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DECEMBER 12,1970
NUMBER 9
"Here's my renewal for a second year with the NRC. It is impossible to exist in the MW DX world without DX NEWS!'"
(Charles Wehking, Mo.)

## IN THIS ISSUE:

Loop Distortion - Why Get Skewed? - Gordon Nelson NRCHQ Tries the "Space Magnet" (held over for 1 week)
MORE NEW MEMBERS THIS WEEK...
*Gary Atkins, 2200 W. Burnett, Louisville, Ky. 40210 (rejoins!)
*Jack Wyatt, 22 Socrates Pl., Akron, O. 44301
*Steve Driscoll, 850 Third Avenue, Half Moon Bay, Ca. 94019
*John Marx, 310 Walnut Ave., Greensville, Pa. 15601 (rejoins!)
*SP/5 William Lount, HQBTRY 4/14 F.A., Ft. Sill, Ok. 73503
*Rizal J. Baysa, 1185427 Mile Rd., Washington, Mich. 48094
*Ed Maupin, 2322 E. Harry, Wichita, Ka. 67211
*Robert L. Purdy, 816 Emerson St., Saginaw, Mich. 48607
Welcome to the NRC, gentlemen, we hope to be reading your contributions often here in DX NEWS. Your new member kits will be mailed out later this week and you should be receiving them shortly.

RENEWALS...
Wehking... Neal... Eddie... Winsor... Sorenson... Dangerfield... Greene... Glotz... Long... Territo... Bartels... Cavaseno...

WRYT VERIFICATIONSI
Big George Kelley has generously volunteered to clean up the outstanding reception reports from the WRYT test that the station has so enthusiastically not verified to date. As you know, George was at the mike during the test and will verify only reports from the test broadcast. Since he does not have access to the original reception reports (which may have been discarded by WRYT), a follow-up report is essential. Send the report to Box 99 and NOT to the station:


UTWR. This station is going to run a four-hour NRC DX TEST on Monday, 12/a/70 starting at midnight. WINR sponsors a Boy Scout troop which will be running this NRC DX as a troup project. Send reports to Mr. Kevin Van running this NRC 10 Henry Street, Binghamton, New York - 13901. InterferDerbeck, WINR, 70 Henry Street, Binghamton, New York - 13901 . Interfe
ence should be limited to CHFI and WAPA. Our thanks to WINR for this ence should be limited to CHFI and WAPA. Our thanks to WINR for thi
courtesy, and this was arranged by Wes Boyd \& Stef Krieger of NRC.
wril. This station will be conducting its annual Proof of Performance Test on Mond ay, $12 / 7 / 70$. Between approximately $3: 30$ and $4: 30$, there will be many IDs, cycle tones, popolar music, and IDs by NRCer Dave Schmidt, who'll be on hand for this test. Send reports to Mark Hutchins, Chief Engineer, WPIC, Box 211, Sharon, Pa. 16146. Arranged by Wes Boyd \& Dave Schmidt.
WIIX. No further info - probably a frequency check.
FCJB. WIW has been asked for a standby, but even if they don't comply, HCJB should be heard everywhere except in WIW's primary coverage zone. This is the famous BCB outlet of the world-known "Voice of the Andes", and they are hoping for many reception reports. Should anyone feel like making a donation, they'd be most grateful for same. Info: Larry Godwin.

KREL. They'll be testing with rock-n-roll music and plenty of detailed IDs. James R. Miller, KREL, Box 100, Corona, Cal. 91720 . Arranged by two IRCA members, Bill Powers and Edward Haden.

WIIM. This test will run for an hour, and will include music, tones, code IDS, and many voice IDs. They 'll be testing alternately, their night and day transmitters, with 250 and 1,000 watts, respectively. Send reports to Mr. Joseph Benson, WIIM, 920 King Street, Wilmington, Delaware, 19801. A tough channel, but a welcome catch for many, and a welcome state! Dave Schmidt.

## DEADIINES HERE IN BROOKIYN

For the rest of the waning year of 1970: Thursday, December 3, and Thursday, December 10. Then, Wednesday, December 23rd and Wednesday, December 30th, and then, in Januery, back to Thursdays again.

## NASWA EDITOR WILLTAM EDDINGS ILL

Back on October 16, Bill Edaings suffered a heat attack. He is well on his way to recovery, we are happy to learn, and perhaps you would like to send him a get-well card. His address: Room 127, Altoona Hospital, Altoona, Penna. 16601. Info from Ken $L_{H}$ on.
May we remind you to allow enough time for sufficient publicity on NRC DX TESTs you might arrange. Why not ask for them at least eight weeks ahead, to allow you might arrange. Why not ask for them at least eight weeks ahead, to allow
for delays along the way - theirs, yours, and ours. A DX TEST put on without for delays along the way - theirs, yours, and ours. A publicity is a terrible waste of time, money, and
alienate a station's personnel against all DXers.

It's time again for the annual jamming of the mails by the millions of Chrismt as cards, so please allow extra time for your Musings to get here. Write them a da sooner then you usually do. But-don't forget to mul A rreat lot of them this issue - great work, boys! Thanks: -FRC

## MUSINGS of the Members

HAL ROBIE - 273 South Street - Medfield, Massachusetts - 02052
LAL ROBIE DX NEWS \#6 arrived in today's mall. First of the series "Tips for Novice DXers" prompts me to offer congratulations to Russ Edmunds \& Page Taylor for their treatment of the subject. Thinking back to wy first experiences $v / D X-$ ing I recall the bewildering patterns of the airwaves $\&$ the complete lack of heipful information on the fine points of the hobby. I dim 't know station isting inere available until I spotted a copy of White's Log on a newsstand 8 later bout my first copy of Radex. I verified 50 kw . clear chemnel statians \& later bought 100 or 250 w catches too numerous (and heart-rending) never confirwed to mention. I heard \& logged most ly by accident rather than desiga. I do, ho ever, have veries from 50w WEXL, Royal Oak Mich. 1310, 100 watters hasb- 1420 Muscle Shoals, Ala., KVFD-1370 Fort Dodge, Ia., KENO-1370 Las Veges (heard o first day of comercial broadcasting) KaSA-1210 Okia. se 250 watters Troan Wyo., Va., S.C., Okla., N.C., Mont., Ind., Ga. \& mary states closer to home. What a series of 'How to' articles like this would have meant at a time like that, hi! Little time to listen lately, but evening of $11 / 9$ had excellent $C X$ to the $S$. I was fascinated by the fine signal from YNW-965 \& listened continuously froa 8:30 to 11:30 while handling paperpork for the offlce. Also very good vere PJDe-1295 \& PJA5-1435. As might be expected YHOL-835 was excellent \& easy to hear. ZRMI was like a local. A poor signal vas heard on 1203, probebly IIQ, over-shadored by R. Tiempo, YVOZ, on 1200. WOAI struggled to the surface infrequently as though geaping for oir. An opportunity for concentrated ilistening that night might have produced some good catches. I can't wait for the new IA log. I reserved wy copy long ago. How about you?

## BRUCE BFNNHIT - 82 Forman Lane - Ievittorn, New York - 11756

DX recently is as follows: 10/27-CFNB-550 e 9:33pm, WHY-560 e 6:15, WHLO-640 4:47pm, CNIS-900 e 5:50pm (no sign of CRNL) \& WHID-1270, 5:10pm. on 11/2-WHEC-1460 6:40pm, weak. on 11/3- CKAC-730 e 7pm. on 11/5, WGR-550 w/ slop ee $5: 30 \mathrm{pm}$, \& WXIR-550 R.I. 6. I have received 93 veries out of 117 sent for. I am looking for a new RX. I am mostly looking for a used Hammarlund 200. I reaily ilke the Q-Multiplier \& would like an RX w /one. Anyone who knors of one for sale please notify me. I'm usually home after 3pw weekdays. Telephone number is 516-938-8512. an 11/5 I called RJE to find out if he had anyane to type the corrector yet. He already did. I was just going through tapes on station IDs, \& found one in a foreign language, FF or SS. I 1ater found out the tape was. of station CGFB? Barcelona, Bpain, $1025 \mathrm{k}, \mathrm{F}$ I 1rst TA. I collect SCs \& have WABC SCs to smap. 73s.
JERRY STARR - WHOF Redio - Youngetown, Chio - 44505
Welcome to the BRC, Richard Bartos, of Campbell, who lives just a few blocks E of WHOT; Youmgstown NRCer \#7! Grok. Ho chenge in status of mew 20cal WHIL-1570, although runor says this one expects to being $R S$ on $1 / 1 / 71 ;$ will most likely chicken-rock Pormat. Pirst TA openings of the season noted hare the evening of 11/2, about a dozen "regulars" at good strength; just one nev logging, Roma II- $845 \mathrm{w} / \mathrm{excellent} \mathrm{S}-8$ signals for good tape © 9:15pm. Carrier on 818, but, as usual, no usable audio. Dave Schmidt \& Wes Boyd were out tht night to ahoot pool but we ended up DXing. It 's a problew having the table in the same rocisu/ the equipment, hi: Unlisted $f / c-\operatorname{DI}$ noted $2: 16-2: 31 \frac{3}{2}$ an $11 / 12$ fron woms-1410, ouly one ID at the very end of $\mathrm{f} / \mathrm{c}$. New WREM-1000 noted on RS $11 / 12 \mathrm{v} / \mathrm{s} / \mathrm{off} \mathrm{E} 5: 15 \mathrm{pm}$, how long have they been on? By the way, does anybody have a tape of the interview ERC \& I did on WRKL during the Convention? I know someone hed oce. I'd 11 m to borrow it to copy. Well, 73 s from behind the Pollution Curtanin. Have wid ill to borrow it to copy. Well, 738 from behind the Pollution Curtain. Eare wome spaced out.

JOSEPA FRLA Jr. - 150 Robert Place - South Plainfleld, New Jersey - 07080
Greetings. As CX on FM have deteriorsted to their usual Wintertime state ( $n$ 11), I find myself back on the AM band. Only one verie has been received so far this season, a v/q from MMMM-1260. Recent DX: 11/14-5pm 8/off WOBR-1530; 5:01 WRIZ-1550 in SS; 5:05, WHFY-1440 nicely between WNJR/WCTC (kinda early for Alabama though, isn't it?); $5: 11$ WABY-1400 way o/the others, \& /Southern CX yet, 5:15 WNDB-1150 excellent, 5:24 WFAF-1050 assumed to be the one 1/will w/spot for Eau Gallie Speedway. 5:34, wBSC-1550 alone, 5:38 PJA6 assumed to be the one an 925, very good even w/fuil selectivity \& WPAF on $930,5: 45 \mathrm{~s}$ /off WLOR-730. 11/15-4:30 s/off WMM-1260 after ten years of trying to get then, $4: 45$ WSCR-1320, $4: 55$ WKYB-1000, $5: 02$ WKIM-980 w/some WIIK QRM, $5: 05$ WENC-1220 alone, $5: 20$ WTOC $-1290,5: 28$ WCSC-1390 \& WTMA-1250 both outstanding. 5:31, WTTI-
 1530 s/off, $5: 45$ WTQX-1570 \& WAMY-1580 s/offs, $5: 49$ WMEC- 920 o/wITM, $5: 53-6 \mathrm{pm}$ s/
off WKOR-980 for a biz surprise. To other things. According to a newspaper ad, off WKOR-990 for a big surprise. To other things. According to a newspaper ad, WHLW-1170 wes supposed to start RS 11/15. Did they? All I get on 1170 is WWVA WWLE still. And apeaking of ground wave reception, WTID-1270 continues to come in S-2 all day long ( $\mathrm{w} / \mathrm{WIBR}$ nulled, of course). I still cen't figure out how they do it - and it isn't due to Winter coming either as their signal was present like this all Sumer. Regarding WAWZ-1380, I can't wait for them to put their 1330 XP to rest - it continues to put hat sounds like a $1 \mathrm{kc} / \mathrm{s}$ het on 1360 and 1400 whenever they are on the air. 73.

DAVID LCNG - 66 Beattie Avenue - Lockport, New York - 14094
I received wy loop from NRCer J. A. Worcester and the DX quality is greatly improved - well worth the expense. 11/14-SSS brought WQTE-560 © 18 great 1 improved - well worth the expense. $11 / 14-$ SSS brought WGTE-550 ©
w/STD, \& WSOQ-1220. Between CHSC \& WGAR, 1220 was untouchable before the loop. W/STD, \& WSOQ-1220. Between CHSC \& WGAR, 1220 was untouchable before the loop.
$11 / 15-K S K Y-660$ made a welcome new addition @ $6: 14 \mathrm{pm}$. MA $11 / 16$ it snowed, and what a relief to listen without crashes of static every few seconds! UnID-690 8/off w/SSB © 1:35. Somebody know who? Super-pest \& usual WSP CHFI-680 left only an OC on \& KIRR \& WPTF were heard between 2:30 \& 4 am . WDBC was there e 2:30 W/ET. Lucky catch © 3:09 was in the form of $1,000 \mathrm{~W}$ WMGO-1370 Cant on, Miss. of WSPD ETing $\mathrm{w} / \mathrm{rr}$. I finished off the night w/WLOF-950@ $3: 58$ for a welcomed Flor1dian. 11/17-CKEY looped \& gave way to WKZO-590 © 4:48py. Seems like poor Toronto has more than its share of NSPers! 11/21- Tonight's SSS brought WAMY-1580 © 5:40 s/off \& WESY-1580 @ 5:50 w/Soul mx. Great path into Mississippi on that channe1! Reports out to each. Recent veries in fram WOTR CBK CBI WIIX \& WVOK. Anvbody know of any Idaho f/cs audible in this area? I still need Alaske, Idaho, verada, Maine \& Delaware. If I fall asleep through WAMS' next $r / c$ this MM, it 'li be etght times straight! 73.

KARL F. SCHULTE - 1504 Wilson Foint Road - Baltimore, Maryland - 21220
Greetings fram the Chesapeake Bay Country - Iand of Pleasan Hvine, Home of the Orioles, Bays, Clippers, Colts, me, $55 \%$ of the world's supply of NEW ENGLAND clams, Star-Spangled Banner, National Beer, WBAL, Birthplace of Ice Cream, \& others to numerous to mention. Veries in: R. Belize-834 ZNS -1540 WPEN-950 WRNC-890 R. Victoria-925 WNOE-1050 WESR-1330 WASA-1330 WBOC-960 WBAM-740 WCSC-1390 WTRQ-1560 XEC-1050 WYTI-1570 WXUR-690. WXUR enclosed a photo of their towers. Last two weeks have brought nothing but noise here. We've had two thunder storms \& a tornado watch here within the last week. On a good night I can get WGY. I guess next Sumer will bring a blizzard. No takers on the free coffee. I guess the NRC is non-existant in Baltimore. Chamber of Cormerce report again next time. 73 from SOUTH of the Mason-Dixon Line. Have a cool Yule and a next time. 73

ROBERT F. LEAMY Jr. - 4549 Eastway Court - Apt. E - Columbus, Ohio - 43213
On $11 / 16$ I noted WARR-1520 in wiarrent on, N.C. on top of KCMA all evening - they were on after usual s/off due to emer rency racial problems Warrenton was under curfew. I note they are not in the NRC Log and have seen no mention of them in DX NEWS. They ara 0 ! Eariy Christmas present here - I received a $v / 9$ from WIRS-695, reported an 2/19/67: Must have came by sea turtle, hi! Best DX \& 73 .

ROGER W. WINSOR - 718 North Fremont Road - Valparaiso, Indiana - 46383 I have a lot of DX to report. I'll highlight the Oct. stuff 1 ha 16 SFA-1360 Ark. all alone w/FB 8:19 oot reported BLeaw. -9:56 s/off. 10/21- WJRL-1530 Mise. . -1560 Mo . s/off 6:30 w/SSB. 10/26-Auroral MM noting wVs- 1420 Ky. all alane, 12:05-12:34 Sadedut; WJHO-1400 AN w/Wild Child rr program. 10/29- An unusual oight, good to all directions except E. KRYS-1360 o/all others 3 12:O7, WR1250 noted dominent, no WTAE, © 12:15, KFDI-1070 noted B 12:20 w/WX for Kanses usually never heard here on night pover, WIBJ-1410 Ky. noted 3 / off 32 , change NRC Iog \& an AN-SS on 660, R. Plaenz or something. Is that Cuba? Ma 11/2- wSwr900 Fla. testing $w / T T$ to 1:48; WLEE-1480 Va. AN-rr 2:06-2:25 logged; highlight of the morning was armichair signal quality of KRKO-1380 Wash. logged 2:32-3:12, espectally after XEVO-1380 3am s/off. I logged KTKT-990 just for the heck of it. pect I hat PM I logged time I've heard a TA @ SSS. 11/3- KDDD-000 r/c OK 6:30-6:40am, WNCL 1060 Ill. heard © 7 am s/on $\mathrm{w} / 120 \mathrm{w}$ in car radio going to work; WIST-600 Mich. s/off 5: 10pa $\mathrm{w} /$ America, then WTIK-1310 N. $6 . \mathrm{w} / \mathrm{c} / \mathrm{w}$ 5:36-5:44 fadeout $\mathrm{w} / \mathrm{CHGB}$ QRM. $11 / 9-\mathrm{KHCW}$ 1190 Ark. w/beautiful signal e 6 s/off, unn. KFSA-950 Ark. w/10cal 1XX 6:08-6:14 fadeout, wucho WSPA QRM; KIMP-960 TX © 6:15 s/off, KVPI-1050 La. $9618 \mathrm{~s} / \mathrm{ofe}$; KKGA-730 TX \& NN mx to 6:32 s/off \& KCAS-1050 TX in SS e 6:45 s/off. 11/10-More SSS-WAPI-107 Ala. really on top 5:39-5:45 DA pattern change, leaving WDIA all alone; KBCL- 1220 La. w/local NX 6:04-6:10, several local spots during this short time for a log; unbelievable signal from kDNS-1290 Ark. 6:10-6:15 8/off teped in antirety; WDOD-1310 Tenn. all alone e 6:18, as was WJPR-1330 Miss. WAKE-1480 v/ jingle @ 6:23; WMBR-1460 Fla. all alone © 6:25. 11/11- \$xtremely Auroral w/only locals © 5 pm , then KORC-1140 Iagged 6:08-6:24. 11/12- KBIB-1560 ArI. ending loca NC © 5:56. 11/13- WUNI-1410 Ala. alone @ 5:44-5:55 for 10g, KDNF-1500 Mo. strons 5:57-6:03 s/off taped; KWCO-1560 oK, on top of WDZR 6:28-6:44. During this time 5:57-6:03 s/ off taped; KWCO 1560 oK, on top of
WDXR had XR trouble wich was nice of them. In 15 minutes on KNCO , I logged 11 cormercials, all perfectly clear on tape! Iater wWur-1590 all alone at midnight -
JOFN W. HOOGERHEIDE - 3 Marquette Drive - Marquette, Michigan - 49855
No sign of Cuba tonight $11 / 12$ on 640, only KFT \& HJBJ, Sant Marta in \& out. An interesting split on $665 \mathrm{w} / \mathrm{soccer}$ @ 11:15pm, definitely a CA as Guatemala was mentioned often. None listed in FBIS : ilist. Change sked in RRC Log for WJPD-1240 Ishpeming to 5:25 (5:55 Sat., 7:05 Sun) to 10:05pa. For those In midwest who need WCKD-970 Ishpeming, they have TX problems \& have a loud lowpitched hum which can be picked up in the Detroit-Green Bey-Mimeapolis arees even though no audio is present. Sounds like the Ma Cuban jumer on 1140. It's at ways present \& is very distinctive at a good distance fram XR. WNJH-1580 r/c-TT 12-12: $15 \mathrm{w} /$ IDs every 5010 seconds, \#7 from N.J. \& certainly best bet for a tough state in MW. Still no Cubsns noted \& TGWN-640 finally 812 . Also apparent s/aff of HJAN-720 © 12, both new. XEVIP-156- w/EE CBS program 12:30 but SS ID. WVIFA$1590 \mathrm{~s} /$ off © 1, not 12 as in NRC Log. KALB-580 noted s/off e 1. Also a GBQ - ah Canada noted $@ 1$ which interests me as nothing shown except CXAP. WDWS-1400 $\mathrm{s} / \mathrm{of}$ $1: 15 \mathrm{w} / \mathrm{SSB}$. 11/15-Auroral CX are still in e 6:30-7:30pm. Three new logs - WRR1310 Dallas, WRBC-1300 Jackson, KTRN-1290 Wichita Falls, all atop an respeetive frequencies. $11 / 16-$ WBAX $2240 \mathrm{w} / \mathrm{HI}$ as reported in last DX NIFWS, $1: 45$, for new 10 s 11/18- Great New England CX prevailing this AM w/WJAR-920 WWI \& WLPZ-620 all dow inatine their channels. Also noted a $12: 05 \mathrm{~s} / \mathrm{off}$-SSB-orchestral on 610 looping just a bit southward from WVMI on 620, slmost certain this was WGIR in M.H. but $\mathrm{CKIB} / \mathrm{KDAL} / \mathrm{WIP} / \mathrm{WIVN}$ were too tough. Sounded 1ike RBC NX Just before this s/orf. Can arybody in Mass. confirm this s/off time \& whether or not FA is used?
STEVE KAMP - 6149 Monteverde - San Joise, California - 95120
Veries: v/MM-KATN-950 Boise. v/1- KOAG-1290 Arroyo Grende, Cell. $\mathrm{v} / \mathrm{PP} / \mathrm{C}=\mathrm{KSOL}-1450 \mathrm{~S} . \mathrm{F}$. (I thought I'd verie 'em before they might switch calle!) Also a second $v / i$ from TIRS-975 Costa Rica, same wording as one reported to $7 / 4 / \mathrm{p}$ IDXD, but with fancier wording \& letterhead. DX: $11 / 15-$ CIIC-1050 8ault Ste. copy on this one for a repprt for a a fir wilile now, but stili no luck. will inh

6
Ten
Tentatively, KAIM-870 Honolulu es about 4:03-4:25 w/Hour of Decision, but faded before ID time. WWL off at this time, help! KFAR-660 Fairbanks strong $w / r r$ a 4:46; ID, NX, WX, 5-5:08. Japan-780 (either JOKX JOIU or JOBS) heard again w/ (TWVI nulled @ 5 09. At $5: 15$, I went to 1400 to try for KVOP Tex. $\mathrm{r} / \mathrm{c}$, \& a TT was heard but couldn't copy any IDs, weak signal, \& much KSLY QrM. At 5:34, Asiatic RSFSR-1475 w/CJinese rogram. At 5:38, Khabarovsk-1550 heard well in Russian w/unID domestic looped. JOBB-830 Osaka way o/WCCO for a minute e 5:50, $w / \operatorname{man}$ in Japanese, but then bacm u/wCCO. Kim-chack, North Korea-725 e 6:03am w/talling. At $6: 45$, I went to 1460 for $\mathrm{KBRZ} \mathrm{Tex} / \mathrm{r} / \mathrm{c} \mathrm{w} / 500 \mathrm{w}$, \& TT was noted, but weak. I was about to give up on it until $6: 55$ when TT rose beautifuliy in strength, \& © 12:56, a long clear ID w/phonetics was heard \& copied perfectiy. At 6:59, another ID. It was then lost to KENO who were looped out samewhat. Also heard @ 6:45-7:02 was a tentative reception of KIRL-1460 St. Charles, Mo. At 6:45, the Voice of Prophecy till 7:02, when they went into program about Ma. farmers \& grain production w/no ID. At 7:26, unn KOAM-860w/ID. At 7:29-7:40, KGU-760 w/HI trash. They faded © 7:40 to an SS station. That's all for now. 73 s .

RICH RICHMAN - 14 East Cheshire Place - Staten Island, New York - 10301 Auroral evening, $11 / 0$, brought in WSJC-810 Miss. for the second time ever. WSJC was heard w/religious program \& ID from 5:58-6pm, when power is cut from 50,000 to 500 w . No sign of WGY while WSJC was in there. New report sent, ss my Jenuary report was never answered. MM $11 / 16-\mathrm{WTHB}-1550 \mathrm{Ga}$. heard on $\mathrm{w} / \mathrm{m} / \mathrm{c}$ © 12:25 am, sounded identical (phonetic spelling of calls, etc) to when firet hdard 3/23/70. UnID same MM on 1560 from 12:17-12:24am $\mathrm{W} / \mathrm{MoR}$, \& promo for Earl Mightingale, weekdays © 3:55am. I assume it was unn WDXR. Two veries in: $\mathrm{v} / \mathrm{q}-\mathrm{WKOX} \mathrm{v} / 1-$. WANN. What's the good word from WERT? Could it be "verie"? DX NEWS becomes better each issue. 73.

BERNIE DUFFY - 350 Richmond Terrace - Apt. 1-P - Staten Island, New York - 10301 My 25-year-old Hallicrafters $\mathrm{S}-20-\mathrm{R}$ went out of business permanently \& I'm now ubing a quite selective Korsonic portable. Latest veries are a nice red white \& blue card from VOA-1196, Munich, West Germany which I reported to direct, but who confirmed from their Washington D.C. office. Other cards came from Cajel -630, Smiths Falla, Ont., WRKL-910 New City, N.Y., \& WELA-1530, Eliza beth, N.J. V/ls came from KDIM-1340 Detroit Lakes, Minn., WPNX- 1460 Phenix City, Ala., WBTS-1480 Bridgeport, Ala., \& WKIG-1580 Glennville, Ga. The new NRC Iog is "Just great"! It was nice attending enother Convention.

STEWAPT DRAKE - 2108 South Simpson Street - Philadelphia, Pennsylvania - 19142 This month has seen only two new entries in the log Book, \& two more veries, but the veries are what made me real happy as they were $\# 2,399$ and 2, 100 in my DXing career. The new catches were 11/8 WGCH-1490 Conn. on RS @ 11: 2 till s/off about ll: 18 pm . Tjeir verie was \#2399. Then the next day whco-1230 Ill. returned my $\mathrm{PP} / \mathrm{c}$ signed, rubber stamped \& OKrd for an $8 / 22 \log$. on SM $11 / 22$ I tuned to $1560 \&$ noted $W Q X R$ testing $w /$ someone underneath. This turned out to be WTRQ, Warsaw, N.C. making various tests. That was @ 12:40am etc. So the totals now read 2,536/2,400 for a very nice $94.5 \%$. Now a few more items of interest about the Domestic Comest. I have asked Cordon Nelson to put a deadline on entries as of 12/15. I hope no oje would wait to see how the other grys are doing before entering \& w/a deadine it should insure against anything like that doing come on in gang - the fun is fine. So far I have received 24 entries $\&$ that is rather poor out of a 500 -plus membership. Hin pleawe, no stamps unless that is \& no more personal checks. I hasseled at the bank to get four of them variety is easy to cut two holes in a card put your two 254 pieces in with tape top and bottom, so let's see a lot more contestants. On the PSAs, I'm sorry but the data on them is incomplete so PSA powers will not be considered, only day \& night powers will be used as factors. And all catches made since the start of the Contest count, regardless of the fact you did not enter till a later date. Does anybody know who the bester was on 1210 lave tham $11 / \hat{c}\} \mathrm{u} / \mathrm{WCAU}$ ? They played "I Think I was made I lost it. They s/off about 12:48. Good DX \& Happy Hunting \& if an ID

ICHARD T. EDITE - 152 West Rose Avenue - St. Louis, Missouri - 63119 Hi fellow MROers: I just sent in a check to renew my membership w/NRC \& will be starting my fourth year y/NRC. For our newer members and those who have forgotten (hi) here is a brief re-intro. I an now 23, atill single, taking correspondence course in radio repair. I also belong to IRCA \& NASWA. This Summer I added Zenith Transoceanic 3000-1 12 transistor readio \& Panasonic AM/FM/stereo solid state model RE 7300 to the shack so main rig is now the $3000-1$. I have other equipment but I won't waste space listing it though wy antenna is a $3^{\prime}$ altazimeth loop. $D X$ has been fair but veries are coning in very very slowlu. I finally got to the NRC Log - great job done: Now to most recent DX (all times EST). MM 11/16-KPAY-1060 Chico Cal. $1: 26-1: 45 \mathrm{~mm} / \mathrm{mT}$, KAKC-970 Tulsa 2:40-3:05em - they didn't s/off © 3 per NRC Log. Sun. 11/15- KGRN-1470 Brookfield Mo. 5:49-6 Olpm s/off. KIIL-1460 Labbock Tex. 6:31-6:46pm w/c/w, IDs sookithe WCCR-1580 Urbana Ill. w/r/c 1:15-1:30. Fri. 11/13as "K-Triple-L. sat. 11/1. W.18-3:35mw/r/c. MM 11/9-WLCX-1490 La Crosse Wis WBTH-1400 Williemson, W.Va. $3: 18-3: 35 \mathrm{em} \mathrm{W} / \mathrm{r} / \mathrm{c}$. MH $11 / 9-$ WLCX-1490 La Gosse Wis. 1:09-1:30em w/rr, La Crosse station \#3 out of three, hi. WLAV-1340 Grwnd Fopids Mich. 1:36-2, WSAM-1400 Saginaw Mich. 2:17-2:35am. All other DX has been back in October. Only veries of late, WICX v/l \& SC, three out of three sled from Ia Crosse \& KSPI-740 Okla. I think I am over 3080 good DX to all \& 73b. I will trade SCs - just write. As they say in Chattanooga, Tennessee, "WDXB" "Hinter $\mathbb{F}$ is Best" - so send it in to ERC.

BILL COIMAN - Apt. 101-906 Sans Souci Drive - Raleigh, North Carolina - 27609 I had the pleasure of announcing on an ET on the big 5,000W WIXT1390 Rocky Mount, N.C: on 11/19 from 12:30-3:30am EST. The engineer is a good friend \& he believes in verifying reports, if they contain info about the prom gram heard. How many of you heard it? Thamks go to Larry Bellard for taking time out \& giving me some info on a couple of stations. If that is Bob Fomronth from Raleigh N.C. as mentioned in the last isaue of DX $\operatorname{IEWS}$, I'd like to get a few airchecks of some N.Y. stations. I will be going to REI in $2 / 71$ to get my first phone. I hope to be a chief some day. I heard wGro-540 Cypress Gardens, Fla. testing $w / T T$ \& IDs on $11 / 16 @ 2$ am. I sent them a report. They must have been doing a PoP. I have a list of all carrier current college station, if anybody needs info. My phane \# is 919-876-3207. I just moved \& went trraugh some of my oldies, mail, etc. \& came across a cerd that Ken Lyon had sent me, wokeconing me to the Club. Sorry I'm late, but themks!

FATHER JACK PEJZA - Augustinian Fpthers - St. Augustine High School - 3266 Nutmeg Street - San Diego, California - 92104
Still no NRC Iog received as of 11/17, more than two noaths after they were mailed. If \& when it does arrive, Winston Blaunt is going to get a nanty letter from me. The SCECP@SDDX-ERBA get-together here after Thanksgiving is sheping into one of the all-time memorable get-togethers. $D X$ here has been limited mostly to MMs; no new TPs have been noted, but several new Mexicens seen to appear. each time I listen. An unID SS on 664 has been IDed for we by Larry Godrin an TGRT, down from 670. It was heard here $11 / 17$ for an hour u/U.S. MoR wax, but fow (and then very poor) announcements. Rusa Edmands and Page Taylor are to be congratulated on the first instalment of their article on tips for novices, is Faul hart an antenna patterns. Features like these really make DX NENS interesting. I just bought a surplus IM-18 frequency meter, so should have more precision in pimpointing splits from now on. This is similar to the more comon BC-221, bet is a Nevy instrument. Veries have been slowly trickling in, mainly becmuse I haven't seat out too many reports yet this season. Almost have the first form pilled for the Caribbean division of the Foreign, Contest, but $I$ an hering trouble with the $500 \& 1100$ blocks. The other forms are atill largely enpty.

LARRY 0. BALIARD - Box 367 - West Columbia, South Carolina - 29169
In Issue \#6 there were coly two Musings frob of the MasonDixon Line so a little more support is needed from us Rebs. Here is anell contribution to this issue. $D X$ in the lest two weeks has picked upconsiderrebly.

8


 9:45 w/Es wre de very clear ID. 11/16- wuir-1h10 Als/ w/oft 88 12:59 w/guick
 OC, wall-1190 Tenn. Fing v/ax a frequent IDe e $2: 33$ on top of super-vedt kRTE






 40 verify reports so don't hesiteste to write then. That a va. is b.C. respective-
 pecially yroni vith $a$ elub seeber signing veries for a station that will Th39 for as only tinder the stipulation that thry have sooe belp froe the poer vio acrumen the THET. fod how sbout the sftuetions v/NHOT i vikLi It's plee to remender that everyone to hoonet unt11 he proves different. Ind apenktns of good muys, overy one imovn hov hard the lonton crev works but have you glven ary thought to the tine a effart speet every week by ERC, RIE, \& Facy? Surely it til a lahar of love! (Thanks, Iarry! -THC)

(30 miled fran Bt, Louls) This eurrent harors is rentnincent of the one equertencel $8 / 15-9 / 25$. The nete thete rinst appearasie around 9/15 nuch

 Tirana-1394, Hice- 15 54 , WDR-1586. TAs all dinaappeared after the elections an the Aarora vall letting i it reelly hit an 11/11. GNCA van quite good e 6 pm w/no trice of woco-830. PJH-300 van excellent frao 6 r30-7115 w/xicio underneath is no
 to be JMC when they fald This in the Volee of $-\ldots$ " then WIM coveref it up siatn.
 La on 66S playine 11 dit $m$ w/frogen or vent mitioned fulte often vas Yituonterm
 satd Buenon Ioches. On 11/7 I beard a mev ulim out let on 665 8 7:30pa in igh,
 1deas on this une, cease objlo? also hewrd vas HI con 1200 lant $11 / 16$ around 5 mm
 sufldine a homehrev MiX, also telling why auch jowe an Henrarlund, ete. nro better then orhera etc. The 'T1 Leaue of the Commmicnyions llendbock by P.F. in polint
 escogilath on Mir that an ge6co JX $\mathrm{can}^{\prime} \mathrm{t} 1$ I I aure hope that everyoce hail a tooch seamen. My eonl is to reach 50 countries an I now here liz. My etate total is \& my gonl there in 42.73 .

 to how aun teriee vere returmed wi, the fart office? It senma qo be nothins but
 Yov, if they vill funt verlfy ne! Ktiok-pho Ko. mald In v/I thet they no ioneer









 Reptd city i very moch urexpected. Warn-620 $\mathrm{NX} / \mathrm{wX} 5: 25-5: 35 \mathrm{pa}$; wach-1050 s/orf 5:45pI. $11 / 12-10 x 0-1300$ o/kres both very wich varted but unexpected 2:40-3:ohan.

 of eopying ID on mon-atop mx (vhat do you to w/en mmouncer like that T) Caly clue to his In was the nose A1 Knipht! lairs-1500 good mex but s/off covered by KLOO , heard apoin next Sat. w/remote ampouncer vho rofuled to believe he vas on the efr, 2 nnother vho bumbled en ID! 11/12- a0xx-920 s/on e 5:58. Seeson's greetings to everyone although 1 hope to be bere before then. $73-30$
J. V, HRAJNER - R.D. 1 - Box 86 - Pumxsutavney, Pernsylvanis - 15767
noout tise to let you knov ve are atill slive here in Pumay's hilla! I did lass than pormal tuntng thla Sunser, so leas heard. I apent nowt of May Looking ower Va. s N.C. This inolused a visit vith lelfe tuton, long time MRC meaber, thers ve en joyed a FXX den sensico \& vere hoated to a tour of Y.c., 's fenous "Outer Irnks" w/a itop at the then brand nev womp. Thanls to helfe a Bilite for shat woderful one wifeh is atill frwih in nind here. Another trip took us 50 Iow, s other staten aroumt the areat Iahen Bighlighted by a viaft w/ Ien Krupe is fneily that inclailed a toar of Dubuque's pointa of finterent a a plente on Tabor Dey where we vere joined by Hob Gorsoch and farlly, which lircuitht beci maty nemorish of the old-tine MiC get-togethers at Buffalo. Thanks stnceeels



 hta anyvay, Cily one heard to date was WOOT on $11 / 9$, not good enouph for i verie hare. I heard parts of two marchen is ome IDj march titlen didn't regiater with this ex-bandsanh. I nhould have known one of then. Nothing hesre sfter 3 rat but
 on R5, KYMs- 1060 three or four times 6 a/off ( 5345 in Hovenber). CPSL-1190 on Re 19, \& WOFR- 1530 on 11/9, $4: 30-5 \mathrm{pn}$ a/ ff . For Opce unually daninant WGYA \& kTIC not heard, some whe aplatter an he banged meve v/tile cri pover only foor miles avay. 1910 nemail to splatter nore on cil then w/5kv. uphib- $1450, \mathrm{f} / \mathrm{c}-\mathrm{T}$ noted, $1: 35$ to 1:44 60 neconil leturday. S's.11. 73.

I got the mx bug again. Totels nov up to 479 logged, 38 states, vight prorincen is 20 coumtries $\mathrm{v} /$ Harroceo logen on 935; Y/1 hact from lefll for




 An, plua unibe on 14661602 15gh $764-0 \mathrm{C} 733$ T82 719701 \& 1575 for beat TA slift




 Cnt, v/ax, hockey scores as severs1 The - must be error in Nic Iog, hi. 11/15-




 I'd better close this repprt before Ernie cuts me off. 73.



Monttor Heportir desdlıne Wednesiayit，plonse une ore alde of paper anly． Beeeptiona：
529 Alearia．Arsbie ehanting hard 0125，very pood mignal but too much q才if． DF wha sbout $55^{\circ}$ ．They upolke too jov at 0138 not able to unidereturn is wort so I don＇t hnow ir they Identif1ed．12／T．Gyxt 157 bere，（Obj10） in the clear and the atrangent of the kIIS patiote at the tise．（Nerrimin） Datrican livg．Fatio hac，HiHCN belleved to be the nto hers at ore of
 Enl we；flest tise thin meason．（Blamis，MT）
 tranamite pari tode el pofn．．．tropleanh，blegre，profeslonal＂+ （Foidt，其

 1a cenilal nenEJoin．（Bahatr，Fs．）
 Loop bearling ea Limn miatioh．Undoubtediy，in Tropdcuna－are their ady other Ali stin on 5407 （Hibogertiesde，Ktoh．） tuaty spotil，wale and feasle ancris．（Marrlmun，Va．）


 TVB afd prevented daflimite In．（Verrfnan，Va．）
China，Changchum het aosin $10 / 25$ ofth fufr oigmal at 1290 mod ves not in ／／with Pyongyang－655，so puyt be Colno．Hrd vith Yi aber in OC．（Yamp）
 dominant Cutun hari，ID w／giagan anit locotion $060511 / 77$ ．（hanmon，The
 Guile fron this ncound uth．（Merriman，Vn．）


E B7CT，poted AN and docinhnt MN 11／16，tlwelcone，（Schatr，Yin．） characterletion on 635．（P4st，Mirt．）
North Kores．Chon＝ilin hri vith Oriental callifne by mnn，deflnitely not In Chinege，thinh olther Forean or Japonese，dood alenil $09 \% 7$ 11／9．（ 6 ，
 should address the lettera as＂Deaoorntic TVoplen Hopublic of Fores＂ and toot ia＂Horth Kares＂（or they xdll le yeruaed－ed．）
 ＂Yas de Duat，＂1D，Anthem and parhaps $11 / 0 f f 050011 / 13$ but，not mure ms they faded just then，9till no Cubas noted；ditto on 690 anit 720 so perhapn they are all off aminy（Hoorurbetde，Nich．） Golontais．Good ID on BrBt，In Not do Panta harth itt 0345 11／13．No sigt
 TWW which whis in elightly in Nlivmuee before the hif power Dubnn togic over the freq．（Hoogerhelide，Neh．）（tocian Hhe you mot en，John－ed．）



 atrone 11／26．aufferal alop fron Oanyaquil－655，of all thingn，（Schatz）
655 Erundor．Failo Carruusel．HCLGe，Dusyaquil is the Alier bere ofter YBS
 van hrit 0534 $21 / 16$ ．（Gumgh，Pa．）
 Pair signal．（Kurp，Cal．）
 after the 2000 ID ．（Yinep）
 and fantantic oignnl（usinily rarely hrd and weak）with bo and istin Rock， ＂Cannal 66＂anil＂Poalo Jryentud＂betveen song＂．（Ojafield，Alta．）
660 Colowing，End Cal1 11／9 from OE78 with Palfo Uno ID，then into very briet newnenit in 的 mall back to Intin Popp．（Yeidt，Md．）
 tis 2335 then Into a＂rallopovela＂which want to 0000，nlughn for thill por vin，Thiviloan，privera en nove1a＂and iv at coos was，＂ents en in ent－
 and tha laut part whe a singite ID．They vere ver gitrone noat of thin evoning．（Velat，Na．）
© Very atrone Hatio Fatulons noted for the firat tine 11／12 at ollo with OC and highopitahed tonen，At 0444 began pinying Inatrimentesi we which lasted thra the 0600 m ／off．There vere ocossional spota every 10 minuten
 Cat TC＇A．Very general a／off gave the mention of loeation or itentity nad carrisf left the eir abruptly．They vere IDed by dene Martin around 0100 on $11 / 13$ and I hra then with ID at $003511 / 24$ prior to ather of a＂radso－

0 Putrhy atroge 38 apeaker Ptrut noted around $040011 / 11$ and there aemin on 11／12．Wus bot thers earlier in the evening vinen I wtis Intening to the unID on 664．Figyed eary Listeulne Inatrumental mex．（Merrinan，Va．）
（a）Inilo Phirloss bere $041012 / 13$ with local socerr naseh．Hes pop maile ist 0510．Tout het vith WRBC．（Hoogerheide，M1 nh．）
（5）．Fabaloan noved hare ex－670 sonet1me betveen $11 / 9$ and $11 / 14$ ；sany Ina ant heta Lifabon nfealy on 2 ow sida．Sfoff 0600 each mite，（thmonn，Pn．）

 Onl，who med thes oft 664.2 vith ner $1 \mathrm{~m}-18$ freq meter．Goed for you -89. ）
a II，Dabologn here and loalj unneeded，belleve te．（Schatz，Fla．）
 s／orf oe215 on 11／3 and 11／12；derinitely mect the WInAmari Iolands and the eastern Garibbenn．Newsenst $11 / 12$ ot ozol covered Itens frou St，Lacte TrInidad and Fapbolos and ID seened to be the Fhorthern News Iroadeniting Bervice．＂Could thia be the projected 10 kw outlet on Caatrien lieted In the 1970 WVIVI for 660 kn ． Fl gral wan genernily weal：and in apite of it being a good Garibbean evening．（Gotwin，Col＋）
8 This unID in In alnost every evening but aopy imposaible．Thay are in Frig
 they cnuse a het with IAfbon，（Maximan，Va．）（Freq nad an 664.7 and the freg for Vabuloos Lheviae mat an 66， 6,8 in both canen by Jerry Corral－0d．）
665 Portugal．Lisbon is the most consistent TA，frequently hrd on A3 uhow，
Had audio at 0010 on $11 / 2$ and was good throughout the evening，eap about
0530．IS on the hour at 0100 and 0200 consisted of 4 pips 5 seconde apert
Iollowed in 6 seconds by a single higher－pitched pip．Howevar ut 0600
$11 / 6$ they had clock bongs on the hour rather than pips．（Godvia，Col．）
$11 / 6$ they had clock bongs on the hour rather than pips．（Godvia（Jol．）（Fa）
Portugal and someone else here at $0623 \mathrm{Mm} \mathrm{11/16;} \mathrm{a} 1.6 \mathrm{~Hz} \mathrm{5AH}$. （Jchata，Fill 670 Japan．JOBK Osaka good signal with man in Jap 0953 11／9．（Yamp，Cal．）

Nicarague. YND, Union Radio excellent cvery eve, particularly yoori un 11/11 at 0130. There is a low pitched het here probably caused by tio Costa Rican. (Merriman, Va.) (also 680 itern)
Puerto Rico. WAPA San Juan wat on top $11 / 11$ at 0045 with cerveza spot. Dominica. WIBS Roseau fair on 11/11 at 0133. This use? to be the strongest of the WIBS outlets but not hrd so well this year. (Merriman, Va.
9 unID. Who is the SS here causing het with WLW? Been hearin: this for several weeks, good signal at times but no ID. Rather quiet pgmy for a LA, and easily separated from 700. I suspect this is HIDC in the Dom. Rep. as it seems to loop towards the Caribbean. César? (Merriman, va.) Guatemala. TCHR, Radio Mundial hrd often, exclnt 0040 11/13. (Fish, Neb) Honduras. Have been trying for several months for HRTV which I need for a new country. There are 2 stns here about 200 Hz apart, both quite weak. Best bearings I can get are $205^{\circ}$ for the high side one, and 190 or $195^{\circ}$ for the one lower. The higher one is best and has been readable several times. They seem to announce as "Radio Caribe, onda setenta". (Moore, Mass.) (Ray, JKC says HRTV is now using "Radio Caribe" -ed.) Colombia. HJAN, Radio Fuentes, Bqla noted w/apparent s/off 0455 11/13 w/complete list of affiliates and anthem. QRM: WGN, Cuba. (Hoogerheide) Surinam. SRS peesumed the one at 0930 with Orientai talk, 11/18. (Kamp) North Korea. Kim-chaek fair 11/16 at 1103 with YI in Korean. (Kamp, CaI) Costa Rica. TILX San Jose good at Ol36 11/11, SRS looped. (Merriman, Va.) Trinidad. Radio Trinidad, Port-of-Spain hrd 11/15 at 2343 with ending of relig pgm, ID by woman then into news all alone on channel. (Truax, W Vad) Puerto Rico. WIAC San Juan. S/on 0930 11/16 with SSB and bi-lingual Sp. and Eng. s/on anmt. Easy under Cuba and KCMC. (Shannon, Pa.)
T10 Alaska. KFQD at 0957-1004 poor 11/2 with news and sports. Irying for Jamaica and got KFQD o/WSB s/on +2 unID SS. WSB and KFQD are $180^{\circ}$ apart here. (Oldfield, Alta.)
Japan. JOIB Sapporo hrd with Eng nx 0959 11/9. NHK ID by man in Eng at $0959 \frac{1}{2}$; pips 1000 . Excellent signal. (Kamp)
155 Portucal. Audible at sunset 11/3 at 0000-0016 s/off with prominent notes from Beethoven's Fifth Symphony. Voice not readable, and has a lons way to go to match last year ${ }^{1}$ s sunset reception. (Godwin, Col.) unID. Definite French under KGJ 0825-0846 11/2 with no WJR or Cuba, a poor airnall with man and woman talking, French songs. (Oldfield, Alta.) (Likeiy 4VI, Radio Lumière, Aux Cayes, Haiti; evangelical, list l kw-e ) China. Pcking in well 1337 with martial mx and man in Chinese 10/25 (Kamp) Senecral. Dakar believed the one s/off with unID anthem $000011 / 7$, carr:ifr cut at 0001. Foor audio and not readable. (Godwin, Col.)
Costa Rica. TIM, Radio City S.J. 0050 11/13 ment C.R. (Fish) Japan. NHK-1 stn hrd $103411 / 9$, believed JOKX as is highest power listed, at 5 kw. Jap was poor but in clear, with ZBVI nulled. (Kamp, Cal.)
TOD B.V.I. ZEVI Roadtown bombing in $11 / 91021$ with man in accented Eng with pgm called "Mornins Devotions" and many raent's of St. Croix and St. Thomas. KCRL off this MM. Unn. (Kamp, Ca.)
unID. Very weak, DF's to the SN, hrd $010011 / 13$. (Fish)
Toly No. Korea. Good 1204 11/16. Also 655 good as usual, 725 poor, had both a little earlier at 1115. (Pejza, Cal.)
Pyoncyans in well 0950 11/9 with man in Korean. (Kamp)
G20 Colombia. HJED in well with Caracol ID 0613 after WEAP s/of'f at 0602 Was not hrd at 0700 check. (Pejza, Cal.)
China. Hrd 10/25 at 134? with martial mx, a man in Chinese, weak. (Kamp) Costa Rica. TIOS, Mitania noted every evenins, particularly sood $11 / 11$ at 0120 with MoR mx. (Merriman, Va.)
830 Japan. JOBB Osaka 'strong as all getout' at $1050 \mathrm{ll} / 16$ when overrode WCCO for a moment with man in Japanese but soon went under agn. (Kamp)
330 Cuba. CMCA hrd GM $10 / 25$ 1129-1131 with mx, call and slogan ID and into pgm I believe was called "Instrumentales. (Kamp) (slogan is "R. Cordon de la Habana" and "cordon" is the asricultural "green belt" surrounding the city of Havana proper; a Castro innovation -ed (No I haven't seen it)

830 Haiti. 4VE with relic per in French o/WNYC $11 / 11$ 0142,auroral(Taylor, NJ)
(1) Call is not 4 VE nor 4 VEJ (per FBIS) as both are anned as beine SW cails at s/off. (Schatz) (are they 4VEF? Think 4 VEH is the 1035 job. -ed.) 850 Colombia. Em. Nuevo Mundo, HJKC, Bogota; hrd with Caracol ID MM 11/9 at 0920, good signal under someone's $O C$. (Kamp)
850 Mexico. XEM, Chihuahue with ranchero, RCN jingle, call ID 1258 11/16 with KOA nulled. (Pejza)
850 Cuba. Fair o/u/CJJC, KOA silent, 0928-0930 11/2. (Oldfield)
855 Neth. Antilles. Radio Curom, Curaçao quite good $11 / 11$ at 0120 with MoR mx ; het on low side from QAX 4 A . (Merrimen, Va.)
855 Ecuador. Radio Bolivar, HCDE2, Guayaquil is likely the one here running AN, if I hrd right. (Schatz, Fla.)
855 Ecuador. Tentative Jipijapa, HCVN4, fair signal only but loop says this is Ecuador, 0130 11/13, Peru noted 1 kc down. (Fish, Neb.)
855 A definite TT here (this must have been a het-ed.) weakly hrd till s/off $074511 / 9$ then a weak SS behind, looped same as 880. unild. (Hoogerheide) but . 1 de cuba $0850-091011 / 2$ o/u KAIM. Both had equal signal strength
870 Hawaii. KATM Honolulu apparently the one with "Hour of Decision" 0903 0925 but faded at ID time. Fair signal but SS QRM. (Kamp)
870 Japan. JOLB Fukuoka with fair signal $140010 / 25$ with NHK-2 pips (three short and low, one very lons and high) (Kamp)
870 Venezuela. Radio Libertador, Caracas, rarely heard here during daylight at 1858 on 11/2. (Objío, Dorm. Rep.)
k* 872 North Korea presumed the carrier msd on 872.6 here $114311 / 16$; nut on previously reported 874. (Pejza)
874 North Korea. Wonsan in with fair signal 11/9 1016 with woman in Korean, QRM from a het on the low side.
(Kamp, Cal.)
875 Costa Rica. Radio Popular, San Jose probably the LA here at 0242 on 1l/ ll, playing US pop mx with Spanish lyrics. (Merriman, Va.)
880 Doninican Rep. HIOR, Radio Santa Cruz de Mao. This one extremely strong 0959 with many nice IDs on 11/16. Seems to s/on sometime between 0900 and 1000 as Lima is the only one here before 0900. (Shannon, Pa.)
880 Peru. Hrd with native flute and Indian mx 0735, newscast at 0745 with lots of mention of Radio Union and Lima, hrd 11/9. (Hoogerheide)
(2) Raidio Union was loud, s-5 to $70630-0800$ on 11/16, many anmts with a police wistle sound effect, seems to have news about :40 to :45 during each hour with elaborate march music intro. Tape and report sent to this ieard but unverified country. (Starr, Ohio) (Let us know how you make out with the tape report, Jerry. I don't think tapes have been particularly successful with Peruvians; military gov't there won't help matters)
880 Guaterala. Noted appx $0540 \mathrm{II} / 2$ with "Reloj Musical" ranging from semiclassical to marches. WCBS has been going off occasionally at 0530 rather than normal 0605 to allow tower riggers to install corona discharge gaps across guy wire insulators, some $M^{2}{ }^{2}$, this is probably all done by now, tho. I don't believe WCBS plans MM operation at present-ed)
881 Wales. Hrd 0640 remaining past $072011 / 11$ with commentary. (Taylor, NJ)
885 Montserrat. Plymouth with fair signal 0102 with girl ancr, very good 0119 with Soap opera, was very emotional. All in English. (Merriman)
© Plymouth hrd despite WCBS splash 11/8 for country \#53. (Edmunds, NJ)
(e) Plymouth hrd IDins at 1900 on All Souls Day when most of the Dominican stns were off, 11/2. (Obj10, D.R.)
(e Plymouth with news $0130 \mathrm{ll} / 11$, in very well, $5-6$. (Page Taylor, NJ )
890 Venezuela. Radio America, Valencia rarely heard here on daylight at 1908 on 11/2. (Objío)
900 Barbados. Radio Barbados, Bridgetown hrd 11/15 at 2330 with ID by woman and ad for Caribbean Furnishing House on Marhill Street; all alone on the freq. (Truax, W. Va.)
900 Mexico. XEW, D.F. 11/7 0800 local-like, and rare here, during wierd CX with only reception directly south, no coast or plains stns in atall. (Oldfield, Edmonton, Alta.)

14
900 unID. I believe it's Mexico here per looping and strength, but a new formet to me. Giving time every minute, and ID as Radio Tiempo. I haven't 11stened to XEW for ages; is this them? 11/16 at 0T32; gone at 0815. (Shannon, Pa.) (No info here, John; 6 issues ago JKC rpta YNWS on an AN show but didn't catch their slogan altho not the expected one, just an show but din 10 Outside New str in Port-au-Prince, "Radio Nouveau Monde, la Voix d'Haiti" is brand new. (see p. 15, Aug. I IDXD; Cesar got 'em-ed.) Dominates early eves until early s/off. Off with incomplete info and anthern (.) 0100 11/16 or, 8pm EST, the 15 th , my FF is nil, but s/orf goes some thing like this: "Ici R-M-N (music)...radio Nouveau Monde (twice).... voix d Haiti...910 kilohertz... 330 metres...--. 7 meganer and not in Creole RMN. No calls or power given. Night pgmg is all French (Schatz, Fla.) Venerula with frequent airplane schedules, news and IDs. Sounds a bit distorted, though. Here from 910. (Godwin, Col.) (yes, they have very bad FM -ed.
@ YVRQ is here AN with extremely distorted audio, usual YL ancr. (Schatz)
(e) Radio Aeropuerto a powerhouse on this freq 11/11, noted at 0103. Many IDs as Radio Aeropuerto Informa; time given by YL. Uses chimes at time check and the first time I have ever hrd this one off nominal 910. (Merriman)
Aeropuerto IDed here 0510 11/16. (Page Taylor, NJ) (Msd 913.45-pt)
and US ra, Radio Juin, (Your
(4) TICM rather weak ID $071111 / 17$ clearing up another unID for me, thanks
once again to the wonderful tips in IDXD. (Shannon, Pa.) Bible; believe s/off is shortly after this. (Merriman, Va.) at 1903 cood signal. (Obj10, D.R.) (on 11/2?-ed.) Rico. WPRA Mayaguez with SSB at 0900, into Sp. and Eng s/on anm
Suce on $11 / 11$, didn $t$ stick noted on this one, completely in the clear with lons ID 0929 on II/IG, then long speech w/applause, etc. (Starr, Ohio) Suceso weak here, 0830 11/9. (Hoogerheide, Mch. calls were WBNB. (Objio, D.R.)
1010 Mexico XRHL, Guadalajara, Jal. 1010-1025 1I/? with Eng and Sp. rock like a local, my best XE of 1970 as XEG and TITT are always poor here. like a local, my for "H-L". (Oldfield, Alta.)
1015 Tl Talvador. Radio Internacional, YSC nice call and slogan ID at 0255 on 111/3.7. (Shannon, Pa.) (Merriman, Va-
Ent'l excellent at $011311 / 11$, save 3 IDs in 2 minutes alons with 3
1020 Colombia. HJDP, Neiva at 0855 11/9 with a Colosal signal, save an Ma. address mint. no. in Neiva, Fadio Colosal ID and into mx. (Feidt, Ma.)

1020 venezuela. Radio larcarita, La Asuncion YVRS hrd 2232 11/10 \%/KDKA curing disturbed cx. (Edmunds, NJ)
Colombia. La voz de los Libertadores, HJDJ Duitama, moved from 1020 hrd IDins here at 2334 1l/2. (Objío) (Listed 1030 in HJ list in DX News,

China, P.R. Evidently the one in unID Oriental land SM 11/1 1157-1201 with no QRM at all. No break in discussion pgm and no IS on the hour. (Godwin, Col.) (Was likely a propaganda disseration-ed)

## IDed as "Radio Tropical." (Feidt, Ma.)

Cuba. CMBN, Isla de Juventud noted very strons li/14 0350-0402 with soft mood mx, brief news pgm on the hour in Spanish, then TC and ID as Radio Caribe, desde la Isla de la Juventud". (Feidt, Md.) (Msd 1041.6) excited, long-winded ancr talced for bout 5 minutes between rany TDs, nany IDs, gave freq in kilohertz. Also said, "mas popular en onda larga" and taped for report. (Merriman, Va.)
(a) After a couple years of trying, finally got a good ID from this one. Is often strong, but has few IDs. Noted 0202 11/17. (Shannon, Pa.) England. Start Point apparent s/on 0600 fairly decent with CJIC GM, Venezuela. Y--, Maracay, Kadio Universal. This one hrd many times as Radio Universal, but no further ment of location. Thx to Obj10's tip in IDXD for location. They were on 1083a on 10/26 but back on 1080 and so noted 2311 ill 16. (Shannon) 0940-0947, had news by mand woman in Sp., much use of adjective dominicana"; ID by gal 0945 was "Radio Armistad de mil noventa" and
Nicaragua. Radio Circuito in Ieon audible off and on 0300-0430 on 11/ 12 with this ID noted at 0302 and 0426. QRM from another SS a few His lower, perhaps Colombis. (Godwin, Col) level and practically no QRM. (Feldt, Ma.) many spots. (Merriman, Va.)
** 1155 Cuba. Radio Banes, Banes hrd s/off at 0440 on 11/8 wita 14. A move from 1310. (Obj10, D.Rep.)
1155 El Salvador. YSCF, Ondas Orientales very good at 0326 on 11/11. ID's with both call and slogan. Taped for report. (Merriman) ention Emisora Sinu, Monteria. This one IDs as Todelar mentioned Monteria so I believe I am correct in saying it is HJAZ objio said they were on 1150 a few weeks ago. Maybe they have moved back here. Noted $0636 \mathrm{ll} / 16$. (Shamon, Pa.)
and easy to separate from the mess on 1160 . Beautiful complete ID with cell,
logan, location and network at 0300 11/17. /才 3rd HJ this freq. (Shanncn) Okinawa. Audible with "Yankee Doodle" IS at 1330 11/6 with gharp het against KOFI. This is by far the best TP here, with Pyongyang-655 in second place. (Godwin, Col.)
(e) VoA good 11/9 at s/on with IS 1058. ID in Eng.for Okinaws 1059, then IS again. Into Chinese pgmg 1100. KLOK being off MM now helps. (Kamp) Guatemala. TGT Sonora en Guateraala ing i'Yellor River it (Merriman and was quite good 0338 11/11 playing Yellow River " (Merriman)

$=$ NRC's IDXD .. With MW $D X$ info unavailable elsewhere!

2190 Puerto Rico. WEMJ, San Juan, hrd for the first time on $11 / 2$, IDing at 2324 with news, all in English. (Objio, D.R.) (locels were off) unID. Africa. Not Arabic but with fast drums and shouting, a la Dakar. Sounded like SW noise at first. Noted about 2330 11/11. Anyone know who? (Schatz, Fla.) Venezuela. Radio Coro, YMMN clear and alone $2330-000011 / 9$ with severe aurora cx. (Hoogerheide)
unID. UFO (unID foreign oriental, for benefit our newer members-ed.) hrd under KGYN OC (s/on at 1130) at 1127 11/16; looped toward Japan, not Hewall so probably JOOR. (Pejza, Cal.) unID SS: Tangos, noted $0447 \mathrm{II} / 9$, very weak. (Godwin, Col.) Costa Rica. TIGM finally IDed here, thanks to RFS tip in the last IDXD. As with Ron, however, I can ${ }^{\text {t }} \mathrm{f}$ figure out the 2 letters in the slogan used by the gal ancr. $052511 / 16$. (Shannon) (Why not write and ask her Mexico. XEWG, Cd. Juarez, Chih. with ranchero mx 11/16, ID 123 T and then dropped back into the pileup.
Dam. Rep. Radio HIN, Sto. Domingo, hrd here on 11/7 at 0315, drifting, but don't consider this a change of freq. (Objío)
1255 Cuba. Reloj Nacionsl, CMKA, Guantanamo, hrd with news IDing every minute at $050511 / 8$. (Objío)
(e Reloj Nacional has rather low modulation in contrast to other Cuban R.N. stations. I often get it just as a carrier. (Shannon, Pa.)
© R.N. has been hrd with fair, at least, modulation; there is another IA here, perhaps a TI--, on 1254.6. (Pake Taylor, NJ, phone tip)
1269 Cuba. Reloj Nacional, Camaguiey with nx and TC every minute, 0517(Objío) ranc $3 / 4$. at 0640. (Schatz, Fla.)
1310隹 Good in Miami in early AM's. (Schatz)
1320 Mexico. XERJ, Mazatlan, Sin. with TC's, spots for "Pacifico", 1.252 11/9. (Pejza)
1337 unID SS. with Sports commentary $0735 \mathrm{MM} \mathrm{J1/16} .\mathrm{Heavy} \mathrm{fading;} \mathrm{looped} \mathrm{S}$ to SSW. (Schatz, Fla.)
1349 Hawail. KTOH, Kauai island $0550-1000 \mathrm{~s} / \mathrm{off} \mathrm{II} / 3$, poor at first then it takes over KRLC and CJDC till s/off. Tnx, REN. Their signal continues to amaze me, but it is never an indicator of other Hawail or TP-DU cx; their $x$ mtr is $\frac{1}{2}$ mile from Lihue on the Airport-Kapaa highway with a 1,134 foot mountain nearby, which maybe is a ref in on 1376 too. Freq checked with vernier dial, slipstick and also by ear on the het. ( RjE ) unID. IA hrd on 1378.5 several nights lately, possibly CM- or HI-; mx and taik in Spanish but too far into noise (high lately) to ID. Was hrd in AM's, here, 11/8-10-11. (RjE, NJ) ( 0 . $150428-0535$ easily separable from KGMS and ID as Radio La Paz. It seemed to drift from 1379.4 to 1379.6 but stable on 6 after 0500. It is not on the RFS Mexican List. Listed in 1969 BYB and VJ4 as XEVQ but this call now belongs to Navolato, Sin. on 830. Hrd several times since, and seemed to be AN MM. (Pejza, Calif.)
1380 Kexico. A good clean "Radio Eco" ID 0730 11/2. Not loud in Marquette, in fact not noted at all on good auroral AM of 11/9. (Hoogerheide) Radio Eco. Thoucht this was WRN for a couple weeks until I learned WBNX no longer AN, thanks to DX News. Listened more carefully and it WBNX no longer AN, thanks to Watch out for this one, it is very was indeed Eco and $\mathrm{ll} / \mathrm{I6}$. (Shannon, Pa.) Guinea. Conakry, on 1402.6 , with news by man 0607, potent, easily separated from 1403. (Page Maylor, IWJ) poor, C 8 W, light rock. Kesteven hrd 'em 10/26. (Oldfield, Alta.)

1472 Asiatic RSFSR. Khab. or Vlad., good signal 11/16 1034 with Chinese pom, as per report appearing in IRCA from Art Peterson., in the 10/17 issue. (Kamp, Cal.) (Believe REW reported this, last year, from Hawaij) France. Common wave apparently AN due to de Gaulle death 0515 11/11(R3E) Spain. Stranegly enough, a break in the 'quasi-auroral' cx (which also allowed first sood signal from 1586 this season) brought in cormon wave here $0510 \mathrm{ll} / 11$, along with 1493 . (Edmunds, NJ)
1506 Anguilla. Strong with news $2254 \mathrm{ll} / 11$; interpolated freq and read it as $1506 \frac{1}{4}$, am hearing this one daily from this time on. (Page Taylor, NJ)
1510 unID SS, very weak with WLAC silent 11/9, looped due Douth; WIAC ran AN am of 11/16. Pity. (Schatz, Fla.)
$15: 9$ Vatican. In with extremely strong signals $11 / 32202$ with readable audio in a very funny sounding lang (latin? -ed) Ctry \#52 logged. (RJE) Asiatic RSFSR. Khabarovsk good in Russian 11/16 at 1038 with unID domestic looped, hrd with man talkins in Russkiy. (Kamp, Cal.) Mexico. XENU, Nuevo Laredo, Tamps. all alone 1245 1l/9 with call ID and news. (Pejza)
1560 Mexico. XEVIP with CBS pgmg (yay-ed.) in English 0530 11/13 but ID in Spanish; all alone at this time (except for $2 R E$ of course-ed) (Hoogerh'e) Mexico. XEJPV, Cd. Juarez, Chin. apparently has changed slogan from Radio Chamizal to Radio Alegria. Hrd 1235 11/9 with one Eng ID as "J P V, --- radio on 1560 " and then one rock song, back into Spanish \& ranchero mx; spots for a place in El Paso. (Pejza, Calif.)
1575 unID SS noted here 11/11, 0205 to after 0300. Had a drama at 0205, later around 0300 play by play sports, probably baseball. Good signal at times but having transmitter problems as left the air abruptly at 0217, back by 0220. Loops toward Caribbean so probably a HI-. (Merriman)

*     *         *             *                 *                     * 

We have some veries this week, including one report which was conveniently written on both sides of the paper, giving me the choice of (1) discarding all items on the reverse, or (2) copying them over so that they aren't lost when I cut up the sheet for sorting. In fact I had an IDXD 'heard' report like that this week. I chickened out and copied all those items over, hi. Due to all that time, I'll hold the veries until next week. Even more remarkable was the fact that one of the reports to which I refer was sent to NRC HQ in Boston...for inclusion in this section which is written in New York. Believe it or not, it takes in excess of an hour to type just one of these pages (try it if it seems far-fetched...) so, with all else that I have to attend to, I hope it isn't too much to ask that all reporters try to adhere to the basic reporting format. The only thing I really ASK is to limit oneself to one side of the paper. Anything else, I can cope with. Many tnx.
Forelgn Btation Changen (from lirondobating)
@ New AM stations, final actions: Kodiak, Alaska - Loren F. Bridges. Broadcast Bureau granted 570 kHz , $500 \mathrm{w}, 1 \mathrm{kw}-\mathrm{Ls}, \mathrm{U} . \mathrm{PO}$ address: 3555 Harding Ave., Honolulu 96816. Estimated construction cost $\$ 11,354$; first year operating cost $\$ 12,500$; revenue $\$ 35,000$. Mr. Bridges, sole owner, is Gen. Mgr. of KAIM Honolulu, and is a radio consultant. Action Nov. lo. (de Broadcasting)
(eall letter action: Bethel Broadcasting,Inc., Bethel, Alaska granted KYUK.
© Existing AM Stations, applications: KBYR, Anchorage, Alaska - seeks CP to change frequency to 700 kHz , decrease night power to 500 watts. Ann. 10/23.
Q Existing AM stations, final actions: KFQD Anchorage - Broadcast Bureau granted CP to install new transmitter for euxiliary use on 10 kw . Action 10/1a.
Congratulations to IRCA for making the change to GMT in their DXWW section. This will make it easier for all DXers interested in foreign DX, now that we have a common reference. Also to Father Jack on his new freq meter. lo 11 be the next to put up a several-thousand foot Beverage Wave? (be sure to remember to point it at some DX...)

## Oop Distortion - why get ${ }_{\text {skewed }}$ ?

Loop antennas offer several advantages to the MW DX'er over other types of antennas. In the presence of local noise (generated by neon signs, etc., within a few hundred feet of the receiver), a loop will actually pick up less noise than a vertical or "longwire" of equivalent signal pickup. In a well designed loop, the very high $Q$ provides such sharp tuning that overload problems caused by powerful local stations are often greatly improved. But the loop's most important feature for the DX'er is its ability to null out unwanted signals; this same nulling ability makes direction finding possible with even simple equipment.

How deeply can a loop null out an unwanted signal? When we first began to research high-gain, deep nulling MW antennas at MIT about 5 years ago, our initial reaction upon reading the standard texts and references was that it ought to be a trivial exercise in engineering to produce an essentially "ideal" loop for DX'ing and so we confidently set out to do so. Our first efforts failed rather miserably - not only were we unable to completely null out our locals, on some stations we hardly got any nulls at all. These first antennas further showed some of the same pathological characteristics reported by many loop users: unequal peaks and nulls, nulls that were not $180^{\circ}$ apart, and shallow nulls on most local stations. After much experimentation, loop winding, and equation solving, we believe we have isolated most if not all of the factors responsible for poor loop nulling; the results of this research were designed into the Altazimuth loop (plans in Volume 37, Number 1 of DX NEWS). In all but a few cases the Altazimuth loop is capable of nulling local stations down by a factor of at least 80 db ; in most cases this means a drop in signal strength from say 60 db over S 9 to an S 2 or S 3 jumble of unintelligi ble skywave backscatter sounding somewhat like single-sideband reception. Here in Boston for example, there's no problem logging $X E Q R$ on 1030 with WBZ nulled out, or WCBM/WPTF with WRKO eliminated.

If you are unable to obtain "total" nulling with your loop (i.e., down to the point where all you hear is distorted skywave backscatter during daylight hours) on powerful locals, your problem may be some or all of the following:
a. Defective loop design (poor geometry). A loop whose winding is too wide in comparison with its diameter is insufficiently planar and the skew in the windings will distort the pattern and blunt the nulls. The width of the winding should be as short as possible; "spiral" or "pancake" loops have optimum geometry for nulling and frequently show better nulls than a box-type with equivalent pickup.
b. Defective loop design (electrical). It is extremely important that virtually all of the signal delivered to the receiver be from the magnetic pickup of the loop and that there be no pickup from the transmission line to the receiver or the entire body of the loop acting like a short vertical antenna. Unwanted electric field pickup resulting from faulty loop design or construction is the most common cause of blunted loop nulls and distorted loop patterns and we shall look more carefully at this basic problem later in this article.
c. Elliptical signal wavefront. The polarization figure of the signal you are attempting to rull is in the end the final determinant of just how deeply the signal can be nulled. Given a mechanically and electrically perfect loop antenna, the maximum null depth (that is, the difference in decibels between the signal peaked and nulled) cannot be greater than the ratio of minor to major axis $\therefore$ the electric vector polarization ellipse of the signal (in db ). This means that regardless of how good the loop is, the null depth for a particular signal will depend upon the polarization of the wavefront from the signal in question. What the DX'er wants is a wavefront that is linear as possible, that is, as close to a linear polarization figure as possible. For powerful groundwave locals, the degree of polarization ellipticity depends upon several factors: the transmitting antenna, the properties of the ground between the transmitter and receiver, the frequency, and the amount of reradiation from nearby phone and powerlines, etc. Here in the author's urban Boston location, all but two of our 12 powerful local stations have essentially linear wavefronts and can therefore be totally looped out. The remaining two, however, WHDH -850 and WHIL-1430, have "defective" wavefronts and cannot be nulled by more than 26 and 44 db respectively. Fortunately the degree of ellipticity changes somewhat with the season and with routine transmitting antenna maintenance which means there is some hope for the future even if you happen to be unlucky enough to have one of these refractory cases in the area. In effect, therefore, the question of how well you will be able to null your particular locals once you obtain a suitable loop will depend upon strictly local factors. Ca reful loop design and construction can only bring the null depth down to the point limited by the shape of the signal wavefront itself.

Loop defect (b) above is the most common and serious cause of distorted loop patterns and shallow nulling. Consider the case of a well designed and constructed loop whose width is negligible compared to its diameter and suppose you are attempting to null a perfect local signal with purely linear and vertical polarization by rotating this antenna. If this antenna is properly electrically balanced, the station will be completely eliminated in each null and the nulls will be exactly $180^{\circ}$ apart as the antenna is rotated. If, on the other hand, the antenna is not electrically balanced, the station may not be totally eliminated in one or both nulls, the depths of the two nulls may not be equal, and the nulls may not be $180^{\circ}$ apart. Any or all of these symptoms indicate the presence of electrostatic imbalance and mean that you are not getting all of the performance from this antenna that you might. How much electrostatic imbalance is acceptable before the performance of the loop is significantly degraded? Let us consider the above case of the ideal loop and the ideal local signal and see what the effect of electrostatic imbalance will be on the null depth and the pattern symmetry (that is, how much the null directions depart from the ideal value of $180^{\circ}$ ).


The instantaneous voltage induced in the loop by the signal is given by

## $E(t)=B \operatorname{Cos} \theta \operatorname{Cos}(\omega t) \quad$ where 0 is the azimuth angle of the loop plane,

 $\omega$ is the angular frequency, $t$ is time, and $B$ is proportional to the frequency of the signal, the area and number of turns in the loop, and the strength of the signal.(see High Precision Direction Finding, Part I,
DX NEWS, 1965 for the derivation)
Let us suppose that there is also a pickup from the electric field of the signal caused by electrostatic imbalance due to faulty design or construction; the electric pickup voltage may then be represented by
$E(t)=E f(\theta)$ Sinf $\omega t+\phi)$. where $f(\theta)$ is the azimuthal dependence of electric component pickup, $\phi$ is the phase shift between the electric and magnetic pickup voltages (compensated for induction quadrature), and $E$ is the amplitude of the electrostatic pickup.

We will then set the total instantaneous voltage delivered to the receiver equal to the sum of the magnetic and electric pickups and average the squared total voltage over one cycle to obtain the mean squared value:

$$
\begin{aligned}
& V(t)=B \operatorname{Cos} \theta \operatorname{Cos}(\omega t)+E f(\theta) \operatorname{Sin}(\omega t+\phi) \\
& \begin{aligned}
\int_{0}^{2 \pi}(V(t))^{2} d t= & \int_{0}^{2 \pi} B^{2} \operatorname{Con}^{2} \theta \operatorname{Cos}^{2}(\omega t) d t+\left[E_{0}^{2} f(\theta)^{2} \operatorname{Sin}^{2}(\omega t+\phi) d t\right. \\
& +\int_{0}^{2 \pi} 2 B E \operatorname{Cos} \theta f(\theta) \operatorname{Cos}(\omega t) \operatorname{Sin}(\omega t+\phi) d t \\
= & 2 \pi\left[1 / 2 B^{2} \operatorname{Cos}^{2} \theta+1 / 2 E^{2} f(\theta)^{2}+B E \operatorname{Cos} \theta f(\theta) \operatorname{Sin} \phi\right]
\end{aligned}
\end{aligned}
$$

In order to determine the location of the peaks and nulls of the resultant pattern we must differentiate with respect to $\theta$ and set the derivative equal to zero:

$$
\frac{d}{d \theta}(V(t))^{2}=-B^{2} \operatorname{Cos} \theta \operatorname{Sin} \theta+E^{2} f(\theta) f^{\prime}(\theta)+B E \operatorname{Sin} \phi\left(\operatorname{Cos} \theta f^{\prime}(\theta)\right.
$$

$-[(4) 5 \sin 6)$
The peaks and nulls of the pattern then occur at the angles $\theta_{E}$ which are the solutions to:

$$
\theta=\left(\operatorname{Cos} \theta_{E}+E / B \operatorname{Sin} \phi\right) \operatorname{Sin} \theta_{E}
$$

in the event that $f(\theta)=1$; i.e., that the electric pickup is omnidirectional.

The second derivative test shows that the pair of solutions,

$$
0=\sin \theta_{E}, \quad \theta_{E}=0^{\circ} \text { and } 180^{\circ}
$$

correspond to the peaks in the pattern pickup so long as the quantity

$$
(\mathrm{B}+\mathrm{ESin} \phi)>0 ;
$$

- in practice this is always the case unless an extremely long unbalanced feedline is used. This means that the remaining two solutions represent the pattern nulls:

$$
\begin{aligned}
& 0=\left(\operatorname{Cos} \theta_{E}+E / B \operatorname{Sin} \phi\right) \text { or } \\
& \theta_{N}=\operatorname{Cos}^{-1}(-E / B \operatorname{Sin} \phi)
\end{aligned}
$$

This last equation is very important to the loop designer since it now shows that the null skewing (that is, deviation of nulls from $180^{\circ}$ ) depends only upon the ratio of electric to magnetic pickup and the phase relationship between them. We now have derived the first important result of electrostatic imbalance in a loop antenna, skewed nulls.

What about the effect of imbalance on null depth, that is, the ratio of pickup at null to that of peak? Recall that the mean-square pickup is given by

$$
\overline{\mathrm{v}^{2}}=1 / 2 \mathrm{~B}^{2} \operatorname{Cos}^{2} \mathrm{\theta}+1 / 2 \mathrm{E}^{2}+\mathrm{BE} \operatorname{Con} \theta \operatorname{Sin} \phi
$$

since we know that $\operatorname{Cos} \theta=-E / B \operatorname{Sin} \phi$ at the direction of null, the signal pickup at null is then given by:

$$
\overline{\mathrm{V}_{\mathrm{N}}^{2}}=\mathrm{E}^{2}\left(1-\operatorname{Sin}^{2} \phi\right)
$$

and the ratio of signal pickup (mean squared) at null to that at peak is given by:

- $\frac{V_{N}^{2}}{V_{D}^{2}}=\frac{E^{2}\left(1-\sin ^{2} \phi\right)}{1 / 2 B^{2}+1 / 2 E^{2}+E B \sin \phi}$

If we assume that $B$ has unit value, we then obtain the final solution for null depth as a function of the amount and phase of the electrostatic pickup:

$$
\text { Null Depth }(\mathrm{db})=10 \log \left[\frac{E^{2}\left(1-\operatorname{Sin}^{2} \phi\right)}{1+E^{2}+2 E \operatorname{Sin} \phi}\right]
$$

We may now calculate the amount of null skewing and blunting as we vary the phase and amplitude of the electric signal pickup.
for the sensitivity of the nulling capabilities of a loop to the slightest bit of electrostatic contamination, a few words about $\beta$. In our experience, the electrostatic component tends to be coupled into the loop signal capacitatively if there is in fact a reactive component at all. In a directly coupled loop (i.e., where the magnetic signal is taken directly from the tank) the electrostatic pickup (usually associated with the feedline) is usually shifted no more than 30 or 40 degrees. A link-coupled loop, on the other hand introduces an additional phase shift of $90^{\circ}$; in this case the effective value of $\varnothing$ is much higher. In other words, coupled loops with link-takeoff are often more sensitive to the effects of imbalance on null skewing than are direct coupled loops.

The following table shows the values of null asymmetry (the difference in null azimuths) and the calculated null depths for various amounts of electrostatic pickup (E/B), expressed in db. Four values of $\phi$ are shown, corresponding to effective phase advance for a direct-coupled loop; the same table is valid for link-coupled loops if the complement of the phase angle is taken instead. Notice the great effect that even a small amount of electrostatic contamination can have on both null depth and symmetry; in the case of $\phi=60^{\circ}$, as little as $1 \%(=-40 \mathrm{db})$ electrostatic contamination will limit null depth to -47 db and skew the nulls a full degree.
$\phi=0^{\circ}$ :
E/B (db) Null depth (db) Null skew (degrees)

| $-20 \mathrm{db}$ | $-20 \mathrm{db}$ | 0 |
| :---: | :---: | :---: |
| -40 db | $-40 \mathrm{db}$ | 0 |
| -60 db | $-60 \mathrm{db}$ | 0 |
| $4=30^{\circ} \mathrm{i}$ |  |  |
| $-20 \mathrm{db}$ | $-23 \mathrm{db}$ | 5. 1 |
| -40 dh | $-42 \mathrm{db}$ | 0.6 |
| $-60 \mathrm{db}$ | $-62 \mathrm{cb}$ | D. 1 |
| $\phi=60^{\circ}$ |  |  |
| -20 dt | $-28 \mathrm{db}$ | 10 |
| $-40 \mathrm{db}$ | $-47 \mathrm{db}$ | 1 |
| $-60 \mathrm{db}$ | -68 db | 0, 1 |
| $\phi=90^{\circ}$ : |  |  |
| $-20 \mathrm{db}$ | $+\infty$ | 11.6 |
| -40 db | $+\infty$ | 1.2 |
| -60 db | $+\infty$ | 0. 1 |

The expressions which we have derived and evaluated agree very well with actual experiment and help to explain many seemingly inconsistent observations about null depth and asymmetry. Note that the symptoms of an unbalanced loci configuration can be skewed but deep nulls, symmetrical but shallow nulls, or, most commonly, both shallow and skewed nulls.

At one point back in the middle of the equations we casually snuck in the assumption that the electric pickup term did not depend upon the aximuth angle, that is, that $f(\theta)=1$. To a first approximation this assumption is pretty good since most electrostatic pickup comes from the feedline and/or the entire unbalanced loop acting as a short "vertical" antenna without pronounced directional properties. What if the source of the electric signal component does have a significant azimuthal pattern? Qualitatively this can be considered by looking at the mean squared pickup expression,

$$
(V(t))^{2}=1 / 2 B^{2} \operatorname{Cos}^{2} \theta+1 / 2 E^{2} f(\theta)^{2}+B E \operatorname{Cos} \theta f(\theta) \operatorname{Sin} \phi
$$

Note that since Cosine is an even function, the pickup at any particular $\theta$ angle will be the same at - $\theta$ if and only if $f(\theta)$ is also an even function, i. e., if $f(\theta)=f(-\theta)$. In the case of the earlier assumption of $f(\theta)=1$, this was indeed the case and the resultant patterns, while distorted in azimuth and/or null depth, were symmetrical about the $\theta$ axis. This is a most important observation because it frequently provides useful clues about the origin of the imbalance in a particular loop. In the figures below we illustrate what we mean by symmetry about the $\theta$ axis in a skewed loop pattern. In the first case (corresponding to the as sumption that $f(\theta)$ is an even function), the nulls are skewed and blunted but the depth of the nulls is the same on each side.


In the second case, $f(\theta)$ is not an even function and as a result the null depths are not equal. This is a fairly common form of loop malfunction 'and is the worst possible pattern for the DX'er; not only are the nulls skewed and shallow, they aren't even the same on each side. Since the general form of $f(\theta)$ is not generally known there is no point in assuming a particular form of the azimuthal dependence aside from considerations of symmetry. We have solved the equations for the assumed $f(\theta)$ of the form
$E(t)=A \operatorname{Cos}(\omega t) \operatorname{Cos}(\theta+\delta)+B \operatorname{Cos}(\omega t+\delta)$
and this expression appears to approximate the behavior of at least some actual loops fairly well.

In this article we have attempted to explain the origin of many common types of loop malfunction and to stress the importance of electrostatic balance in the design and construction of loops for DX'ing. Unless your loop has nulls that are exactly $180^{\circ}$ apart, of the same depth, and can supply nulls on locals to the limit of the polarization figure of the signal, you aren't getting nulls that are as deep as they might be. In future articles we will give some tips on cleaning up loop nulls and eliminating electrostatic imbalance from a variety of origins. Some of these points have already been mentioned in High Precision Direction Finding, Part LI, in a past issue of DX NEWS.

Gordon P. Nelson, NRC HQ...
Wow, what a flood of material this issue... The flood of Musings (19 pages!) this week has forced us to hold over at least a dozen and a half pages of good feature material until next week; watch for several 40 -pagers in a row as we try to catch up. We had hoped to have our review of the "Space Magnet' for this issue but we've got one more set of tests to run on it; we've had one here for a week and have tested it very extensively side-by-side with the big altazimuth and in the lab; we strongly suggest that anyone thinking of buying one immediately wait for a week to see our results. Don't let the letter that comes along with the advertisement fool you; as best we can tell after many phone calls from the membership, everyone in the club got the same promotional material - including recent new members. The Hyannis meeting was small but interesting; the group got to see the copy for the new LA Log which is going to the printer this week and were suitably impressed with the fine job that Howard Fountain has done! Stew Drake, your unid on 1210 was WADE, several full ID's taped herethat AM; Foxy, who was here at the time, was somewhat surprised as he says they don't run ET's very often (I was trying to get KZOO for Foxy...). RICHARD WOOD and RFS: What's this about "Beveridge?" Find below the title portion of his original 1923 paper, still the classic reference for wave antennas. For those of you interested in the Beverage antenna, we've got copies of the original paper which contains all of the drawings, equations, and measurements that anyone will ever need to understand the Beverage. It runs about 40 pages long so please send along a couple of bucks for duplication costs. We also have copies of articles describing mechanical filter conversions which a appeared in most of the major Electronic and ham magazines some years ago when Lafayette first brought out the Kokusai units. Write HQ for further information. The Midwinter Anomaly officially began about a week ago (so defined by ionospheric riometer measurements)... Good DX..

## The Wave Antenna

|

## A New Type of Highly Directive Antenna

by harold h. beverage, chester w. rice. and edward w. kelloc of the Ratio Corpmitaron in Ararmo

Reciew of the Subject. A small bumptor in a arow of onk fintors rimnin the same, and calculating the relative :



## midnignl to sunrist

LPRT hrd w/BC wx, marine info, sports, $11 / 90303-0320 \mathrm{~s} / \mathrm{off}$, w/anncts for CBU, booming signals (Kamp, Come Calif) (Dave Copeland, Bklyn, N.Y.) Canon $\mathrm{Cy}, \mathrm{Co}$. )
Tuned in for DX TEST 11/8 0307 \& hrd dominating channel, sounded like RS w/ rr, DJ show, SID, spots. Messed up by KFRE ET 0322-0327 tune-out. (Kamp)
unID
Hro very wk TT 0321-0337 on 11/8, help? (John P. Lombardo, Irvington, H.J.) Well, John, seems as tho' you hrd :FRE..-RGE Hrd $v$ good s/off 0137 11/2 (Lombardo)
$\times 1080$ KrJJJ-0r Hrd w/ esw mx 11/8 0409-0420 (Kamp)

## 1000 KOMO-Ha

Is on w/TT alternate Min's starting 11/9 per letter which ses Is on $\mathrm{W} / \mathrm{TT}$ alternate mis starting $11 / 9$ per letter which ses
is test for EBS from $0300 \mathrm{~s} / 0 f \mathrm{f}$ to $0800 \mathrm{~s} / \mathrm{on}$ (Mike "Doc" Hardester, Modesto, Ca) Welcome, Doc, more from you soon??-RjE解 casting. Interesting listening for a younsster like me, hi (Marv Jarber, Lincoln Nb )
CJIC-On (Garber)
Hrd $025311 / 2 \mathrm{w} / \mathrm{ID}, \mathrm{MoR}$ o/u SS, \& NSP KAKC, not hrd in years (Jarber)
Logged $023011 / 5 \mathrm{w} / \mathrm{HI}$ Fair bu fady sigs. Note: KFAB has been off irreg. weekdays to repair $\mathrm{XF} \& \mathrm{DA}$. (Garber) ird ard $023011 / 5 \mathrm{w} / \mathrm{rr} \mathrm{w} / \mathrm{WRT}$ looped. Extremely rare here.(") Vy wk w/rr, slpo from KIIS, KDEF 0319 11/9 (Lawrence) Listed SP is apparently incorrect as are on IMIs. (BL) Probably the onehere w/ aST TC's, pop mx \& Canadian nx $010011 / 9$ but litera'ly cremated by KIIS, KDEF (BL) but litera ly cremated by KIIS
Was off M11/2, so maybe not NSP (Garber) off $11 / 2$ \& $11 / 0$ MM' (Page Taylor, Butler, H.J.) \& (RjE)
(Garber) C. H mx 2 mention of nIF test

Hoted on ITY 11/9, ISP? (Lawrence) Yup- RJI, per Garber

In clr w/ yood sic ll/2 w/ class. rox 02l0-16. Elers, this should make it as is a clear channel after KN's $0200 \mathrm{~s} / \mathrm{off}$. (Garber) Exce t for XJCO,NLCI, \& NAOK, it should, hi-RjE Tre $/$ /MS looped $\mathrm{w} / \mathrm{SID} \& \mathrm{rr} 021 \mathrm{E}$ 11/2. This was anly one left

DX hrd WK n/MAE 0203-17 10/19 W/ CW mX ${ }^{\text {a mention of }}$
Is now USP, so goodbye CFFB, sob (Sarber) Yecch-RJE Is now :SP, so goodbye CFFB, sob
Hrd u/TMA: $11 / 5$ 0l21 (Lombardo)
In all alone 11/2 0225 (Iombardo)
IIrd ID u/mess C208 11/9 (Copeland) Testing w/ mx way o/thot 11/9 Ar (Copeland) Hrd w/ cow 0434 11/8, must be AN(Lawrence) after GYS's $0300 \mathrm{~s} / \mathrm{off}$. (Jarber)
1410 VIWr-Ch
U480 :NIZ-Ca Hrd on AN sked $015011 / 2 \mathrm{w} / \mathrm{rr}$ \＆SID＇s（Garber）
ID on POP 0024 hrd thru AM $11 / 16 \mathrm{w} / \mathrm{TT}$ ，mx o／u XPCO（Tarlor

## sunpise o daylime

1180 KCTA－Tx Hrd w／EE reli rion $p \mathrm{~mm}$ 10／25 0706－30 then $\operatorname{IE}$ IB，into SS（ $\because \mathrm{mm}$ ） WCFR－Vt W／rr，SID＇s 0910－0917 11／10（Walt Rogers，Concord，2H）
1500
1530
W/rr, SID's 0910-0917 11/10 (Walt Rogers, Concord, $2 H$ )
Hrd w/ nx 1604 11/9 (Rogers)
Sporst pem hrd 0849-5211/10 (Rogers)
Hrd nx \& furmiture ads 0854-59 11/10 (Rogers)
Fair w/ KXEL mulled Il/ $0610-0614$ when lost to Mex. stn. Yed
csw mx, DJ said "were on experimental hour this Aif ${ }^{\prime}$ (Kamp)

ID \＆$n \times 1600$ 11／9 atop all（Rogers）
W／promo 0823 11／10 thru WTHP（Rogers）

WFIX－L
KBIY－Cla WASI－He

WGPA－50 WCAZ－WI KIFT－10 KATIT－I
ssinc－U WKLM－15

Fair 2329 w／ID 10／30（Koukol）

## sunsel \＆evening

Exc．sig atop w／nx $190511 / 11$（Lawrence）
Hrd $1958 \mathrm{w} / \mathrm{ID}$ 10／24（Koukol）
Fair w／religion 1929 11／6（Lawrence）
Hrd alone 1947 when no other stns from north audible，which is very strange indeed（Page）Congratulations ．＇or some other dubious comment．．．－R．jE
ID \＆TC $2000 \mathrm{w} / \mathrm{CBS} \mathrm{nX}$ 11／3（KOUKol）
Nx on Charleston $200211 / 3$（Koukol）
Hrd 11／11 1913 endin；$n x \mathrm{w} / \mathrm{no}$ SIMN（Lawrence）
Bombing in w／ow on SSS 11／2 1854－1907 wk．w／XMM looped．（Kamp） S／off SSB $11 / 61915$（Kamp）
S／off 1715 11／10 taped w／NC all over dial（Page）
Uptermo ir 1635 in $\nabla_{0}$ early（Page）
Good $1835 \mathrm{w} / \mathrm{ads}$ ，pops in FF $11 / 3$（Koukol）
Well hrd $1820 \mathrm{w} /$ local，state wx $11 / 4$（＂$)$
Fair $1800 \mathrm{w} / \mathrm{ID}, \mathrm{nx}$ KIN Looped $11 / 4$（i＇）
S／off 1845．no SSB u／KYN 11／4（＂）
Srd the 184515 （＂）
Hrd thru zer
Finally hrd w／oil co．ad，TC，SID 1642 11／10（Page）
Poor u／KNOE，KUPD w／nx 2045－50 11／o．atop later 2057．（BL）
S／off $164611 / 10 \mathrm{w} / \mathrm{TSynchopated} \mathrm{cloc}$
S／off 1646 11／10 W／＂Synchopated Clock＂（Rogers）
$\mathrm{Hrd} 164911 / 10 \mathrm{w} / \mathrm{ID}$ ，all alone（Page）
Hrd on RS \＆ $1805 \mathrm{w} /$ lons wx rept．in auroral cx 11／10（Lombardo） TC $2042 \mathrm{~W} / \mathrm{ID}$ 10／28（Koukol）
1936 hrd local＂Dog \＆Suds＂ad 10／30（Koukol）
Hrd w／lons wx rpt，ads，s／off 1640－44 11／10，no S3B（nogers）
Hrd faily good w／s／off 1645 11／6（Lombardo）
Hrd 11／10 $1647 \mathrm{w} /$ ad for mobile home park，mixing w／wac（Pase） Find of NC Net nx $165511 / 10$（Paze）
W／Fla．Blue Shield comn＇l 1750 foll by race results $12 / 10$（Page） Good 11／6 1934－2005 w／mx，nx 2000，lost to KFOX 2005 （Kamp） Hrd 1932 11／11 s／off Lawrence）
ID hrd in kutual pem $153511 / 10$（Rdgers）
Tire ad atop freq． 1649 11／10（Page）
1930 ID \＆nx，fair 11／1（Koukol）
Good w／ircac looped w／upbeat lioR 10／30 2049－2100 fade（Kamp）

Good w／：KLBS nulled $11 / 5$ 1937－44 s／off（Kamp）
Good w／rr $185611 / 11$ ，never hrd bl due to $K 0 S I$（Lawrence） S／off $230711 / 10$ then woro boomin；in．（Rovers） Beran reli；ion 1726 to s／off $172911 / 10$（Paze）

2087－90 NOD－10

7W 1717，ID following WDSE s／offll／（Page）
Ird w／relision 1738 and hard－sell religion at that，hi，of k ：ixu（Paze）－11／11．
Wनी－iC ID \＆wx 1630 11 八0 alone（nozers）
USXI－Dt ID u／．nvir $162511 / 10$ ，s／off 1628 （Rogers）

250 mis1 S／off after ©ifw $183011 / 12$（Paze）
ALA－II Off air due to elect．stom danaze 1740－1935 11 4 per Broad－ casting（which finally arrived，hi）（Love，that P．O．D．，hi，hi）

## changes

780 KCRL－NT Was AN 10／12 Mr，but not 11／9 AM（Kamp）
+990 KRKS CO ex－KIIR，format still relizion（Lawrence）
$+\quad+1170$ KLOK－Ca Off M＇s（Kamp）
+1240 KBON－Ca ex－KRNO
+1240 RMON－NY ex－iEMJ
+1450 WBMG－Tn UP ： $1000 / 250$ Un
1530 WLLA－NJ req．：WJDM
+1000 WRAR－Va Is on（Al Merriman）
+1130 WWCM－In Is on，ex－ 1380
+1380 WWCM IN Delete－Scott Stheg）
／is
MM：WRUG－1130；IF：WHBG－1360；WBBZ－1360；KFVS－950；1Sa：WSEN－1550 2F：WJH－1580；esa：WCCR－1580；3：M：WVNJ－620；WGME－1500；WBBQ－1340 WTHB－1550；WKAP－1320（new time，0000－0015）；WMYB－11450；WDXY－1240； TDIC－1430；KWKY－1150；INLA－1530；KWYO－1110；WJJJ－1260（0215－0230，new check）；KPUR－14h0；WHSY－1230；
2MET：HANI－1390；2Tu：WREL－1450；KABQ－1350
new check per stn：I Sa．0030－0045，WGRY－1590，Grayling，！1．ch．w／TT
Notes from all over Dept：BL，KVOV is new call change from STOO as of late spring．D．Romanchik，Please supply dates for all logzings sent to DIXD．JKC：Beware the golden wirecutters，hi
Still no DX News for this week as of 1500 on $111 / 18$ ．
I slaceeded in leaving the list of my meazer DX this past week at home today，
so it＇ 11 wait＇til next week．Work \＆s general tiredness amount to no DX，hf． CX have been strange of late，alternating between quasi－auzoral，amzoral，Th， Canada，etc．，all w／hi noise levels．
YORE F／C INFO NE DCD HERE，PEOPLFS．．．．
Emuf for now，so I＇ll close，leaving BPC some space here to play whth．．．．


PS，I＇Il get some new correctype as soon as I can find some or maybe some white－out．These typos annoy me too，hi．

## LAST MINUTE FLASHES．．．

Chuck Hutton phones in word of a Special due to be aired by WGFS－1430， in Covington，Ga．on December 6th from 12：30－1：30 AM EST and perhaps later．．．This will be a POP and will mention NRC often．

Word from Alan Merriman via the Hyannis gang is that he has heard the new 10 kw station in Antigua（the call is $\mathrm{Z} D \mathrm{DK}$ ，if I remember correctly）testing at sunset on 1100 kHz on an auroral night．No sign here yet．

Steve Bohac reports that the two very widely heard bootleg operations on 1615 V are affiliated and reporteldy operate with 100 and 500 watts；WSSR seems to be in the Yonkers area and affiliated WKLB in the White Plains area．While supposedly affiliated，they are often heard here in Boston with separate audios on the same channel．Go get＇em，Big Dave．．．

ALIN MERRIMAN - Box 6 - Fairfax, Virginia - 22030
I thought I would heed Einie's request for Musings \& send in a report. It's been about six months since I have appeared in these pages but DX has not been that good. I have not been able to $D X$ on a MM since last Spring due to work sked but I hope to change that socn. I enjoyed the Convention very much. Good seeing oid friends again and making new ones. I didn't get too far out of Ed Krejny's room but a few people did drop in, hi. Here's meager DX going back to June. Times, EDT. 6/20-CBEF-540 good e 12:59am. 8/21-WYDK-1480 ending ETI W 2:40. WAME-1480 in after WYDK s/off. 8/22-WORG-1580 w/ET/TT/mx @ 12: 46. 8/23-New WARR-1520 w/ET/TT/OC @ 3:05 u/WKBW. 8/24-WEFP-1080 in @ 9:55 mm, verie says testing 50 kw XR. WPGM-1570 © $7: 30 \mathrm{pm}$. 10/11- A real surprise w/WEPM1340 clobbering wOOK @ 4 pm . 10/18-New WTRQ-1560 w/ET/TT/mx @ 1:17, prampt verie. $10 / 23-$ I caught the 1 ast 15 minutes of WHIL-1430's TEST, good at times. Now
 generally on top of WWVA (e 3:51pm so gratefully reported. 11/11-WAVS-1190 good 5:15-5:30 s/off, "R. Waves." 11/13- Brand new WRAR-1000 noted today for first time, generally an top of WIOO @ 2:30pm. They can't have bean on for more than a week or so as I have been checking 1000 regulurly. Veries have came in fram WDEE WERP WIRQ WDCA WHIL WKOG WRAN WVAM HJCY-810 CBEF WYDK \& WPGM. I'11 add to the ones asking, Where are the WRYT veries? So much for DK. I've added a very handy piece os equipment to my shack. It's a frequency marker. This is afllar to a 100 k crystal calibrator but it also has markers at $50,25,10 \& 5 \mathrm{k}$. There are several on the market. The one $I$ have is made by Lab i \& sells for about $\$ 30$ It's very worth while. Enough for now. 73 .

## G. HARIEY DeLEURERE - Box 10 - Hendricks, West Virginia - 26271

First of all, cangratulations are in order for "neophyte" Martin D. Martelie of Sarnia, ont. Hix list of QSIs is indeed very impressive for having been DXing for only nine months. According to the WRTH his "R. Onda Azul" is OBX7B-640. I'II have to agree too that verifying "Forces R. Sharjah" on think he needs to help us! At least I would like his helping Mr. Martelle, I taken an upsuins here in Hendricks. Especially good have been stations to the of here. I really can't figure it out, but N.C., S.C. \& Ga. stations are all over the dial, e.R. WJJC- $1270 \mathrm{y} / \mathrm{only} 1,000 \mathrm{w}$ was heard very well thraueh " 10 cal " 5 one WUOK. Also WENC-1220 literaliy Bmaced WGAR's 50,000w. And WENC was heard fram 7:49-7:53cm. Another oddball reception was WADK-1540, Newport, R.I., which was heard on top of WRGM/WROP deom $4: 10-4: 14 \mathrm{pm}$ - that's in the afternoon, too! Fea, DXing has been topsy-turvy here recently. I haven't checked my mailbox in Elk, Gorden for over three weeks, but I'm sure I have several veries there. At any Grrden for over three weeks, but I m sure I have several veries there. At any
rate my last verie was a $\mathrm{v} / \mathrm{q}$ fron WIBS-535 Grenada. I'll have to say this one is my best NA verle, because it has only 500 w . I did conflim WANR-570, Albion, Mich in 1958, \&c it had only 5 w , but at that time I was living in Albion! Therefore, it cen't be better for me than Grenada. Happy Thanksgiving.

## T. D. BUCKLEY - 2831 Fairhaven Avenue - Alemandria, Virginia - 22303

Hi gang!' Not too much DX to report this time. $9 / 26$-WWDC-1250 Weahington ETing w/TT \& mx @ 4:15am. WEAM-1390 VA. testing out its AXR (a la WABC) @ 4:25w/rr. WTOP-1500 Weshingt on noted w/OC e 4:30em. CKFH-1430 Toranto w/rr e 4:43am. During SSS the same dey, WADO-1280 N.Y. \& WHN-1050 N.Y. © $5: 15$ \& 5:30pm. 11/4- CBA-1070 Monctan, N.B. © 5:29 w/CBC NX \& WX for St. John. 19:7-CFOR-1570 Orilila, Ont. © 12:13em w/rr \& lasz but not least, 11/14~WBAP-820 Fort Worth @ $11: 15 \mathrm{pm} \mathrm{w} / \mathrm{c} / \mathrm{w}$ wx. Latest veries: CKFH-1430 Toronto; WWDC-1260, WTJS-1390 JackBon, Temn. \& WADO-1280. That's it for now. 73s.
AIC EDUARD BRUCE REYNOLDS - Box 3082 - HQ Far Fast Network - APO SAn Francisco 96267
Ernie's call for Musings spurred me into reporting.
Very little time for $D X i n g$ recentiy, as $I$ am now doing a five-div-a-seek cing. in addition to fulltime duties in NX'\& sports. Also, I've been trying to get rid of a lingering cold, so I haven't felt like staying up into the wee hours. It's good to see so many new members reporting to this section. Now if same of the on
hands would get busy. What's happened to the St . Louls Gang? It was good to see hands would get busy. What' Is Ernie Wesolarski still in existance? Well, I hope a report troning to report next time. Good DXing, \& 73 .
WALT BREVILIE - 9127 Coral Drive - St. Louis, Missouri - 63123
Greetings after a long absence. This is my first Muse in almost Greetings al last re-introduction, so here's another: I'm now on a year, aimost two so, have been w/NRC since 1964, attended two Comventions: Cedar the uromg side of 30 , have ben. Jouis in '69! Main RX is a Hallicrafters SX-122, Rapids in '65, \& of course, St. at the present time. I've been somewhat inactive antenna a most of the last two years due to varg mucho ars, \& other activites - I recert ly sleep more, a furnace blower causing mucho QRN, \& other act ivites - I resently are became wh ovper of a well preserved 1952 Kaiser, for one. $10 / 25$ - Much-wanted about $870 / 267$,
 Va. 6:15am even on transistor set, $: 07 \mathrm{am}$. 10/28- whblo 120. 6:30 s/off. SM 11/8-KSIX-1230 Corpus Christi 1:27ams/off, R. Juventud-660 strong all M. KCAS-1050 Sletion, Tex. on top e 6:45 s/off. MM 11/16-KDFF-1150 Albuquerque barely IDed @ $3: 25 \mathrm{am}$. The new NRC Log was well worth the wait - truly an outstanding job \& ald to DXing! $\mathrm{v} / \mathrm{f}-\mathrm{KFWB}$, only recent verie. 738.
BLakE LAWRENCE - Box 803 - Canan C1ty, Colorado - 81212
Greetings to all! My prime RX conked out an 10/7 so no nore $\mathbf{n X}$ on it until replacement part come from Aliled Radio. I'mbeginning to think that its brand should be Sunkist, hi. Because of this irksome problea, I ve been DXing on a Motorola Table Radio, \& consequently, not as much DX this week. 11/6-KBTF-900 Cal. ogred @ SSS, KYW in well @ 8:55pm v/a11-NX, KONY-1240 Meb. 11/7 SM 11/8 WXCL 1350 T11 $\mathrm{v} / \mathrm{c} / \mathrm{s}$ © 4.34 morentiy AN nove SSS, unTD on 11/7. SM 11/8-WXCL-1350 I11. v/c/V © 4:34am apparentiy AN nov. SSS, unlw s/off on 1370 @ 6:47pm W/SSB, hoownzit? MM 11/9-New logs in CNXj-1140 Alta.: CKX-1150 Man., Also KXYZ-1320 on all MM, NSP? Let's hope not. Good SSS 11/11 KKAT-1430 N.M., KNFT-950 N.M., \& KHEP-1280 Ariz. logged as was an extremely strong WREC-600, Temn. On 11/12, whatsisname in Henderson, Nev. ( 1280 ) was back (2) 7:30pm $\mathrm{w} / \mathrm{R} \mathrm{\& B}$, cails askin KVOB or KBOB or something similar, heip peeded on cos rect call. I heard one last Sumer w/Bame call contrary to call in NRC Lag. $\mathrm{XEFV}-1000 \mathrm{Cd}$. Juarez also heard $11 / 12$. On yes, an unID on 1190 in SS e $7: 17 \mathrm{pm}$ 11/11, sounded like "R. Mexicana" ID; another unID back on 11/1, this time on 850 © 7:17pm w/ss ID as "Ekees (chime), eh (chime), saytah (chime)...", lost as KOA began chattering again. Could this be XFRR? ERC, minfirst Masing was NOF the one in the $10 / 311 s s u e$. The first one apparrently got lost in the mail. Again, thanks to RJE \& Page Taylor for their article for novice DXers - it 's very aseful here. Two more $v / \mathrm{qs}$ in this week: KTKT-990 \& KRLA-1110. IRIA's $\mathrm{v} / \mathrm{q}$ is atitractive, but failed to mention date \& time of report: They took two months, two weeks, \& one lay to verie, but the 's listining quick compared to some others! Reports out to WNOE \& KCPX. Do they verie? I sure wish we could have Musings Reports out to WNOE \& KCPX. Do they verie? I sure wish we could have Musings
sections this year like those that were in my sample bulletin last season. I'11 sections this year like those that were in my sample bulletin last season. I'll
try to do my part \& Muse every week. How about more Midwesterners \& WCers retry to do my part \& Muse every week. How about more Midwesterners \& WCers re porting? I' 11 bet ERC gets tired of typing "Massachusetts" \& Hew York", hi. Can someone tell me what frequency KQW Saniose was on? (If memory holds, Blake, I think it was 1010, then 740 , where they became KCBS -ERC) Beat of DX \& Peace.

SANCY GANTZER - 67 Liberty Street - Fredonia, New Yorix
My reguiar $R X$ is still in the repair shop ( 300 miles awny), but 1 've been DXing in spite of that. On mu sister's table clock radio I have heard: 11/4- WKST-1280 Pa. © 5pm. 11/8- WNOX-990 Tem. @ 11:30pm. 11/9- WDOD-1310 Tem. 5:30pm. on a "borroved" Lafayette HE-30: 11/10-WVOJ-1320 Fla. e 5:30pm. ove to © 8:30 and XERF-1570 © 9pm. CNQ \& XERF were the first Cuban and first Mexice I have ever heard. Lucky me? 11/15-S/off of WHIE-1320 Ga. By the way, who laye WEIS doesn't verify? They sent me a v/1, a , \& a very nice station pen. A11 for hearing less than a minute of their s/off.

VVE KAMP
6149 Monteverde－San Jose，California－ 95120
I am stiving up Mis now \＆DXing has gotten better．Veries：v／1－ KIMM－1460 KGAK－1330 KCRL－780（for RS－they promised CM when they got＇em made up）\＆pirate RCIA－880．v／f－KUGN－590．v／q－KPOK－1330 KRLA－1110．DX：10／25－ CMCA－830＂R．Corazon de La Habana＂＠6：29am；KCTA－1030 Tex．© 7：06am；Chanchun Cbin，a－585 © 7：20am；Peking -760 ＠8：37am；China－820＠8：47；JOLB－870 Fukuoka © 9 am ．10／30－KPOK－1330 Portland w／KFAC 100ped＠8：49pm；KGAK－1330 Gallup N．M． 7：02pm W／KFAC looped．11／2－KAMN－950 Boise stroag SSS © 6：54pm．11／6－KSVC－980 Richfleld Uteh e $7: 15 \mathrm{~s} / \mathrm{off}$ on SSS；KCIM－1330 Redding e $7: 37-7: 44$ s／off；KOAG－ 1280 Arroyo Grande e $7: 54 \mathrm{pm}$ ．11／8－3：07am，I tuned to 440 for CJIB NRC TEST $=$ CJIB wes there dominating channel but am，I tuned to 40 for CJIB NRC TEST， SID，\＆spots for locsl restamel，but program sounded like RS，W／IT DJ show， SID，\＆spots for locsl restaurant；heard 3：07－3：27am tuneout，messed up by KFRE CBX 3：22－3：27am．KWJJ－10800re．© 4：09am．SRS－725 Paramaribo＠4：30am．MM 11／9 CBXQ -540 40w LXRT in Ucluelet B．C．booming in， $90 \%$ readable， $3: 03-3: 20 \mathrm{~s} / \mathrm{off} \mathrm{w} /$ Canada \＆GSQ．KCMC－740 Texarkana e 4am；HJKC－850 Bogota＠4：20；Japan -660 （eit $6 \geqslant 0$ OR M JOAG © 4：45am；ChongJin，N．K．-635 ＠4：47：Pyongy ang－785＠4：50；JOB pips；Wonsan，NK $=874$（＠5：10 780 ＠ $5: 34$ ；w／ZBVI nul 1 ed．VO \＆into Chinese；KBUY－15）VOA－1178 Okinawa＠ $5: 58 \mathrm{~s} / \mathrm{on}$ w／Yankee Doodie，then ID program was RS $c / w .1540$ Tex．＠ $6: 10 \mathrm{~mm}$ said were on except one hour this morain Program was RS c／w．KCRI－780 noted off MM $11 / 9$ but on MM $10 / 12$ ，dunno what exac $S P$ is but are off some MMs at any rate．Local KLOK－1170 definitely offMMs now，
leaving $V O A-1178$ in clear． $73 s$ \＆good $D K$ ．
BRUCE WINKEIMAN－ 1404 Alumni Place－Lawrence，Kansas－ 6604
report．Thing is，theren thased in a while so I thought it was about time to out of the DX picture so all DX veries in because I have been rather lazy in getting lar evening．Not too many cane from KIOA that really makes me hazy in geting reports out．However，a v verie I＇ve got．Shows there are me happy．That＇s only the second hand－written the repost \＆not just ship out a still some stations that take time to look over in include WOW KWKH communication＂type from WHO \＆KGIC plus the ubiquitous＂Thank you for your recent $-1130 @ 5: 24 \mathrm{pm}$ ，WDGY－1130＠ $5: 27$ ．11／5－WNBC 660 KSCJ－ 1360 ＠11：08pm．11／2－WIS Big Three＂on the EC logged，WABC WTBC \＆WCBS）．11／10－KWCO－930 gives me the
 KGNO－1370＠ $10: 31$ ，WIFE－1310＠10：48．WKBH－1410＠10：18pm，WNUS－1390＠10：28， 680 © 1：09am．Reports out to WDXR 48．11／13－WOOD－1300＠12：30am．11／14－KNBR－ puzzier on 11／5．At $5: 35 \mathrm{pm}$ I was sitting on 1600 KRLD WOWO KTUF．I had a real －o－in－－－o－Alabama，＂after the Mutual on 1600 \＆caught＂This is Radio Statio 1600 ，WEUP \＆WAPX，\＆both Mutual．However，Whyp The log has two Alabamians on Was WEUP off at the time？（Shoulin Hever，WEUP is listed as D－1，WAPX is U－2 to Joe Brauner \＆Don Share for their have been off that eariy－FRRC）Many thank to Joe Brauner \＆Don Share for their plans for a loop．I plan on building a mod mank bout in weeks．I plans over the much－awaited Thanksgiving break coming up a mod portable for all DX activity After what Nebraska did to K－State this weeken $\mathrm{D}_{a} m$ ．Texas \＆Chio State fans weekend，watch out Orrage Bow1！73s \＆D DAN ROMANCHIK－ 24249 Beierman＝Warren，Michigan -48091
15 years old \＆attend De La Saille Hi a DXing for a few years off \＆on I＇ve Although I＇ve been DXing w／tapesponding \＆I also have an int started to $D X$ the MW band．I mix my to the NASWA．My RX is a Iafayette HA－600（althougtereo systems．I also belong Drake SW－4 A）．My antemas are a Mosley SWL－7（hough I＇m coatemplating getting a spective loop builders：build your loop from（for SW）\＆a loop．A word to pro－ My first shot at building a least，it did not work．Some of my latest catches $R$ ．Nederland \＆to say the Hockey，WTAR－790＠ $9 \mathrm{w} /$ Squires BKB ，WAKY -790 ＠ $9: 30 \mathrm{w} / \mathrm{c} / \mathrm{kFI}-640$＠ $8 \mathrm{pm} \mathrm{w} / \mathrm{Kings}$ best catch so far is $4 \mathrm{VEF}-1035$ ，Haiti．I would like to report the Cubans are
back on the air as I hase logged CMQ－640 on 11／10． 738 and good DX．（Weicame 31 to NRC，Dan：We hope to have maxy Musings from you！－ERC）
JAN BURGER－van Blomesteinstraat 4a－Delft 2203 －Holland
Hello again from the town of the famous＂Dalf Blue＂．I recent ly It＇s a Marconi－1017， 12 tubes，w／a coverage of $40-4000 \mathrm{z}$ in five ot a new im almost restricted to $B C B$ only．It suits me well，for the RX is band．位 it gave me Maban．All verified by now，might as well report these to ImoD since this section seems to be short of them．NA is woce or less abseat this Fall．I have so far heard it only two or three nights \＆remembering last year＇s reception of the WCNA，there seems to be something wrong．I hope this doess＇t last all Winter！Especially aince I decided to take division＂A＂，In addition to＂E＂ which I joined earlier，after RjE＂begged＂me to do so（with anly two antrants unt11 then）．Latest veries include：v／qs from NBC－Enugu as 1320，RIV Koper， YUG -1169 ，Kabul－1280 \＆WCMN Arecibo，P．R．v／f in 28 days－1280．I got lso a very fine reply from AFN Kaisershautern－611：a $v / 1$ from the manager，as well as from the DJ on duty during 叫 reception，two huge photographs \＆a aice booklot on AnN Europe．It seems these guys never or almost never get reports，since everybody sends＇em to HQ in Frankfurt．Still no sign of the IRC Domestic Log． I sure hope it won＇t go the same woy as the New Member Kit which I never sam．Well that＇s all for this time．I hope to be able to report NA reception next time．73s

DAVE SCHMIDT $=$ WHOT -401 North Blaine Avenue - Youngetom，Clis -44505 Hello！，Well，if ERC wents reposts，I might as well put in my ac mount of a few lines or so．DX from this location is much different than thet of SE Pa．You get mucho less TAs \＆maxy more SAs．Presently I an situeted in a place where WMJJ－1390 is right across the street，\＆$W$／their sixetowex DA beaned right at this place，the field is probably in voits，hi！DX：MN1 $11 / 2$－Eणиल 1330 4：12－4：29em ET，report sent．11／8－KFDF－1580 6：12 $=6: 15 \mathrm{pm}$ s／oIf，vecy clear． $\mathrm{KLOF}-15806: 44 \mathrm{~s} / \mathrm{OfP}$ ）samd date．I also have heard things like WHBQ＝560（mo WFIL），WDAF－610（no WIP），a very weak WIBG－990＠SSS（ail WJOX／CBW here at aight） \＆XERB－1090 in clear as a bell．After the loop gets constructed some extro work goes into the 180 （shielding，to rid the set ofspurs \＆cross modulatica） things should get moving out here．If anyone wishes to drop sew Innes，please do．By the way，WCAU－1210 is not NSP－they are still going off on 10is ea 12：06， per sked．No sigm of the NRC Iogs in this area yet \＆let＇s everyone get an the CPC \＆work to show everyone that the NRC is just as good，if not better，than it ever was．Veries：Only one this far，WMIT $-1330 \mathrm{v} / \mathrm{m}_{\text {，}}$ so that＇s \＃I here．It seels strange to have to start over again，hi！Let＇s get the rest of the Youngstom gang in for some reports \＆let us stun the whole NRC．Remember，today Youngstom tomorrow Niles，and the doy after，New Castle！73s．

LARRY E．BLACK－ 4917 Mailbou－Bloomfleld Hills，Michigen－ 48013
I＇m sitting here writing this as the first sacw of the season falls outside．10／22－WIXZ－1360 Pa．in o／WSAI \＆otherfQRM．10／24－K01TL－920 Minn．popped o／CKCY © 11：57pm for \＃3 from thet state．10／26－WTa 1240 Va．very weak on $\mathrm{f} / \mathrm{c}$＠12：47am．WSGN Ala．\＆WSLS Va．both sharing 610 Ar ．耳o sige of WIP．10／27－WHUN－1150 Pa． $\mathrm{f} / \mathrm{C}$＠12：07．10／28－I was waiting for WDEM－1150 De1． but instead heard unn WCUE，Ohio．10／31－WBAY－1360 Wis．possibly．WBAY sounds an awiul lot like WSAI so I don＂t know for sure but I＇m hoping－no verie yet． 11／2－WQSN－1450 S．C．in I1ke a ton of bricks for most of the ifght． $11 / 3=$ WHRB $1190 \mathrm{~N} . \mathrm{Y}$ ．W／WOWO sounding reallyubad．Was this before or after the strille？ The usual CBF 11／10－Both WAPE F18．\＆WVOK Als．were making a run for it an 690 The usual CBF wasn＇t anywhere to be found． $11 / 9-$ WODI－1230 Va．DX TRSI in candy for about five words of an ID．Ong40，KFRE Cal．in quitewmell w／CRM on WWJ ORI． WRNI－910 Va．W／WFDF off \＆KFJZ－1270 Tex．W／WXKZ also off．I finaliy got around to Writing KITF－ 2190 Tex．but only got soot five mirutes on them beceuse e $2: 13$ an WGKA Ga．boomed in © $35 \mathrm{DB} \mathrm{w} / \mathrm{a} \mathrm{f} / \mathrm{c}$ ．11／11－WFIR－960 Va．ex－GDBJ in for new cells． And just a brief moment of WIRY－980 N．Y．O／WOXE．WAOK－1380 Ge．has been in moet

off．WJTW－1240 M．Y．was all that was heard on Fridey，the 13th．11／14－WHIS 1450 Mich ．in strong $\mathrm{w} / \mathrm{siopover}$ from WPaN（ $I^{\prime} m$ andy $\frac{1}{2}$ mile from the ir XR）．Al so CHOO－1390 Ont．in for about three minutes． 73
LARRY SHEagoLd－ 44 Hilisdale Avenue－Tenafly，New Jersey－ 07670
Firt Musing of a not－so－new member Hot much recent DX here： My $4^{\prime}$ spiral loop was totally destroyed when someone in the family koocked it to replace it，\＆very strange．I＇m working on a GFN style altazimuth box loop these modificati adding a mechanical filter to 叫 aging Hallicrafters．Together Mid－Winter Anomaly should great ly improve my DX，hopefully，before the dreaded ing onmer Grundiy，\＆also the skiling season，set it．Meanwilie I have been DK cise altazimuth aiming os it porta ABC－770 \＆1540， 820 ，etc．which happens fram＂horizon blocking＂in this marshy ble to COMPLETELY ellminate such pests as tenuate the N．Y． 50 kw 10cals（WOR a good portable RXes are lashington，all Soul， 80 Daytan， ／off $\mathrm{W} / \mathrm{c} / \mathrm{w}$ booming．WMCA （Welcome to the NRC，Iarry，belatedly to be regular an MMs．All times EDT． in these hallowed columns！－ERC）as you say，\＆we hope you＂ 11 be a regular

JGBN P．LOMBARDO－ 23 Grove Terrace－Inrington，New Jersey－ 07111

## 23 Grove terrace Inrington，New Jersey－ 07111

SSS．WRRE－1250 Mass．was S．C．The MM of $21 / 2$ Was neard on $10 / 29$＠8：46pm w／most of the QRM from WTMA in WPXY w／an ET © 12：30am w／mucho QRM from I have ever heard．It started off w／un $\mathrm{w} / \mathrm{r} / \mathrm{C}$ until 1．At 1：06 I hcho QRM from CBE．Then © $12: 46$ WEVA－860 Va．was hear they verify．At 1：37 I tuned to 980 to 10 Ala．W／their $\mathrm{r} / \mathrm{c}$ ending e $1: 15$－do la Tem．Was all slane on $1300 \mathrm{w} / \mathrm{a}$ good sion there W／QRM from WTAE © $1: 21 \mathrm{~m}$ ．On $11 / 6 \mathrm{c}$（as e 2：25．On 11／5，CHWO Oat．was WABG＝1360 Va．\＆KFVS 960 Mo．WDLA was heard were heard from WWBZ－2360 in N．J．， WSHN＇s r／c was heard on 1550．I have sent this 1 1e．on 11／8 I heard weak TT＇s on 940 ＠ 3.21 this station two f／ups \＆still no ver Could this have been they？（No，John $3: 21$ am to $3: 37$ ，the time of the GJIB TEST Some local TV \＆FM DXers may also know－WC members tell us CJIB used RS－mx－ERC） $10 c a 1$ WPAT was heard off the airo know what happened on 11／8．On the MM of $11 / 9$ able to get a good log orause of this I was an SSB around lam，did anyone in Buffalo \＆CFBC in St．John N．B．I also heard on 11／10＠6：05pm w／a fairly good signal WNDB－1150 in Daytona Beach was heard on 834 k e $10: 35 \mathrm{pm}$ on $11 / 11$ ．It was also heard on $11 / 12-13$ heard w／a good signal on in Bermuda was heard e 8pm．WNJH in Hammoat on，No 11／12－13．On 11／12，ZBM1－1230 here，but I plicked up their $\mathrm{r} / \mathrm{c} \mathrm{w} / \mathrm{plenty}$ of IDs on ${ }^{\text {is }}$ not heard in the daytime heard w／a r／c again e 1：15－1：30 on 11／14．IDs on 11／13．WCCR－1580 I11．Was KRMG WTRQ WARE WMAQ WPLB WEVA WRMG WRC \＆lived up to their call by verifying in three days！ 73 s ． KEN LYCN－ 9415 Goodrich Road

DX this week：11／8－Clarence Center，New York－ 14032
1440 heard＠ $5: 14 \mathrm{pm}$ w／much QRM，WRBC－1300 hea 3：28am very strong．11／10－WGIG on top of all；WOOD－1300 heard © 7：06pm w／TD e e 6：11pm w／spot for Protein 21 ， fade of WSAI．11／14－WCCR－1580 heard＠W／ID，WKMI－1360 heard＠ $7: 13 \mathrm{pm} w / r \mathrm{r}$ dur they changed calls from WKID．Veries $1: 15-1: 30 \mathrm{w} / \mathrm{r} / \mathrm{c}-$ IT ，first time heard sin and NO f／up！C U later．
MAIT ZARNER
BCB Editar，NNRC－ 7224 Gough Street－Baltimore 21224，Mary land
Re inquiry of Dave Copeland（ $10 / 10 / 70$ ）about the land Ma．station on 1270 ．I was recend（10／10／70）about the call of hary and some one © WUOK．They have NOT used the ly in the W．Ma．area \＆stopped in to see hae call WKYR for about three years．Nothing

In their $10 g$ indicates the call kKYR was used by any member of the amouncing istaff on $7 / 24$ or $9 / 12$ ．They cculd offer no explanation，$\&$ indeed，re－affimed that their call is still wUok．I trust this info is useful to Dave．（Themk you，Matt．for your interest in this－NRC appreciates it：－ERC）

DaVE WHaTMOUGH－ 284 Main Street West－Hemilton 12，Oatario
Now that the first inch of snow has fallen yesterday， $11 / 15$ ， colder $W X$ is here maybe I＇ll have more ambition to DX．So par I＇ve doae very 1ittie．DX to date：MM 10／26－Cae new one，WEEL－1310 Fairfex heard for a fou minutes during silent period of CFGM who were ETing w／OC．MM 11／2－Great CX to
 3am．KORL－ $650 \mathrm{w} / \mathrm{S}-5 \mathrm{signal}$ ，still no trace of KY AK．WWSF－ 1400 Loretto，PE．EY－ ing w／TT \＆ mx 12：36 \＆on，testing new 1，000 XR．WHYN－560 Holyoke，Mass．heard briefly w／WGAN \＆KMON＇s ET／祭 for new catch．KMCN were EPing from 2：30－3 w／Marty Robbins＇＂Gunfichter Ballads \＆Trall Songs＂album．Two newies an 920－WGST Ga．\＆ WMEG Fla．，the latter appears to be AN RS w／fantastic signal．Thet＇s five new ones in one morning，so things are looking up．Sun．Hov．8，WMCW－1490 pounding through CHMM all afternoon．In fact，all of NW Pa．better than formal．12et 12／26 WHHY－1440 $1 \mathrm{am} \mathrm{s} / \mathrm{off} \mathrm{w} /$ excellent signal．They must switch to day flattern to $\mathrm{s} / \mathrm{off}$ as they weren＇t there a few minutes before．Veries since last report－v／q－ITRO CBU．v／r－WWYO WADD．v／1－WKSN WEFH WWDC WFSR WGUS WCBA WITTC WEIM \＆WWSF from NRCer Pat Flanagan．Thanks，Pat．Totals now 1，608／789．73s \＆best of DX．

MORRIS SORENSEN－ 591 Hervey Street－North Bey，Ontario
I＇ve，managed to get home to Fmsdale Oat．several times since wo Last repart \＆here made a few new loggings．In September I added WwLE－1170 IN．Y． to the $\log$ while in October I received WMAN－ $14000_{0}$ ，WFEA－ $1370 \mathrm{~N} . \mathrm{H}_{0}$ \＆WVSC－990 Pa．CX were highly Auroral between $5: 45$ \＆ 1 lpm an $11 / 7$ \＆ I added two long－ sought Mid－Western clears to the $10 \mathrm{~g}-\mathrm{KRLD}-1080 \& K V 00-1170 \mathrm{w} /$ the usual WTIC／ WWVA completely absent．I also heard EE religious programing on 830 which ment have been 4VEC Haiti（previously logged an 890）．I also noted Las on 540 （umn XEWA） 670 （probably unn YVLL） 730 （unn XEX） 760780800 （um PJB in like a locel $\mathrm{w} / \mathrm{no}$ trace of usuliliy powerful CKIFi）， 830 （SS u／4VEC \＆very weak WCCO）， 834 （umm R．Belize for the first time since 1965） 890940 （probably unn XEQ）1040， 1290 （very strong at times in SS but I couldn＇t catch ID）\＆ 1200 （probables min Yoz）． Sorry I don＇t have more detalls on these loggings but I don＇t have ny loge up here W／me．QSIs have come from KRSI－950 M1nn．（f／up）WSBT－960 Ind．CJIC－1050 anto （f／up）WWLE－1170 N．Y．WANN－ 1190 Md ．（F／up said they had no record of my previous report）\＆WDEE－1500 Mich．for reception of last Feb．，no f／up）．I haven＇t had time for any serious DXing here in North Bay．I have heard about 60 stations in casual listening but nothing worth mentioning．I would like to welcome my good friend $\mathbb{T}$ im Kerfoot of Western Ont．to the NRC，\＆to thank all those who have writo ten to me to exchange American stamps for Canadion cnes． 73.

DICK TRUAX－ 5101 Tamarock Drive－Charleston，West Virginia－ 25312
DX continues here at almost a record pace after a sather slow Sumer season．10／24－After much phasing \＆retuning of loop I was finally able to null two－mile－distant pest WKAZ－950 \＆log WYWY Ky－s／off © 7：01pm EDT．WGTA Ga．s／off ＠7：14，WSPA S．C．w／FB \＆ID © 9：01pm \＆lastly，WGOV Ga．w／ID \＆RN R B B B 9：20plat 10／26 saw good opening to $\mathrm{W} \mathrm{W} / \mathrm{KMIS}-1090 \mathrm{Mo}$ ．B／off © 6：30pm EST O／KSIS MO．B／OR゚ then KFMJ－1050 Okla．© 6：35pm w／ID \＆religious progrem．Best catch of eve was KFA－1360 Ark．W／Mutual NX \＆ID © $7: 35 \mathrm{pm}$ o／pest WSAI． $10 / 27$ daw WPXC－ 1410 Ala．W ad \＆SID \＆rr O／WING，very similar to WITG／KQV／WPOP trio on frequency，\＆easy to mistake for them． $11 / 15 \mathrm{saw}$ first full strength Aurora I＇ve：witnessed this eeasch B／offe © Fla．W／ID \＆NX © 5pm，WTAI－1560 Fla．w／SID \＆c／w e 5：06，WDET－1520 Ge． 8／off © $5: 29 \mathrm{pm}$ ，WBBR－1580 S．C．s／off＠ $5: 30$ ，WAOA－ 1520 Ala．W／AEA KXX \＆ID © $5: 35$ pm，KUPK－1050 Kans．w／wX \＆ID © 6：15pm \＆into $\mathrm{c} / \mathrm{w}$ ，wMC0－900 Tex．s／off e 6：30 u／ R．Barbados of all things．R．Trinidad－730 in nicely \＆all alone e 6：4tpme w／ID \＆ CT W／female announcer．So much for my luck at the dials．A few notes on local CPs：WPNS－1080 Hurricane，W．Va．has not materialized yet but WKEP Pa．is now al most local listening level w／its new 50 kw signal；no sign of WVKY－l270 Louisa，Koc

JOAN W．HOCGERHEIDE－ 3 Marquette Drive－Marquette，Michigan－ 49855
11／1－Not too red－hot CX toalght，SS completely absent from band． 880 had a weird one 1： $1: 45 \mathrm{am}$ in EE which turned out to be a weak CKY Wimapeg．What set of harmonics could blend to produce a CKY harmonic fram a station 600 miles away is beyand me．（Could it have been a new IPRT？－ERC）On 1380 an ET／mox was on weakly looping $S$ ．The man had a southern accent \＆I believe a K call as ID was given © 2：27．They left air＠ $2: 30 \mathrm{w} / \mathrm{no}$ further ID．Did any one catch this one？Good ID Prom R．Eco，Mexico，D．F．on 1380 ，thanks to ERC＇s help last week in DX NWWS．Thanks，Ernie．This © 2：35．CKY 880 ＇s harmonic略111 on e 3 so not an effect of CBW．11／3－I had KMGR－1580 Columbia Mo．© Gpm w／appereat s／opf．11／4－Enteresting AM－CHAB－800w／6：55am s／on－GSQ，then long－ sought CFOB $-800 \mathrm{~s} / \mathrm{On}$ I\＆C $\mathrm{w} / \mathrm{SSB}$（not the Canadian anthem）© $6: 57$ \＆into a religious progrem until 7．This is not a fluke as it＇s second M in a row this was heard． Those of you in the mid－West should be able to 10 g this one as SSB is distinctive as well as $\mathrm{s} / \mathrm{on}$ time of $6: 57$ am．M 11／9 was quite Auroral．I set alarm for $2: 15$ \＆noted maxy hets \＆squeals in the $650-700 \mathrm{k}$ range．An SS on 88 g was playing flute mx \＆Indian mx like I heard in SA，definite ID as Peru © 2：45am，\＆1Bo an ANAS on 925 （3） $2: 45 \mathrm{w} /$ orgen wx，\＆one on $675 \mathrm{in} /$ out $\mathrm{w} / 670$ hets \＆WMAQ OC，all very weak $\mathrm{w} /$ little chence to ID them．A weak SS carrier on 855 \＆then a definite weak TT s／ off（3） $2: 45$ on this frequency．Is the Peruvian AN here？Then a weak SS a 21 alone on $540 \mathrm{w} / \mathrm{SS}$ 眐，probably needed R．Tropicana unless there＇s someone else AN here． Too weak to ID．Then a great shock on $1230 \mathrm{w} / \mathrm{clear}$ ID（3 $3: 10$ for WJOY in Burling ton，Vt．on AN Show＂．And Was WSAM -1400 loud © 3：10：Only second time heard． Someone on 1100 w／US pop mx © $3: 20$ ，no IDs or voice between records so must have been a test．WKYC，w／ID © 3：30．Then long－sought CKCH－970 in FF on ANI $u / W W S W$＠ $3: 30$ ，never heard before．Someone else weakly w／KinOS $3: 30-3: 45$ ，but fady，on 940 I caught only Four Freshmen＂Moments to Remember＂＠3：32，probably CJIB．
DARRYL BELAKGER－Box 495 －Swan River，Mainitoba
Hi，\＆greetings from the Northland from a new NRC member．As an introduction，I ${ }^{8} m$ 26，married \＆have a $2 \frac{x}{2}-y$ ear－old son．DX－wise，I hatre been DXing BCB since 1963 but mostiy other interests have shortened the smount of $D X$－ Ing I have done．DX totals are $387 / 151,32 / 35$ states， $6 / 6$ provinces，one country． Best DX catch from Swan River is WBBY－1230．Recent loggings since $8 / 23$ are KVOX－ 1280，WICX－1490，KJRB－790 KPKKA－1310．Only good anes lately are 10／25，CHEC－1090＠ 10：30pm o／u KING w／rx；Seattle Totems＂hockey on KING．Unn CFRR－590 heard 10／31＠ $5: 30 \mathrm{pm}$ with Flin Fion Bombers hockey，only second time heard．Only varie lately is a nice $v / 1$ from KFKKA．I am an avid card swapper \＆awap one－for－one at $100 \%$ ． Other interests are SC collecting，stamps，PP cards．I hope to report more often If new $D X$ is heard．Thanks to Ken Iy on for the nice welcome to NRC．One ques－ t10n：What news network did CFAM，Altona，Man，pick up from U．S．，it is NBC？RX here is AGS－38 commaications RX \＆very inefficient $3^{\prime} 100 \mathrm{p}$ ，hi．73．（Welcane to the NRC，Darry 1！We all hope you＇11 get thet new DX so you＇11 Muse often！ERC）

DR．RICHARD E＇s WOOD＝Louishana State University and Agriculture and Mechanical College－Baton Rouge，Louisiana $=70803$
All our congratulations should go to Jerry Conrad for his ploneering work with the Beveridge（not＂beverage＂）antenna．This anteana was first developed by Beveridge an Long Island，but with the crowding an L．I．\＆elsewhere in the U．S．today，it had fallen into disuse in this country．How，the idea has been re－imported from New Zealand，where it has been in continuous，successful use for many years．I venture to predict that Jerry＇s momes will not remain the only ane in use by a U．S．DXer for much loager．I myselp am pestering the local farmers \＆hope to get launched into some experiments soon．Jerry＇s initial results，with remarkable re ception from Hawail，Australia，\＆the California coast，strongly reinforce the picture I obtained of reception from Hawail，cutting，under normal CX，a wide picture I obtained of reception from Hawali，cutting，under normal CX，a wide swatch across S．Cal．\＆Mexico，over being \＆down into Fla．Florida was a regular state from HI，\＆now an get a Beveridge going here I ．ia．A very nice proof of reciprocity． DXing，as Baton Rouse no local graveyarders．My phone is 504－343－7771，after 5pm \＆late evenings best．

FRANK WALDRCN－ 65 Lakeriage Drive－Matawan，New Jereey－ 07747
Well，I＇m back．I must say that the Convention was an experience to be remembered，even if it was unreal．Reviewing the new and／or significant DX in the past half－year shouldn＇t take long．MM 5／11－CJSA－1230 topping WNOR dur－
 ing $F F$ ， $1: 32$ by aulling WXYZ．Then 27－CJG of importance till $9 / 11$ ，wich found CBT－540 usually topping w／a local Ir nothing of importance till 911 ，which found CBE show between 11－12pm．The show originated from Grand Falls \＆the calls CBr were being used，no CBC programing heard at all．They sald they＇d be on till 3 am $10^{\circ}$ cal time $w / r r$ ，so watch for this on Fridgy evenings Saturday AMs．Same time， CBEF－540 heard weakly fading in／out W／FF CBC．MM 9／28－KS0－1460 noted off＠1：16 o／u AN WBNS．1：50，an assumed XEMO－860 in fair w／rellgion，unn．10／ 15－A much tried－for station finally IDed in KFU0－850 © 7：39pm w／cl mor \＆plea for $\$ \$$ for theKFUO Comunity Service program．Some QRM from usual WEEU／WJW／WEDE， though KFUO did dominate at times． $10 / 18$－WANN－1190 easily heard w／ReB（3）6：15pm due to local WLTB silence．MM 10／19－I caught the tail end of WLAP－630 s／off © 12：06，then cut．TT from the W during KXEO－1340 r／c time，but too buried Por any possible IDs．11／3－TAs hetting many frequencies in the early eve．I got same audio from one on $548 \mathrm{w} /$ weird singing＠ $5: 05 \mathrm{pm}$ but soon lost to a loudening 550 With the selectivity 1 have，that wa s actually quite an accomplishment． $11 / 4=$ The new WKLX－1350＠1：598m w／rr during a really phenomenal Tidewater opening． 11／8－Excellent Auroral－type SSS CX．WTQX－1570 clearly topping without any QRM W／rr e $5: 40 \mathrm{pm}$ ，WCRL $1570 \mathrm{~s} /$ off $u / W L Q X ~ s / o f f e 5: 44$ ．Last but not least，one of wy best SSS atches ever in KPCA－1580 Ark．clemrly atop 5：56－6：01 H／Arkansas
 State Network $N X, B / O f f$, then Jose Feliciano＇s
this paper．CU NThe Bay State $11 / 28$ ．NICE To see you AGAIN，GLOHZ－BGK

BRUCE BENNETT－ 82 Norman Lane－Levittom，New York
Hi all！I am now in the process of getting my DXing shack in ore der for the new $D X$ season．I sm still looking for an $R X$－either the Hamarlund HQ－200 or the Realistic TRF portable．A nice wide price range．Does anyone kand where I can buy a Q Multiplier and／or if possible，how to install it in a TR portable？Look out，friends－I just joined the NRC Domestic DX Contest．Receat stations taped are WLIB s／off © $5: 30$ each day，WNYC s／off，\＆WIJR s／on © $611 / 15$. Can anyone help me out w／a list of Cuban Radio stations \＆frequencies？I collect \＆SWap EBrse WPE DX QSL cards．QSL just received from CKEC N．S．，珻 fourth prom \＆ince veried．My totals are now $243 / 94,25 / 20,4 / 4,5 / 3$ ．I am still trying to get ZNS \＆have tried at SRS \＆SSS \＆in between．No luck－I just receive WPTR WRCP \＆sometimes KXEL．Morn of $11 / 18$ when I came back from play ing a hockey game at Skateland（where the Rangers work out）I received WQXR w／OC © 2：15－2：30 \＆af－ ter．I also heard a station on 1070 ＠ $2: 15$ having a test．All I heard them say Was a test on 1070．Any ideas？I w111 probably be going up to Canada（Montred or Toronto）for a few days in early January．I will be playing hockey with my school，against another school up in Canada．I hope to find time to DX \＆possibly meet some Canadion DXers． 73 s －Go Rangers．

JOHN H．SHANNON－ 498 East High Street－Kittanning，Pennsylvania－ 16201
Hello gang．In response to ERC＇s implorement（if there is such a word）for Musings，here is one．I have just completed my best DX day ever． For my first 184 stations logged，I have no specific date or time．After that （since $7 / 29 / 63$ ）my best calendar date was $1 / 17 / 65 \mathrm{w} / 16$ new loggings．On 11／16／70 I logged 20 new ones，including Country 揓3 in Honduras，HRVF－640．I am now just five shy of the 1,300 mark．My foreign $D X$ is in IDXD．The domestics were $12 / 160$ WMEG－920 Fla．2：35am，WPJD－1550 Tenn．2：48am EI，WWIN－1400 Md．3am，WBIR－1240 Tem $3: 46 \mathrm{am} \mathrm{r} / \mathrm{c}$ ，KCMC -740 Tex． $4: 30 \mathrm{am}$ ，WBSC -1550 11：06pm S．C． $11 / 17-$ WVIA $A=1590 \mathrm{x} / \mathrm{c}$ 3：46am r／c，KCMC－740 Tex． $4: 30 \mathrm{am}$ ，WBSC－ 1550 11：06pm S．C． $11 / 17$－WVA $A-1590 \mathrm{r} / \mathrm{c}$
1：26am．I gave my old loop to Exic Di Ricco，who is having quite a time with it． We had a lot of fun the night I took it over to him．I hate been worining on a couple of DXers in thy ettsburgh area trying to get them to join NRC，\＆I think I have won one of tiem over．Not really too much news to report here．I have one \＆lot of thinking about weys of improving my $R X$ ，but not much action．I＇d he interested to bear from any DXers who enjoy building their om gear．Maybe can
trade some ideas. I have been going through my old QST magazines looking at the pinding a good noise limiting or silencing circuit. Very 73 \& good $D X$ to all.

ROBERT LIGON - 539 North Firestane Boulevard - Akran, Ohio - 44301
H1 agein! DX: $11 / 5-\mathrm{WFAB}-990 \mathrm{Fla}$. on top w/rr e $4: 44 \mathrm{pm}$. 11/10-WSJC-810 Magee, Miss. w/rr \& CKIW slop ( 50 kw in a town of 3,000 ) @ $5: 32 \mathrm{pm}$, WTIX$690 \mathrm{w} / \mathrm{rr}$ @ $5: 55 \mathrm{pm} \&$ power cut $\mathrm{w} / \mathrm{CBF}$ on top, KOKA-1550 La. weak $\mathrm{w} / \mathrm{rr}$ @ 6:12pm, KOMA-1520 OKla. strong w/rr © 6:22 \& fade @ 6:27 w/WKBW on, top. I need help -ith this one, unID-580, strong w/religious program. Could this be WIBN? DX was SW that aight. 11/11-WMAZ-940 in w/poor signal \& rT © 5:09pm, WFNC-940 N.C. in WMAZ fade w/rr © 5:15pm. ZNS-1540 Nassau in good w/CBC SW NX, several spots, \& mx © 6:06-6:30pm. 11/14-WICY-1380 Fla.w/rr on top w/Al Summers Show w/Hit Par ede 70 © midnight, thanks to Tim Davisson for tip. 11/15-WPDQ-600 Fla. w/NX \& much static B 12:45am, WLAY- 1450 Ala. ET-rr, must not be NSP as NRC log suggests © 1:22em, KPLC-1470 La. W/ID \& WX © 1:31, WTOC-1290 Ga. W/WX \& MOR © 5:19pm, WIOD -610 Fla. far u/WTVN W/ID © 11:30pm, BAGN-610 Ala. 2/RKO jingle (just 1ike WOR-FM 's on-the-hour jingle/ID), is WSGN owned by RKO General? -TY mX. 11/16-WBIR1240 Tenn. on top W/ID \& MoR © 12:14am, WIST-Im 40 far u/WBIR © 12:15am. I must say that CX haven't been the greatest but the Southern DX on $11 / 10-11$ \& $11 / 14-15$ 16 has been quite interesting. Let's just hope it will go back to normal. If not, पy favorite nighttime rocker might be WFLI or WPDQ, hi. Veries: v/q- WVOK WFBC. v/1- WMAST WJER. Reports out to: 2NS WFNC WMAZ KOMA WTIX WSJC KAAY. Far overdue: WRYT R. Belize WIXY WSLR KOA CKPR. Totals: 414/132. 73s \& good DX!

DON EGGERT - Box 134 - Crown Point, Indiana - 46307
11/17. Hi. DX has been pretty good for me so far this year, so it looks like I'm due for a good year if things hold up. Since starting a new log here on 9/13/70 I've heard 570 stations from 45 dtates. I need Idaho, Wyo., Del. Vt. \& Alaska. I'm hoping someone will arrange TESTs for those first four, \& may be I'll hear Alaska in KYAK-650.: Rog Winsor heard last year about this time. Veries of late are $v / 1-$ WCOX (CE is a DXer) KORC KLOE KGMS (CE is former BCB DXer \& now a ham). v/q-CFRW CBZ. v/f-KINS \& v/r -KIIT KSVP. As I was telling Rick Evans the other day, \& perhaps it is reflected in my veries above, I am hearing many more $K$ calls since I've moved about 50 miles $W$. I didn't really think it ${ }^{\text {' }} \mathrm{d}$ make a difference, but it evidently does. Now to DX: 10/29-WAYD-1190 © 6:14 s/ off "Dixie" w/WOWO looped. 10/30-Good SSS. SFNC-940 @ $5: 34 \mathrm{pm}$, WNAD-640 © 7pm s/off after CBS NX, KLOE-730 @ 7-7:15 s/off, \& KCSG-1500 whom I think was on late for October © 7:28 s/off. 10/31- WRYM-840 "Rhyme Radio" © 5:12-5:15 s/off. That gives me all the domestics heard on 840 from South Bend \& here. 11/1- I caught the end of WFMD-930 ET/TT @ 1:11, KCCR-1240 end of r/c @ $1: 30$ really QRMed, WFDR1370 © $2: 29 \mathrm{etc} / \mathrm{ET} / \mathrm{mx}$ pleying same record over \& over. I later caught WPGC- 1580 (8) 5 pm s/off. MM 11/2- One of my better MMs in a while. WPLB- 1380 end of $\mathrm{r} / \mathrm{c}$ © 12:14, WROC-1280@ 1:02 s/off, KYA-1260@ 1:32 after WIXY s/off w/phone show giving \# for $\mathrm{S}_{8 \mathrm{~A}}$ Jose \& the city, along $\mathrm{w} / \mathrm{WWDC}-1260$ who appears to be AN MM, CFRW1470 AN-rr © 2:08, KKGF-1310 @ 2:25 TT IDing frequent ly \& giving calls siown perhaps a r/c as others have heard him check. Unusual to hear KCMS -1380 \& KRKO 1380 fighting it out e 3 w/KCMS $3707 \mathrm{~s} /$ off \& KRKO AN-rr, WPRA-990 4:02 s/on-SSB $\mathrm{w} / \mathrm{EE} / \mathrm{SS}$ ID \& into SS mx. Later my first N.H. in nearly eight years, WHEB-750 @ 5 :18pm W/NX. Boy, was that cause for celebration! WKVI-1520 Knox, Ind. is now on RS as of $11 / 8$ \& Rog Winsor tells me by phone that WWCM-1130 has made the switch from 1380. I see the NRC IOg has omitted WBEL- 1380 who is definitely on as I hear them here in day. I'll be in N.C. O/Thanksgiving to catch all that exotic southern DX \& other goodies we'd like to hear here. Phone here is 219-663-8046.
PAUL KILROY - 2100 Brooks Drive - Suitland, Maryland - 20028
DX of late has been very poor \& with the advent of various Auraral CX, prosperity is definitely not "just around the corner". The new NRC Domestic Iog is fantastic; the best yet. One oupdate is in order: Change CKBC-1360 to s/on (e) 5 instead of $5: 30$, unless the parenthesis means the times are variable. Latest catches: 11/2- WSAR-1480 Mass. had ET @ 1:43am. 11/16-CKBC-1360 N.B. in with a
fantastic signal during six $0^{\circ}$ clock newscast (8) 5am. WTOB-1380 N.C. w/TOP 40 © fantastic CJRS Que. hemra © $5: 22 \mathrm{am}$ briefly \& very weak, mixing $\mathrm{w} / \mathrm{stateside}$ sta5:10am. I had occasion to visit this station on a recent trip into Quebec. It tions. a occupies a avilable. It is 24 hours FF .
CEORGE B. SHERMAN = 104 Pinewood Circle - Rosemount, Minnesota $=55068$
DX has been fairly good lately. The TAs are statting to return, w/audio heard on $764 \& 1586$ \& hets heard an $1034 \& 1214$. I've been DXing most 1 y SRS because I haven't tried it much before. 10/8- WIVS-850 II1. s/orf w/ KFUO QRM e 7:15. 10/11- WCOX-1540 Ala. heard w/11stenint \& XR test e $2: 25 \mathrm{w} /$ QRM from ZNS RS \& KXEL OC. 10/12- Pest local WWTC-1280 had a silent period. Figt time I've heard them off this year. Only unn KTLK-1280 Colo. was heard. 10/28-WHBT-1600 Tenn. f/c-mx except (e 4:31, WERE-1300 O. very good w/no QRM (3 5:12; WFYC-1280 Mich. o/looped local WWTC © 6:06am, \& I thought 1280 was a non=DXable frequency here! WDOW-1440 Mich. very good o/KEWI © 6:20am, WPGC-1580 Md. except $0 /$ CLIS W/rr e $6: 25 \mathrm{am}$, \& heard a few days later on a pocket RX! WDQN-1580 III. in the mess © 7:03 s/on. 10/30-KCCV-1510 Mo.s/off o/u WLAC/KTIT © 6:45. 10/32 WKFE-1550 P.R.W/R. Cefe ID @ $4: 35 \mathrm{am}, 250 \mathrm{w}$. \& $0 / 2,000$ miles! WAAY QRM. WTMG -860 Ga. good W/CJBC OC © 5:45; WAFT-1480 Mich. © 6:07 o/QRM; WSKT-1580 Tem. s/on © 6:45 \& WIIJ-1580 Tem. s/on @ 6:50 o/QRM; WIFF-1570 Ind.e © 7 W/c/w, good signal; WVIN -740 II1。@ $7: 39$ am /fair signal \& KBOE QRM; WCIL-1020 IIl. © $7: 30$ o/WPEO, now I've heard all 1020 domestics. MA 11/2-WSUN -620 Fla. very weak © $4: 23$, CKCX always blocked them out before. I was walling on 780 (3 $4: 55$ or so for 2BVI who had s/on @ 5. I thought I'd better catch s/on because I ve had this as a tenta five reception mary times, nut they don't seem to ID very offen. That's country
 22, P. Was \#25. Still on $11 / 2$ heard wand-1410 Mich. W/TY/
 on in $E E$ w/SSB @ 4:05; WWXL- 1450 Ky . f/c @ $4: 18$; then ID from WASK Ind. © $4: 23$, so mavbe their OC was on; HJMM-660 R. Uno in Call, Colombia, fairly good w/no Qra on my Realistic TRF portable e 4:43; WEN-770 Mo. a pleasant surprise w/10cal WCAL absent @ 7:10; then unpleasant surprise, WCAL s/on blasted ny eardrums, hi. 73 \& more DX soon, hopefuliy. I am now at 1,052 heard.

FISH - Lincoln, Nebraska
CX continue to improve as static is finally leaving the Great Plains. A few TAs have been logged but LA/SA CX prove to be the dominant mode of DX here thus far this season. A disappointment in the 665 split is the recent showing of the potent Guatemala station whose audio is terrific. This one is armchair copy almost all evening right up to $\mathbb{T A - t i m e s . ~ S R S ~ s h o w s ~ t h i s ~ o n e ~ s t i l l ~ b l a s t i n g ~ i n ~}$ thus Lisboa I has competition in the early mid-evening hours. The frequency counter idea is in effect here, but have you ever thought of an HP312A Wave Analyzer as a DX RX? A beauty I assure you! That's a beauty of a frequency counter that three cycle slot marking center of bandpass is quite the thing! If you come up with workable circuiting - how about putting it in DX NEWS? Patterns by Hart is good material thave done that type of thing for quite some time. Technial material is always welcomed here. KECK has been given all recent f /up reports \& it's up to the new CE \& his staff now.

STAN MORSS - Route 3-Bradford, Massachusetts - 01830
11/9- WODI-1230 Brookneal Va . on DX , TT \& military mx from 3:2lam on, some QRM. WKBQ-1000 Garver N.C. 3:46am, c/w TT \& one meager announcement. DX suffering more than usual due to defection of $100 \%$ of migrant work force that had contracted to $11 / 20$ \& family illness. Veries from WKLX \& WCVU, evidently a new engineer as very prompt \& nice specific veries. DJ © WCNL says one early AM report from Nebraska - did not mention any others. HCNL got FM grant so he is in for a fulltime job - WCNL is sister station of WOTW Nashua \& WDNH-FM, Dover. I note KONO has bought WOAI, so some kall changes due there.
BACK TO WEEKIY AGAIN UNIIL THE CHRISTMAS WEEX BREAK. WE WILL PROBABIY ADVAACE OUR PRE HOLIDKY DEADLINE TO WEDNESDAYS DUE TO THE SLOW MAILS AT THAT TDEE OF YEAR
ocal radio finds. KRO-710 now off e 3:04-8am EST Mon-Sat, still aN on SMs eligous prospand And continues aN alternate weeks $\mathrm{w} / \mathrm{TT}$, much like it use to do years ago for Civil Defense. Them, KIRO and KOMO-1000 alternated runniñ the TT but KOMO cont inues AN RS now. KSND-1590 has changed to KUUU and is 24 the TT but KaMO continues $\operatorname{AN}$ RS now. KSND-1 yo has Inged finally received the new $\operatorname{NRC} \log$ and it is very good. I was almost sorry to see that old $\log g 0$ after turnine the crank uku-thousands of times getting that out several years ago. I have a list of 274 changes I have gleaned from the old log that were not include in the new one. Who gets such a list? (Russ Eamunds -ERC) Most of these changes have been taken from Broadcasting or other sources, \& some are CPs, some are on, \& probably many have never been acted on. Plus, some error corrections. Log now totals 225, nothing spectacular. $11 / 21$ brought s/off @ 7 pm EST of KBRV790 Rge sprinici 7;04pm, KMME-740 Boise, w/rr, and newscast of KSPD-790 (formerly
 kEST) © 7:02pm. KOIN-1330 Redding, Cal. e 7:e0pm w/comnunity ruliet in board. w/TSPer KTAC-850 nearby. I am hoping to get started on the loop soon. My father is going to build the frame \& we'll take it from there. $23^{\circ}$ this morning wich is cold for Seattle \& a skiff of snow yesterday which is also rare. 73s.

KKN IYON - 9415 Goodrich Road - Clarence Center, New York - 14032
Anyone who is a member of NASWA must know by now that our editor and publisher Mr. William Eddings had a serious heart attack on $10 / 16$ and was rushed to the hos ital where he is now recovering. Bill spent long hours on the builetin to get it out every month without fail, just as does our Boston crew. Anyone tho wants to send him a get well card may do so. (Address on DX Specials Page ERC) Bill will be glad to receive a card from any DXer regardless of his club affiliation. One verie this week, wAVE v/q. C U later.

HEARD SINCE LAST ISSUE
790 K S P D EX-KEST
800 K Q I N Burien, Washington
1000 W K B Q Garner, North Carolina
WRAR Warrenton, Virginia
WREM Jenkins, Kentucky
1170 WH IW Now on RS
1190 W A M B Donelson, 'Tennessee
1400 WW S F Now 1,000/250 U-1
1520 W A R R Warrenton, North Corolina W K V I Knox, Indiana
1600 W J N J Ex-WKKX

## 1130 WW CM Ex-1380 "AN" SITUATICON

OFFS. 710 KIRO Mon.-Sat, alternate weeks - is AN-RS SMs, has TT other weeks 1050 XEG 1170 KLOK (Ms only) 1280 WDSU 1450 WLAY
aNS 1320 KXYZ $\quad 1590 \mathrm{~K} \mathrm{U} \mathrm{U} \mathrm{U} \mathrm{(both} \mathrm{apparent} \mathrm{ly} \mathrm{NSP)}$
ERNEST R. COOPER - 438 East 21 Street - Carrier Route 23 - Brooklyn, N.Y. 11226 veries do not exist. MM 11/16= Log and report on XEDF-970, way atop here till his s/off e 2:58am. There's an RCN Colombian AN u/WIP-610, not enough yet for a report. R. Carrousel-655, Guayaquil, logged \& reported, 3:© $-3: 5$ lam, weak, but loggable. Another new SS on 970 for me in $3: 55 \mathrm{am}$ s/on of R . Central, Caracas, logged to $4: 14$, with interference from WHN-1050's 970 spur (on top) then Central, then WWSW. A beautiful log on HIMS-570, R. Cristal, the one who DXed for us last Winter but who was obliterated here by then ANMM WMCA, is another one of my IPCs (Iead-Pipe Cinch) @ $4: 16$ beginning of IS, to $4: 31 \mathrm{~s} / \mathrm{on} \mathrm{w} /$ Dominican National Anthem, up/down w/R. Rumbos, Caracas - both are so loud they prevent any logging of 570 5am domestic s/ons (if any). WKBas? Pffft! Clarin-
860 \& Continental-890, both in Santo Domingo, noted s/on with anthem (e) 4:58.
SM 11/22- Unn WTRQ-1560 noted ET/mx u/ WQXR's OC e 12:43am. Log taken on R. Clarin-860, AN, \& strong, on top. MM 11/23-Still not enough on Guevena-560 who s/on e $3: 43 \mathrm{am}$ \& give 5 am time pip e $3: 45 \mathrm{am}$ EST. Who is $\mathrm{SS}-730 \mathrm{w} /$ few announcements dominating from 4:19 tune-in till 5 am fade? I noted Venezuelan National Anthem on 580 @ 4:37am whilst looking for Jamaica's s/on, but L\&C WKAQ, R. Reloj, was te loud to $\log$ the Maracaibo station, or Jamaica. 11/26-R. Clarin-860 was AN todavo Who had long low-pitched TT on 1500 2:45-3:05 \& on \& on? Not WTOP, but on top.

It's bitter cold where you are.

FLORI-DX
( or ERBA - S.E.)
holds its first official session in Uleta and Ft. Lauderdale on December 27, 1970 AD.
Activities include DX'ing, rag-chewing, FLORI-DX initiation Last chance before the airlines a temporary bever-

> Beveridges and beverages

December 27, 1970
-Orlando
See Jerry Conrad's
long-long wire!

Tampax Haines City

Bour your
veries, rx, etc.
of this world:

Bring hike their fares:
iage on Haulover Beach, big-name personalities, December 27, and fun, fun, fiun! If you're coming (and you are) immediately contact:

Ronald F. Schatz (ERBA in exile) 510 N.E. 158th Street
North Miami Beach, FL 33162
Phone: AC 305-945-4915
or Richard Clark
4110 Bayview Drive
Fort Lauderdale, FL 33308
Phone: AC 305-564-3594


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