at times desired by the DX'er. In particular, a skewed loop receiving pattern with a lobe directly opposite a null will permit reception impossible with a "normal" loop. In Figure 1, station X, a local, is nulled out by a normal loop with a figure 8 receiving pattern. Since stations " X " and "Y" are co-linear with respect to the DX'ers location, reception of station "Y" would be difficult or impossible--particularly difficult if station "Y" is within groundwave receiving distance only. In figure 2, station "X" is nulled out with a loop having the skewed pattern shown. The pattern nulls towards station "X" but has a lobe towards station "Y", permitting "Y"s reception. (see diagrams following article-ml).

Is there some simple method of creating these asymmetrical patterns with the SM-1 without complex additional equipment? Fortunately, the DX'er who has a second antenna--his old air-core loop--has all the equipment necessary. The technique is to place the box loop near the SM-1--roughly 1 to 3 feet away, depending on the size of the box loop--and influence the SM-1's field by tuning the box loop. Best results have been obtained by placing the loops so that their axes form an angle in the 60 - 90 degree range(see Figure 3). The box loop is not connected to the receiver (the SM-1 is connected,of course). Also, best results have been obtained with the box loop's preamp turned off.

Nulling Technique: Tune in a station with the SM-1 only, which you want to eliminate. Then place the box loop in a desired position and try peaking the station's signal by tuning the box loop's tuning capacitor. There should be a sharp peaking point as measured by the receiver S-meter. Then try rotating the box loop. If this does not work, try rotating the SM-1 to various positions to find the best nulling combination of the two loops. It may be necessary for some SM-1 settings to repeak the signal by retuning the box loop in order to find a null with minimum loss of sensitivity. A new set of patterns can be produced by moving the base of the box loop with respect to the SM-1.

Depending on the relative positions of the two loops and the box loop's tuning, the SM-1's pattern can be varied from a nearly symmetrical figure-8 to complex assymetrical patterns with multiple lobes and nulls. The great advantage of the varying null positions on a crowded frequency should be apparent.

Theory: The 2 loops, electronically speaking, act like two transformers and thus coupling is present between the 2 loops. Phasing differences between the pickup patterns of the loops are responsible for the patterns generated by the system. Coupling between the two loops tends to decrease as the distance between the loops increases, so past a certain point the box loop will have no noticeable effect on the SM-1.

Experimental Results: I have tested this technique using both a 2 foot and 3 foot box loop, and in 3 different locations: downtown Philadelphia, Pennsylvania (urban), Rockville, Maryland (suburban), and Cove Point, Maryland (rural), and have obtained results in all 3 locations. Best results have been obtained for daytime DX'ing, when the signal intensity in a given direction is relatively stable. Among the more interesting results include 1) clear daytime reception of WNAV-1430 from Philadelphia, impossible with a single loop ordinarily since WNJR is completely dominant and roughly in line with Annapolis with respect to Philadelphia; 2) clear daytime reception of 250-watt WJIC-1510 from

Rockville, with 50,000 watt WTOP-1500 pest five miles down the road; 3) daytime reception of either WASA-1330 or WESR-1330 in the clear from Cove Point, with precisely the same loop bearings for each loop--the only difference being a small change in the tuning capacitor setting on the box loop!

Like an altazimuth loop, the two loop system is capable of nulling out very powerful locals. **Cochannel stations heard with a strong local nulled** out with the two loops may be different from those heard with an altazimuth loop, because of differences between the loop patterns of the two receiving systems. It has not been found necessary to tilt the box loop in the two loop system to obtain deep nulls.

Signals received with the two loop system frequently sound "crisper" and "cleaner" than those received with the SM-1 alone, due to the elimination of sideband splash in many cases, spurious signals, cochannel interference, etc., through tuning the box loop. The box loop also serves as a variable Q control for the SM-1's circuit.

Limitations of Two Loop Technique: Use of the two loop system at night results in rather unstable nulling configurations. The worst situation turns out to be where several strong skywave stations from different directions are simultaneously received on one frequency. However, situations where weak groundwave and/or skywave signals are co-linear with the desired station, the technique has been proved effective. **(Example--WWDC-1260 with a clear listen-** able signal from Philadelphia during the evening--QRM from WBUD (groundwave) and WEZE (skywave) from the northeast eliminated, leaving WWDC (southwest) mostly in the clear with occasional minor (WNDR-northwest) QRM.

It is not clear how well the two loop system will work with receivers with relatively poor rejection of spurious signals. Receiver used here was a Drake SPR-4, which has a relatively good spurious signal rejection. Occasionally, tuning the box loop away from the "peaking" point introduced spurious signals, which would disappear when the loop was properly retuned.

Also, there seems to be some loss of sensitivity in reception off the "back" side of a nulled local or semilocal. This means that a weak station roughly co-linear with the local might be audible if the local were off the air but undetectable with the two loop system under ordinary circumstances.

Conclusions: The two-loop system of the SM-1 and box loop has the ability to receive many stations inaudible with the single loop, and to improve the quality of reception of others by eliminating splatter, cochannel QRM, spurious signals, etc. Most stable reception can be obtained for daytime groundwave signals.

Reception using the two loop system is similar in some respects to that obtained from a UCL (cardiod array) of the type described by Ronald F. Schatz and others in DX News. The two loop system does not generate cardioid patterns, but both systems have the ability to receive in directions opposite to the nulls. The great advantage of the two loop system over the UCL is the absence of a separate tuning unit to match the outputs of the two antennas.

This provides for much simpler operation of the two loop system over the UCL.

Any DX'ers who have experimented with similar systems or who know more about the theory of two loop systems--any comments would be greatly appreciated. Advice on theoretical aspects of this article was provided by Mr. Joe Gwinn of the F.C.C.

Notes:

* Turning the box loop's preamp on loads down the SM-1's loop circuitry. This results in such unwanted effects as whistles, spurious signals, etc., not present with the preamp turned off.

** There are situations where no peaking point is present, such as the loops being too far apart or for some relative positions of the loop axes, particularly when the loop axes are approximately parallel rather than in the 60-90 degree range.

*** I have found that the box loop can be used as an effective preamplifier for the SM-1. **With proper positioning and tuning of the box loop, the gain** of the SM-1 can be boosted about 15 db--almost 3 S-units. This was using only a 2-foot box loop. The quality of gain is very good--no instability has been noted and no additional noise seems to be introduced by the box loop. In this setup, like before, the SM-1 is directly connected to the receiver and is turned on, so the box loop acts like a second preamplifier to the SM-1's. This means that using only small portable loops, gain can be achieved comparable to that of large loops with preamplifiers.

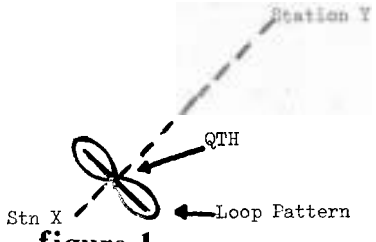


figure 1

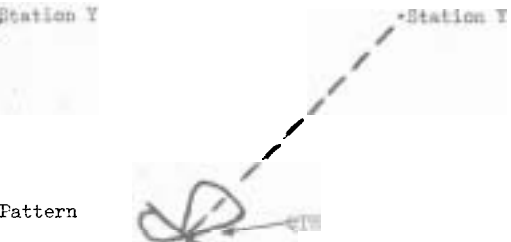


figure 2

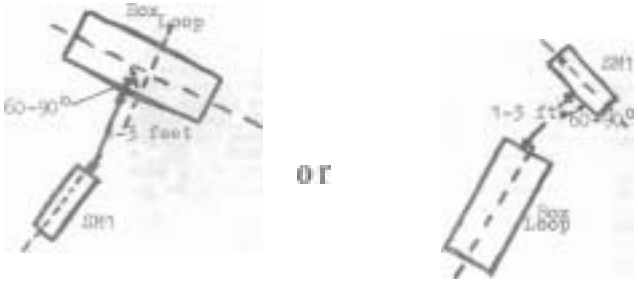
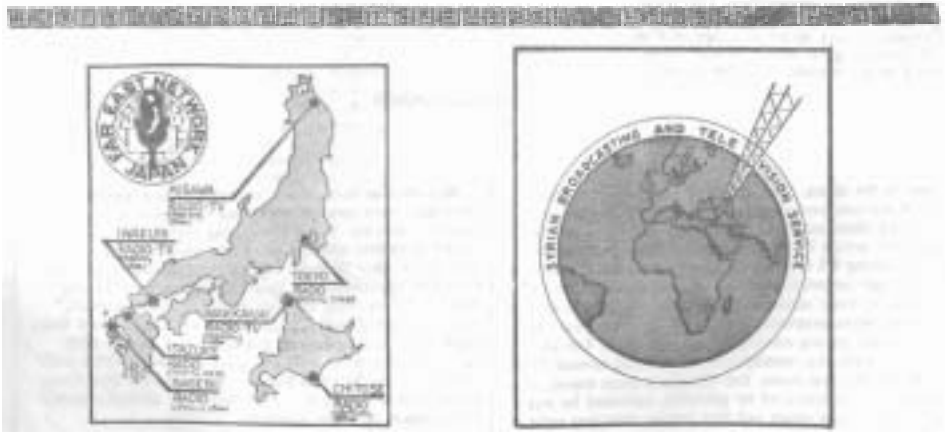


figure 3 - Relative Positions of SM-1 and Box Loop



Daytimers on U.S. clears would get PSA's under House bill

Daylight-savings measure has provision granting FCC power to allow some 100 stations to go on air hour before sunup

The House passed legislation last week that would place the nation on year-round daylight-savings time for the next two years and direct the FCC to allow some 100 daytime radio stations to sign on one hour before sunrise. The group of daytime-only stations offered relief in the bill (H.R. 11324) operate on American clear-channel frequencies. The vote was 311 to 88.

As proposed and amended by Congressman Harley Staggers (D-W. Va.) the bill directs the FCC to "make such adjustment by general rules, or by interim action pending such rules, to permit daytime [AM] broadcast stations to operate not in excess of one hour prior to local sunrise. . . . Such rules, or interim action, may include variances with respect to operating power and other technical operating characteristics." All provisions, however, must be "consistent with any existing treaty" which, in effect, offers no relief to those 243 stations operating on Canadian or Bahamian clear channel frequencies.

The bill would go into effect the first Sunday 15 days after signing of the bill. The two-year effective period would end the last Sunday in October 1975. Hawaii —because its proximity to the equator gives the area more daylight than the continental U.S.—is exempted.

While the House was voting the daylight bill last week, the House Commerce Committee was taking testimony on and marking up an emergency energy bill that is at great variance with the bill passed by the Senate two weeks ago (S. 2589). The House bill (H.R. 11450) was proposed by Committee Chairman Staggers and directs the President to submit all conservation programs formulated by the executive branch for approval by Congress. There is no language in that bill pertaining to energy-related advertising, as is contained in the Senate bill.

Lights down or out; some schedules trimmed

Stations do their own things to cut the uses of energy

Radio and television stations are responding to the President's call for cutbacks in energy consumption. According to reports reaching BROADCASTING last week, these were some of the efforts at watt-watching.

WITI-TV Milwaukee, whose 1,078-foot "tower of light" has become something of a landmark, has announced that the 1,250 25-watt bulbs that outline the broadcast tower will remain off until the energy crisis is over. The 639-foot tower shared by Washington stations WMAL-TV and WTOP-TV will sport no Christmas lights this year, resulting in a 6,200-watt saving, according to station estimates.

RKO General held an "unlighting" ceremony to dedicate a stainless steel-neon sculpture created for the RKO General building in Boston.

Other stations have announced cutbacks in the broadcast day, to reduce electricity consumed both by transmitters and home receivers. KTVW(TV) Tacoma, Wash., announced the elimination of all programing after midnight. WOCB-AM-FM West Yarmouth, Mass., reduced on-air time by six hours weekly, to save 400,000 watts of electricity a month.

WLWD(TV) Dayton, Ohio, announced in an editorial that it is "cooling it"—lowering its thermostat to 68 degrees—and urged its viewers to do likewise. At least one station told viewers *not* to turn off their TV sets. In an editorial WTVT (TV) Tampa, Fla., said that "holding down on use at one point often results in use popping up somewhere else." A 300-watt TV set consumes only as much power as three 100-watt bulbs, the station pointed out.

No cause is a cause without its bumper sticker. WMAR-TV Baltimore is making available its energy-related reminder: "To save gasoline this vehicle will not exceed 50 miles per hour."

CLIPPING CORNER

Threat to the clears. That defensive perimeter that clear-channel stations have thrown up around 12 remaining unduplicated clears seems to be getting smaller and smaller. Emergency action FCC will take, as soon as year-round daylight-saving bill is enacted, to permit daytimers on U. S. clears to sign on presunrise will result in some erosion of dominant stations' service areas. But that is not worst of it for clears. When proposed solution to daytimer problem was discussed among commissioners, Robert E. Lee expressed concern that commission was moving toward "bust-up" of nation's last clears. But Chairman Dean Burch, reportedly, was undismayed by prospect, indicated he was tired of protecting clears and that maybe time was right for breakdown.

With that as background, commission is expected to begin digging into clear-channel issue early in new year, perhaps by February. Staff is preparing material on issues involved in various applications by broadcasters who want to operate on clear channels that are now exclusive and petitions and applications by clear-channel stations seeking boost in 50 kw limit on their power ("Closed Circuit," Oct. 29). Clear-channel stations may take some heart from expectation that Chairman Burch will not remain with agency for much of 1974 (see page 19). But staffers indicate that it is Chairman Burch's feeling, rather than Commissioner Lee's, that is more reflective of general commission attitude on clear channels.

Broadcast hours eyed as lever on energy crisis

Herb Klein suggests 1 a.m. curfew; a professor would advance TV networks' prime time; the FCC, still open-minded on the subject, is adding up radio-TV power use

Herbert G. Klein, former communications director for President Nixon and now a Metromedia Inc. vice president for corporate relations, urges a TV curfew at 1 a.m. to conserve energy. Such a cutoff, he told students at the University of Nevada's school of journalism in Reno, would not be unduly harsh on broadcasters. At midnight, he said, there are 18 million households watching TV, but thereafter there is a sharp dropoff—10.9 million by 1 a.m., six million by 2 a.m.

And a college professor in Columbus, Ga., would do Mr. Klein one better—by requiring the television networks to advance their prime-time hours from 8-11 p.m. to 7-10 p.m. in the Eastern and Pacific time zones. The thesis he shares with Mr. Klein: that one of the principal factors governing bedtime—and thus lights out—in those populous areas of the country is the sign-off time of popular network shows.

(Independent of either suggestion, the FCC's Broadcast Bureau—at the behest of Chairman Dean Burch—is gathering data on how much energy is used by broadcast stations in sending out their signals, as well as how much is used by TV and radio receivers in picking them up [BROADCASTING, Dec. 3]. The commission, at the moment, is purely fact-finding, in anticipation that the question will be put to it by one or another of the administration's energy councils. Chairman Burch says there's no predisposition to a reduction of broadcast time; indeed, he notes that a case could be made that broadcasting should be encouraged rather than discouraged, in an effort to keep people home rather than on the road in search of other diversion. Canada and Japan, however, have imposed broadcast curfews.)

Senator Paul Fannin (R-Ariz.) brought up the idea of shortening the entire broadcast day during hearings on the emergency energy bill (S. 2589) last month. Somewhat facetiously, his staff members say, the senator said that a dual purpose could be achieved if broadcasters did not stay on the air so late at night. Not only would the power used by broadcast stations be cut if they signed off earlier, but "a lot of the garbage on the tube" would be cut off as well, one of his aides paraphrased him as saying.

A 1 a.m. signoff, Mr. Klein said, not only would save on electric power used by stations and in the operation of TV sets at homes, but also would reduce lighting and heating in the homes of viewers. He noted that the outdoor advertising industry already has cut its lighting by 25%. "That is a fair share," he said, "and a good example." (Metromedia also owns Foster and Kleiser Co., outdoor billboard firm.)

Mr. Klein also suggested that savings could be realized if broadcasters were to alternate early morning sign-on in a given community. "A voluntary, industrywide effort," he said, "is preferable to cumbersome government regulations."

At present, the three TV networks have broadcast routinely to 1 a.m., although some go longer. ABC, for example, runs its *Wide Wide World of Entertainment* from 11:30 p.m. to 1 a.m.; CBS runs its late movie during the same period. NBC, however, recently inaugurated its Tom Snyder *Tomorrow* show from 1 to 2 a.m. In Los Angeles, Metromedia's own KTTV-(TV) runs movies throughout the night.

The professor—Donald W. Hendon of Columbus College—backs up his suggestion with a 154-respondent survey: 77 from Columbus (in the Eastern time zone) and 77 in Auburn-Opelika, Ala. (in the central time zone). Both are in the Columbus viewing area. Within that sample, on Fridays, for example, the Easterners said they go to bed at midnight, the Midwesterners at 11 p.m. In the Eastern survey, 15% of respondents said that staying up to watch TV was the most important determinant of bedtime, 29% said it was the second most important reason, 25% said it was the third. The respective figures among the central zone respondents were 16%, 39% and 30%.

Professor Hendon projects his findings to the belief that a shift in network programing practices could result in an almost 1% reduction in energy use—a finding he has brought to the attention of the FCC, the Senate, the House of Representatives and the networks themselves.

This is not the first time Dr. Hendon has figured in broadcast matters. Several years ago he brought charges against TV stations in Las Vegas, saying that station had clipped network commercials. Subsequently, Dr. Hendon said, he was discharged from his post at the University of Nevada at Las Vegas, allegedly as a result of pressure brought by broadcasters.

CLIPPING CORNER

TRANS-POLAR DX :

an analysis of the prospects of dx thru the "twilight zone"

by R. J. Edmunds

During recent seasons, amid predictions of a continuing decline in the sunspot cycle, many DX'ers on the East Coast of North America (ECNA hereafter) have been once again looking for more exotic DX catches which are traditionally expected during low-sunspot seasons. The target stations generally have been located in Northern Europe, Western Asia, the Middle East, and East or South Africa. Receptions in January of 1972 by Page Taylor and the author in Northern New Jersey plus recent research and computations in the propagation area by Gordon Nelson in DX News and Father Jack Pejza in DX Monitor have raised the intriguing possibility of additional Central and Eastern Asiatic receptions in ECNA at local sunset. During the past three seasons, the Chinese transmitter ostensibly located at Urumchi, in Sinkiang Province has been heard quite regularly with excellent audio over much of the American Northeast. Of course several factors are at work here - a relatively clear channel, extremely great power, and a directional antenna pattern are three of the most obvious. Fortuitous geography and signal path geometry may also prove to be extremely significant. Further investigation into the reasons for such reception reveals that other stations in the same general part of the world may also be heard under similar conditions, but with probably far less regularity.

In the ensuing presentation, we will examine a number of the many relevant variables, many previously discussed in DX News, which might make receptions over trans-polar signal paths possible in ECNA. We will discuss distance and great circle paths, auroral effects, normal sunrise-sunset propagation and the effects of polar darkness on these same signal paths, as well as the possible effects of several potential propagation modes in an effort to determine whether or not such postulated receptions are indeed realistic. The reader should bear in mind that the principles enumerated herein may also be applicable to Alaskan and North Canadian reception in ECNA at sunrise or for North European receptions of Far Eastern Russia and Alaska at their local sunset, and quite possibly many other combinations as well. West Coast DX'ers may also apply these principles to North European and Central Asian stations, although to a slightly lesser degree due a paucity of probable stations.

Stations to be considered should initially be subject to the criteria of favorable power, frequency, and schedule. For the DX'er in ECNA, the possibilities might include Irkutsk-1594, Bulun-1394, Kyzyl-1079, Urumchi-1525, and likewise the station reportedly operating in the Petropavlovsk area also on 1525. We will also include stations which seem at first unlikely, but which are being actively pursued in some quarters by means of treminated beverage wave antennae. These would be VOA-Bangkok on 1580 and AIR-Calcutta on 1130. Stations less likely due to certain frequency-selective aspects of both auroral absorption and certain of the propagation modes to be discussed would include Sredne-Kolymsk on 575 and Khabarovsk on 629. West Coast DX'ers might consider Helsinki-557 and Murmansk-656, as well as Thule, Greenland on 1425 and Iceland on 737. Unfortunately, in the cases of the Soviet transmitters, information is scanty and unreliable as to the exact locations and powers of the transmitters as well as to the possibilities of additional as yet unreported transmitters in the same areas and/or occupying the same frequencies. For these reasons, we are obliged to view some of our "possibilities" with a proverbial grain of salt.

I. - DISTANCE

DX'ers familiar with Gordon Nelson's "Medium Wave Signal Paths"[1] series will note that MW signals generally travel great circle paths around the earth from transmitter to receiver, and that these signals are frequently reflected in the ionosphere back to earth. This means that in long-distance receptions, a signal may bounce from earth to ionosphere and back again several times before it reaches the receiver. It is also established that one of the most predominant modes of such skip is reflection in the F2 layer of the ionosphere. This layer varies somewhat in height above the earth's surface, but as a general rule, the maximum distance which can be covered by a single F2 bounce is approximately 2500 miles. For a detailled discussion of the reflection process, as well as of the various layers of the ionosphere, the reader is referred to Father Jack Pejza's article "The Beginner's Guide to the Ionosphere", (DX NEWS Vol. 39 # 27)*[2] In terms of the Asiatic stations under consideration here, the distances vary from 5200 to 8600 miles from metropolitan New York. Assuming the aforementioned maximum one-bounce skip distance, this translates into a minimum of 3 F2 bounces for 5200 miles and 4 for an 8600 miles path. While it is practically impossible to establish a maximum number of skips via F2 over a given path, it may be safely assumed that any figure which exceeds the viable minimum by more than 3 or 4 can be ignored, as its existence would be extremely rare. For the sake of continuity, we shall refer to the F2 propagation mode as "conventional" propagation herein, as it has heretofore been the most widely-accepted one.

At this point, however, we must stop to consider several alternatives to the so-called conventional skip mode. Other modes or combinations thereof may also be operational for long-distance medium wave reception. Among these, probably the "chordal mode", which appears to be somewhat similar to an F2 mode in terms of the part of the ionosphere it initially intercepts, but exhibits many startlingly different characteristics, is potentially the most significant. Figure 1-1 represents the long-distance signal path via conventional skip for a 4-hop (4F2) propagation similar to that believed to be responsible for the Urumchi receptions. By comparison, Figure 1-2 depicts the same earth-distance between transmitter and receiver for a signal path in the chordal mode.[2]

In this mode, the signal is propagated over the distance by taking advantage of a fortuitous irregularity in the ionosphere which is referred to as an "ionospheric tilt". These tilts have been demonstrated to exist under several varied sets of circumstances, but predominantly occur at sunrise or sunset in the ionosphere at the point in question. Thus, when a tilt exists at sunrise at one end of the path or near it, and a corresponding and complementary tilt exists at sunset or near it at the other end, the possibility for chordal mode propagation is enhanced. Research in this area has been thus far confined to shortwave frequencies, where optimum results have been observed under certain special sets of conditions. Among these conditions are that the transmitter and receiver are located at antipodal points on the earth, (an antipodal relationship exists when the two points in question are on the opposite ends of an imaginary line drawn precisely through the center of the earth. This can best be observed by experimentation with a clear-plastic globe); when these antipodal points are located between latitude 32° North and 32° South; when the signal path does not traverse the polar regions where they may encounter absorption more readily; and at frequencies between 13 and 17 mHz. range. This is not to say that this mode either does not or cannot exist under other conditions -- it is simply to state that these are the only conditions where reports of experimental proof of it have been published. We must make this distinction due to the lack of evidence to either prove or disprove such propagation under other circumstances, which is meant to emphasize the still somewhat "iffy" nature of the phenomenon as related to MW DX.[3]

* Part I. Part II appeared in DX NEWS, Vol. 40, # 14.

Figure 1-1 : A 4F2 Skip Path

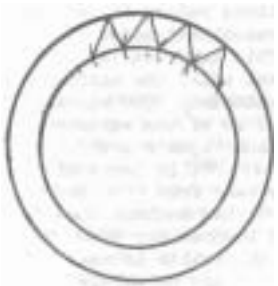
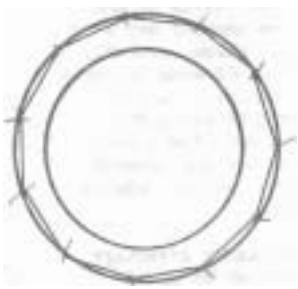


Figure 1-3 : Propagation by the Whispering Gallery Mode



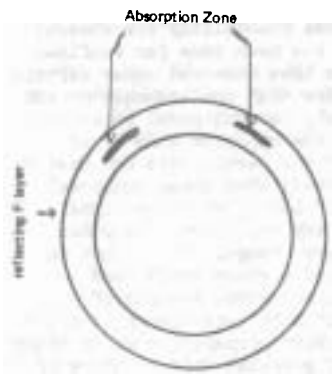


Figure 1-2 : A Chordal Skip Path

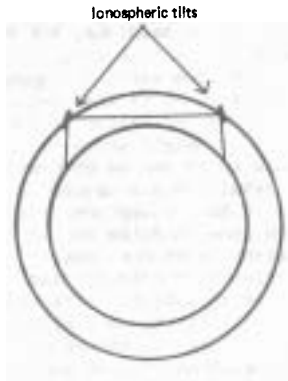


Figure 2-1 : Geographical View of the Approximate Location of the North Auroral Absorption Zone.

Figure 2-2 : Cross Sectional View of the North Auroral Absorption Zone

Without delving into too much laborious detail, the chordal mode may be extremely significant to the problem we are exploring herein, as it provides still another plausible explanation for the seemingly anomalous Urumchi receptions, and their similarly anomalous characteristics. This becomes even more interesting when we remember that all of the reported ECNA receptions of this station have occurred within an hour or so of ground sunrise at Urumchi and/or ground sunset in ECNA. As we will see later on, this margin is well within the reasonable limits for ionospheric sunrise and sunset, which is especially relevant to chordal propagation as well as to the aspect of normal daylight absorption along the signal path.

Another widely-discussed propagation mode which has been heralded as a possible explanation for the Urumchi receptions is the so-called "whispering gallery" mode, in which the signal is reflected (this is not precisely the correct term, but in general usage it will have to serve to convey the idea) along the underside of an ionospheric layer, or possibly even of an absorption layer. Figure 1-3 represents this type of propagation. Here, it will be noted, the illustration fails to depict any start or end to the signal path . There is a reason for this, and that reason is the big question-mark concerning "whispering gallery" propagation. As we have already seen in the case of the chordal mode, certain specific sets of conditions provide the only available documentation regarding the behaviour of this mode as well. Experiments reported to date have again concerned themselves only with shortwave signals, and, more importantly, have been only concerned with receiver and transmitter locations in or close to the reflecting layer, which may well be of little or no value to ground-based DX'ers looking for ground-based stations.[2,4]

The possibility still exists, however, that if, by some anomalous means, a signal did reach the requisite reflecting layer under the necessary conditions and with the requisite trajectory, and could similarly find its way back to earth again, this mode could become significant. Again, as before, we see that we must have a component of a more traditional mode in order to make this one viable.

If we can accept the fortuitous combination of circumstances necessary for viability of chordal or "whispering gallery" propagation, we can then move on to still another possibility. In a similar vein, other near-random combinations of propagation modes might be at work here also. We cannot totally preclude any of them at the present time. These might include combinations of E, D, F1, F2, chordal, and whispering gallery as well as others not yet noted here, known as the "M modes". An M mode is one which combines one or more of the above types and which may also utilise reflection back to the relative layer from the topside of the absorption layer or a lower layer without being reflected back from the earth. Naturally many more hops might be required, but it would also stand to reason that the corresponding reduction in losses resulting from passage through these lower layers or from contact with the earth's surface might be complementarily reduced. For a more detailled discussion of the M modes, the reader is referred to Gordon Nelson's article "Skyline Blockage: Sources of Uncertainty in Calculated Arrival Angles" (DX NEWS Vol. 40 # 15). A relevant descriptive portion of that piece, along with the corresponding diagram are included here as Appendix I.[2]

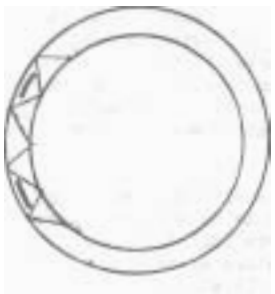
Having duly explored a number of possible propagation modes, we can now turn back to the conventional F2 mode to unveil some of the fortuitous aspects necessary to F2 propagation on trans-polar signal paths. These aspects primarily involve auroral absorption and the conditions necessary to avoid same. It is this consideration which has prompted study into the alternative modes noted above, as the effects of auroral absorption on them are either greatly reduced, far more predictable, or almost totally non-existent.

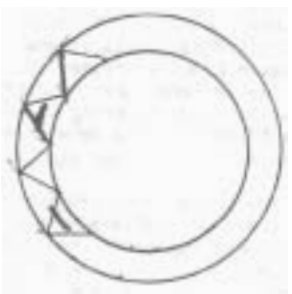
Before we do this, however, it is important to point out that there is a way to make a determination of whether or not a signal is being propagated by F2, E, chordal or whatever. This relates to the arrival angle of the incoming signal. In the shortwave experiments alluded to in the discussions of chordal and Whispering gallery propagation, the equipment necessary was available. Unfortunately, any such means are unavailable to the DX'er because of their size, expense, and usability for medium waves. Hopefully this problem will be rectified at some point just as high-precision direction-finding was brought about in the lateral sense, by the altazimuth loop. Until that time, the only guage is to arm oneself with a set of computer printouts for propagation along various paths, under several types of possible propagation modes for comparison. At least we can trust to horizon blockage to help to eliminate a few of the possibilities, which may be the only good thing we can say about something which is normally the bane of a DX'er's existence.

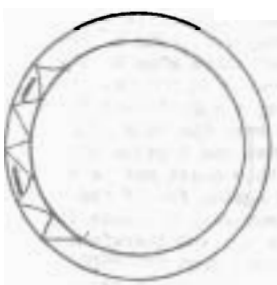
II. - AURORAL ABSORPTION

As has been noted in previous articles on auroral absorption and its effects on medium wave reception, the north auroral zone assumes the shape of an irregular ring roughly centred on the earth's magnetic north pole. During average auroral activity (a "Q" index of 3 or less) this ring of absorption at the times corresponding to midwinter sunset DX time in ECNA (about 2200-0000 Z) is positioned approximately as indicated in Figures 2-1 2 . The latter is a cross-sectional view of the earth, and is more vivid for illustration of the effects of this zone on long-distance, multi-hop receptions passing over and/or through it. Note especially the area of "normal" or "quasi-normal" reflection inside the absorption ring in the vicinity of the geographical north pole. This area is frequently called the "donut hole" or polar cap region, and may be extremely significant if the propagation mode responsible for trans-polar reception is indeed F2, as it would provide a means for a signal to bounce once or twice within this area, and, given fortuitous geographical placement of transmitter and receiver with respect to the location of the absorption ring at any given time, bounce over both sections of the auroral ring without suffering from the ring absorption, as shown in Figure 2-3 . This may well be what happens in the case of the Urumchi receptions. As we will ultimately see, this phenomenon might well allow several other similar receptions, although hardly with the same frequency and/or quality as has been the case with Urumchi. We must also bear in mind that while the illustrations depict a specific number of bounces of F2, other magnitudes might be prevalent depending upon the geography involved, as we already know that there may be several viable F2 paths between a given transmitter and a given receiver location. We must likewise remember that the illustrations here are not drawn to scale, and that in an attempt to graphically represent what is happening, we are significantly distorting the actual relationships in so doing.[5]

Despite the fact that we know that much of the auroral absorption which affects medium wave signals occurs between 30 and 55 miles above the earth, except during periods of major geomagnetic disturbances, we must still have at least a reasonable approximation of the extent of the auroral ring's lateral "thickness" with respect to the ground below in order to even try to determine whether or not a given signal on a given F2 path will likely be absorbed. While we have extensive data on receptions of Urumchi under a wide variety of local geomagnetic indices, these data do not reflect planetary geomagnetic conditions, nor do they necessarily apply for other transmitter and/or receiver sites. Therefore, they are at best inconclusive for our purposes unless we wish to confine ourselves to these particulars only. Likewise, we cannot make calculations even if we were to know the lateral thickness of the ring, as we must also no its location with respect to the ground below before we can reach any meaningful conclusions. Without immediate recourse to the observations of certain rather highly-classified satellites , we are as yet unable to ascertain these most relevant facts. That these data are necessary to the process becomes obvious when we consider that a relatively small change in distance







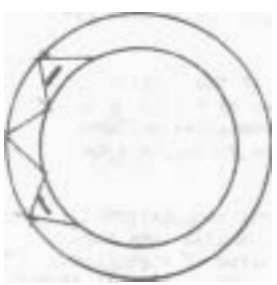


Figure 2-3 : Some examples of postulated viable F2 skip paths

Figure 2-4 : Some examples of postulated non-viable F2 skip paths

on the earth's surface may cause a signal to be absorbed because one leg of the path may be moved into an absorption area, despite the possibility that the opposing leg may not.as depicted in Figure 2-4.

Before we go into further detail with respect to the relationships between the auroral zone and signals passing over and through it, it would be well for us to discuss the initial implications for varying incident angles on various signal paths. Figure 2-5 illustrates the concept of the incident angle and how it is achieved. As we know, the incident angle of a given signal is frequently the governing factor in determining whether or not horizon blockage will affect certain potential DX catches. As we will see later on, this consideration must also be taken into account for certain trans-polar predictions.[5]

In order for a signal to propagate along a path over the pole with the requisite evasion of the auroral absorption, it will of necessity have to be defined by certain parameters regarding the incident angle. These parameters include the height of the absorption layer (the differences between 30 and 55 miles as noted earlier is a significant factor, and must not be taken lightly), the location with respect to the ground below of the layer's "edges" and the locations of the transmitter and receiver sites in question. If the transmitter or receiver site is geographically proximate to an imaginary line dropped verticallt to earth from the southern or "leading" edge of the zone of absorption, the incident angle necessary for a signal to escape absorption may be quite high. As the distance from transmitter and/or receiver to this imaginary line increases, the requisite incident angle will correspondingly decrease, which immediately subjects it to other problems, which we will get to momentarily. We can imagine the absorption as a huge horizon blockage of immense height (30 to 55 miles) at a distance of whatever is the distance from receiver or transmitter to the aforementioned imaginary line in order to make things a bit clearer. Those other problems mentioned above come in when we increase the distance from the transmitter and/or receiver from the imaginary line so as to make the lateral thickness of the auroral ring a significant factor. This is because the signal path has to get back down again over the other edge of the zone, and so on. This consideration prompts the idea that the topside of the absorption layer might be reflective in nature, such that this might not be so much a problem, and that brings us back into the "M" modes again, for if the thickness of the zone exceeds the number of miles our maximum skip distance figure allows, bearing in mind that the zone is 30 to 55 miles up, and therefore the distance with respect to ground is significantly decreased from the 2500 figure (via simple geometry one can tell approximately how much this is except that we don't know the actual zone thickness) .

For these reasons, it is most useful to be able to predict the incident angle, as this knowledge may aid in the prediction of whether or not a given signal will be absorbed. It is likewise helpful in determining the nature of any relevant F2 paths as to the number of bounces necessary for viable propagation. The computation is effected by means of the formulae included in Father Jack Pejza's article "Skyline Blockage" (DX NEWS Vol. 40 # 15) , which is also reprinted herewith, as Appendix II.[6]

We can also use alternative means to give us an indication of the location of the auroral zone of absorption and possibly of its thickness by utilising the computations for Limiting Auroral Control Points (LACP's) contained in Gordon Nelson's article: "Geographical Patterns in BCB DX Reception During Periods of High Auroral Activity" (DX NEWS Vol. 38, # 31, 8-28-71).[7]

By this means, a map-drawing depicting LACP data gleaned from computations for domestic stations received or not received during the specific time period involved may be constructed, unfortunately the lack of stations of significant power in the far North makes this technique usable only when there is such strong geomagnetic disturbance that trans-polar reception would be highly unlikely.

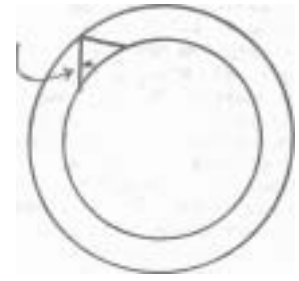


Figure 2-5 : The Incident Signal Angle

Figure 2-6 : Comparative 3, 4, 5 F2 Paths for the Urumchi to New York signal path

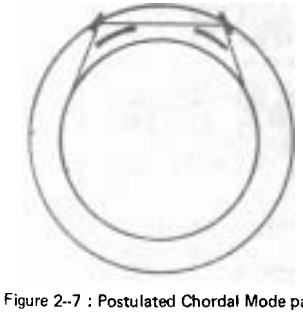


Figure 2-7 : Postulated Chordal Mode path for the Urumchi to New York path.

Figure 2-8 : Postulated "M" Mode path for Urumchi to New York.

Computer printouts based on the requisite formulae for the Urumchi to New York signal path indicates that a 3F2 path would arrive at an angle of 1.8°, which is almost assuredly too low to be able to bounce over the absorption zone. A 4F2 path would yield an arrival angle of some 7°, while a 5F2 path would give us an arrival angle of 11.5°. A 6F2 path would have an arrival angle of 14°. We can see that the 4F2 path is possible, but that the 5F2 may well be more likely due to the fact that the path must get high enough to escape the absoprtion in a relatively short distance. A 6F2 path may well stretch things the other way. Of course, without the accurate figures for the necessary data on the auroral absorption zone itself, all of this is only slightly better than pure conjecture. The locations of the bounce points on the earth for 3, 4, & 5F2 skip paths are illustrated in Figure 2-6, which uses the same map base as was seen in Figure 2-1, so that a ready comparison may be made between the bounce points and the approximate location of the absorption zone. The bounce points in the inonsophere can, for the purposes of illustration be assumed to lie exactly at the midpoints between the earth bounce-points, although this may not always be the case. It is also well to note that the basis for our placement of the auroral zone is merely a statistical construct in accordance with the Feldstein-Starkov model, and should therefore not be interpreted too strictly. Likewise, the cross-sectional maps are exaggerated in order to emphasize certain points, and are not drawn to scale.[6,8,9]

In summary, then, we see that there are at least three inestimable variables which cloud the picture - one, the lateral thickness of the auroral zone, two, the position of the zone, and three, the height of the zone. Add to this the inherent irregularity of the "edges" of the zone, and one can readily see that anything more than an indicative prediction would be unfounded, however we can get a reasonable grasp of the overall situation. If future receptions and/or research yield answers for any of these variables, we can then obtain a clearer view.

Further, not all stations among those we are considering are potential "donut-hole" receptions, as their signal paths may not even cross the area of the polar cap. Depending on the geomagnetic activity, they may be either absorbed or not, but we can predict that it will be most unlikely for them to be received on the basis of F2 propagation.

As we have already noted, many of the alternative modes to the conventional F2 mode may preclude the necessity for or significantly reduce the improtance of considering the Northern auroral absorption zone. For example, the chordal mode might well allow a skip path which would completely pass over this area, as illustrated in Figure 2-7. Likewise, in the M modes, the absorption zone might well assist the signal along its way to ECNA as in Figure 2-8, although this condition is primarily hypothetical at this point.[1]

Now that we have dealt with several of the vagaries of the auroral absorption zone as it relates to trans-polar medium wave DX reception, we can move on to consider the normal effects of sunrise and sunset absorption and enhancement.

to be continued in a subsequent issue

550	+WKRC	OH	Cincinnat i	5/9
560	*KVOK	AK	Kodiak	Unk
570	+CKKK	BC	Cranbrook	6/27
580	#WKSK	NC	W. Jeffersen	11/1
610	#CJOX	NF	Grand Bank	7/27
	+CJAT	BC	Trail	6/18
630	*CJLA	PQ	Lachute	Unk
680	+WCAW	WV	Charleston	Unk
710	*WEPA	MS	Eupora	Unk
	*WQBK	VA	Blacksburg	Unk
	*WEGG	NC	Rose Hill	5/19
720	*KIQK	NV	Las Vegas	Unk
740	+KBAD	NM	Carlsbad	1/10
	+WKIS	FL	Orlando	Unk
790	*KGFD	CA	Clovis	Unk.
	*KHUM	CA	Eureka	5/16
	+WAKY	KY	Louisville	5/5
	+CFCW	AB	Camrose	12/20
800	*	ON	Thunder Bay	6/18
810	*	NB	Caraquet	6/18
	+WKVM	PR	San Juan	6/19
830	#WMAG	MS	Forest	Unk
	*	TX	Houston	2/19
900	*	BC	Penticton	Unk
910	+CHRL	PQ	Roberval	5/22
930	+CJON	NF	St. John's	7/27
940	+WCPC	MS	Houston	8/15
	*WEOO	VA	Smithfield	12/15
970	*WOZN	FL	Jacksonville	12/15
1010	+KODA	TX	Houston	4/5
1060	*WQWX	NC	Mebane	12/22
1080	#WECP	MS	Carthage	2/14
1090	*WNTY	SC	Greenwood	Unk
	#CKKW	ON	Kitchner/ Waterloo	5/22
	*	VI	Frederikstad, St. Croix	9/1
1100	+WWWE	OH	Cleveland	UNK
	+KFAX	CA	San Francisco	UNK
1110	*WZAM	VA	Norfolk	4/15
	*KPAL	LA	Pineville	1/31
	*	AR	Dermott	8/15
1130	*WRRL	WV	Rainelle	7/18
	*	IA	Mt. Plesant	2/23
	*WCTM	OH	Eaton	12/1
	+WDGY	MN	Minneapolis	12/1
	+WISN	WI	Milwaukee	Unk
1140	*	WA	Yakima	Unk.
1150	+KGMC	CO	Englewood	11/22
	*KBAI	CA	Morro Bay	11/22
1160	*WIDL	PR	Barceloneta	7/17
1170	+KPUG	WA	Bellingham	Unk
	*	NC	Clinton	Unk
1190	*KADE	CO	Boulder	Unk
	*	FL	Pine Castle/ Sky Lake	3/2
	*WPUP	NC	Bay St. Louis	5/3
	*WGCA	TN	Chattanooga	Unk
1220	*	OK	Midwest City	Unk
	+KZEE	TX	Weatherford	6/27
1230	#WHOD	AL	Jackson	Unk
	+KSUN	AR	Bisbee	2/12
1240	+KLOA	CA	Ridgecrest	1/17
	*	NF	Baie Verte	7/27
1270	*	MI	Charlevoix	8/25
	+WCMR	IN	Elkhart	Unk
1290	+KGVO	MT	Missoula	Unk
1300	*	LA	Shre veport	8/15
1320	#CFTJ	ON	Galt-Cambridge	5/22
	+KXLW	MO	Clayton	Unk
1340	+KPGE	AZ	Page	Unk
	+CFLH	ON	Hearst	8/8
1350	*	NF	Gander	7/27
	*	PQ	St. Pamphile	6/14
1360	+KMO	WA	Tac[illegible]	12/15
	+WCHQ	PR	Camuy	Unk.
1370	*CHPQ	BC	Parksville	3/1
	+WKIK	MD	Leonard town	Unk
1380	*	NB	Moncton	5/25
	+WDAT	FL	Ormond Beach	2/26
	+CKLC	ON	Kingston	8/20
1410	+WNTR	FL	Ft. Myers	Unk
	*KJCH	TX	Cleveland	8/10
1430	+KLO	UT	Odgen	3/21
1440	+KETS	TX	Corpus Christi	1/4
1450	+KAWT	AZ	Douglas	Unk
1470	#KWIV	WY	Douglas	Unk
	+CFOX	PQ	Pointe Claire	Unk
	+CFNW	MB	Winnipeg	12/15
1480	#KPIA	MO	Irontown	Unk
	+WRSW	IN	Warsaw	6/1
	+KRED	CA	Eureka	Unk
1490	#KOPE	ID	St. Maries	Unk
	*	MB	Cross Lake	6/18
	+KAIR	AZ	Tuscon	Unk
	+KCUZ	AZ	Clifton	Unk
	+KWMC	TX	Del Rio	2/21
	+WKRO	IL	Caire	2/24
1500	*WKAX	AL	Russellville	Unk
	*	GA	Clarksville	6/2
	*	OH	Youngstown	Unk
	+CKAY	BC	Duncan	12/13
1510	*	FL	Marco Island	5/9
1530	*	OK	Wagoner	Unk
	*	FL	Jacksonville	6/15
	*WDJZ	CT	Bridgeport	Unk
	*WQLN	IL	Flora	8/15
	*WKDC	IL	Elmhurst	2/21
	*WYAZ	MS	Yazoo City	1/25
	*WSCW	PA	Jeanette	11/24
	*	PA	McConnellsburg	3/10
1540	*WNRE	OH	Circleville	Unk
1550	*KLFJ	MO	Springfield	5/1
1560	+KQTX	MO	Joplin	1/3
	*	SD	Aberdeen	Unk
1580	*	FL	Mt. Dora	Unk
1590	*WHPT	NC	Clayton	3/28
1600	+WRBN	GA	Warner Rob ins	Unk
	#CFRS	ON	Simcoe	3/1

* New Station + Change facilities
\# Frequency change.

12/15 HWB.

ADDITIONAL INFORMATION 12/15/73 CP LIST -- HWB

The following CPs have been activated and are now on regular schedule.

910	CKLY ON	Lindsay	
940	CJIB BC	Vernon	
950	WLIT OH	Steubenville	
1000	WSUM OH	Parma	
1060	KHYM TX	Gilmer	
	WRRR FL	Titusville	
1080	KJEL MO	Lebanon	
1110	WOAT TN	Pikeville	
1120	KPNW OR	Eugene	
1170	CKGY AB	Red Deer	
1220	CJMB MB	Boissevain	
1230	KTNC NE	Falls City	
1240	CJAF PQ	Cabane	
1340	KSMT CA	Needles	
	KMTT CA	Cathedral City	
	KTJE TX	Pt. Arthur	
	CJVIC TX	Victoria	
	CKDV AB	Brooks	
1380	WGSE NC	New Bern	
1400	WELK VA	Charlottesville	
	KTUC AZ	Tuscon	
	WBRL NH	Berlin	
1440	WHJJ NC	Holly Hill	
1450	KOBO CA	Yuba City	
1490	KBBL TX	Beeville	
	WCHI OH	East Liverpool	
1510	WPLB VA	Pulaski	
1540	KLGA HI	Honolulu	
1550	WOKI TN	Oak Ridge	
1580	WJJZ GA	Jasper	
1600	WAAM MI	Ann Arbor	
	WKYC PA	Elizabethtown	
	WNST WV	Milton	
1390	WROA MS	Gulfport	
1530	WRBX NC	Chapel Hill	

And some inital decisions in recent F.C.C. actions.

540	UT	Delta	1,000	D-1
600	CA	Independence	500	D-1
840	PR	Yabucoa	250-250	U-1
1090	TX	Plainview	1,000	D-1
	AL	Jacksonville	500	D-1
1130	MS	Gulfport	500	D-1
1140	MS	McComb	500	D-1
1190	CO	Colorado Springs	50,000	D-3
1470	OK	Vinita	1,000	D-1

Some of the "inital decisions" listed have been around for some time. Several are still tied up in court actions and FCC hearings, as are some listed in the "CP" list.

Wes Boyd

Savings-time bill may hit Nixon's desk later this week

Daytimers offered some relief; conference to iron out discrepancy in effective dates and questions about states straddling two zones

CLIPPING CORNER

The Senate passed a bill last week that would place the U.S. on year-round daylight-savings time and offer relief from presunrise broadcasting restrictions to some 100 daytime radio stations. The daylight-savings time bill was sent to a conference committee to iron out differences in the effective date and certain state exemptions. Congressional officials believed that the bill could be ready for the President's signature by the end of this week.

As passed last Tuesday, the Senate version (S. 2602) contains the same language on relief for daytime-only stations as the bill passed out by the House (H.R. 11324) two weeks ago (BROADCASTING, Dec. 3). The bill instructs the FCC to permit daytimers to operate "not in excess of one hour prior to local sunrise" if such a permit is in keeping with existing international treaties. The daytimer amendment was introduced by Senator Robert Dole (R-Kan.).

Originally, the Senate Commerce Committee had refused to entertain any amendments which it considered of special interest, like the daytimer provision. And, it had announced plans to ask the House to excise its daytimer-relief provision from the H.R. 11324. But committee members, after conferring with FCC officials, reversed their position and allowed the Dole amendment to be introduced. FCC experts, committee staff members said, had expressed the commission's desire to have a legislative mandate on the matter of rolling back start-up times. There was concern that the approximately 100 stations ineligible for presunrise authority and operating on American clear channels might interfere with other American-based stations and raise Sec. 316 considerations. Sec. 316 of the Communications Act prohibits infringement on the coverage area of a licensee without a hearing.

The Senate and House bills now go to conference. There is a discrepancy in the effective dates of the bills—the Senate version would make daylight-savings time effective sometime after the first of the year, the House's would make it effective before Dec. 31. Also, the Senate version contains a provision that would allow states split by time zones to exempt one section from mandatory daylight-savings law, thus placing the entire state on a uniform clock.

DOMESTIC DIGEST

editor.. Wes Boyd
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Wes Boyd 216-5454543
Jerry Starr 534-1394

Hello. Here is the stuff you wanted:

changes

590 KCSJ CO, Pueblo appl. for DA-2
710 WEPA MS, Europa 500D
WQBX VA, Blacksburg 5000D
790 KGPD CA, Clovis CP
KHUM CA, Eureka ex-KDAN
900 WAFC, VA requests WKDW
950 WLIT OH, Steubenville is on
990 KTXD CA, ex-KGUD
1060 WLAB NC, ex-WBYB
WRFM, FL, Titusville is on
KCUT TX, Leckhart, ex-KHRB
1080 KJEL MO, Lebanon is on
1090 WQIK FL, seeks to drop CR DA
WSLG LA, Gonzales, ex-Donaldsonville (change city-of-license)
1100 WWWE OH, seeks to change XR site, seeks non-DA
1160 WIDL PR, Barcelona, is call for application here
1230 WJNO FL, to U-1 1000-250
1240 KTAM TX, ex-KORA
1300 WFFG FL, Marathon granted pgm test authority to WHOO (per FCC ???)
1340 WEKY KY, ex-WRKY (changing back to old calls)
1360 KMO WA, Tacoma, CP extended to 12/15
WCHQ PR, Camuy application for 500 DA-2 (U4)
1370 WKIK MD, CP: 1000-500 DA-N
1380 KKZZ CA, ex-KBVN
1390 WROA MS, CP: 5000-5000 DA-2 (night operation approved) IS ON - RjE
WAPR FL, CP: 5000D
WTNK MS, ex-WQIC, ex-910
1410 ---- TX, Cleveland requests KJCH
1420 KTAN AZ, ex-KHFH
1450 WQQT GA, ex-WBYG
KOBO CA, 500-250 U-1
KOPO AZ, now 1000-250 U-1
KUPY WA, ex-KAYE
1470 KWIV WY, Douglas CP: 1000-500 U-1 (po:1050)
1480 KRED CA, CP:5000-1000 U-1 (po:5000-5000 DA-N) WAPG - FL - off air - RjE
1490 WTIQ MI, ANT: U
1500 WKAX AL, Russellville CP: ex-WQRI
1520 KACY CA, FCC returned application for higher nite power
1530 KWLG OK, requests KJEM WRBX - NC is on. - RjE
WKDC IL, ex-WHJJ
1550 KLFJ MO, Springfield CP: 500-D
1560 WQYX MO, CP: 10000 DA-D
*1470 ---- OK, Vinita, CP: 500-D

FCC - ALL NOV. (Except 1st MM-DEC)

1st MM: KNOX-1310, KVSL-1450, KAWT-1450 all per list
WWXL-1450 0400-0415
3rd TU: WAHT-1510 per list
3rd SA: KISO-1150 per list
4th MM: WNAK-730, WCCR-1580 per list

sunset & evening

560 WJLS WV 11/20 u/WFIL w/ID and CBS Nx 1700 after WFRB off (DS)
610 WSLC VA 11/28 on top 1700-1710, usually WIP here (JWB)
900 WGOK AL 11/25 calling itself "Boss OK" w/R&B and Mutual Black net, noted s/off 1800, no SSB (BW)
WDDT MS 11/26 s/off 1800 giving zip code in s/off (BW)
WCME ME 11/17 w/ s/off, SSB atop 1615-1616 (RJE)
930 WREB MA 11/17, under WPAT pest w/ID and ad o/u WIZR 1621 (RJE)
950 WAGM ME 11/11, breif ID about power/pattern change 1600 o/WPEN and with WCTN (RJE)
WCTN MD 11/11 w/ID after WAGN o/WPEN 1600 (RJE)
1000 WXTN MS 12/1 o/u WCFL w/final report nx, then reli.1755 (GF)
1010 WPGW NC 11/26 in after WGUN s/off 1730 (BW)
*WIOI PA 11/26 atop w/ads for Portsmouth Stores 1700 (JWB) Note: not to be confused with WPSM Portsmouth, VA CP
WABZ NC 11/26 s/off 1714 o/u the gang (JWB)
WCSI IN 11/26 on top w/ s/off 1730 (JWB)
1080 KRLD TX 11/26 w/continuing nx, ID, time check, female anncr 1750-1800 (BW)
1130 WEEO PA 11/28 ID surfaced u/WCAR/WNEW 1615 (JF)
WASP PA 11/28 w/many spots 1618-1623 (JF)
1170 Unid -- 12/2 FF atop WWVA 1600-1615, gone by 1620, CFML? (JWB) Yup - RjE
1180 WLDS IL 11/28 w/nx/wx 1630 u/WHAM (JF)
1320 WHHO NY 11/28 s/off in clear 1644 (JF)
1330 WHBL WI 11/20 end of stock market rpt and Uncola spot 1724 (DS)
WAEW TN 11/20 noted s/off 1730 thru WRIE/WHOT/etc. (DS)
1360 WHBG VA 11/20 fer rpt w/RR, many spots 1620-1631 w/mess (DS)
1370 WPAZ PA 11/28 weak thru mess 1658 s/off (JF)
1380 WYNK LA 11/17 noted on top 1730 s/off (BW)
1420 KTOE MN 11/28 fair w/Ai nx and wx 1704 (JF)
1470 WSAC KY 11/28 weak w/ s/off 1730 (JF)
WVOL TN 11/28 alone after WSAC s/off 1732-1741 w/RR (JF)
1480 WCIN OH 11/28 excellent w/soul mx 1720-1728, most wanted (JF)
WLEE VA 11/14 u/WHBC w/RR & RB about 2200 (BW)
WBTS AL 11/15 in battle w/WMOM 1800 s/off (BW) (aha, the McClouds are back-JS)
1550 WCTW IN 12/2 u/KKJO 1750-1800 w/frantic religion pgm, then promo/ID given o/Theme from M*A*S*H* (GF) (Should that be "Frantic" or "Fanatic?-JS)
1560 WTAI FL 11/23 w/ad for Schmidt Autos, local carnival, local bank o/WQXR 1725-1728 (TRS) (If it's Dave Schmidt he probably had something to do with the carnival too-JS)
1580 KLTR OK 12/2 late s/off after OK vs OK State FB til about 1816, then s/off SSB to 1819 (GF) (Amazing station, kills freq at SSS regularly here-JS)
WCCR IL 11/20 noted w/C&W 1743, good for 250 watts (DS)
1600 WWRL NY 11/22 not heard 1635-1715, off? (CL)
WAQI OH 11/22 s/off 1659 (CL)
WAAM MI 11/22 w/ads for Ann Arbor abruptly gone 1744 (CL)

oops---two out of order, sorry 'bout that kiddies

600 WICC CT 12/1 off 1315-tune in to 1435 (CL)
WFST ME weak skywave started coming in 1412-1435 during WICC SP (CL)

midnight to sunrise

610 WDAF MO 11/14 w/phone-in show 0005 (Ghoti)
WHPL VA 11/29 on top 0230, AN? (JWB)
620 WETE TN hrd ANing 11/22, dominant (CL)
WDNC NC 11/26 DX not heard 0105-0115 and 1025+ re-check (TRS)
690 WAPE FL 11/26 ET w/RR, day pattern/power even readable w/ SM2 off (DS)
*760 WJR MI noted off 11/26 0130, only Cuban left (DS) (This is a 4th MM == might be worth checking again, SP maybe?-JS)

850 KFUO MO 11/26 DX not heard 0030+ or, thinking foul-up in time zones, 0130+ (TRS)
860 Unid -- strong ET/OC and "Musak" type instrumental mx noted 12/4 0210-0230 off, no ID (JS) WEVA? - RjE
WSTH NC 11/21 s/on w/SSB 0700 (Ghoti)
870 WGTL NC 11/19 s/on w/prayer u/WWL 0700 (BW)
880 WCBS NY off MM 12/3 noted off 0142 (CL) Off 0135+ on 12/3 fer tower re-lamping per Foxy tip (JS)
KRVN NE ET/TT/OC 12/3 ID 0400, 50 KW non-DA, super steady strong signal while WCBS off (JS)
900 WKJK NC 11/19 s/on w/SSB 0601 (Ghoti)
910 KGLC OK 12/1 killing frequency w/C&W 0250+ (GF)
WABI ME 11/23 w/local bank ad and ID 0555, poor u/unid (TRS)
WNCG SC 11/23 s/on w/SSB 0600, brief ID, into Ai nx, lost to four SSB's, back w/wx 0605 (TRS)
WLAS NC 11/23 s/on 0602 w/organ SSB, then nx headlines (TRS)
920 KARN AR 11/28 o/u WOKY 0250-0255 (JWB)
WMNI OH 11/28 surfaced briefly for 0202 ID (JWB)
CJCH NS 11/24 o/WMEL 0048-0114 w/Mowtown Weekend (DS)
940 WCPC MS 11/29 ET 0158+ (CL)
CJGX SA 11/21 first time ever 0330 w/WINZ looped (CL)
950 WLOF FL 12/3 apparently s/off 0154 (JWB)
WKAZ WV 11/26 weak but readable 0059 (MK)
980 WTOP DC 11/14 nx followed by pop mx 0105 (Ghoti)
1010 WINS NY noted off 11/14 0309 tune in-0405+, also 11/16 0145-0159, then ET 0240+, off MM 11/26 and 12/3 before 0130, maybe now AN-6 (CL)
KLRA AR 11/14 first time u/CFRB 0328 (CL)
1050 WHN NY 12/3 off around 0200 (CL)
CJIC ON 11/14 ending CBC nx 0107, then pop mx (Ghoti)
1060 Unid -- 11/26, various TT 0220-0245 w/ZNS3 strong. KYW AXR ET? (DS)
1070 WNCT NC 11/14 noted on 0256, 24-hr? (CL)
WIBC IN 11/14 w/popular mx 0109 (Ghoti)
1080 WKGX NC 11/25 s/on, no SSB 0730 o/WEEP (Ghoti)
1110 KFAB NE 11/14 u/WBT w/sports 0020 (Ghoti)
KBND OR 11/19 DX never on per call to stn, however did ET 11/20 w/TT, voice and CW IDs 0345 in KFAB null (PKH)
KRLA CA 11/19 ID out of nowhere in KFAB null while looking for KBND DX, ID as "Solid Rock", then seemed OC (PKH)
1150 WGOW TN 11/19 ET w/RR 0203-0212+ (CL) ET w/5kw non-DA, RR 0407 on 12/3 (GFU)
1190 KEX OR 11/19 o/KRDS/KAYQ in KLIF SP 0300-0308 (PKH)
1220 WGAR OH noted off 0140-0230+ on 12/3 (JS) Still off 0400 (HWB) off 0210+ (JWB)
CJRB MB 12/3 u/XE and o/CHSC 0109, weak OC, then ID "This is the Ten Thousand Watt Voice of Manitoba, CJRB" (GF) (Arguhh-JS)
Unid -- 12/3 AM/FM Stereo CJ?? ID in mess 0200 (HWB) Class - RjE
1230 WNNC NC 11/23 s/on w/SSB 0500 and 11/21 0530 w/reli (Ghoti)
WKBO PA 12/3 w/Top 40 0315-0330, promo as Rock of the Capital (WB)
WBVP PA 12/3 DX well in front 0230 (JWB) DX on top 0230 w/C&W and RR, ID as ET between cuts (HWB) No sign of DX here, is a powerhouse during RS. Really weird, HWB had it strong only 5 miles west of me. Hmmmm (JS)
1240 WSSV VA 12/1 on top w/ seemingly RS 0335, AN? (JWB) Would you believe NSP? (JS)
WWNS GA Altho date screwed up in DXN, did run DX 11/29, IDs 0400 and 0409 for first GA graveyarder (PKH)
1250 CHWO ON 11/14 on top w/mx 0133 (Ghoti)
WHVL KY 12/3 ending ET/mx 0255, loud (JS)
*1260 WEZE MA 12/3 ET/TT/OC, ID 0301+(JS) (MM SP is listed as ending 0300, evidently a change-JS)
WNDE IN 11/26 w/WNDR reli pgm 0055 for call change (JF)

1300 WMAK TN 11/14 w/mx 0203, pest (Ghoti)
1310 WISE NC 11/26 alone after WCAM 0205 s/off on RR mx ET (DS)
1330 WCRB MA 11/17 noted on about 0217 (CL) Log sez 0100 s/off, change. JS
KFH KS 12/3 on top almost all AN, no WHOT (GF) Want to trade locations? (JS)
KWWL IA 11/26 noted 0039 w/Jx, wx for Iowa and ad for local men's shop, atop freq 2-3 min w/no sign of WHOT/WFBC, normally dominant (TRS)
1340 WALL NY 11/14 noted on about 0245. 24 hrs? (CL)
WNHC CT off 0224-0558 SM 11/18, also s/off 0201 11/20 (CL)
1360 WCHL NC 11/26 surfaced o/WDRC w/ID 0225, otherwise mostly u/WDRC w/ pop mx, waiting for unid TT/OC looping NE/SW to ID, it didn't (TRS)
WBAY WI 11/26 w/promo and C&W 0052, rare since WDRC went NSP (DS)
1390 WCSC SC 11/14 w/CBS nx 0300 (Goatee) AN now? (JS)
1420 WHK OH 12/3 not heard, however powerful TT at 0215 (JWB) The TT was WHK, noted 0230+ on 12/3 (JS) Likewise also too (HWB)
WBSM MA 12/3 AN tele-talk show noted in WHK SP, no KTOE (HWB)
1440 WHHY AL 11/14 w/RR mx 0303 (Ghoti)
WGIG GA 11/29 ET about 0232+ (CL) (So that's who that was-JS)
WAJR WV 11/24 seems AN-6 now, noted w/RR and jock saying "here til six" (DS)
1450 WWSC NY 11/26 ID at end of nx for AM-FM 0205, impossible to determine programming after (TRS) Used to be tele-talk AN, pest here at times (HWB)
CJBM PQ 11/28 broke thru mess 0040 w/Jx and FF (MK)
CFJR ON 11/28 faded in for ID 0114, then gone (MK) How come mine always fade out for ID? Not living right I guess-JS
1460 WBNS OH 11/14 w/MoR 0308 (Ghoti)
WMBA PA 11/26 DX copied 0100-0159 w/RR, weak at first, good later, some WILM slop (DS) On 0100w/solid gold promo, then oldies o/KSO (TRS) DX 0120 w/local wx (MK) Good after CJOY s/off 0106 on DX (JF) (Log sez CJOY is NSP, change?-JS)
1470 WOHO OH 11/26 atop freq w/WOHO Exclusive Weather 0047, good signal and one of my better domestic catches (TRS)
1480 WSAR MA 11/26 DX w.ID 0119 and RR mx atop freq (TRS) Looks like you're the only one able to dig this one out, Tom, see below-
WMAX MI 11/26 noted on ET again w/AKOJ (all kinds of junk) as early as 0045-0330+, took care of WSAR here (DS) 12/3 another ET most AM killing freq (GF)
1490 WSVM NC 11/25 s/on w/SSB 0555 (Ghoti)
WOPA IL out of mess w/heavy RR 0125-0135, taped ID 0130 (HWB)
1520 KMAV ND 12/3 DX quite readable o/u WKBW 0310 w/Johnny Cash "live" album and ID's, off 0350 (JS) DX w/Johnny Cash 0310-0350, weak (PKH) DX not heard (JWB) Also not heard (HWB)
1540 KXEL IA 11/28 off 0200 leaving WPTR in clear (JWB)
WABQ OH 12/3 ET w/old RR and TT 0150-0215+ (JS)
WANL AL 12/3 ET IDs and TCs 0201-0215 (PKH)
1550 WEXT CT 11/28 powerful ET/TT 0204 (JWB)
KQXI CO 11/19 ET, voice IDs 0221-0228, station #1000 taped (PKH)
Congratulations- JS & HWB
1570 WGHC GA 11/21 s/on w/SSB 0559 (Ghoti)
WTLK NC 11/21 s/on 0601 followed by SSB (Ghoti)
WYTI NC 11/21 s/on, no SSB 0559 (Ghoti)
1580 WCCR IL 11/26 s/on for FC 0300 alone but for KDAY SSB 0305 (TRS)
WCLS GA 12/3 s/on w/SSB 0413, odd time, had classical mx program from University. (JS) Also noted by GF
1600 WPDC PA 11/24 ET 0200, code ID only, overlooked first time, found in tape replay (TRS)

CONTRIBUTORS:

Ghoti: Dave Fischer, Hickory, NC, equipment unknown
JWB: Joe Brauner, Punxsutawney, PA, SX99, longwire
RJE: Russ Edmunds, Wayne, NJ, HQ150, 4-foot altaz loop
JF: Jeff Falconer, Clinton, ON, Kenwood 9R59DS, SM-1
GF: Geoff Fox, Cleveland, OH, SX66, SM
PKH: Paul Hart, Fart Worth, TX, lots of gear but unknown
CL: Cris Lucas, Fairfield, CT, HE30, 3 LWs, 4-foot loop
DS: Dave Schmidt, New Castle, DE, HQ180, SM-2
TRS: Tom Sundstrom, Willingboro, NJ, HQ145, SM, DX150, LW
BW: Bruce Winkleman, Man, WV, A2515, SM-1
MK: Mark Katz, Boston area, MA, HQ180, 4-foot altaz loop
HWB: Wes Boyd, Girard, OH, HQ-180, 4-foot altaz loop
JS: Jerry Starr, Hubbard, OH, HQ180A, 4-foot loop, 10-foot Beverage
AB: Alfonso Bedoya, Gringo, NM CLUB21 (windstorm casulity)

Special note from DS:
640 WCOM DE, Wilmington Community College carrier current, new, noted 1535 11/27 w/S-6 signals, 2 miles away
640 WDNR PA, Chester, Widner College carrier current strong 5-8 miles south 11/27 at 1130, rebroadcasting WYSP-FM

Well, folk, there goes another DDXD. Please excuse any tyops I may have made this time but the aurora is very bright in the room tonight and quite distracting and the keys keep jiggling around. Oh well, happy Trails to you. Since this is probably the last issue before the Holidaze, Wes and I would like to take a moment to wish all of you a Happy and Far Out Holiday season, Merry Christmas and Happy New Year. Special thanx toGF and PKH who went to the expense of phoning in their contributions. Another unusual report came in from BW in the form of a casette tape. This was OK, but Wes accidently pushed the foot switch down when he answered the phone and accidently erased 18 minutes of it. Wes used to work for the CIA, methinks. All this rambling makes good sense now, in the morning it probably won't but what the heck? I just feel like talking tonight. I remember one time when I was five years old, my buddy and I were walking down the street and.....

JERRY ✡ & HWB

AND WHAT ABOUT JUANITA?

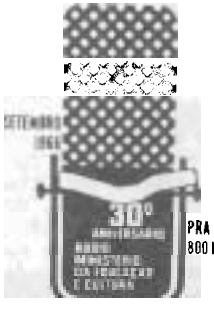
73 and Good DX

Jerry and Wes
(Our last names escape us at the moment)

****

AÉRO CLUBE DA BEIRA

EMISSORA
CR7IB-CR7IC
CAIXA POSTAL, 3
BEIRA
ÁFRICA ORIENTAL PORTUGUESA



musings of the members

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GEORGE B. SHERMAN - 104 Pinewood Circle - Rosemount, Minnesota - 55124
MM 19/22- KWEY-1590 was TTing, ET or f/c, fair w/WAKR & unID SSB @ 1:05am. That eve, local KQRS-1440 was off! And new (for me) KMLB-La. was dominant o/WHHY @ 8pm. Sun. SSS 10/28- KSPI-780 w/rr & s/off u/WBBM @ 7. Great CX & lotsa luck brought me NINE new ones MM 10/29! R. Universal-1080, Maracay, @ 4:30am good o/WTIC; WBEJ-1240 @ 5:20 o/mess, then WKST-1280 s/on @ 5:45 w/SSB, blasting everything else off the frequency. S/on-SSB u/local WLOL-1330 was WTRE then WLOL s/on w/volume way up - ouch. Fortunately I was able to turn down volume immedaitely so I didn't go deaf, hi. WMVO-1300 blasts in @ 6 s/on, 500w. PSA? WNEW gets clobbered by WIMJ-1280 O. s/on-SSB @ 6:02; WHBG-1360 was strong o/WMOV pest @ 6;11. WBAY's DJ must've overslept, so they made up for it next MM w/5:43 s/on, hi. WCMS-1050 noted o/WPAG @ 6:25 w/license plate contest & SID "Super (w)CMS" just like super CFL in Chicago. I can't remember if they used the W. Oops, it wasn't an SID; it was a jx (jingle) or was it a voice ID? I don't take good notes - no wonder I quit college, hi. WAPI-1070 popped in briefly w/ ID @ 6:35; faded, due to LSR there? Lots of QRM, too. Wed. 10/31 found most-wanted WHFB-1060 Mich. on 480w PSA @ 6:30am, about, mentioned "Twin Cities", good w/KYW/WOIO. 11/1, KZEE-1220 Tex. s/off @ 6:28, still 250w, fair w/buzz. I phoned power company - their Radio Interference Expert was in the hospital. It would be nice to hear Hawaii again, hi. KCAS-1050 Tex. same day s/off w/jx pr is it SID @ 6:45. (SID -ERC) I thought they'd gotten a lot stronger next night but it turned out to be local bootlegger WMKQ Minnespolis. WMKQ not heard since - FCC get 'em? (Ihope so -ERC) Sat. 11/3 WCUZ-1230 Mich. fair to good mostly o/ QRM w/c/w @ 6:10am; KNIC-1550 Kans. poor s/on-SSB @ 6:59 w/CBE/KKJO, on 63w PSA? That's 30 - to be continued next week - too much DX, hi. DX, and report!

JOHN OLDFIELD - 18 10940 83 Street - Edmonton, Alberta - T5H 1M1
Merry Christmas from the Oil Capital of Canada. Need any oil? Poor health sums up my Spring, Summer, & Fall. (Maybe it's the oil fumes -ERC) Thus no letters or tapes. Didn't I tell you that 73 would be the year of the tape (U.S. joke). Only DX has been foreign. Old & new Canadian stuff: Local CFCW-790 (AN6- off MM) is now 50kw. CKGY-1170 has been on for months NSP 10/5 kw; KG Country mx from the Parkland in Red Deer. CHQR-810 will go to 50kw; CKUA -580 is applying for same. CJAT-610 will host an AN-6 (off MM) network w/CKEK-570 & its twin, CFFK-1240 in B.C. Local CFRN-1260 AN6 (off MM) & CJOK-1230 are carrying the WHA Edmonton Oilers hockey games (ex on CJCA-930). CKBR-1340 Brooks is doing so wekl that they are live during eves for 8½ hours daily; otherwise //-CJDV -910 drumheller. More "twins" coming out West: CJRB-1220 is on //-CFAM-950 & CHSM-1250. Watch for: Golden B.C. 1400 to be //-CKCR-1340 & CKXR-580; 1240 The Pas, MB (Manitoba? -ERC) //-CFAR-590 Flin Flon; 1370 Parksville, B.C. //-CHUB-1570 Nanaimo, & 1340 Vanderhoof B.C. //-CJCI-620. Half of B.C.'s radio is now twins. The French Invasion: The CBC now owns; CKSB-1050 Winnipeg; CFNS-1170 Daskatoon, & CFRG-710 & CFGR-1230 Gravelbourg, Sask. & will buy local CHFA-680 in the Spring. CFNS & CFRG-CFGR will lose their studios & operate as one unit with a new studio at CBC Regina. The new CBC EE station at Thunder Bay on 800 will be on by Spring, says the CBC. It's time to watch for the many FFCs who stay on after Midnight at Christmas for Mass.

BRIAN G. PITMAN - 11 Regent Street - Kingston, Ontario
Howdy from the Limestone City. DX continues good here, w/40 new loggings since last Muse. Totals now a little o/800. For those who are bothered by CKWS being AN, their SP is once every three weeks, 2-5am. Last one was 11/12, next 12/3 etc. DX for the week of 11/19- Mon. HJDJ-1030, WESC-660 w/ WNE & KHBR-1560 @ 1:24am, said time & KHBR then played mx. Tues. c 5:02, WGOE-1590 s/off, WSSA-1570 s/off @ 5:39, WGLC-1090 in @ 5:51pm. Also R. Paradise-1265 @ 6 w/children's songs. 11/22- WABQ-1540 in w/NX, ID as 15-Q NX. At 5:16 a fair signal from WKMG-1520 w/ad for Newberry shopping center. WJJT-1540 s/off @ 5:27 At 6:06pm I received KOAM-860 w/good signal after NX. 11/23- WWDR-1080 r/c, CX were bad but I managed to bag WEUP-1600 s/off @ 5:40. Bef re s/off played religious mx. 11/26- WMBA-1460 TEST heard w/many IDs, fair signal @ 1:18. 73.

DARRYL A. BELANGER - Box 495 - Swan River, Manitoba
Greetings again. I have been DXing the odd MM lately and have managed to come up with at least one new logging on each occasion. Seeing as it has been some time since last Muse, I'll go back to 10/1 when I heard the WMIX TEST w/fair to good signals dominating KIOA, even heard in the background when local CJGX was still on, just the TT though. Also while monitoring WMIX, a couple of IDs from WYLD, NewOrleans, popped in after 2am, second time heard. On to 10/29, a great night for SS stations and two new loggings in XEFR-1180, Radio Felicidad, in well w/old U.S. rr (Bill Haley & Comets) & Creedance. Then XEJ-970 R. Mexicana w/nice SS mx, easy logging o/KOOK who were very weak. Both just after 3am. Then new station CJRB-1220 w/"Classics Till Dawn" from 1am on way o/XEB. Also CMCA-830 at best level ever from 1:30 on & at re-checks. On to 11/4 w/KREX-1100 in SS program at excellent level from 11:20-1am, then back w/EE NX. 11/5 best domestic logging yet in CKAY-1500 @ 3:15 s/off, poor copy u/KSTP who were nulled somewhat. 11/12- KORL-650 poor in local QRN w/WSM nulled just before 3. Oh yes, CJOK-1230 excellent signals @ 2am s/off w/femme announcer, best ever heard. Most recently, 11/19, two new ones, first @ 2:04-2:10 CJVI-900 good w/ wrap-up of Victoria Cougars Hockey, then into sports report. Later, KUPD-1060 w/good signals way o/CFCN w/rr, few announcements, best U.S. logging yet. I have never heard CFCN with almost non-existant signals before! Maybe miracles do happen. Also, KBOI-670 finally enough for a report o/WMAQ with them nulled a bit. A few vereis in also: XEXX-1420 v/1 from "R. Ranchito", KRNY WYLD CJRB. Total now 526 heard, enough for now. 73.

MORRIS SORENSEN - God's Narrows, Manitoba - HOB - 0M0
DX continues to be good up here with the following new loggings: 10/23- CKLB-1350 Ont. @ 11:22pm; WHBC-1480 O. @ 11:36. 10/24- More TA activity w/new loggings: R. Tirana-1394 Albania @ 6:55pm, S-9-plus. 10/25- R. Nordsee International-1367 w/EE rr @ 6:42pm; 3AM2-1466 Monaco in EE w/TWR relay @ 7:01pm, & also several unIDs. 10/27- TAs in again w/an interesting unID EE on about 1475k @ 6:56pm mentioning "African Service of R. Moscow". I would appreciate help on this one. 10/28- Daytime skywave brought in three new catches: KRWB-1410 Minn. @ 1:20pm; KOLY-1300 S.D. @ 1:28pm & the new CJRB-1220 Boissevan, Man. (a R. Southern Manitoba outlet //-CFAM-950 & CHSM-1250) @ 1:35pm. This was followed by a short lapse in DXing due to increased workload & other activities. I got back into action on 11/24 w/new catches CKLS-1240 (my first Que. graveyarder) @ 6:01pm. CJWA-1240 Ont. relaying CJIC @ 6:06pm; KRGO-1550 Utah w/c/w @ 6:21pm & CFOR-1570 Ont. u/CHLO w/Orillia WX @ 7:10pm. Veries have come from: BBC-1214 (my first QSL from Europe) CFFB-1200 (N.W.T. #2), KFBK-1530 KXRB-1000 & KUOM-770. A report to AFRTS concerning my reception of Thule, Greenland-1425 last month and containing about half an hour of reception details including some programming originating directly from Thule yielded a QSL for Belhany Ohio, 11,900k, SW! I guess I will send another report directly to Thule. 73.

DAVE WHATMOUGH - 284 Main Street West - Hamilton, Ontario - L8P 1J8
A little DX to report after an absence of eight months or so from these pages. 10/1- WMIX-940 w/good signal o/KIOA. 10/16- First & only TA of the season @ 12:25 EDT, Andorra-818 w/female announcer in FF, not quite clear enough for a report. 10/25- WTYM-1600 topping the frequency @ 6:15 s/off. A little daytime DX on 10/28 @ 11am found WHEK-1580, WAHT-1510, WTOP-1500 & WMCR-1600 all w/signals about 20db o/S-9. 11/5, a good MM: KFSA-950 ET 12:30-12:50 o/WBBF. WBRI-1500 very weakly u/WDEE OC & TT, & a surprise in KHYM-1060 TEST making it u/CHUM splatter. 11/6- Super-power WSUF-1580 ETing w/Smoke on the Water w/signal of 50db o/S-9 12-12:15am. 11/8- WEXT-1550 ET 1:05-1:20 TT, mx, & frequent IDs.c 11/26- WMTS-810 s/off @ 5:45 leaving WSJC all alone, no trace of WGY. A few verees in- WMBA CFTR WPHW WEXT KFSA & KHYM & last but not least WOJX. Still no sign of CFRS movingto 1600. They were supposed to be on in September but they didn't say what year. When I talked to the manager last August they were having trouble getting the land to put the towers on. Anyone interested in trading CMs please write - I have hundredsds of extras abailable. 73s and Merry Christmas to all.

THERE'LL BE A DX NEWS NEXT WEEK; THEN A ONE WEEK CHRISTMAS BREAK, THEN NEXT DEADLINE WILL BE THURSDAY, DECEMBER 27th. BE SURE TO DOUBLE SPACE - 20 LINES!

RON B. SCHILLER - 1951 N.E. 28th Court - Lighthouse Point, Florida - 33064

New veries in from WSTX-970 WINS-1010 v/qs and program sked WSST-800. New loggings: WOKC-1570 c/w 11/24 circa 2:30pm. I took a log on local-like CMHA-1130 with light instrumental mx, 3pm. WQIZ-810 4:56-5:08p, o/SS QRM. WSEM-1500 mixing w/WGUL/WTOP @ 5:30. 11/25- WJAX-930 5:36-6am at eardrum-popping level. WINS-1010 all NX 6:17-6:27, pretty weak u/SS QRM. WELE-1590 spotty @ 6:45 & again @ 7 08 w/KYOK et al. WSEM-1500 again heard @ 7:02 o/WTOP. 11/27- WLCY-1380 5:58-6:11am, pop mx & no sign of semi-local WLIZ. Long-wanted WFFG-1300 Marathon 6:22-6:37 w/WSOL, the latter's report being sent back as "address unknown"! Anyone got a current address on WSOL Tampa? (Box 1077, Tampa 33601 - from the NRC Domestic Log, Ron! -ERC) 11/28- A two-bagger on 680. First was WMPS topping WPTF 6:32-6:41am, then KKYX, San Antonio way up high over both of 'em briefly 6:44-6:48! 11/29- Cool WX (58°), Cuban blasting forth on //-1220, 6am. Unn AFTRS-1340 Guantanamo again on top @ 6. I copied WFIA-970 6 09-6:15, easy log. 11/30- WDAT-1380 o/u WLCY 6-6:10am. 12/1, Unn, but it's seldom that Canadians are heard down here, CKLW-800 booming in @ 5:50am. WDOG-1460 s/on 6-6:02 in heavy interference. Conserve energy - eliminate ANers!

BRUCE REYNOLDS - Route 2 - Warrensburg, Missouri - 64093

Hi gang. A good illustration of what the NRC can do for a DXer. Of two questionsI asked in Musings lately, one wasanswered by an IDXD report in the next issue & PKH mailed me an answer to another. Thanks. DX: 11/14- ZDK-1100 logged for report, in well @ 10pm. 11/15- WCTW-1550 @ 8:12pm u/WOKJ/KKJO - I don't know why I never heard them before. 11/18- KOKN-1500 @ 4:06pm for call change; KNCB-1600 in briefly at s/off-SSB @ 6:15pm, & KYAL-1600 fighting KBBB/KCRG /KATZ, & I think, KOGT @ 6:25pm. MM 11/19- Hardly worth mentioning. I did log two stations heard before, but not logged: WHBQ-560 AN-rr & KCMC-740 ANnc/w. 11/21- PJC2-855 10:50-11:04pm s/off. 11/22- KOGT-1600 s/off 12:30am-SSB, so apparently not AN now; KOTN-1490 AN-rr @ 1:22 o/mess; R. Paradise-1265 @ 9:45pm. St. Kitts was my 100th country heard counting SWBC @ 11:59pm. Never heard a peep from 'em before. MM 11/26 was remarkable in one respect - it had probably the highest noise level I've ever heard this time of year. No TESTs heard, but I did get WMAX-1480 w/ET/rr, logged 1:34-2:02am. I bet they'll get a few reports. Veries slow: v/q- WGBS WWWE & KAAT. v/l- KBUG KLKC & KGHM. v/f- KLTR. Totals: 1,561/824; states 46/45; provinces 8/8, countries 36/24. 73.

LAURENT GAGNON - 994, 4th Avenue - Quebec, Quebec - G1J 3A9

In Quebec here, more than 80% of BCB XRs are located W or SW, & therefore we tune practically always the same stations apart a few exceptions, so I have to try DXing w/my loop directed toward the S or the E & it is one of the reasons why I don't report many Canadian or US stations. My RXes are always the Drake SW-4A w/Br. Partridge SW & MW antenna and the Drake SPR-4 w/SM-2 loop. Recently I've replaced the battery of the loop and this change has increased the sensitivity with improved results on DX. Here are my last catches: 11/18- R. Globo-1180 @ 1:30am for about ten minutes. At 1:50 on 540 I heard clearly the announcement "R. Corporacion, Managua". This is a new station for me. 11/20- R. Belize-834 from 11:40pm to midnight, as loud as a local until s/off-GSQ. 11/21 PM & 11/22 AM- A brief TA opening. At 11:35, R. Tirana-1457 & Nice-1554 were audible and I've been able to tune in Monaco-1466 for the first time, het signal from 11:38 to 11:40, then from 11:41-11:44½, IS w/musical box at 11:45, announcements in FF, "Ici Monte-Carlo RTM & in EE "This is Monte-Carlo TWR;" program opens with mixed chorus & organ. At 11:48 mann announced in German, signal still good @ 12:15am. At 12:28 R. Tirana-1394. I've listened to the same trumpets heard on their SW outlets for two minutes before beginning of program. 11/23- 6:55pm, R. Curom-855 good w/Christmas song. 7pm, R. Victoria-925, medium signal. 11/26- 11:40pm, Quito-735 clearly IDed as R. Melodia w/many announcements. At 11:50 R. Ifesa, another Ecuadorian was also audible. 11/27- 10:30pm, R. Puerto-la-Cruz-760 w/pompous announcer. 11:20, good ID of R. Margarita-1020 Venezuela and a little later R. Tiempo-1200 Caracas. 73.

LET'S MAKE THE ISSUE AFTER CHRISTMAS A REAL LOLLAPALOOZER! EVERYBODY MUSE FOR THAT ISSUE! TRY TO CONDENSE TO 20 LINES, DO NOT INCLUDE NAMES OF VERIE SIGNERS NOR PERSONAL ASIDES TO VARIOUS NRC MEMBERS, AND ABOVE ALL, DOUBLE SPACE!

CHRIS LUCAS - 89 Round Hill Road - Fairfield, Connecticut - 06430

11/19 SSS- WMVI-1170 N.Y. @ 4:30pm s/off. 11/20- R. Melodia-730 Colombia @ 1:45am, WGTR-1060 Mass. @ 4:22pm after numerous unsuccessful attempts, CFML-1170 Ont. FF @ 4:30 s/off. 11/21- I noted Cuba-600 off, & started digging. HJHJ well on top, unn, then unns CFCF & WTAC, & finally needed WMT-600 Ia. @ 3:08 am. CJGX-940 Sask. o/looped WINZ @ 3:25am. Funny, in Ithaca KIOA-940 usually dominated. Here I can't get a trace of them. 11/22- WWRL-1600 was unusually weak @ SSS - couldn't even hear them until 5:17 & may have been off the air for a while. Unns WMGR & WNEU were heard, also unn WUNR, & new logging WAQI Ohio @ 4:59 s/off. Probable WAAM Mich. heard w/spots for Ann Arbor, but no ID heard. 11/23 SSS- WWRL weak again, & I bagge WNST-1600 @ 5:14 s/off. 11/24- WPDC-1600 Pa. on TEST, code IDs, signal peaked @ 2:16am. La Voz de Cali-900 @ 2:48am. ZDK-1100 Antigua @ 5:01pm alone w/rr; R. Carupano-1110 Venezuela @ 5:28pm, R. Margarita-1020 Venezuela @ 5:42, R. Puerto la Cruz-760 Venezuela @ 5:50pm. 11/26- WMBA-1460 Pa. TEST on top @ 1:25am, R. Colosal-1005 @ 2:30, assumed to be Neiva, Colombia, ex-1020. WINS was off, R. Calendario-1020 Venezuela @ 3:28am, R. Barbados-900 @ 9:29pm s/off, for fourth frequency for this station. 11/28- R. Sutatenza-700 Colombia @ 7:29pm. 11/29- SSS, WISL-1480 Pa. @ 4:37pm, WHPA-1590 Pa. @ 4:46pm s/off, WAMS-1380 Del. @ 4:49 which I've been after for years. 11/30- WIAM-900 s/off 5. 12/1- WAVS-1190 Fla. @ 5:29pm s/off. 12/3- R. Mundial-860 Brazil @ 2:03am, pest WCBS-880 off. La Voz del Centro-1055 Colombia @ 2:19am, WHN off. On 12/1, local WICC-600 was off for a while in afternoon, & unn WFST Me. heard weakly for report 2:12-2:35 pm skywave. Nothing else readable. November brought 55 new loggings here, 53% of them foreign, & I'm a domestic DXer! Total now 1,354 heard. 73.

CARL JUNKER - 528 East Main Street - Greenville, Ohio - 45331

This season marks my slowest start ever. CX have been poor to pathetic. In comparing notes with last year I noticed that for the period of Sept. through Nov. I logged 77 stations last year as compared to 38 this year. November's CX have shown the most decline with 53 stations logged last year as compared to eight this year. The large amounts of rainfall for Nov. here caused the most problems. Tonight the SSS appeared to be pretty good with both KALT & KMCO being heard at their respective s/offs @ 6:15 & 6:30pm 11/27. The static was too bad though to dig up a good tape. Only veries here lately have been KWOA-730 & KHYM-TEST . The latter station appears to be very friendly to DXers. They sent a CM, bumper sticker, weather forecaster, litter bag, & other assorted goodies along with the verie. About a week after the verie arrived, I received another nice letter from them along with a new reel of tape to replace the one I sent them. I wish all stations were this friendly. I had a nice visit with Wes Boyd about three weekends ago. We gabbed DX, drank and discussed plans for installation of mechanical filters in our HQ-180s. MMs have been a bust at best. That's about it from this shack. I hope to have more DX to report next time. A note to any concerned - Flash Alert isstill alive although there have been no tests put through this system so far this year. Later.

JIM CRITCHETT - 1103 North Street - Yreka, California - 96097

The nearest airports are at Medford, Ore., 50 miles N, and Redding Cal. 100 miles S. Reports sent in, even by air mail, have been averaging three weeks from time sent in until publication, so there isn't much point in repprting skeds of stations heard. Just f/cs, DX Specials, reported stations, and veries. The only station reported from 11/19 to 12/3 was WKMF-1470 Flint, Mich. No veries. Notes of possible interest: KRCO-690 Prineville, Ore. was heard weakly u/XETRA MM 11/26 @ 3:42 on TEST. KLEO-1480 heard on r/c fourth MM. Add WIL-1430 St. Louis to WIRE & CKFH heard frequently on 1430 w/KLO & KARM off @ 3am. KCNO-570 Alturas, Cal. announced ABC Ai NX 10am ELT 11/30. MM 12/3 listening found no KMAV-1520; just KACY & KYXI. WFBL-1390 Syracuse is my farthese E regional; CBX NX @ 4am. CHPQ-1370 paralelling CHUB 3:15 to after 4, no KEEN. KIAT-1600 @ 9:50 w/Lum & Abner for call change from KBBC, Centerville, Utah. Since the probable publishing date for this report is three weeks from now (It is dated 12/3/73 -ERC) Christmas time, a very Merry Christmas to all, and a Happy Healthy and Prosperous New Year with many new catches and verifications.

JIM POTERBA - 949 Queens Drive - Yardley, Pennsylvania - 19067
Greetings, all! DX moving right along lately, to wit: 11/20- 10pm saw something under a Lille-1376 OC, deep-voiced man, and sure enough, he was Vinnitza, Ukraine, for country #55. By 10:55, I had Vienna-1475 in the clear, for another new country. 11/22-25 were spent in Pittsburgh - most interesting, that the towers for some of the locals there are only a short distance from downtown! Other DX: 11/25- WFDR-1370 s/off 5:20pm, WGIG-1440 @ 6:01. MM 11/26- WDEN-1500 ET 1:19am, WLOP-1370 s/off 5:29pm. 11/30- WQIZ-810 5:09 till 5:13pm. 12/1- HJGB-940 4:13am. 12/2- WDEA-1370 5:35am, WLEA-1480 s/ on @ 6am. WZIX-1350 (ex-WORK) logged for call change 4:33pm. 12/3- First good MM of the season: CHRC-800 1:40am w/FF MoR; WBVP-1230-DX TEST 2:07am, & WCHL-1360 in absence of WDRC 3am. Evening SSS: WKLM-980 S/off 5PM, & WAVS-1190 (A December regular) 5:18pm. Veries in lately from: WXLW-950 WCHN-970 WPNC-1470 HJDK-750 TIJC-675 WZUM-1590 WDSL-1520 WHPE-1070 RNI-1367 WBUY-1440 WSOQ-1220 WHLN-1410 WCIR-1070 WDMF-960 WKCY-1300 WWOL-1120 KPVN-880 (de Ghoti says mine is first report from Pa. & most Easterly report!) WWRL, HJKC-850 WYVE-1280 WCEF-1050 WAPE-690 & this week's surprise, R. Paradise-1265 v/q! That'll do it for this week, and in closing, I'd like to wish Merry Christmas and Happy New Year to all you NRCers out there - even those of you who DON'T Muse, hi. 73s.

DAVE SCHMIDT - 42 Chelwynne Road - Castle Hills - New Castle, Delaware - 19720
CONGRATULATIONS to Lefty Cooper - types so fast he moved me to Indiana in the 11/19 issue, hi! (Several mentions of that city's WCTW-1550 in that issue, I think, Dave - so 'twas inevitable, hi -ERC) v/q- WHBG-1360, v/c & CM KCRS-740 (what a poor card for a CBS O&O station!), v/f- WZIX-1350. V/ls, WCRV-1580 & WBJW-1440. Not too much DX here. 11/26- XEROK-800 2:33-3:02 am w.Art Laboe selling his oldies, & WISE-1310 w/ET 1:57-2:19am, taking care of WCAM, very strong. 11/24- CJCH-920 12:48-1:09am w/rr o/WMEL & an SS. On 11/2[illegible] only DX TESTs that showed were WSAR-1480 & WMRA-1460. WMBA has an amazing sig[illegible] on those ETs for being only [illegible]00w. 12/3- A decent MM. KNOX-1310 r/c-TT 1:18-1:31am o/WCAM, WIFE-1310 1:44-2 w/rr o/WCAM, WBVP-1230 NNRC DX 2:07-2:21am w/c/w WABQ-1540 on ET w/soul mx 2:24-2:33am o/ZNS, & a tentative being sent to KGHL-790 for r/c-TT, noted 2:48-3:03:20am. WHK-1420 noted off, but WBT-1110 noted AN c/w for truck drivers. Can't see why - not many AN truck drivers in these parts. Why not an AN show for railroad engineers? Stan Morss, Dr. Pepper may be good but Schweppes ish schwell schoda!

WILLIE STONE - RR 1 - Locust Hill, Ontario - L0H 1J0
DX curtailed this week - both spine breaks acting up - vallium 10 mgms stat - vision affected & distortion. Did nowt this week. Doc's weekly check out orders 11/26, drugged sleep, but pain awakes 2-3am. So on one frequency more or less, reports to Wes Boyd & Merriman. 11/29, 1340 - 3:59, WTRN Tyrone -Rome State College dominating frequency 12:40 on. WWNS, Statesboro, Ga. ruling frequency. Best & most attractive verie in yet - HIAM-660 back in 17 days - R. Quisqueyana. 10/22, 10/29 11/5 & 11/12 reports - XR tests - beautiful. Afternoon [illegible]1270, WXYZ on NX 5:30pm. (2) KSCB, (3) KVOL, (4) KADL all good signals. [illegible]11/30- 810, R. Sutatenza clobbering frequency. Clar-een on 860 like a local. [illegible]12/1- 1550, 5:45am, WKYE Tenn. TT. 5:48-5:59, WCTW Ind. on RS. CBE took 'em out @ 5:59 s/on. 12/2- WJDM-1240 Mich. top station 1:03 on - 1480, 1:30-2:02, a Tenn. station, WAAN @ 3:57 - otherwise, tuning rig all AM. 1510, 2:30-2:45, WMFX on ETs. Afternoon DX - 4:20-4:30 s/off, WCBR Ky. & WKBG Pa. atop CFTJ. There were two others but I didn't get IDs. 4:30 on, all CFTJ. On their s/off, all WBT. 12/3- Awake 1:40, station using TT u/CFRB-1010 1:50-2:05. 1550 all KKHI/WAAY, no sign of KKJO - maybe off MMs now. 1540, 2:45-3, Strong TT u/ZNS - 3am - KMAV, WKBW S-9 NX, second station cl mx S 6-7, (3) strong OC, FX dang near off- WKBW still S-9, no way for KMAV, but listnin'. Some station on & off, no ID heard - still going, 3:45.

[illegible] KERFOOT - 34 Cross Street - Weston, Ontario - M9N 2B9
Activity since last Musing: 11/24- CKOC-1150 off the air, enabled log on CHSJ-1150, 1:58-2:15am. [illegible] I tuned up to 1600 for WPDC TEST - only heard a lot of noise. Returning to 1150, WNDG was heard o/CHSJ 2:30-2:50, when [illegible] took over again. WNDG & CHSJ were the only two stations audible on the frequency. 12/2- Unn CERS-1090 was incredibly strong 3:20-3:45pm, no fading or interference. WGRG-1110 3:50-4:15 u/much interference, but good definite data.

BILL FAIT - 346 Walworth Drive - Cleveland, Ohio - 44132
Hi everybody. This will be my first Muse since I was last with NRC, eight years ago. I've been DXing since 1959, mostly other than BCB, until I got the NRC Pattern Book, which made BCB DXing fun for me again. I now use an Allied-Knight Star Roamer and an Allied Model 2660. I have used everything you can think of for an antenna and always get something worth DXing. Presently I'm using a wire out the window, which brought me a v/q from KLRA-1010 this morning. Here is my DX for the last 30 days: On 11/2- I heard WCHB-1440 for first time o/ WHHH @7:40pm, then nulled WPVL-1460 for WRAD u/WBNS. From 9:30pm on, I was surprised to hear "R. Rebelde" on 600, 590 & 570 u/WKBN, no call letters heard, but I prefer to avoid working foreign-language stations. On 620, WETE & WWNR were fighting to be heard, w/"R. Liberacion" on both 630 & 640. The following evening @ 5:35pm I got SSS from WCPC-940 w/s/off & request to tune to WCPC-FM-93.3 @ 6pm. On 11/15- KLRA was heard @ 9:10pm u/CFRB. CFRB is always a pest on 1010, it comes in by SLEEP - (Short Lake Erie Evening Propagation). 11/16 was fairly quiet. WAOK-1380 was on top of that frequency after WLRO s/off w/a large drop in signal strength @ 5:30pm, but still heard all evening w/R&B format. I've noticed that 1570 is getting to be a real mess w/CHLO & CFOR coming in with equal strength. Does anyone know if CFOR is running w/50kw yet? 73. (Welcome back to the NRC, Bill, but please be so kind as to double-space your Musings? - Thanks! -ERC)

HARRY HAYES - 1418 West Mount Royal Avenue - Apr. 2 - Baltimore, Maryland - 21217
I took my Trans-Oceanic into the repair shop today 12/3. They said they never heard of a case such as mine where all bands went dead except the FM. Anyway, as it looks now I may be back to AM DXing next week if all goes as planned. Over Thanksgiving I was back home at Thornhurst, Pa. I was using my father's 1949 RCA tabletop radio for DXing. On 11/22 5:30pm, WNOX-990 Tenn. before power cut. 5:35, WVOV-1000 Huntsville, Ala. w/rr in fair. It's quite a sensitive radio for being as old as it is. WVOV doesn't really show up that often.

ERNEST R. COOPER - 438 East 21 St. - Carrier Route 56 - Brooklyn, N. Y. - 11226
Do my ears deceive me? MM 12/3, and FOUR of our local NSPers are sleeping! WCBS-880 WWDJ-970 WINS-1010 WHN-1050 were all off! Or is it possible the energy crisis has something to do with it? Also off, WGAR-1220, but a new horror turned up on 1110 - WBT AN w/c/w for truck drivers, they said, so, not being a truck driver, I immediately tuned away. Unn WABQ-1540 noted on ET w/ID @ 2:26 u/ZNS & an OC. WDRC-1360 was also off, and there were two OCs on 1090, two more on 1550, one on 1560, & TTs on 1400 1420 & 1490 around 2:45am, all unID. You can't ID what doesn't ID, says I. "Unica en Colombia" on 1000 AN, up & down, mentioning Tequendama often, but otherwise not IDed. Calendario-1020 was again on by 3am, but by 4, they were kayoed by R. Margarita, upon which I took a log for try #3 at getting a verie. On 1010 way u/CFRB @ 3:59am, I heard the NA of the Dominican Republic, but that one faded out before the opening ID & hadn't come back by 4:06 when CFRB returned to mx, so it went down the drain. Tips for Christmas morn: Watch for stations in Central America, and Northern South America, and the Islands, running late with Midnight Mass, and then continuing with festive music through the night. Ditto, for French-Canadians. It's a great morning for tuning (if you don't have kids, hi). The same is true for New Year's day, in a lesser way. Tip for January for NYC-area DXers needing WAVS-1190. This is the ONLY month of the year they s/off AFTER WLIB - look for them 5:30-5:45pm especially on an Auroral evening. I want to wish every one of you a veryMerry Christmas, and a Joyous New Year's Eve and New Year. If you are the old-fashioned resolution-making type, please make one to send in Musings reports regularly, and double space them! Remember, single-spaced letters will not be published. And let's make the first 1974 issue a great big fat one! Everybody get into the Musings section! And have a great newDX year in '74! C U N 7.