



DX News

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March 16, 1968

HEAD-QUARTERS PAGE: John A. Callarman, Publisher, P.O. Box 99, Cambridge, Mass. 02138 (926-2677)

DX CALENDAR ...

Monday, March 25th	0100-0130 E.S.T.	930	WBEN	Buffalo, New York	5000 watts	NRC
	0300-0345	1460	CKRB	St. Georges de Beauce, Que.	5000	IRCA
	0400-0500	1270	KNWC	Sioux Falls, S.D.	1000	IRCA
	0400-0415	1480	KFCB	Redfield, South Dakota	500	IRCA/T
	0430-0500	570	WNAX	Yankton, South Dakota	5000	NRC/IRCA
Monday, April 1st	0400-0500	950	KMER	Kemmerer, Wyoming	1000	IRCA/test
Tuesday, April 2nd	0400-0500	970	KOOK	Great Falls, Montana	5000	IRCA
Friday, April 19th	0215-0230	1140	KNEI	Waukon, Iowa	250	NRC/test

WBEN, the station of the Buffalo Evening News, will be on the air late next Monday mornin, with a special program dedicated to the National Radio Club. The program, from one of the better-known radio station's in the east, will give NRC'ers and other DX'ers an opportunity to hear this excellent station from the city so long associated as the home address of the NRC. We hope WBEN will be swamped with accurate reception reports to WBEN, 2077 Elmwood Ave., Buffalo, N.Y. 14207. (Joe Skurzewski)

CKRB, will use French records with IDs. This one should get out even better than CJOY, which tested on this channel earlier in the season. Reports go to M. Jules Venne, CKRB. (Eric Floden)

KNWC, another friendly station in the North country on a DX test arranged by Percy Kesteven of the IRCA CPC. Reports to this one go to Mr. R. Stephen Looney, C.E., KNWC, R.R. 3, Sioux Falls, South Dakota 57101.

KFCB, Falls in the same category, with its test on 1380 kc. They'll run a 1000-cycle tone with ID's. Reports to Robert A. Miller, C.E., KFCB, P.O. Box 110, Redfield, S.D. 57469. This is not an r/c.

WNAX will test jointly for the NRC and the IRCA. Clif Tood, KØFRE, Chief Engineer, WNAX, Yankton, S.D. 57078 will be awaiting your reception reports. Dave Fischer and Percy Kesteven arranged this one jointly.

ELECTION RETURNS ...

often provide DX'ers an opportunity to pick up an extra station or two. Tom Hartloff of the Nyack, N.Y., Journal-News and the NRC, sends along a primary election schedule which will give a guide to potential stations on the air the next morning with returns. These dates 'n' states are:

- March 12: New Hampshire; + April 2: Wisconsin; April 23: Pennsylvania;
- April 30: Massachusetts; May 7: Virginia, Indiana, Ohio; May 14:
- Nebraska, West Virginia; May 28: Oregon, Florida; June 4: South Dakota,
- New Jersey, California; June 11: Illinois.

(+=this date included for historical purposes)

MUSERS ...

Somehow, ye pub fears the talk earlier in the year about the value of Musings may have had its effect in cutting down the contributions to Musings. Let me state here that there is no longer any reason to fear for the Musings section. It is open, available, and ready as a forum for members' comments, but more important, their DXploits. One of the main purposes of the dues increase over and above the increased postage cost was to allow other areas of club operations, including technical and other sections of the bulletin to expand without cutting down on musings. So if any body has come to the conclusion that if you contribute to Musings, the publishing crew will get mad at you, forget it! Ernie Cooper is eager to type fat musings sections and, while the thought of running off ANY stencils fills us with dread, we hear at headquarters are eager to give you your money's worth. So, as they say in McMillie, Or'n, Keep ' Musing!

March 16, 1968

DX NEWS
HEARD SINCE LAST ISSUE

1070	K E N R	Houston, Texas	IRCA	1390	W M C T	Mountain City, Tenn.	NRC
1110	K E O R	Atoka, Oklahoma	NRC	1400	K B R B	Ainsworth, Nebraska	NRC
1230	C J S A	Ste. Agathe des Monts Quebec	IRCA	1420	W I G G	Wiggins, Mississippi	NRC
1530	K E C K	Ex-KLOL (3/2/68)	NRC	1510	W L G H	Logan, Ohio	NRC
				1550	W N T N	Newton, Massachusetts	NRC

"AN" SITUATION

OFFS-	ALL CEC stations.			CNS-	1230	K L I C	SMS only
	590	W O W	SM & MM only		1260	K D Z A	(SPU, began 2/ 27)
	1340	W J P F	Now s/off @ 1:25am		1340	W R A W	Off MMs
	1490	W D B Q			1380	W A M S	SMS only
		W L C X	Now s/off @ 2:00am		1400	W F E C	Off MMs
	1510	K G A	Off MMs only @3am(rr)		1450	K O W N	SPU, c/w
	1010	W I N S	MMs only (stays on when a bog story is current)		1470	W O H O	Now NSP

RUSS EDMUNDS sends us his new address: 152 Oakland Strret (oops - that's his OLD address - here is the new one: Box 64, University Sta., Syracuse, N.Y. 13210

MUSINGS

This week we have only wix pages of Musings for you - simply because that is all we received here by deadline date, Tuesday, 3/12. In past years, we have had sections running up to a dozen and more pages of Musings - this hasn't happened this season! Yet the DX has been there! Can this mean that perhaps you lads are getting bored with this section? I hate to keep turning out a skippy section week after week, for it has long been my contention that this section is the backbone of the NRC - in fact, it is the part of DX NEWS that makes the NRC - the NRC! By and large, it seems that the Easterners are the ones who aren't Musing very much this season - the Midwest has done well, and the Far West has done pretty well too. Very little has come from many old friends in the East and the South, as well as others in other parts of the land. So come on, let's have those Musings - I know there have been an awful lot of typing errors - but really, is it THAT bad that you won't Muse any more? -ERC

Election in Venezuela

This one is a long way off, but it will occur in December, 1968, says the New York Times, but they didn't give the date - it would almost HAVE to be either Sunday, December 1 or Dec. 8 - we'll let you know when we know! By the way, nothing was heard here on MM 3/11 of El Salvadorinians on with Election Returns.

IN SENDING IN MUSINGS -

Please do NOT send them to the National Radio Club, 438 East 21 Street, but just put your Editor's name on the address, as I live in a three-family house, and only the name "E.R.Cooper" is on the mail box. If the regular postman is not on, the sub w/ would not know where to put such a letter, & it might be returned to you. So, just send it to Ernest R. Cooper, 438 East 21 Street, Brooklyn, N.Y. 11226. Thank you.

V/S LIST

We have quite a number of v/s on hand, but lately time has been a little tight, and we have not cut a stencil on them, but it will be forth-coming soon. Don't stop sending them in, please - but please weed out any that have appeared in the v/s list this season - there's no purpose in merely repeating the same names and stations - we want new names for the list, so please, check and see if your station's v/s has already been listed this season. If it has, then please don't send it in. The v/s list is not intended to be a contest to see who can send in the most v/s, you see.

DAVE FISCHER ASKS INFO ON THESE STATIONS:

- Frequency for WKBQ, Garner, N.C. 1530 Calls for Bridgeport, Conn.??
- 1500 WOIK-WQIK-WQIX? One is a new one in Jacksonville, Fla.
- 1390 KNLW or KMLQ - ex-KOHN?
- 1350 WDTM, Selmer, Tenn. Is this the frequency - what is power?
- 1110 WPRH, Franklinton, Ia. - WFCG, Franklinton, NC? Two stations or what?
- 630 KALS KYAK or KDAK - Anchorage, Alaska ??

BOSTON CONVENTION

We're now past the half-way point between NRC Conventions, and it is hoped that there will be a really bigg showing at this one - the biggest yet! Make your plans to be on hand and partake of the fun! The more the merrier! August 30-31, & Sept. 1-2.

March 16, 1968

DX NEWS
MUSINGS

EDITOR: ERNEST R. COOPER - 438 EAST 21 STREET - BROOKLYN, NEW YORK - 11226
DEADLINE EVERY TUESDAY - THIRTY LINE, MAXIMUM PER MUSING. PLEASE DOUBLESPEACE.
Pete Taylor - 8 Endicott Road - Arlington, Massachusetts - 02174

I was in Bermuda 2/24-28; a 90° turn of the Nordmende portable produced a world of difference. However, only two TA hets, 1554 & 1586, noted the whole time. From the S side of the island, WIOD-610 was the only readable signal daytime; within 90 minutes of sunset, WQAM-560 WPTF-680 and WINS-1010 also noted & generally readable. Nighttime was a little more predicatable, w/PJB-800 the strongest thing going. I didn't get time to visit the three locals. ZFB-960 seemed to be automated at times during the day, & had hard rr & R&B around midnight; the station is muddy & distorted. It is impossible to further describe their formats, as there is great variance. Bermuda also has two TV channels, 8 & 10, & ZEM-FM @ 89.1, going stereo 4/1. An ad in the daily newspaper indicates one of the stations is looking for a nighttime personality DJ to do a nightly show from one of the hotels; if interested, write the Bermuda Royal Gazette! In the "I always wondered about their DA patterns" department, the following were regularly heard at night: WGTM-590 WSAV-630 WKIX-850 WIEG-990 WINA-1070 WGBR-1150 WBUY-1440 WBSC-1550. Puerto Ricans on 550 1280 1300 1480 were also noted. With the absence of troublesome locals, & w/a NZDXL-type 2,000' wire, it could be quite a DX location. Meanwhile, domestically, WIRV(?) -1550 Irvine, Ky. was heard on ET/mx 3/2 @ 3:30 amidst another OC/ET which gave ID twice in a half hour (I missed both) & what was probably CBAG (it couldn't have been CBE; too weak, & also no ID @4.)

Joe Fela - 167 Goodwin Avenue - Newark, New Jersey - 07112

Hi again. After having a real bad February DX-wise, I'm back at the dials again. During Feb. I had severe noise problems which effectively killed DX. I still do have noise problems but it's down to a tolerable level. Veries since the last report came in from the following: v/l's WPRT-960 (hand-written, CE very critical of station, saying the owners won't buy new equipment, there's a defect in the ground system they won't correct, etc.) KOFO-1220 TEST, WVCG-1080 WWBZ-1360 & KXLR-1150. Also v/q's from WCOL-1230 & WZKY-1580. v/c (mimeo) WARK-1490, & a v/f from WJNO-1230. Recent DX: 3/4- 12:01 s/off WSKI-1240; 12:02 WDCR-1340, sounded like ready to s/off; 12:36 AST station on 920 on RS, no doubt CJCH, suddenly out a minute or two later; 12:40 West Germany-1586 tremendous, even noted on portable transistor RX; 1:01 s/off CFMB-1410 1:30 WIRK-1290 ET, also carried a little of WPBF (FM); 1:35 WCGC-1270 saying AN except SM ("everyone gotta rest"); 2:02 s/off WOKJ-1550; 2:05 s/off WOND-1400. 3/5- 6:15pm s/off's of WVOB-1520 & WQVA-1530 noted. 3/6- 12:14am, WRKO-680 doing very well, unusual here; 12:23 WTSL-1400 concluding ET/TT, gave frequency as 1400 plus 1 cycle; 1:03 WHBC-1480 s/off, very rare here; 1:08 TT-1220 ending, ID sounded like WLFO (sked for r/c at this time), umm anyway; 1:20 WRNC-1240 slightly o/the rest. While not BCB, it's interesting to note that local WNJU-47-TV has finally gotten on frequency after being slightly off towards 48 for o/a year. By the way, they are 100% SS now & will get a competitor soon. Aren't there any New Jersey DXers any more besides Bill Alisuskas & myself? I don't see why the NRC is interested in a joint CPC with IRCA when IRCA seems to be totally against same. 73 for now.

Dave Schmidt - 44 Green Lane - Green Ridge - Chester, Pennsylvania - 19014

Greetings. Milestones in the form of verie #500 came on 3/4 w/the worst v/q on a 3x5 card from KWCO-1560 w/NO mention of the call in the writing, just the postmark to give away the location. Would this be countable? (Why not? -ERC) Otherwise, total as of now is 501 w/the following in: v/l- WCPK-1600, new KDEW-1470 KYSN-1460 KOWB-1290-DX. v/q- Big one from KOB-770 & of course, KWCO-1560. Dr. Dave's Verie Magnet is now in the groove w/a nice v/l from WAXE-1370. Jerry Starr, beware, hi. DX: Only new WTHD-930 taken down for report on 2/28, 7:45-8:01am. OK Dep't: How can you talk a semi-16-cal that throws images on 650 & 660 on MMs to look into it? I've contacted the PD & will contact the CE on it & will probably be told it's my set, but four other area DXers are or have gotten it. No need to mention it's WFIL-560, hi. I'm 22 miles away & get WFIL on MMs on 660 @ S-6 & it's on 650 most of the day mixed w/WSM & MMs @ S-8 or so. Velly strange goings on @ WFIL, especially since they went NSP. My dad bought a Hickok-640 scope so maybe some modulation monitoring on some of these well-run local WATCH FOR WIEG to be off assorted MMs in March-April-May; they were off eight MMs straight last year around this time so maybe they'll be off every other one or two. They were off 2/26, but on 3/4. By the way, WSWN didn't show 3/4, doubtful if they were on. That's it, so 73s.

Roy H. Millar - Box 851 - Everett, Washington - 98201

February DX improved w/seven new loggings; quality not too bad, either. By date: 2/5- KOFO 1220-TEST relatively wasy w/considerable SS QRM during early portion; who? 2/12- KGLE-590-TEST logged w/considerable Tting, but only one good ID & one record IDed through dominant KGMB. CFTK/KFXM DXes pretty well looped out, if on. 2/14- WAGC-1560 Centre, Ala. s/on 7:30am w/a splendid period of local (Cherokee Co.) NX & PSAs, making for an exceptionally good logging of a surprise catch w/many closer stations on. 2/16- KCAC-1010 Phoenix w/TT @ 4am; test, I presume. 2/17- XEBBC-1470 Tijuana, ndted atop all evening; tape a fine s/off @ 3:01am. 2/24- KOWL-1490 ID as South Lake Tahoe, Cal. @ 6:01am, briefly atop KBZY; added to log as ex-Bijou, Cal. 2/26- KWYS-920 West Yellowstone, Mont. ID @ 8am (s/on I presume) but no log possible. Verie: KORE-1050 (#1300 verified in UDA), CKKC-1390 (#50 verified in BC) KOFO-1220 KYXI-1520 WAGC-1560. A disappointing letter from CBC/Vancouver re my report of CBRV-1340 Alert Bay BC LPRT, quote: "We do not send identification cards for LERTs. This policy was decided some time ago as there are so many XRs involved & so many different frequen-73

Fred Nordquist - 411 Dart - W.S.M.R., New Mexico - 88002

DX slowing down a bit lately. No veries in. Total logged: 474, states, 37, countries 16, provinces, 6. Texas w/most lddged, w/96. Closest state unlogged: Alabama. Others needed here are: Ind. WVa & New England states except Mass., & Alaska. Down to DX: 2/20- CKDM-730 Man. 1:38am, KIDO-630 Ida. HI 2:19, KSEL-950 HI AN, WSPF-1580 Fla HI 3:14, CBM-940 CBC program 3:34am. 2/27- CHAB-800 Sask. w/GKLV nulled 1:05am, KOFO-1220 ET/TT 1:43 o/XEB, KTWO-1470 Wyo. NX 1:55, s/off 1:59½, KWOW-1600 C of C ad 2:20, KEWI-1440 rr 2:23. 2/29- UnID-SS-1495A w/very distorted tone /comedy program & mx, possibly XEAQ, Sonora, 7:15pm. 3/2- KSCO-1140 SD w/Commercial Bulletin Board 7:53am, KARS-860 NM 8:33 w/Country Mx Time-USAF, KBYE-890 Okla/w/religious records, 8:53; ~~XXXX~~ -1500 c/w 9:14am. 3/3- KPOL-1450 Cal. NX 3:01am, CJOC-1220 Alta. rr & interviews, KSJE-800 ND w/Columbia country hits ad 3:37, KRMG-740 Okla. OC @ 4am, KVII-1010 Texas OFF 4L39m w/WINS NY & CFRB Ont. fighting it out w/both very weak. JBC-750 s/on in LE w/four note IS, also heard on 700 u/WLW @ 4:47, WNUS-1390 NX u/KGER 5:20, KORK-920 Nev. w/good signal o/KARK w/MoR mx & Las Vegas Journal ad., 5:40; KHOW-630 OFF 5:30am. That's it for now. Let's hope that WSWN TEST will make it through nulled XEW this MM. It'll be a toughie. 73.

Bruce Reynolds - Route 2 - Warrensburg, Missouri - 64093

Hi. MM 3/4 was a good one for domestic DX for a change. The absence of the CBC ANers wad about the first thing I noticed, but I didn't know why at the time. The clearer channels will be nice, but there goes LPRT DXing, hi. Well, I guess you have to take the bitter w/the sweet. DX: 2/29- WRJW-1320 in well w/many ads @ 6:34pm & KCOR, "R. Mejoral" 1350 was easily logged in SS 7:12-7:30pm pattern change. MM 3/4- WSWN-900 TEST made it through XEW/CHML w/several IDs 12:30-1:01am, CKLY-910 heard s/off through much QRM @ 1:05am; f/c from WSTR-1230 1:28 tune-in to 1:35 s/off, ET from KBTA-1340 1:50-2am ID & on, w/TT, WHOO & KTKT were in on 990 w/CEW & WNOX off. Both easily logged, using the loop, 2:19-3:02am. WIBG was also noted @ 2:31 w/ID for another welcome newie. On 740, KSSS was in beautifully o/Cuban @ 3:25am. They s/off @ 4am. On 940, unnn KHOS was battling WYLD. 3/4, SSS brought in KGLE-1120 w/KMOX nulled & XEFW-810 w/KCMO nulled. KGLE noted @ 7pm, XEFW @ 7:30. Veries have been slow. v/c from JBC-750 for Country #19, v/q from WOKY-920, & two v/qs from KOZN for old KOWH reports. One was sent in 11/66, the other this Jan. There will be some drastic changes in the BB affiliations in this area w/the departure of the A's. KCMO-810 will join the Twins' net, while KMBZ-980 & local KOKO-1400 join the Cardinals' net. KCMO & KOKC carried the A's last year, KMBZ hasn't had BB for years. 73 & happy listening.

George C. Greene - 1527 Sunset Avenue - Akron, Ohio - 44301

Hi all! Not many new catches here lately, due to poor CX, lack of time, etc. New stations heard are: 2/229 WZOK-1320 noted around 9:30pm w/a fairly good signal; also nlted was CKPC-1380, very strong but unnn. 2/28- WEIR-1430 @ 7pm w/rr, then NBC NX. No reports out, though. The evening of 2/28 was very unusual, w/no Southern or E/W reception noted; only locals & semi-locals. WHHH WBEW CHLO WHOT all were noted, which is quite unusual for early evening reception here. To those who heard "Radio London" jingles at various parts of the dial, it is probably just some rr station playing the new WHO album, which has Radio London jingles in between the cuts. I am now doing board work at WAUP on Tuesday nights, in addition to my show on Fridays @ 6pm. SCers, write. 73. /REMEMBER THE NRC BOSTON CONVENTION, AUGUST 30-31; SEPTEMBER 1-2!

Eric Floden - 13 Parkside Crescent - Ottawa, 5, Ontario

Greetings. If there are any members having problems w/Canadian stamps, I'll be glad to help out; send a \$1 US bill (or multiple thereof) & I'll return to you 20 5¢ (or multiple) of Canadian stamps (letter rate) - no need to send return postage, the 7½¢ US-Canadian rate of exchange will take care of that (and I make 2½¢ to boot, hi). I'll try to get commemoratives, & send out only stamps w/gummed edges so you can stick 'em right on your report). If I return the bill, that means I want some US 6¢ ers - OK? 3/2- WTSN-1550 Mich. (WSHN? -ERC) was heard per NRC f/c list but w/no mx 1:15-1:30 w/TT w/mucho ID at beginning. Veries: WAFC-900 v/1 & spot price data; says I'm the furthest N to report 'em; what say, Andy Rugg? (About two miles further N, hi) XEQR-1030 v/1; CJTT-1230 v/q (four day service!) & WTRX v/1-CM, & eight pages of promo material from ham CE, this one, five days. You /the Cuban veries, how much postage was used? Any help would be appreciated. Where do I get FET-Loop-booster plans? Doesn't the NRC give out membership cards? I've taken up butterfly collecting - I got a new book called "Hints for Young MOTHERS", hi. 73.

Paul Kilroy - 2113 Fort Davis Street SE - Washington, D.C. -20020

Well, so far I've been lucky w/being able to listen to the radio. However, DX hasn't been too good. When the going gets rough I might devote a few Musings to State Capitols on BCB for those interested. It's one of my present pursuits & luckily coincided w/one of the contests. I got my operating manual to the HRO 500. One possible deficiency: their frequency synthesiser puts signal into the 26 mc. band. I hope ~~no~~ Citizens Band radios are too close-by. DX: 3/1- WEEZ Pa. @ 12:32am w/NX & possibly a TT. WKY-930 Okla. @ 2am weakly w/NX. 3/4- UnID FFC-1280 4:17am w/call sign C--L?? WABR-1440 Fla. 4:25am w/c/w. Here in D.C., WGMS & WMAL, 570 & 630 were TT 3:55am. Possible WSWN w/c/w selection = 12:50am but way u/XEW/CHML. CMEQ-1060 w/constant 1/2 L&C & ID 3am as R. Popular. Format different from most other Cubans. WENZ-1450 Va. 3:12am w/NN pro ramming, my unID of last week. KIMN-950 Col. 2:48am, WMAX-1480 f/c 12:45-1am w/ID every three minutes. This info through co-listener Earl Robinson. 3/3- PRG2-1040 was really coming through 3:20-3:50am w/"Cultura" ID @ 3:40. WEED NC had f/c on fourth MM but it's listed for first MM; possible change here. Verie Dep't: V/pp KFGO ND on their f/c for State #40 verified. v/1 on bottom of my report from WAMS-1380 Del. No CMs available there. According to best of their knowledge, mine was their first DX report. Their signals are beamed S to cover S portion of Del. They have a five-tower directional array 5kw D, 1kw N. They are listed in NRC f/c list correctly so how about giving them a listen, all those who need Delaware. Bringing totals up-to-date: States 42/40, provinces 9/9, stations 623/120, state capitols 33/29, countries 30/221 Ron Ponke: Your 1120 s/off could be WUST, DC. 3/5- Possible KEYD-1220 ND 2:37-2:53am w/f/c, weak u/XEB/CHSC, & WGAR came on w/OC & killed all. KIOA on 3/6, 3am s/off, 940. V/1 & CM KIOA, hand printed. I am pleasee w/CBC AN going off at least for a while. This should do it. I hope to be back next week.

Ron Hays - Rural Route 3 - Versailles, Kentucky - 40385

Contrary to popular and hopeful belief, I am not dead. Almost, not quite. I am slowly being driven crazy with homework, debate material, homework, stations sending everything but a verie, & a little more homework. Between Chemistry and Spanish I'm going out of my head. These two teachers really sock it to me, hi. Now to my meager DX. Because of above problems, plus a stubborn alarm clock little DX has been done. As a matter of fact only one newie has been added, that being KXLF-1370 w/a perfect signal w/no null on loop. This at SSS on 3/7. Latest QSLs in include WSFC-1240 WBRT-1320 KWYO-1410 WFTC-960 WSIC-1400 KONO-860 KGVW-630 WLRB-1100 & 4VEF-1035. Totals now 307 stations verified, 16 countries and 39 states QSled. Poor still, but improving. (Blessed are the poor, Ron -ERC) Anybody w/a RX for sale w/good selectivity & reasonably good sensitivity write me as I definitely need a better RX at this time. My selectivity is very poor. Re Stew Drake's comments on poor verifiers, I agree 101% w/him. I think that a station that receives a good report w/return postage could at least put "VERIFIED" & sign name on report & stick it in an envelope and return it to you. I have many QSLs like this, & I'm sure that anyone w/a medium-sized QSL collection has also. Nuff said. 73s, & as they say in greater Cincy: WCLU - Warning - Cincy Loves U! For June '68, that is. I hope to see you there.

Ernie J. Wesolowski - 1416 Pasadena Avenue - Omaha, Nebraska - 68107-11
 RX: HQ-180A, ant. 40" NRC Loop. V/1s from CKOC-1150 WCAW-680 KCLW-900 plus WCR v/q. Last three from f/ups. I was up MM 3/4 w/no luck. Verie total 998, 19 countries, 47 states & nine provinces. I enjoyed the phone call from Richard Eddie of St. Louis. Remember the ANARC Convention in OMAHA August 16-18. 73s.

Wayne Coombs Jr. - Box 2070 - Sunnyvale, California - 94087

Hi. I finally decided I would get to DXing again, & start logging stations for the Contest. I haven't reported in a year, so an intro is in order. I am 21 & have been DXing on & off since 1963. At present, I use a 1955 Dodge Car radio w/the car antenna. I attended the meeting in Sacto, 2/23-25, which was enjoyable. For those who missed it, I have it all on tape, which hopefully will be distributed to those who want a copy, soon. To DX: Since I haven't DXed in o/a year, I started over. Most of my loggings so far have been California (that's what I get for daytime DX), but a couple loggings are worth mentioning. With KEEN-1370 on the air w/full power, I tuned above KEEN & got KQCY-1370 w/500w, 190 miles away, w/no interference from KEEN. One of these two must have been way off frequency (2/28 @ 8:30pm EST). Any EXPLANATION? The other station was KCPX-1320 Salt Lake City. It came in w/a perfect signal @ 9pm EST & then faded completely for at least 15 minutes. "I Love You," by the People, a local San Jose group, is being played on numerous stations around the country. I would appreciate a copy of any SC w/this record noted in the Top Ten, highest rating preferred. Please help my collection. I think we'll have a SanJose get-together o/the Memorial Day weekend if things work out. More on this later - t's still three months away, hi). This is close to 30 lines, so 73.

Glen Hauger - 303 Ash N.E. - Box #435 - Albuquerque, New Mexico - 87106

No DX to report this week, so onward w/my comments on DXing mediumwave harmonics, continued from last time. In my case very strong local FX-produced harmonics were virtually eliminated simply by isolating the ground terminal from A2. However, this produced the opposite effect on the BCB itself, so a switch in this circuit allows the best of both worlds. Why do mixing products & images appear where they do? IF images show up at plus or minus two times the IF of the RX, which is usually 455k. Mixes are of several types; the most common are: simple addition of frequencies (A plus B) as 770 plus 1450 equals 2220; & "mirror" frequencies (2B - A) as 1450 x 2 - 770 equals 2130, or done another way, 1450 - 770 equals 680; 1450 plus 680 equals 2130. In extreme cases, three or more stations may mix on a single frequency in a more complicated relationship. If, after your best efforts, you are still plagued w/local mixing products, make a survey of them using the above formulas, so you will know which frequencies to avoid in the future. In large metro areas, there may be something unwanted every 20 or 30k. Often only one station will dominate on a given mixing product frequency, but there should always be some audio from a second station (unless one is running OC!) so always be suspicious of two stations heard on exactly the same frequency. Mediumwave harmonics are not limited to the 2 mg/s range where indeed they are most common; I have heard them here up past 11 mg/s xxxxxx and they surely occur between 1040 & 1600k as well. Because of weak strength, heavy QRM, and careful monitoring by government agencies, harmonics falling on the BCB are rarely heard beyond the local area, but are certainly legitimate & highly unusual DX catches if they are heard DXwise. Audio from BCB stations sometimes appears on SW for operational rather than harmonic reasons. Often a key station covering a major sporting event (such as WIBC & the Indianapolis 500) will be relayed, complete w/IDs, by point-to-point facilities. Taped NX inserts may be heard on the AFRTS program "Hometown USA" & elsewhere. Remote pickup facilities operate FM in the 26 mg/s area, but must eventually ID w/their own call in addition to that of the BCB station. More on DXing mediumwave harmonics next time, I expect. Best DX & 73.

Bill Racsko - 3015 East Lincolshire Boulevard - Toledo, Ohio - 43606

Along w/the good news of the CBC AN program going off comes some bad news. WOHO-1470 is now AN MM, apparently NSP. They wreck 14601480 here. I knew they would eventually go NSP but didn't know when. When are these stations going to realize they lose money by being AN? I feel that there is some chance of relief now that the CBC is off AN; maybe now some of these others will follow suit? It doesn't look too good, though; just in the past month, CKWW-580 WCHB-1440 & WOHO-1470 have gone AN MM. At that rate, there will be no DX hobby two years from now. I think the issue of the increasingly poor channel situation is a worse problem than even the poor reports to stations, because if you can't hear the stations there will be nothing to report to. Not much DX here, just KKHI-1550 WPRA-990 & KFSB-1310 on 3/4. Only new verie is a v/q from London for BBC-881 Wales reception over a year ago, result of a f/up sent to London. 73 from the Glass Capital of the World!

AS THEY SAY IN LAFAYETTE, LA. (on FM) "KSMB." "KINDRED SOULS'LL MEET in BOSTON!"

John Gifford - 1408 Scout's Grove - Urbana, Illinois

I was really pleased to see the article in the 3/2 DX NEWS on the effect of solar rotation on BCB propagation CX, because I had had a wild hunch that whether a sunspot faced the Earth or was on the opposite side of the sun might make a difference. On the evenings of 2/28-29, only locals & LAs were coming in for the most part, so I took out my 6" reflector telescope the afternoon of 3/1 & checked for sunspots. There were four major groups visible, & many of the individual spots were quite large in area. This week, 3/5-7, the ECers have been coming through pretty strong (WBZ, WHAM pin the S-Meter easily) & KFI came in well last night 3/7. The sunspot situation on the afternoons of 3/6-8 were like this: 3/6, only one major group & one small isolated spot; 3/7 two major groups, 3/8 same two groups as 3/7 but some of the individual spots have shrunk & some have disappeared altogether. It seems as if E W & L paths are attenuated most when many sunspots are facing toward the Earth. Vast daily differences seem to be possible as the sunspots can radically change overnight. Any-one else who has a telescope & would like to try to keep data on the sun & its relation to reception, please write. In nulling out local WDS-1400, I have noticed when I have tuned a little to the high side of the frequency & have WDS nulled out, WDS is still audible when I tune to the low side of the frequency. Along this same line, on 3/6 @ 3am w/the Cuban nulled on 690, XETRA was dominant on the low side of the frequency, but it could be SPLIT OFF by tuning to the high side of the frequency, leaving TIX & an unID battling it out. There was no het audible; it seemed like XETRA was using just half of the frequency if there is such a thing. What is this phenomenon? DX: 2/28- WLOX-1490 Miss. 2:30am ID after WX, XERON-1110 "RCN" SID @ 10:46pm. 2/29- YNRC-1130 Managua 9pm "R. Catolica" ID, signal on 1131A @ about 9pm also, letting YNRC, 1983A?? station here w/LA-type rx, 1490-?? s/off w/Dixie & then SSB @ 11:28pm, call sounded like WK???. 3/1- YVQJ-1080 Barcelona 9:21pm "R. Barcelona", mentioned "Rumbos" also. 3/2- WDXB-1490 Tenn. 5am s/on w/no anthem, must be off AN-6 sked; XE??-1310 SS noted @ 10:40pm, mentioned "de Mexico" twice, seemed to be broadcasting sports event, the name "Tony Morales" was mentioned several times. 3/3- YVLL-670 Caracas 8pm two clear "Rumbos" IDs w/WMAQ looped, WHOC-990 Fla. 8:15pm SID. 3/4- ??-710, who had "La Hora de Mexico" starting @ 12:01am, XEMR-1140 Monterrey 12:46am "R. M-R Magnifica" ID w/jammer looped. Sunspots do count. 73.

Frank Wheeler - 6589 Wattsburg Road - Erie, Pennsylvania - 16509

Not much of a report, but such as it is, here 'tis: 2/5- WFBM-1260 2:50am test. KOFO-1220 TEST. Sent a v/1 & CM. Bob Davis, CE, uses a Hallicrafter S40B like mine for BCB listening & FM collaboration of their FM Modulation Monitor. 2/6- WFBC-1330 s/off 12:13am. 2/19- KMMO-1300 4:07 on TEST. KMMO & KOFO both new for me. Totals now: 2/552 received w/1,573 veries. That's all for now. I'm still getting bulletin ten days late & missing a lot of Specials (not JAC's fault, as they are mailed in time). Some rotten mail service w/an increase in postage rates. 73a.

Ralph M. Johanns - Buffalo, New York

This Tuesday 3/12 Mauritius will be an independent island & you IDX'd people'll have one country. Ernie, when NY was called Nieuw Amsterdam, the postage rate was three stivers of wampun, the equivalent of approximately 6¢, so actually now the rate (6¢) is back-to-normal. The CBC quit ANing because they ran out of v/qs & the night shift wanted to see who all the milkmen looked so happy while they had to work. Here, 3/10- Buffalo is still fog-bound & some RSers got fogged out & so others'd have a chance. 3/0 I had a r/c-TT by WKID-1580 topping XEDM 1:17-1:31 s/off, mentioned only reports with CCDE WORD'd be verified. 940 had CJGX ANing & they still use rr. WTAI-1560 ET/rx 4:15 & s/off @ 4:59. WSBA-910 ANing topped KGLC AN & saluted the "Barbershop Singers of Lancaster" for the 3/10 doings there. 3/10- WCKJ-1550 RS 1:32-2:01 s/off w/SSB. WDXR-1560 nice also to lam s/off, returning @ 6:30, no SSB. CJCY-1460 AN does little talkee & IDs 3:33½ singing only "CJOY Guelfh" & continuous rx. 3/8- I had ZFB1 9-6-0, on your dial; uses AST so don't get fooled w/CHNS' AST use. WWIN-1550 ET/rx & a TTer company, 1:32. V/1 by ENFV-1440 says r/c-TT crystal is fourth Thursday @ 12:15am. v/1 w/old CN & the proposed new 1,000 250w critical hour (CH) CM, WSMD-1560, Box 776, La Plata Md. 20646. 1/27 was a PoP; they s/on w/250w & later in day go to 1,000. Funny, he dated letter 2/24 & I got it 3/7! No air flights, so FOG it till next time.

WADDAYASAY BOYS? - THIS SECTION HAS BEEN LOOKING PITIFULLY SMALLER AND SMALLER - DON'T YOU LADS WANT TO SEE THIS SECTION LARGE AND NEWSY? COME ON- SUPPORT IT, THEN!

Alan Merrinan - Box 6 - Fairfax, Virginia - 22030

Well, it's been about four months since I have been represented in these pages. Not much DXing has been done here but here is what I have heard. First, the veries, where a couple of milestones have been reached. Canadian verie #100 & my 75th verified country, Venezuela. v/q- CJRS WKAT WONE KONO. v/1- CHER HIAM-660 CJBQ WKMK WSME KIFN KOFO CKOT WRKC HICM-540 YMAA-660 WLBG. v/f- WOIO WNEL WWOL WGCH. v/c- KATZ. v/r- WCUB. Here's DX: 11/27- WOIO-1060 @ 3:49pm. 12/13- WDMC-620 @ 4:10pm. 1/8- WKMK-1000 @ 1:05am. WGCH-1370 @ 1:30. WNFL-1440 @ 2:53. 1/30- WLBG-860 @ 2am. 2/4- WKAT-1360 @ 5am. 2/5- WJRD-1150 @ 1:15am w/ET. WCUB-980 very briefly @ 1:32 w/ET. WONE-980 @ 2:05 & WTRY-980 @ 2:30 I clean up a couple of often-heard but never verified stations. KOFO-1220 @ 3:38. KIFN-860 o/KONO @ 3:53. 2/6- WMAD-1550 ID @ 1:05am on ET. WRKC-680 @ 2:15. WSON-860 @ 2:31. 2/12- WAAC-1530 @ 1:06 w/f/c. 2/14- Long-wanted CKOY-1510 way on top @ 5:10pm for a report. 2/19- CJLR-1060 for a report @ 12:19am. 3/5- CHSC-1220 w/AN program @ 1:45. 3/7- WTAI-1560 w/ T @ 12:45 am. 3/10- WPXY-1550 w/s/on @ 6:18. I think I echo the sentiments of all DXers when I say THREE CHEERS for the CBC. I am particularly pleased to see my favorite frequency, 1550, opened up again. I will try to be more active in the future & if so I will write more often. 73.

Curtis D. Engberg - 89 Concord Road - Wayland, Massachusetts - 01778

Vinny Cavaseno- your beacons are listed in ITU; BE unlikely call, as is listed on 47Ck in Benesov, Czechoslovakia w/200w. Try that call again if you can & I'll search. FZ is a strong regular here & is listed on 524k in S. Hubert, Que. w/250w. Location 72449 & 45448 per list. NB on 530k in N. Bay, Ont. w/500w also regular here. 2/12- Transmundaal s/off heard @ 12:10am w/what sounded like R. Atayaya ID on 800; has HJBW moved from 812? 2/13- WSAJ not heard here, but WRAW strong o/WMID was a newie here, so not a total loss. YVKE-1100 noted @ 11:30pm. 2/14- HJAJ-760 riding on top @ 11:30pm retiring time. 2/16- WSME-1220 ET noted @ 1:12am. 2/19- WTYN-1550 s/off noted @ 1am. KMMO TEST noted easy, later. WTPR-710 noted w/TT & ID @ 3:55. WLOF-950 at 4am. Barbados-780 noted on top w/pools & request show @ 6:30pm giving AST. 2/22- Strong Cuban w/BB noted on 647 just before midnight; game ended & quickly s/off @ 12:04am, not heard any other night. 2/27- Someone apparently s/off @ 11:30pm on 625 w/La Voz de la --- ID - TIRICA? Also heard very strong the following evening, but on well into the AM? You're sure they're not on, Clarence? No deep SAs heard here - I need better RX or more imagination, hi.

Jon J. Berran - 1511 Dieman Lane - East Meadow, New York - 11554

Hi y'all. When I read of the discontinuation of the CBC AN program I decided to try a little DX on the newly vacated channels. On SM 3/10, I found 740 w/two stations, KRMG Okla. & the Weird Beard. KRMG s/off @ 2am. 940 had WINZ Fla. & an unID SS which s/off 2am. 1550 had SS & WCKJ Miss., which s/off 2:02am. Also heard were CKOC-1150 Ont. AN-rr, & CHSC-1220 Ont. AN-c/w. Two veries received this past week, a v/1 & CM from WNAB-1450 Conn. & a v/q & CM from WLTC-1370 NC. Totals now 704/431. That's about it for now. 73s & C U N 7. Remember, c/w is THE mx!

Ernest R. Cooper - 438 East 21 Street - Brooklyn, New York - 11226

A real pffft week here, with no veries & no new catches. Can anybody in this area ID a concert mx station on 1240 6-7pm w/hardly any announcements, which comes in on top at times w/the antenna at a SW/NE position? Could it be, per chance, new WSEW in Selingsgrove, Pa.? I've been after this bird for some time with no luck yet for an ID. While listening one evening this week to this one plus the 1240 jungle, I heard BKB NX of Central SC in the background. This antenna position nulls WGBB quite well. MM 3/11- WHN-1050 & WINS-1010 not on RS, but WINS ETed much of the AM. They cause a strange buzz on 990-1030 even w/no modulation! TTer on/off on 850 1:49-1:56, no ID heard here. Unn KMX battling WFLI @ 3am. Unn WAKE-1500 Ind. again ETong w/mx @ 3:10 o/KSTP. An ID heard on 1320 @ 4:03 as I hit that channel - "--w/a XR of 1,000w on a frequency of 1320k." Then TTs & OC - who was this? 3/12- WQIW-1570 u/CKIM/CFOR @ 6:28pm s/off after sports NX, not enough for a report. Someone w/"quiet mx" on 1530 o/WCKY until 6:41pm when they faded down u/WCKY & announced, then back up after announcement w/"Now the Day is Over" & off @ 6:45 w/no further words spoken. Unn WVKO -1580 in @ 6:50pm w/rr to 7pm s/off. I got most of my new veries filed away this week so soon I can begin the complete count of them by states, and countries. I have added five from the Dominican Republic this season out of ten reported. Still nothing out of Venezuela - they must not like my SS or else they can't read it, hi. C U N 7.

Editor: Gordon P. Nelson, 19 Irma Ave., Watertown, Mass. 02172. Phone: 617-924-9007.

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CONTRIBUTORS: Deadline for mail reports is Tuesday AM, for phone reports, Tuesday PM. Please submit information in standard IDXD format, in EST, and with the standard NRC abbreviations - preferably on standard-sized 8½" x 11" paper, one side only. Please qualify all assumed and tentative loggings as such in order to reduce errors; check past issues of IDXD before asking for help on Unids.

DX conditions here in the northeast have been very erratic, ranging from very poor on MM 3/11 to quite good on TA paths on 3/13. TA's are now being heard nightly on most TA channels, although levels are rather weak. Not the slightest trace of South Africa or Nigeria so far this year. In Pennsylvania, Dangerfield reports, "As far as reception is concerned, I would say, no significant changes as yet. TA's are still very unreliable, and very weak, and LA's are still very dominant. Breakthrus are brief and new stations are rare." In Maryland, Zahner notes, "Had a good TA night 2/17 and 2/18; also a good TA night 2/21." In Hawaii, Wood says, "no new loggings; conditions only fair." In Sweden, Mattsson says, "Here in Sweden the DX conditions have been very bad on MW; very few loggings the last two or three weeks." In Sunny Jamaica, Silvera observes, "conditions had definitely improved and S.A. reception is back to good; hope to get quite a few within the next month(s?) or so before ye jolly old static sets in." At the end of February, Medium Wave News (England) reported, "Conditions have remained poor and unstable, but things were better for IA on 2/14". The prediction: TA's and DU's will improve, but the rapidly advancing season will cause later fade-ins and earlier fade-outs. Should be some South African activity in the next month or two - watch 1286 in particular.

*On Reciprocal Paths. Overseas receptions of North America stations again reflect our view; NZDXRA reports receptions of a few high powered stations in the western part of the continent around 0500, and the Europeans report a few receptions of high power North Americans around 2000-0000. Nothing interesting.

The Trucial Amirate of Sharjah again! The following information originally appeared in the British press and was picked up by both Benelux and ARC:

Voice of the Gulf

A new Arabic speaking station has been set up in the Trucial States of the Persian Gulf and is proving a popular alternative to Cairo Radio and its propaganda. The station is called "Voice of the Coast" and is financed by Britain. The local ID is "Sawt as-Sahil min al-Imarat al-Matasalihah" and can be heard on 1250 with a power of 1000 watts. It will soon start taking advertisements from local traders, to provide minor additional revenue.

Local Arab staff run the station, which broadcasts musical request programs, news bulletins, and local interest stories and interviews. Popular response can be gauged from the fact that the station is apparently receiving about 1000 letters a month from listeners. Its success can probably be attributed to its local nature, which distinguishes it from the more general broadcasts beamed to the Trucial Coast from Cairo Radio. The station has already been accused by local nationalists of being a mere mouthpiece of British propaganda.

The Voice of the Coast was originally based on a local broadcasting service for the Trucial Oman Scouts. The only other important broadcasting service in the area is the TV from the American-sponsored station at Dahrain in Saudi-Arabia, which can be picked up in Bahrein, Qatar and farther down the coast in Abu Dhabi and Dubai.

In fact the volume of anti-British material from Cairo radio broadcast to the Gulf doesn't appear to be as high as it was before the Arab-Israel war in June. At that time, the Egyptian allegations that Britain and America helped Israel in the fighting were being strongly believed all along the Gulf Coast.

*Afar and Issa is now the proper designation for the old French Somaliland. (NASWA)

March 16, 1968

Madeira - The Green Island - The Pearl of the Atlantic
- Bengt Ericson, ARC

Madeira is the largest island among a group of five in the subtropic belt. The island is volcanic and very hilly with tops over 2000 meters. The island was discovered in 1419 by Joao Zato and he is honored by statues and places all over the island.

The capital is Funchal with 100,000 of the island's 270,000 inhabitants. Funchal is situated in the southern part of the island and has a natural harbor that is well known to sailors. Today at least one luxury cruiser a day is visiting in the new and extended harbor.

During my brief stay there I visited the three existing radio stations and here is a short description:

1529 Posto Emissor de Radiodifusão do Funchal, CSB91, is housed in an old villa in the downtown, Rua Ponte de S. Lazaro, 3. They are using one old studio for MW and one new one for FM. All equipment seemed to be old and is used very hard, but the programming was good. The style was Portugese with many fados played and a lot of cultural programs. The director, Dr. William Edward Clode, who signed my verification in 1953, guided me around and was very kind. The MW transmitter is located at Monte, 800 meter above sea level. Schedule: Weekdays 0300-0530, 0900-1500, and 1400-1900; 0300-1900 on Sunday. ID is: "Aqui Funchal, studio do posto emissor de radiodifusão".

1484 Estação Radio da Madeira has offices and a Gates transmitter for CSB90 on top of the Pico dos Barcelos, 1200 meters above sea level. In the telephone directory the address was given as Rua do Carmo 21, but when I arrived there the wife of the director had moved in and the office had been moved to the transmitter site. The director is major Manuel Portela Ribeiro, but he is stationed in continental Portugal so the management handed me over to his granddaughter Teresa. She was young and could speak only Portugese and my Portugese isn't so very radio-designed! The programming is very modern and US-style has broken into Funchal by this station; mostly pop music and commercials. Occasional programs are broadcast in English and French. Schedule: Weekdays 0300-0500 and 0700-1830; Sundays 0300-1800. ID is "Radio da Madeira".

1331 Emissor Regional do Arquipélago da Madeira is the newest one. The station belongs to Emissora Nacional and began transmissions last autumn. ERAM is still operating on an experimental basis and when I visited their office the rooms were empty in the nice villa that Emissora Nacional had bought from a rich businessman. One room was quite filled with things and that was the control room also, which was also used as a studio. In spite of this, the station is producing a very good sound.

Director is Ruy Ivo da Silva Viera Nunes Pereira, former director of Emissora Regional dos Açores. We became great friends during my stay in Funchal and he guided my wife and me around the island during two days. One night we were invited to his home for dinner, you know in these countries dinner is served first around 9 or 10 PM, and it was very interesting to see a Portugese home from the inside and to taste their specialties. Of course the dishes were a bit well spiced for a Swede!! But we got Madeira wine from 1900 and that was something to live for!

The programming is mostly tapes from Emissora Nacional and the only Funchal-produced program is a 5-10 minute newscast and weather report at 0815, 1245, and 1750. The news from Lisbon is received from a cable and is broadcast at 0800 and 1530.

The transmitter is a 1 kw Bower and very well situated near Terreira do Luto, 890 meter above sea level. The tower is a $\frac{1}{4}$ wave vertical tower. Future plans include a 10 kw MW outlet, but Ruy thinks it will take time because ERAM is well heard as far as the island of Porto Santo now.

When I visited Ruy's office he showed me two reception reports from Germany reporting the station on 1421. ERAM is not using that frequency and how can a German MWDX'er catch a foreign station on 1421 with 400 kw of Saar on the channel? The reports were not verified. Reports can be written in English and addressed to: Director Ruy Pereira ERAM, Rua dos Netos, 27, Funchal. Schedule is weekdays 0630-0900 and 1400-1800. ID is "Aqui studios na Madeira da Emissora Nacional" or "Emissor Regional do Arquipélago da Madeira. Funchal".

March 16, 1968

When you are trying to log this station, observe that Emissora Nacional has a station at Elvas on 1331 and this station signs off after 1800; Madeira signs off at 1800 every night except New Years Eve!

What else was heard on the band from Madeira? Well, daytime reception was limited to Lisbon-665, Agadir-935, Radio Atlantico-1097 and Radio Clube de Tenerife-1412 (Canary Islands). 935 was the strongest with Arabic all day. At around 1300 the more distant stations began coming through. At 1358 EAJ202 on 998 was starting with a tremendous signal, I doubt it's only 10 kw. Radio Sahara on 656 was not so strong. Beamed antennas? (998 is definitely only 10 kw, Bengt, but they're always better here than 656 too - Ed) A funny thing with EAJ202 was that you could hear RNE main programming in the background during all their programming. More isolated rooms needed?

North Africans were good and Cairo-818 and 620 were very good. A disappointment was my hunt for Sierra Leone-1200, Liberia-710 and 650, Togo-1394, and Cotonou-1475. Not a sign of them. Bamako-1430A and Abidjan-1240 were the only Central Africans logged. Not a sign of Nigeria! The Conakry-1403 outlet was covered by QRM, but Sekou Touré's speeches could always be logged. Dakar-764 very strong after sunset.

A very interesting station was hrd on 872 with sign-off 1900, Radio Juventud de Canarias; very strong but QRM from EAJ101 on same channel.

The Spanish graveyard channels 1570, 1520, 1502, 1475, 1430, 1412, 1394, 1133, 1106, and 1097 were crowded after sunset and no loggings could be made with my transistor receiver. However I heard two unid Spanish speaking stations, one on 1322 announcing "Transmite Radio..." and I don't think it was Morocco, the other one on 1484 close down at 1900 with "Tenerife" in the ID.

Regarding Morocco, I noted that 611 used Spanish the last hour before sign-off 1900, so I think Sebaa Aioun belongs to the second network.

The low-powered Portugese stations on 557, 1331, 1358, 1448 and 1562 were coming in very well after 1800; I noted that during the evenings 755 and 1061 mostly broadcast classical music and plays. R. Universidade was not using the 755 channel, but 665 between 1300 and 1330.

On 1484, AFRTS at Kenitra Air Force Base, Morocco was heard around 1830 and 1900 with quite good strength. They used the callsign "CNL Radio 1484" very often. Weekdays the broadcast a 5 minute newscast at 1900 and then tapes from different US stations, mostly from KMPC in Los Angeles.

Around 1900 several frequencies were covered by Brazilians, like 1180, 1280, 1300, 1340, etc. Some US stations were also noted on 1220, 1270, and 1520, but they were weak.

Radio Sweden was heard two nights at 1830 with English Service on 1178, but a lot of QRM from 1180. Instead, Radio Denmark on 1061 was heard very good as early as 1600, with the Portugese station looped out.

On 836, Emissor Regional dos Açores was heard signing off at 1800 with 10 chimes and full ID in Portugese; after they went off, two Spanish stations and Nancy were heard on the channel.

Local times have been changed in the following places: Azores are GMT minus one hour all year, Madeira is GMT all year, and Portugese Guinea is GMT minus one all year.

-30-

THE QUESTIONBOX. Does any member have a set of BCB coils for my HRC-60 receiver or know where I can obtain a set? (Andrew ReKay, 1339 Lunt Ave., Chicago 60626) Does anybody make mechanical filters for 1650 kcs? (Starr) Not that we can find, Jerry, you'll have to settle for a 1650 crystal filter I suspect. (Ed) What is the publication "IEEE" that has been cited in the past? (Kilroy) The Institute of Electric and Electronic Engineers - the largest electronic professional group in the U.S. (Ed) I'm just curious - has the Falkland Islands BC Service on 536 ever been heard in the U.S.? (Raczko) No; see item under 536 in IDXN of 3/2, Bill. (Ed)

*The present DX season has featured the more-or-less usual run of DX fakers, careless and erroneous loggings and identifications, etc. This problem has been especially severe in Europe this year, but responsible European clubs and editors seem to have the situation fairly well in hand now. As we all know, you don't have to hear a station in order to be able to send a "verifiable" reception report - but word has come from Ken Brownless of Medium Wave News (England) of a new step forward in the "non-DX" hobby. It seems that one eager young English DX'er is in such a hurry to build his QSL collection that he doesn't even bother to fake reports; instead he's trying to buy up QSL's from other DX'ers! While he's restricted his activities to the other side of the Atlantic to date, he may well contact North American DX'ers eventually. Members contacted by this character are asked to notify the IXD editor. In connection with the "credibility gaps" currently being dug by several North American DX'ers we'd like to offer the following editorial item based upon our 12 years of DX'ing and editing experience.

A Field Guide to International BCB DX'ers, or
How to Spot Excellence in an Arcane Hobby

The outstanding international MW DX'er

- is frequently the first to note new stations or other changes on the band, and reports this information promptly to club bulletins so that others can immediately check the information.
- frequently ID's unidentified stations reported by others.
- is wary of jumping to conclusions without substantial evidence, and presents both the "pros" and "cons" for tentative receptions on occasion.
- is careful to note that certain loggings are tentative, and realizes that absolutely positive ID's can be the exception rather than the rule - especially with TA's, Asians, and some IA's.
- realizes that the ear can play strange tricks on even the most careful DX'ers, especially when the signal is weak or badly QRM'ed.
- therefore makes extensive use of tape recordings and keeps a tape library for future reference.
- reads club bulletins carefully and critically, keeps up-to-date on what's being heard, and has a "feel" for which receptions are likely and which aren't.
- proceeds very carefully if it appears that he may have snagged a really remarkable catch.
- has up-to-date reference materials.
- sticks with an unidentified station for several nights (if possible) before asking for help in the bulletin.
- may possibly make use of SW parallel outlets to aid in identification of difficult stations, but takes great pains to make certain that the programs are indeed identical.
- realizes that some QSL's are supplied "automatically" by stations, and therefore is careful about using QSL's as definitive proof of reception.
- is wary of sending short descriptive reports to stations broadcasting in unfamiliar languages, but instead prefers to send tapes in such situations.
- will discount a vague QSL for a tentative report if information casting serious doubt on the original reception comes to light.
- practices language identification, and "collects" anthems, interval signals, etc.
- never waits until the QSL arrives from a rare station before announcing the original reception.
- keeps careful records of his receptions.
- realizes that many foreign stations do not maintain detailed program logs.

Mechanical filters. We have now received enough orders for the first batch of Kokusai filters. Basic unit price (plus 11% import duty) comes to \$14.80; final price will be about a dollar higher to cover the shipping costs. We will notify those interested in the near future about exact cost, payment, etc.

MONITOR REPORTS . . .

- **5/18 Algeria. Oran is now off the air. (EBU)
- 625 Costa Rica. TIRICA hrd 2/15 at 2200 and nightly since; first time hrd in some time and according to Burnham's recent Musing, they've been off since April of 1967. Must be new 50 kw outlet as signal is now very powerful. (Seaver, Calif.) TIRICA hrd playing continuous SS/EE mx on this channel in the early-mid evening hours - 2030 to 2300; ID's occur in the middle of a record, mx modulation is not 100% and carrier cuts out infrequently each evening for several periods of several minutes. My loop, supposedly electrostatically balanced for symmetrical patterns now, shows null due south, which is not Costa Rica. **Another thing, they mention Central America occasionally.** But the disturbing fact is that the carrier is in here every night, signal is steady as a rock and it does not fade! All other CA/SS do. This stn a fake? (Fischer, Neb.) The signal strength and erratic operation may well be due to experimentation with the new high power transmitter, but the lack of fade just doesn't make sense. **They do fade here.** Insofar as the DF is concerned, balancing the loop does not a priori guarantee correct bearings. The loop field may be distorted by nearby wiring, etc. (Ed)
- 647 Botswana. Francistown TENTATIVELY logged 2/19 at 2258 s/on. At 2303 jamming, exactly similiar to that used by RHODESIA on short wave, was heard briefly. On 2/25 an OC which I believe was Botswana prior to s/on, heard at 2255. On both nights ORTF Reunion had earlier been audible on 2446 kc, which is also, technically, Medium Wave territory. (It is?! Not according to the FCC, ITU, EBU and OIRT; isn't 2300-2495 defined as the 120 meter tropical SW band? Ed) From this, I believe the 2446 XMTR will serve as a pilot station for possible BCB reception from lower Africa. (Stanbury, Ont., IRCA) Stan, the E20 time for Francistown on 2/19 is considerably before 2303. When we heard this station many times during July and August of 1966, the carrier was always on by 2245; fade out during that period (for reception of 926) was always within a minute or two of the E20 time. Did you hear any audio at all? Was there any trace of the BBC? What did the jamming audio sound like? (Ed)
- England. BBC European Service; carrier on 2223 on 3/13, 5 minutes of fast "beeps" 2231-2236, "V" IS till Russian pgm began 2245. Russian ended 2258 but carrier stayed on; 5 minutes of fast "beeps" 2301-2306, then "V" IS until pgm in assumed Polish began 2315. Very good signals generally. (Ed)
- 650 Spurious. WFIL-560 noted here by 5 area DX'ers on here most MM's; can also get them u/WSM in the daytime. (Schmidt, Pa.) During the time that WCAU-1210 is on the air (even w/OC for EC), the difference will produce WFIL audio on 650. Is it ever hrd w/WCAU off? (Ed)
- 660 Spurious. WFIL audio noted here also MM's; runs about S5 on MM, enough to drive a DX'er to quit, hi. (Schmidt, Pa.) This is probably the spurious crossproduct between WFIL and WIP: $(610 - 560) + 610 = 660$. This interaction can either be the result of receiver defects, external crossmodulation (from powerlines, etc.), or both. (Ed)
- 680 Colombia. HJAG, R. Miramar, Cartagena, 0536 political announcement by YL amid transmitter troubles, 3/4. (Hauser, N.M.)
- 700 Panama. HOA, R. Panamericana w/speech about unions, etc. QRM from WLW/TIHB at 0241 3/4 // 880, 720, and 1190. (Silvera, Jamaica)
- 730 Unid SS. Hrd from 0455-0505; pop mx and ID which followed some fanfare; ID something like "Radio Emberto em Firma" and given several times; my SS is very bad so I'll send you a tape if you want. (Terlaga, Conn.) Could be YVMT, R. Universo, Ray; send the tape along. (Ed)
- 750 Venezuela. YVKS, R. Caracas, singing ID 1923 3/7; WSB QRM. (Rogers, Fla.)
- 771 Costa Rica. TIW in w/definite "R. City" ID 0612 2/26; note others are hearing an HJ here. (Godwin, Colo., IRCA)
- 800 Netherlands Antilles. PJB certainly the most powerful thing on the dial at nights (except for the 3 locals) while visiting Bermuda 2/23-2/28. (Taylor, Mass.)
- * * * 816 El Salvador. YSFA, San Vicente is surely my unid on 814-815 hrd all fall and winter; fairly strong but somewhat distorted signal 2/26 at 0536 w/mentions of San Vicente and definite "Radio Lorezana" ID. (Godwin, Colo., IRCA)

- 830 Thailand. HSK2, Bangkok hrd 0615-0636 and 0652-0702 2/29 w/strong signal; some 835 QRM. US mx, voice announcement on the hour and ½ hour only; man and woman alternating 0630; probably news as Haiphong mentioned. At 0700 there was a definite mention of "Thai" several times. (Peterson, Vietnam, IRCA)
- 850 Vietnam. Danang AFRTS, US Rock, good signal 0640; have hrd an IS on the hour identical to NHK except all 4 notes are lower in pitch and less musical than NHK. (Peterson, Vietnam, IRCA)
- 855 Netherlands Antilles. PJC2, R. Curcm, hrd 2/29 2145-2203 s/off. (Rogers, Fla.)
- 885 Malaysia. Kuala Lumpur, R. Malaysia fairly weak w/slight QRM and MOR US tunes 0643 2/29. (Peterson, Vietnam, IRCA)
- **875 Costa Rica. TISRBD, R. Popular is now here; believe this freq was swapped w/R. Monumental which is now on 1125. Plenty of C.R. changes noted. (Silvera, Jam.)
- 920 Netherlands Antilles. PJA6, R. Victoria, playing high-brow mx at 2120 2/29; 2123 ID in EE and DD as R. Nederlands relay. (Rogers, Fla.)
- 965 Colombia. HJHL, Barranquilla, R. Sutatenza hrd 2/28 2207; announcer reads poetry between records; ID says 970 kcs. Between ZFB1-960 and WFLA-970. (Rogers, Fla.)
- 970 Argentina? LV2, L.V. de Libertad, Cordoba tentatively the Deep SA hrd w/nx and mx format very similiar to other Argentines 0403-0416 3/1; WFLA QRM. TC's are for Argentina or Paraguay. (Silvera, Jamaica)
- 980 Unid LA. A "L.V. Continental" hrd 2000-2008 3/6 w/ads for "Malta Flota" (Flota Beer) same as hrd on Dominican stns; EST TC's. Who? (Rogers, Fla.)
- 998 Rhodesia. The high power Rhodesian outlet on and around this freq is currently off the air. (ARC)
- Unid Spain. Latest EBU lists an unid stn in Spain on this freq; looks like they haven't tumbled to EAJ202 yet! Wonder if they'd like to subscribe to a really good MW information service? (Ed)
- 1000 Nicaragua. YNT hrd 3/4 0027 for country #12; all alone on freq; TC's 2 minutes fast. (Rogers, Fla.)
- 1010 Unid SS. Hrd at 2235 3/5 ID as "R. Musical" or "R. Mundial" playing classical mx; much fade and another SS on the channel; no positive ID after 50 minutes of listening. (Rogers, Fla.)
- 1040 Brazil. PRG2 very good level 3/3 0320-0350 w/Cultura ID at 0340. (Kilroy, Wash.)
- 1050 Netherlands Antilles. PJJ3, R. Caribe, Curacao hrd 3/1 at 0530 s/on w/Dutch NA; SS ID and freq as 1050; also hrd 2/28 during evening w/bossa nova mx and hourly mx. (Rogers, Fla.)
- 1060 Cuba. CMBQ loud and clear w/ID 0300; pleasant format. (Kilroy, Wash. DC)
- 1080 Venezuela. YVQJ, R. Barcelona, Barcelona 3/4 0505 relaying "Notirumbos"; listen for doorbells every few seconds. (Hauser, N.M.)
- 1090 Cuba. CMDD weak at 2140 3/5 w/another SS behind; how many R. Veinteseis are there? (Rogers, Fla.)
- **1178 International Waters. Both Caroline North and South have left the air for repairs in Holland; On Sunday they both had a break and the generators broke down. Later on the night of 3/4 a tug took the ship to the Dutch coast. No word on when operation is to be resumed. (Ericson, Sweden) When did Caroline move to 1178, Bengt? Though they were on 1187 and 1169. (Ed)
- Spain/Hungary. R. Peninsular de Cuenca can now be hrd in the late evenings u/R. Petofi; Petofi is signing off around 1715 or 1730; Cuenca goes off later. (Ericson, Sweden)
- *1190 Panama. Nothing listed for this country here; fair signal election format // w/ others and AN that AM; hrd from 0204, static bad at times 3/4. (Silvera, Jamaica)
- 1214 England. R. One now s/off 2000. (Ericson, Sweden)
- 1220 Mexico. XEB all alone 0550 3/6 w/Ranchero mx; Cuban off. (Rogers, Fla.)
- 1225.5 USSR. New stn now here; details unknown. (EBU)
- 1286 Czechoslovakia. Prague fair w/woman in Czech 3/14; usual format; not a trace of South Africa so far this season. (Ed)
- 1293 USSR. The unidentified Soviet stn on this channel is now off. (EBU)
- 1300 Colombia. HJNB, Bucaramanga almost positive the HJ stn ID'ing as R. Reloj; mention Depto. Santander where above city is located; ex-Transmisoras Guias. HJNB is listed in 1968 WRTVH as R. Quince (format change0 however it appears latter change will not be forthcoming. NSP like other HJ R. Reloj's. (Silvera, Jamaica)

- *1313 Yugoslavia. New stn now on here; no details. (EBU)
- *1319 Albania. Shkodra, new stn, no information. (EBU)
- 1345A Unid Asian. Again noted 0745-0800 2/29 w/same marimba type Asian mx; gongs hrd 0758; perhaps the new Thai listed in WMWG? (Peterson, Vietnam)
- 1358 Germany. Fair level CC which came on 2326 3/13 was a German, not Nigeria. No Trace of Ibadan so far this year. (Ed)
- 1390 Guatemala. TGAC, R. Cultural de Colomba, Quezaltenango hrd w/mx and religious male announcer, above slogan not hrd but affiliation to Catholic church mentioned 0008-0030 s/off 3/5. (Silvera, Jamaica)
- *1468 Brazil. ZYK22, R. Libertade do Caruaru noted 2/21 2000 w/carnival. (ARC)
- 1475 Peru. CCX4P, Cerro de Pasco tentatively the one w/sign-on announcements 0355 2/20 though there was some mx at least 5 minutes prior to s/on. Announcer spoke w/curious accent and one ID sounded like "Radio Pasco". (Godwin, Colo.)
- 1484 England. BBC Ramsgate and Barrow, R. 4 outlets, good signal 0330 3/4 but faded. (Ericson, Sweden)
- 1495 Mexico. Noted w/ID 1930; gave call letters almost definitely as either XEHE or XEHI; former nominally 1460 and latter 1470. (Rogers, Ok., IRCA)
- Yugoslavia. New stn on this channel; no further information. (EBU)
- 1501A Panama. HON, R. Aeropuerto, for country #13 0115 3/4 w/speeches and marches; 2nd new country in one hour. (Rogers, Fla.)
- 1526 Colombia. Right, my previous item was R. Minuto; hrd 2/29 w/ID and TC's 2101 to 2120. (Rogers, Fla.)
- 1527 USSR. New stn on here; no information. (EBU) Obviously to jam Sinkiang-1525. Ed
- 1562 Switzerland. Beromunster usually very strong but hasn't been hrd during two evenings - 3/6 and 3/7; back to low power or test period over? (Ericson, Sweden)
Letter from SBC just received: "The endeavors to keep the broadcasts of MW stn Beromunster on 529 clear of interference from other transmitters have not shown positive results yet. Since December 1966 Beromunster is using the maximum output power of 250 kw. The new 500 kw xmitter will probably be put into operation in October 1968. This increase of power along with a more effective kind of modulation will most likely reduce the interference in a large part of the national service area, but will not end it totally. THE ONLY COMPLETE REMEDY WOULD BE A CHANGE OF FREQUENCY OF THE ALGERIAN STATION. Since 12/4/67, the PP have been broadcasting experimentally the Beromunster pgm daily from 0010 to 0230 and from 1100 to s/off with a special antenna at the same location as the 529 transmitter on MW 1562 with a power of 0.5 kw. Furthermore we can inform you that before long the Sottens-764 station will be 500 kw." With only 0.5 kw and such fine stateside reception, I'm afraid that several CIA men will arrive at Beromunster soon to learn about new developments in broadcasting antennas, hi! (Blodorn, Germany) It's all done with portable towers on airplanes, Rolf... (Ed)
- USSR. New stn is on this channel; no other information. (EBU)
- 1586 Germany. Langenburg is currently running 400 kw, according to data on QSL's. (many)

V E R I F I C A T I O N S . . .

- 560 JAPAN. JOCR, Kobe. V/q, no signer. (Wood)
- 620 JAMAICA. JBC replied w/standard v/q after only 12 days; 750 received last week so this country now complete. (Raczko)
- 680 BOLIVIA. A surprisingly prompt reply from Alberto Mendez I. at CP34 brought my me verified country #105. Said my data was correct, but he thinks I stated the time incorrectly, to which I agree. I typed 3:15 instead of 5:15 and failed to proofread my report. Just to keep the record straight, I let Sr. Mendez know I appreciated his attention, I sent him Xeroxed copies of the original report and his letter, with corrections noted. (Dangerfield)
- 737 SPAIN. RNE, Barcelona. New 1968 QSL, listing 737 as 250 kw and 1178 as 25 kw; form letter from Manuel Moralejo, Zone Chief Engineer; QTH: Paseo de Gracia 1, 4^o, Barcelona. (Taylor, Mass.)
- 790 AUSTRALIA. 4QG, Brisbane. Usual ABC card. (Wood)
- 850 AUSTRALIA. 2CY, Canberra. Usual ABC card plus letter from E.T. Colhoun, Canberra representative, and masses of brochures, booklets, etc. P.O. Box 365. (Wood)
- 880 DOMINICAN REPUBLIC. HIOR sent long cordial v/l; v/s: Guarionex Auino Reyes says has hrd from many friendly NRC'ers; also color pix, power 1 kw. (Starr)

- 870 AUSTRALIA. 2GB, card, inspecific, unsigned. (Wdd)
- 900 MEXICO. XEW, Mexico, DF. Letter and many postcards from Pablo Guerra Luna, Jefe Administrativo, who says my report was more useful than most they receive. (Wood)
- 910 VENEZUELA: YVRQ, R. Aeropuerto, Apartado 3.333, Caracas; in 15 days from Augusto Hernandez, Director. (Rogers, Fla.)
- 1000 VIRGIN ISLANDS. WBNB, v/l from Fred Kunzmann, C.E. 1 kw Collins xmitter is at Smith Bay; QTH: Box 1947, St. Thomas. (Starr)
- 1220 MARSHALL ISLANDS. WXLG, AFRS, Kwajalein. Pleasant v/l from Paul Savercool, Manager, WXLG, AFRS, Box 23, APO San Francisco. In response to my Aloha, he wishes me "Yokwe-Yuk" (Yuck!). (Wood)
- 1230 AUSTRALIA. 2NC, Newcastle, NSW. Map card and letter from T. Roberts, ABC Rep., P.O. Box 669, plus pgm guide. (Wood)
- 1270 SOUTH KOREA. VUNC, Kanghwa Island. V/q, initials JAB only, via VUNC HQ on Okinawa. (Wood, Hawaii)
- 1421 GERMANY. Saarlandischer Rundfunk; airmail in 9 days, unreadable signer; 400 kw typed in. (Taylor, Mass.)
- 1440 MEXICO. XELZ, R. Variedades, Mexico DF. Letter after f/up, from Enrique Salvador Flores, Relaciones Publicas. QTH: Artículo 123, no. 90, Mexico. (Wood)
- 1480 PUERTO RICO. WMDD, Fajardo. Very prompt, concise QSL from C. Solo Perez. (CE. QTH: Box 387. (Starr)
- 1550 AUSTRALIA. 4QD, Emerald. Usual ABC card from Brisbane. (Wood)
- GERMANY. WDR standard v/q; very specific; also sked, booklet, coverage maps. 1586 seems to be directional w/major lobes in a NE/SW direction according to map. Address as in WRTVH; still 400 kw (Starr) V/l w/date and time filled in; ditto above. (Kilroy, Wash. DC)
- 1590 JAPAN. JQGB, Kumamoto. QSL and other cards, plus booklets, direct from Kumamoto. (Wood)

THE CREW . . . special welcome this week to Ray Terlaga, Conn., and tnx to the regulars!

FORENARBA MEXICO . . .

1450	XEDY	Merida, Yucatan	250	Delite assignment.
	XEPY	Merida, Yucatan	500/250	Correction of an omission; in operation since 4/10/62; and CP to increase power to 500/250 from 250, effective 7/15/68
	XEIN	Cintalapa de Figueroa, Chts.	1000/200	New, expected on the air 12/11/68
1460	XEXQ	San Luis Potosi, S.L.P.	250	Correction of omission; in operation since 12/15/47
	XEYX	Mexicali, B.C.	1000/500	Delete assignment.
1480	XEOU	Huajuapán de Leon, Coahuila	500-D	New, expected on 11/11/68 1130
	XETK	Villa de Guadalupe, N.L.	1000/500	Operation definitive on 1480; change in call from XEJET; see/
1490	XEQH	Toluca, Mex.	250	Cancel notification to increase to 500/250
	XEYT	Teocelo, Ver.	250/100	Correction of omission; in operatin since 12/11/66
1500	XEPL	Guanajuato, Gto.	250-D	New, expected on 12/11/68
1510	XEOF	Cortazar, Gto.	250-D	Correction of omission; in operation since 6/29/67
1520	XEVUC	Villa Union, Coah.	1000-D	New, expected on 12/11/68
	XEHT	Huamantla, Tlax.	250-D	Assignment deleted, see 810
	XERQ	San Luis Rio Colorado, Son.	250-D	New, expected on 1/16/69; previously notified as XEST.
	XEVO	San Rafael, Ver.	250-D	New, expected on 1/16/69
1530	XESD	Silao, Gto.	1000-100	PO:1000-D, expected date 3/10/68
1540	XE--	San Juan de los Lagos, Jal.	1000-D	New, target date 12/11/68
	XEVF	Villa Flores, Chts.	500-D	In operation since 5/22; change in call, previously XEVE
1550	XEDV	El Oro, Mex.	250-D	New, target date 10/16/68
1560	XEVIP	Cd. Satelite, Mex.	1000/250	Change in call, previously XERMK; previsional operation with 500 watts since 3/15/63
	XEDD	Montemorelos, N.L.	500-D	New, probably on 12/11; previously notified as Monterrey, N.L.
1570	XEIK	Panuco, Ver.	500-D	Delete assignment
	XEIM	San Blas, Nay.	500-D	Delete assignment
1590	XEART	Zacatepec, Mor.	1000-04	New, target date 1/16/69
1600	XEVW	Acambaro, Gto.	500/200	Change to 1160, by 11/4/67 (??)
	XEAK	Acambaro, Gto.	500/200	New, target date 5/2/68, previously notified on 1160
	XECT	Vernacruz, Ver.	250	New, target date 1/10/69, previously notified as XEFM
	XEZK	Tepatitlan, Jal.	1000/250	Power increase from 250-W1, target date 8/19/68.

b) Even worse than the tuning problem, however, is that of pattern distortion. As we'll discuss in a moment, the primary cause of loop malfunctions (either inability to null out locals or inexplicable direction finding errors) is vertical pickup from the loop or the line connecting the loop and the receiver. Since even the slightest trace of signal pickup other than that from the loop will seriously distort or even destroy the loop null (relevant equations forthcoming in Part III), it will be effectively impossible to prevent the lead-in wire from a remote loop from acting as a vertical antenna and therefore rendering the loop ineffectual. It has been our experience that loop-receiver transmission lines longer than 6 - 10' in length will begin to introduce enough vertical (e.g., electric) pickup to seriously distort the loop pattern. While several methods to eliminate this pickup come to mind, the compensatory networks will be dependent upon signal frequency, and thus very complex to operate in actual practice. In summary: it'll be easier to move your DX shack to the attic than to put a remote loop there.

7. Why does my loop null better on one side than the other for certain stations, and why aren't the nulls exactly opposite (i.e., 180° apart)?

- a) This is the primary problem with most loops in use today. There are several names for this highly undesirable condition: pattern distortion, vertical effect, reciprocal asymmetry, electrostatic imbalance, etc. These are all equivalent terms and refer to the fact that one face of the loop behaves differently than the other. In a perfectly balanced loop antenna (essential for reliable direction finding and highly desirable for eliminating locals), both peaks and nulls of the antenna are identical. If you find that it's easier to null some particular station with one null rather than the other, your loop is unbalanced. In a perfectly balanced loop, not only will peaks and nulls be exactly 180° apart, but this will be the case for all stations.
- b) The term reciprocal asymmetry is used to describe just how well balanced a loop antenna is. Reciprocal in this context means "opposite" or "back-to-back"; asymmetry reflects just how much the loop nulls and peaks differ. Accurate, precise, and consistent direction finding is possible only with a balanced loop (i.e., no electrostatic imbalance, undistorted pattern, zero reciprocal asymmetry, no vertical effect, etc.).
- c) The test for loop imbalance (from here on, we will consider imbalance to be cause, and reciprocal asymmetry the undesirable result) is very simple. Tune to a local station during the middle of the day, and note both the position of the null and the depth of the null (say on the S meter). Now swing the antenna around to the other side and try the other null. If the loop is balanced, the S-meter will show the same value for each null; in addition, the orientation of the loop should have been the same for each null, except for an exact half-rotation. If either or both conditions are not met, the loop is unbalanced and requires modification as follows.
- d) Figure 1 shows the basic circuit for almost all of the loops currently in use (the "DX Horizons Loop", the "Moore-Roberts Loop", the "Phillips Loop", the "NRC Loop", the "IRCA Loop", et al.): a tank circuit of 5-10 turns, a 365 pfd tuning capacitor, and a take-off link (one or two turns) which feeds the signal to the receiver.
- e) Step one in balancing a "sick" loop is to replace the feed-line with either a piece of two conductor coax (expensive), or a piece of shielded two-conductor microphone cable (cheap). Note that the outside shield or braid is connected to the ground of the receiver input strip. This simple technique should result in a marked improvement in loop balance. Figure 2 shows this simple modification.
- f) Step two will produce even better balance, but at the cost of some reconstruction. In addition to the use of balanced feed-line, it is highly desirable to connect the center point of the take-off link to the feed-line shielding. This will not affect loop performance, except to improve the balance of the loop. Unfortunately, this simple modification is impossible

Tank Coil.

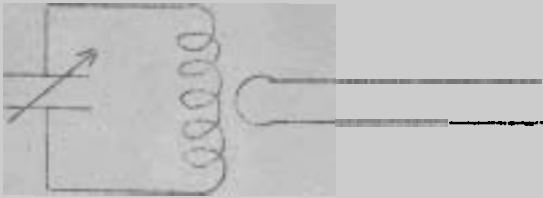


Figure 1. Standard loop design - multi-turn tank and single turn take-off link.

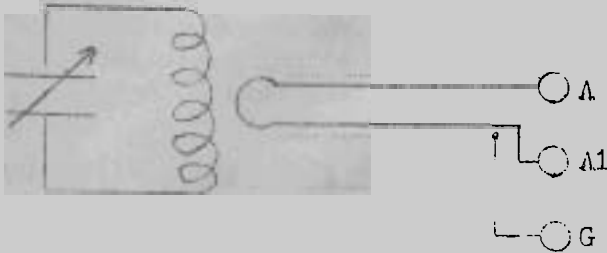


Figure 2. Balanced feed-line: double coax or shielded two conductor mike cable. Connect one conductor to "A" terminal on receiver, and the other to "A1". Shielding is connected to the ground terminal.

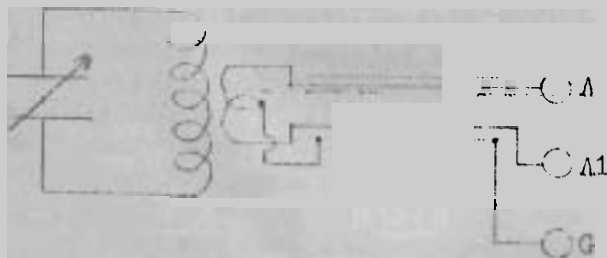


Figure 3. Balanced lead and balanced take-off link. The center point of the 2 turn take-off link is connected to the feed-line shield at the loop.

to make on a loop with a single-turn take-off link since the center point of this turn will be located at the top of the loop; running a wire from the center point of the link on top to the feed-in shield (necessarily located at the bottom of the loop) would introduce enough vertical pickup to worsen the situation, rather than improve it. Figure 3 shows the easiest way to balance the take-off link: increase the number of turns to 2 - now the center point of the link is on the bottom of the loop and therefore near to the point where the feed-line is connected to the loop. Merely connect the center-point of the take-off link to the feed-line ground with as short a wire as possible. Increasing the number of take-off link turns will probably boost loop output, but will affect the frequency range of loop tuning also; in all likelihood, the loop will no longer tune to the bottom of the band. Remedies for tuning problems will be presented later in this article.

- g) Balancing the feed-line and take-off link as described above should reduce asymmetry to a level where the null directions will be within a degree of the desired value of 180° . If this is not the case, the plane of the loop windings is probably twisted or skewed, and the loop will have to be rebuilt (or at least rewound).

• Now that my loop is balanced (nulls 180° apart and equally deep), why can I null some locals better than others?

- a) There are two distinctly different causes for this situation - one has to do with the nature of the ground between the receiving site and the local transmitter (groundwave tilt), and the other results from the presence of wires (power lines, phone lines, etc.) near the loop (reradiation). The technique to be now described will essentially cure the first problem, and will often help with the second. In most cases, conversion of a well-built, well-balanced loop into an altazimuth loop will permit the urban DX'er to null most if not all of his locals by at least 80 db. We have, for example, often nulled local WHDH-850 (S9 + 70 db) to a level below S9, thus obtaining good reception

- of WJW, WJAC, et al. Before describing the altazimuth conversion, a few words about groundwave tilt and reradiation for those interested.
- b) Groundwave tilt is a phenomenon which affects even very close and powerful locals. As the groundwave spreads over the earth near the station, the imperfect nature of real earth causes the wavefront to become tilted forward in the direction of propagation, even though the signal may have come from a perfectly vertical transmitting antenna. In addition, the polarization figure of the signal is also altered as it passes over the ground. Thus, even in the daytime when skywave return is essentially negligible, a situation similiar to those producing skywave polarization errors can exist with local signals. This phenomenon can often result in considerable DF errors on nearby locals, even in the daytime.
- c) Reradiation from phone lines, power lines, nearby antennas, etc. can also produce what is equivalent to polarization rotation and wave tilt on locals. The "shallow nulls" resulting from this are usually accompanied by direction finding errors, and these errors are termed site errors to distinguish them from groundwave tilt errors, skywave polarization errors, etc. A good balance altazimuth loop will often permit effective elimination of locals, even in areas where reradiation is severe. Reliable direction finding is not possible in such an area however, even with a perfectly balanced loop. The only way to find out whether or not your location is suitable for DF is to actually give it a try.
- d) To obtain the deepest possible nulls on locals, it is necessary to modify the loop so that it can be tilted as well as rotated. Tilting the plane of the loop compensates, in effect, for the signal tilt and rotation produced by the factors outlined above. Figure 4 illustrates this modification; in keeping with the conventions established in astronomy, rotation of the loop changes the azimuth of the loop, and tilting changes the altitude. Thus, the term "altazimuth" will be used to describe such a loop. The mechanical problems raised by introducing tilt in a large loop can be formidable. In Figure 4, an additional pivot point has been installed at the top of the loop shaft. A counterweight must be added to physically balance the tilt-arm; and a wingnut used at pivot point "P" to permit locking the loop into any particular position.

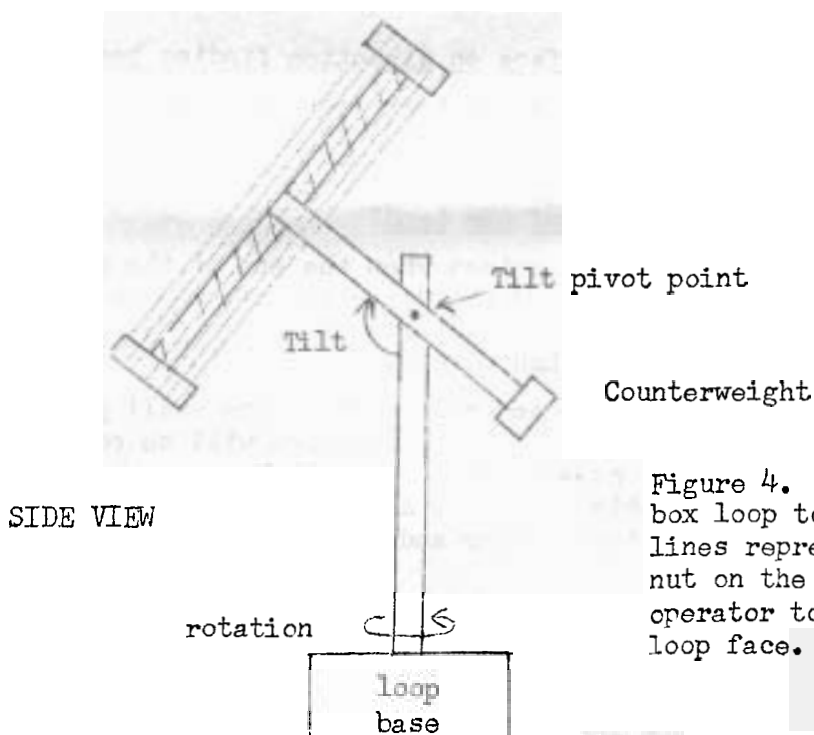


Figure 4. One way to convert an ordinary box loop to an altazimuth loop. Dotted lines represent loop windings. A wingnut on the pivot bolt will permit the operator to "freeze" the position of the loop face.

To use the altazimuth form of loop to eliminate a local, first rotate the loop (with zero tilt) and find the null. Then increase the tilt slowly and "rock" the azimuth back and forth a few degrees. In one position, and one position only, the signal will drop to a very low value (typically 50 to 80 db down), or even become inaudible. This will hold for only one particular position of the loop face, i.e., when the plane of the loop face is parallel to the major axis of the magnetic polarization figure.

9. Why can't locals be TOTALLY eliminated?
- a) The ultimate amount that a local can be nulled depends upon the shape of the polarization figure of the arriving signal - only a purely linear polarization figure can be nulled away totally. Because of slight skywave return (even in the daytime), and the effects of groundwave tilt and reradiation, actual local signals are slightly elliptically polarized. **This ordinarily minor factor is the ultimate determinant for null depth on a local signal.**
10. Why does the null position for a local seem to vary slightly with time even in the daytime?
- a) **When** a powerful local is nulled very far down in the daytime, the tilt and azimuth must be readjusted slightly from time to time; this is due to the presence of very small quantities of skywave return, which varies slowly **as the daytime ionosphere changes.** This is a very sensitive technique for the actual observation of this otherwise invisible daytime skywave return. At night the amount of skywave return is greater and consequently the local null position is even more variable.
11. Why do night bearings on distant stations seem to change so rapidly?
- a) Ionospheric structure is constantly changing and these variations produce continuous variations in wave angle (W in part I), Polarization angle (P) and polarization ellipticity (β). **For direction finding purposes, the effect of these variations can be greatly reduced by averaging bearings over a long period of time.**
- b) When the elimination of non-locals at night, all the DX'er can do is attempt to "follow" the wandering null position. This task is greatest for stations near enough for both skywave and groundwave reception to occur simultaneously.
12. What is the effect of tilting the loop face on direction finding bearings?
- a) Even a slight bit of tilt will change DF bearings considerably. For DF, an altazimuth loop must be maintained in a "no tilt" position, i.e., with the plane of the loop face vertical.
13. What if the loop won't tune to the top of the band?
- a) This is a very common problem, and arises when the sum of the minimum tuning capacitance (usually about 5 pfd) and the distributed capacitance in the tank coil winding is too high. Several alternative solutions are possible, although some are more desirable than others.
- b) First examine the tuning capacitor and see if there are small padding capacitors on the capacitor body. If present, there will be one per capacitor gang, and a small flat-headed adjustment screw will be seen near the solder lug on the stator. **Unscrew this capacitor all the way, or remove it if possible.** The loop will now tune higher and no other properties will be affected.
- c) If this is not sufficient, increase the spacing between the windings on the tank coil. The distributed capacitance will usually be reduced somewhat, although the inductance of the tank will not be seriously reduced. **This will often add 50 - 100 kcs of additional tuning at the top of the band.** Excess spacing will tend to skew the loop plane and blunt the nulls, however.
- d) The most extreme solution is to remove a turn from the tank coil. Both the tank inductance and distributed capacitance will be reduced, and the loop will tune considerably higher. Pickup of the loop will be reduced, however, and it

may no longer tune to the bottom of the band.

14. And if it won't tune to the bottom of the band?

- a) More capacitance is needed across the tank coil. Since it is much easier to add capacitance than to remove it, many loop designers prefer to simply switch in additional capacitance to get to the bottom of the band. Figure 5 shows this addition; once the loop'll tune to the top of the band, just switch in additional capacitance to cover the bottom portion of the band.

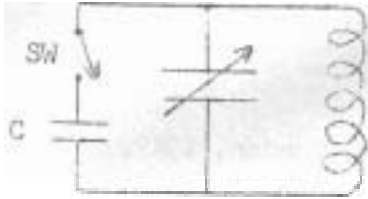


Figure 5. In the event that the loop won't tune to the bottom of the band, switching in additional capacitance ($C = 300$ pfd, mica) will extend the tuning range.

15. How do I make the tuning sharper?

- a) Just how sharply the loop tunes (the Q of the loop) is primarily determined by two factors: tank resistance and loading. Generally speaking, it is desirable to obtain as high a Q as possible - not only because the additional antenna selectivity will reduce overload from locals, but because the pickup of the loop increases with Q .
- b) The Q of the tank is directly influenced by the total resistance of the wire in the tank coil (as measured at the frequency of operation). With over a hundred feet of wire in the tank circuit, the type of wire used will affect the tuning Q greatly: the higher the resistance, the lower the Q . Since "skin effect" is significant at BCB frequencies, it is therefore desirable to use multistrand wire in the tank coil; the more strands the better. Ordinary lamp cord (split down the middle) will provide higher Q than a single conductor of equivalent size. Even better is to wind the tank with miniature coaxial cable (RG-174/U, for example) with both shield and center conductor connected together to form a single conductor.
- c) The effective Q of the tank is also directly related to the nature of the circuitry connected to the output of the take-off link. In particular, the higher the impedance of the circuit receiving the loop output, the higher the Q of the tank tuning. The very large gain of the NRC FET loop booster is due partially to the amplification provided by the FET, and partially because the high input impedance of the circuit greatly increases the Q of the tank circuit. Addition of a FET booster to a good loop often results in loop tuning that is so sharp that a vernier must be added to the tuning capacitor.

16. What do I do - all stations null in the same direction!

- a) This is site error at its worst - we've seen two cases like this so far. This is the result of extreme reradiation and shielding due to the presence of nearby steel beams, aluminium-foil coated wall insulation, wire meshing in the walls, etc. The only cure is to move.

17. What is the optimum loop for DX?

- a) There isn't one best design - it depends upon what the loop is going to be used for. "Box" or "frame" loops (like the NRC loop) deliver more signal than "spiral" designs, but the fact that the spiral design features all windings in a single plane can make construction and balancing easier. A large loop delivers more signal, but is more prone to distorted patterns and shallow nulls because of excessive conductor length than a smaller loop. Etc., etc., etc.

References cited:

1. Electrically Small, Ferrite-Loaded Antennas, 1956 Institute of Radio Engineers Convention Record, Part 1, pp 165 - 170. W.H. Runsay and W.L. Weeks.
2. Radio Engineers' Handbook, Fredrick Terman, McGraw Hill, 1943, pp. 697 - 698.
3. The Siting of Direction Finding Stations, Department of Scientific and Industrial Research, Radio Research Special Report No. 22; London, 1952. W. Ross, and F. Horner.

General references:

Radiotron Designer's Handbook, RCA, 1960, pp 901-907.

Antennas, John Kraus, McGraw-Hill, 1950.

Wireless Direction Finding, R. Keen, Iliffe and Sons, London, 1947.

CORRECTA. Page 2, 4a, line 3 should read "... total conductor must be \leq (read, much less than) a wavelength..."

+ (plus) ... in the finally corrected blank under 11. b), pencil (or pen) in the words:
"working on"

Contributions need not be separated by category, but please include frequency, call, state, date and time in EST of each item. Deadline is Thursday mail before publication. DX printed will be limited to s/offs, ETs, AN changes, schedules, new stations; plus any and all g. yard, LPRT, pirate and college stations, and other unusual DX. Please refer to the NRC Condition of Frequency and Frequency Check Lists, and to recent DDXDs, before reporting.

A (After hours: Midnight to sunrise DX)

- 550 WSAU-Wis Hrd here weakly at 0305 on 3/11 w/wx; didn't know they were AN MM; are they? (Bob Hostettler, Lake City, Minn)
- 790 KFYO-Tex S/off 0100 (Ev Johnson, Mendota, Ill)
- 930 WTAD-Ill Hrd at 0105 s/off w/SSB on 3/4. (Hostettler, Minn)
- WBEN-NY Had TT on 3/8, noted 0226 and after. S/off 3/11 w/vocal SSB at 0006. (Chuck Rader, Hamburg, NY)
- 940 KIOA-Iowa S/off SM 0300 (Johnson, Ill)
- 950 KDSX-Tex Hrd at 0106 s/off on 3/4; no SSB. (Hostettler, Minn)
- 960 WSBT-Ind Hrd on 3/4 at 0137 s/off w/SSB. (Hostettler)
- 990 WCAZ-Ill Copied MM 3/11 0123-0130 on f/c w/TT really chewing up WIBG, only ID at 0130 then off. (Dave Schmidt, Chester, Pa) R/c noted 0120 3/11. (Rader, NY)
- 1080 KNDK-ND Noted for 3 minutes on TT, 0412-0415 MM 3/11 and that was it, nothing else. (Schmidt, Pa) NRC Special made it here I think (hi!) TT heard OK for 1st 15 min, but no positive ID or mx selection hrd, so no report. WTIC & WKLO caused mucho interference. (Rader, NY.)
- UnID 3/11 had WTIC/AN'r & a second AN'r, un/ID'r TT hrd:0402-0416/off (no-call). Spl:nix (Ralph Johanns, Buffalo)
- 1100 WKYC-Ohio On 3/11 hrd "using transcribed mx to test our low-powered standby xr" at 0314 (tune-in) -0320 (off?). (Rader, NY)
- 1150 KWKY-Iowa Had f/c TT 1st MM 0130-0145 (Johnson, Ill)
- 1220 KEYD-ND Had f/c TT 1st Sat 0145-0200 (Johnson, Ill)
- 1240 WJON-Minn Hrd at 0346 til past 0400 3/4 w/MoR; don't believe they'r AN MM normally. (Hostettler, Minn)
- 1260 UnID Someone hrd w/SSB at 0202 3/11; maybe KPCW? (Hostettler) No sked listed in SRDS; nothing in the file. WIXY has been hrd s/off at that time, though. (rk)
- 1320 WJAS-Pa At 0305 3/8 mentioned "Monitor Pittsburgh AN" show. (Rader, NY) Not AN according to SRDS, but has been hrd AN.
- 1330 KVOL-La r/TT/c:3/5 0120-0130/off, topped:KFH & Jerry/Starr. (RJ)
- 1340 WJRI-NC Heard w/TT on 3/11 0108-0111 (off) over WMD. (Rader)
- 1370 WSPD-Ohio TT noted on 3/11 at 0125-0130 (and longer). (Rader, NY)
- 1380 CKPC-Ont S/off 0108 w/GSQ. (Johnson, Ill)
- 1400 KFRU-Mo Hrd at 0230 on 3/4 w/very strong signal and MoR mx. (Hostettler, Minn)
- KBJM-SD Hrd on IRCA Test on 3/11 w/plenty of QRM; good signal at times, though. (Hostettler, Minn)
- 1440 WAAB-Mass Heard at 0045 w/psychedelic mx, long album cuts by Ravi Shankar and using "Star Power" frequently. S/off 0059, no SSB, on 3/9. (Rader, NY)
- * WNPV-Pa CE v/1's:r/skd f/c is 4th-THU at:0015(2/29 hrd:0013-0044) (Johanns, NY)
- *1450 WPAD-Ky R/C TT is 1st Thurs 0100-0115 (Johnson, Ill)
- 1460 WAKS-NC Had test 3/3 0120-0145 TT (Johnson, Ill)
- WCMB-Pa S/off at 0102 on 3/9 w/instr SSB. (Rader, NY)

-JEFFERSON AIRPLANE HAS BEEN HIJACKED AND FORCED TO FLY TO CUBA-

LDDXD-2

(A)

- 1470 CHOW-Ont 3/9 s/off w/GSQ at 0107 (Rader, NY)
- 1490 WABJ-Mich S/off MM 0200 (Johnson, Ill)
- 1500 WDEN-Ga Had DT/FC on 3/8, 0200-0215, easy thru WTOP. (Joe Brauner, Punxsatawney, Pa)
- 1510 WINU-Ill Had TT mx r/c 1st MM 0215-0230 (Johnson, Ill)
- CJRS-Que Noted off at 0330 MM 3/11-nothing else on channel. (DS)
- 1520 WKBW-NY Noted off MM 3/11, CCed 0150-0230, seems like they're off every 3 weeks. (Schmidt, Pa) Was off 3/11 from 0138-0333 and later. TT for a while around 0138, then left CC on & blocked 3 freq. here. Phooie! (Rader, NY)
- KOMA-Okla (*WKBW:Off) & KOMA RS to 0300/off, then SS 3/11. (Ralph)
- 1540 WPTS-Pa Had F/C w/TT 0000-0015 on 3/7. This r/c not in NRC List, note Joe Fela. (Jerry Starr, Youngstown, Ohio)
- 1550 KKHI-Cal hrd:3/11 RS 0240-0300/off, uses:sing'g SSB. (Johanns, NY) Semi-cl and nice signal on 3/11 after WOKJ s/off. (Schmidt, Pa)
- WYNX-Ga Has ETs, TT Mx 3/3 0115-0215 (Johnson, Ill)
- * WNTN-Mass New, Newton. mx/crap & unk/TT'r to:0141. TT sounds like CHE's, & they dont ID! hrd:3/8 (Johanns, NY) ET hrd on 3/6 at 0100 & for some time after, terrific strength 30 over S9 w/8 ft indoor antenna. (Brauner, Pa) Had ET 3/6 0230 past 0245 w/mx of all sorts, Bill Cosby comedy etc S9 plus all by itself on frequency; ET w/varied mx, lot. "Porgy & Bess" again 3/8 0000-0015. (Starr, Ohio)
- WOKJ-Miss 3/11:RS 0203/off, uses:SSB. (Johanns, NY)
- CHE-Ont RS/s/off with 2/anthm at:0112 3/8 (Johanns) S/off 0110 /On Canada & GSQ 3/9 (Rader, NY)
- WTAI-Fla ET/mx 0413-0458 s/off hrd:3/9 (Johanns, NY) Noted ET on 2/24 and on at least 5 dates since, once after 0500 (JW)
- WDXR-Ky S/off w/SSB 0303 on 3/6. Thought they were AN6? (Starr) On 3/9 s/off at 0104 w/instr Night Theme. (Rader, NY)
- KLTI-Mo had a TT/c hrd:3/8 0245-0251 s/off (Johanns, NY)
- WBOL-Tenn All alone & S9 w/R/c 0230-0246 3/6 w/march mx. (Starr)
- 1580 WKID-Ill r/TT/c 3/9 0117-0131/off (Johanns, NY)
- WNJH-NJ w/It's all talk f/c like a local 0000-0015 3/8. (Starr)
- CBJ-Que S/off on 3/9 was 0105 w/GSQ. (Rader, NY)
- 1590 WQTC-Wis (Ex-WTRW, note Hostettler) On 3/11 tested w/MoR, c/w, and rr mx from 0153 (tune-in)-0244(s/off), hardly any WAKR QRM noted. (Rader, NY)
- 1600 WAAM-Mich Had ET w/TTs & mx 3/7 first noted 0200, still on 0250. (Starr, Ohio)

B

(Sunrise s/ons, PSAs, daytime DX)

- 1000 WKDE-Va Sunday s/on is 0700, atop channel 3/10. (Brauner, Pa)
- 1110 WJSM-Pa Sunday s/on is 0700, atop channel 3/10. (Brauner, Pa)
- 1380 WKJG-Ind S/on 0538, 3/4, w/SSB. (Hostettler, Minn)
- WPHM-Mich Hrd at 0530 s/on w/SSB, 3/4. (Hostettler, Minn)
- WAWZ-NJ S/on 0352 3/11 w/SSB, "on the air till 0830". (Rader, NY) You do mean 1380, right? You said 1340, hi. (rk)
- CKPC-Ont Two "Oh Canadas" hrd about 0530 3/11; one was CKPC: the other likely CKLC, as hrd shortly after 0530 3/4. (BH)
- 1420 WOC-Iowa S/on at 0601 w/SSB on 3/4 & 3/11; many SSBs in here at around 0600. (Hostettler, Minn = BH)
- WKPR-Mich S/on hrd 3/11 at 0600 in mess. (Hostettler)
- 1440 WNPV-Pa SUN s/on is:0800 (Johanns, NY)
- 1460 WPON-Mich Hrd 3/4 at 0501 s/on w/SSB. (Hostettler, Minn)

March 16, 1968

DDXD-3

(B)

1550 CBE-Ont Weekday s/on apparently is 0500. (Brauner, Pa)

C (Sunset s/off and DX until midnight)

- 940 WCPC-Miss Blasting in at 1859 s/off on 3/8. (Jeff Ross, Rockawa, Park, NY)
- 950 WRYT-Mass S/off 1745 for March. (Bill Alisaukas, Haledon, NJ)
- 1140 KNAB-Colo S/off 2000 w/SSB (Johnson, Ill)
- 1440 WNPV-Pa S/off at 1800 for March. (Alisaukas, NJ)
- 1500 WKER-NJ Still s/off 1700 and will probably continue to do so until EDT as in the past. (Alisaukas, NJ)
- 1520 UnID Someone came up o/KOMA at 2023 on 3/8 saying something like "WKAT Nx"; nobody seems to fit. (Hostettler, Minn)
- 1540 WDON-Md S/off at 1815 for March. (Alisaukas, NJ)
- 1580 WVKO-Ohio S9 plus 10 db at 1845 s/off on 3/7. (Ross, NY)

D (Schedules)

- 920 WIRD-NY 0600 (0800 Sun) - 1757, very strong at s/off 3/2. (Ross)
- 990 WIBG-Pa Back on NSP for past 2 weeks. (Schmidt, Pa)
- 1290 KOIL-Neb Apparently NSP now as hr^c again 3/4 & 3/11 MMs.
- 1440 WCHB-Mich Now appears to be NSP w/R&B mx. (Starr, Ohio)
- KILO-ND 0700-0105 (Johnson, Ill)
- 1480 WGSB-Ill Says 24 hrs. (Johnson, Ill) Off MM, SM per SRDS. (rk)
- 1490 WDLC-NY 0715-2315 (2100 Sun) (Alisaukas, NJ)
- 1560 WSMD-Md V/1's: s/on is 250w & later in the day (non-critical Hrs) go:1 Kw.- (Johanns, NY)
- 1580 WKED-Ill 0700 (0900 Sun) - 1900 (Johnson, Ill)

To coin a phrase, **!***super-groovy***! phone-call in ton' from Buffalo, great to talk with Ralphie and Chuck Rader. Love life developing OK here, Ralphie-- how's your's??

WNTN was not on RS as of 3/14, and according to Broad-casting, would not be until May.

Will leave the space below for Callarman-type comments, or whatever Our Pub has on hand.

73, randy

-Last minute item of importance (in Fri AM):

*1500 WDFB-Tenn New, Jamestown. Had ET w/"good" mx & TT 0105-0136 on 3/13. Is 1000 w & not listed in current VJ. Not yet RS. (Jerry Starr, Ohio) Inscription (barely readable) in my VJ says 1000/500-CH-D. (rk)



==	DXer	Location	T.V.	Countries	Foreign	Africa	Best
	L. Kruse	Iowa	3925	15	77	---	
	W. Routzhan	Pennsylvania	3057	46	363	---	
36	N. Maguire	New Mexico	2837	52	VAC	390	1 Algiers 1176 50kw
34	W. Stone	Ontario	2795	32		2497	---
	E. Johnson	Illinois	2746	28		283	---
	S. Steele	Illinois	2691	22		263	---
40	G. Allen	California	2607	52	VAC	465	1 R. Senegal 764
	H. Williams	Connecticut	2411	32		131	---
	B. Mittler	Colorado	2300	39	VAC	187	1 Dakar 764
59	S. Drake	Pennsylvania	2243	52	VAC	291	1 Dakar 764
	R. Millar	Washington	1705	65	VAC	429	1 Dakar 764
31	F. Wheeler	Pennsylvania	1569	23		73	---
	R. Sperry	Connecticut	1566	37		228	1 ?
	R. Anderson	Virginia	1433	97	VAC	418	25 WIND, Novasser 400w
60	A. Rugg	Quebec	1348	53		1078	3 Cairo 773
	D. Reynolds	California	1311	69	VAC	431	2 Dakar 764 20kw
	C. Freeman**	California	1227	60	VAC	309	1 Dakar 764
58	A. Merriman	Virginia	1041	75	VAC	206	6 Sierra Leone 1200
	E. Wesolowski	Nebraska	995	19		109	1 Dakar 764
	H. Gustafson	Illinois	817	89	VAC	273	16 CR6RZ Angola 872
	J. Callarman*	Massachusetts	740	50	VAC	138	3 Algiers 890
54	J. Starr	Ohio	593	36		106	1 Agadir 935
	J. Conrad	Kentucky	585	37		90	1 Dakar 764
	B. Reynolds	Missouri	558	18		67	---
56	B. Karchevski	Massachusetts	501	16		113	---
	A. Slater	England	486	127		478	50 Djibouti
	G. Scrimgeour	Ontario	432	35		363	---
	B. Dangerfield	Pennsylvania	395	104	VAC	326	27 Pietermaritzburg 845
	T. Davisson	Ohio	350	9		38	---
	R. Coday	California	327	5		43	---
	B. Raczko	Ohio	310	28		42	1 Algiers 890
58	R. Leamy**	Pennsylvania	296	39		102	2 Cairo 773
	J. Neff	New York	280	28	VAC	84	1 Senegal 764
	R. Hays**	Kentucky	267	11		-23	---
	M. Sorensen	Ontario	259	6		201	---
39	H. Robie	Massachusetts	252	81		138	8 R. Sahara, Sp.Sahara
	D. Carlson	Missouri	227	9		23	---
	R. Vatalaro*	Massachusetts	203	22		23	2 Batra, Egypt 818
	T. Hartloff	New York	202	6		34	---
	M. Northam	Oregon	194	12		47	---
	The Haneikos	Pennsylvania	188	10		24	---
	I. Payne	Ontario	157	4			
	The Baselovics	Pennsylvania	153	5		21	---
	N. Shacat	Massachusetts	144	13		31	1 R. Senegal 764
	G. Moores**	New Jersey	132	10		22	---
63	P. Kilroy	Washington, D.C.	120	22		27	---
	E. Floden	Ontario	68	12		44	---
64	D. White	Kentucky	60	5		5	---

Welcome to Paul Kilroy and Dave White. Column marked == shows year started DXing. You fellows were most cooperative in getting that information to me in a hurry. For the May issue, please send me your VAS (Verified all U.S.A. states) standings. Next month, Europe. 73 and Aloha, Norm.