

SECRET
MEMBER WHO
DX CLUB
Fidelity-1968 (1968)
34 issues per year
\$18.25 Annual
\$10.00 First Class
\$7.50 Third Class

DX News



OFFICIAL PUBLICATION OF THE
NATIONAL RADIO CLUB
P. O. BOX 28
CAMBRIDGE, MASS. 02138

VOLUME 38

JANUARY 23, 1971

NUMBER 14

* "Enclosed is \$10.00 to RENEW my subscription to DX NEWS for 1971. It gets better and better and better." (Paul Kilroy, Wash.) * * *

IN THIS ISSUE... *



THE CLASSIC AURORA OF DECEMBER 14TH - G. Nelson & P. Taylor
FIRST INFO ON ~~INDONESIAN~~ MW STATIONS! - Lars Ryden
LOGGING THE 50 STATES REVISITED - Russ Edmunds
NRC HQ TESTS THE "SPACE MAGNET" - HQ Crew

MORE NEW MEMBERS THIS WEEK... *

- *Fred Tankersley, 1526 Pershing Blvd., Dayton, O. 45910
- *Gary A. Baughn, Ward 13, Tripler General Hospital, c/o APO San Francisco Francisco, Ca. 96438
- *Jerry Osborne, 763 Canterbury Ave., Ottawa 8, Ontario
- *G.L. Draeseke, 1599 Angus Dr., Vancouver 9, B. C.

Welcome to the NRC, gentlemen, we'll be mailing out your new member kits later in the week. Why not write into Musings and introduce yourselves?

RENEWALS THIS WEEK... *

- Dewey... Hardester... Duffy... Ligon... Bowers...
- Northup... McClain... Phillips... MacGill... Borowski...
- Richmond... Allen... Hunt... Kureth... Botzum...
- Buczynski...



NRC LA LOG IS COMING - DETAILS SOON IN DX NEWS!

DX CALENDAR

		kc/s	watts	A.M. E.S.T. Info:
Sat. Jan. 23	W M N C	1430	Morganton, North Carolina	1,000 2:00 - NNRC
Sun. Jan. 24	K O A M	860	Pittsburg, Kansas	10,000 1:05 - 1:30 TEST
Mon. Jan. 25	W S S C	1340	Sumter, South Carolina	250 1:00 - 2:00 NNRC
	W P A Q	740	Mount Airy, North Car.	10,000 ?? ?? TEST
Mon. Feb. 1	W H I P	1350	Mooresville, North Car.	1,000 3:00 - 3:30 NNRC
Fri. Feb. 5	K O R N	1490	Mitchell, South Dakota	250 2:25 - 2:40 IACA
Mon. Feb. 8	K S R M	920	Soldatna, Alaska	5,000 4:00 - 6:00 NNRC
Mon. Feb. 15	W S T P	1490	Salisbury, North Carolina	250 2:30 - 3:00 NNRC
Sat. Feb. 20	W K K E	1380	Asheville, North Carolina	5,000 1:10 - NNRC
Mon. Mar. 15	W J M X	970	Florence, South Carolina	1,000 2:00 - NNRC
Mon. Apr. 26	W G B G	1400	Greensboro, North Carolina	250 2:00 - NNRC
Mon. Feb. 15	W D E L	1150	Wilmington, Delaware	5,000 4:00 - 5:00 NRC/IRCA

Notes. W M N C. Reports go to Mrs. Madelyn Y. Patton, Program Director, WMNC, Box 969, Morganton, North Carolina, 28655. This is an NNRC TEST, yet WNJR - in Newark! - will be on their RS AN show.

W S S C. No info at hand on to whom to report.

W P A Q. Mr. Grady Pike, engineer here, says they are having transmitter trouble & will be testing frequently on Monday mornings. He'd appreciate DX reports & comments on his signal strength, etc. No definite dates/times, but keep watching this date, and subsequent Mondays. Should be easy in East & Midwest, with only the Cuban to interfere. Info from Martin Blumenthal, NRC.

LIST OF A.R.A. LEAGUE BASKETBALL STATIONS - Charles Mohr, NRC

Carolina Cougars - WSOC-930	Memphis Pros - WREC-600
Danver Pockets - KOA-850	New York Nets - WGEB-1240; WELT-1200.
Floridians - WGES-710	Texas Chaparrals - KRFD-1080
Indiana Pacers - WIRE-1430	Utah Stars - KALL-910

Kentucky Colonels - WHAS-840

It's possible there might be supplemental networks with some of these.

J. A. WORCESTER - R. D. 1 - Frankfort, New York - 13340

At this writing I have sold to NRC & IRCA members over 40 SPACE MAGNET ferrite loops. No one has returned one. Many have written to say how pleased they are. One member initially registered disappointment but subsequent correspondence indicated he had mistakenly connected the ground wire to the antenna post of his set & the antenna to the ground. After correcting this, he too sent a nice card saying how pleased he was. In the DX NEWS for 12/19, it appears that another misconnection has resulted in a damaging official NRC report. The shield of the SM-1 is conductively connected to the braid of the output cable which is the ground lead. I think any rational person will admit that if something is "hot" it cannot, by definition, be grounded. The shield of this loop was reported as "hot". Since it was compared w/the NRC FET loop having a balanced output, it can only be speculated that the output lead of the SPACE MAGNET was also connected to the same terminals. Taking the shield off ground in this manner will, of course, make the shield "hot", rendering it useless as an electrostatic shield, thus producing noisy output and poor nulling. In addition, since the amplifier was not designed to feed a balanced, push-pull type receiver input, the signal at the output leads tends to buck itself out. Under these conditions, a 25 db reduction can be expected. However, when I went to school 25 db was about 10 times, not "more than 100 times" as reported. Last lightning strike thrice, I would like to caution all loop purchasers to connect the output lead carefully. The lead inside the rubber covering should connect to the antenna terminal. The bus wire attached to the outer braid should connect to the ground terminal of the receiver.

MUSINGS

of the Members



Ernest R. Cooper
438 East 21st, Brooklyn, N.Y. 11226

BLAKE LAWRENCE - Box 803 - Canon City, Colorado - 81212

Two foreigners heard this week: PJB & YNX had the distinctions of being my first foreign countries heard outside of the U.S., Canada & Mexico. 12/18- XEPZ-1190 Cd. Juarez w/R. Mexicana IDs @ 6:50pm, KMPC-710 Cal. @ 7:13 w/MoR, unID-680 @ 7:27pm in SS, played "Black Magic Woman" in EE, please help with this one. Sat. AM 12/19- 990, unID EI/TT from 1:33 on, very strong at times over KTKT; KBY-1240 w/ID @ 7am. KBBQ-1500 Cal. w/c/w u/KSTP @ 6:52pm. 12/20- VOA-1180 back with the best signal yet @ 7pm ID, YNX-750 w/lots of "Equis" slogans @ 7:03pm. 12/21- XEHL-1010 w/SS mx φ. "Radio H-L" IDs @ 4:18am, KJR-950 Wash. w/rr @ 4:25; CFRB-1010 Ont. w/subdued MoR @ 4:34, PJB-800 w/IDs by TT @ 4:42 u/CKIW, confirming a longtime unID; KCMC-740, Tex. w/c/w @ 4:43, CBL-740 Ont. w/MoR @ 5:12 at least I think this is they w/EST TCs & mentions of Toronto. XEOR-670 presumed to be the SS u/KBOI/WMAQ - any other possibilities? UnID-660 w/R. Setenta (or Sessenta) IDs & SS - I thought this was XERPM but IDKD lists their ID as "R. Juv-entud"? Who can this be? (This is also an XERPM slogan, Blake - ERC) 12/22- KUPI-980 Id. w/Christmas mx @ 6:13pm. 12/23- KBMI-1400 Nev. ID @ 1:14am, KEEP-1450 Id. w/ID @ 1:30. ERC, how can XEAO operate in Tijuana w/KDEO operating in nearby El Cajon, Cal. on the same 910 frequency? (My error, Blake - XEAO is in Mexicali -ERC) One verie, WHO. I am now at 520 heard. None of the 12/21 TESTs heard here. Why is every other TEST in North Carolina? 73.

DARRYL BELANGER - Box 495 - Swan River, Manitoba

Greetings from the Frozen North (31° below this AM 12/21). I've got my Christmas present early & it didn't take me long to fire it up. The new RX is a TRIO 9R-59-DG and man, is it an improvement! CFAR in Flin Flon which had been heard only twice previously is now an S 7-9 regular day & night. Some new DX since last Muse are: 11/8- KFBK-1530. 11/9- CJSN-1490. 11/11- WSWW-1590 @ 10:04pm w/Bucs BKB; KROC-1340 @ 10:57, NX & ID. 11/13- KTSU-1300, KOL-1300 & KPUR-1440. 11/29- KLOV-1570 @ 6:04pm to 6:28 w/mx & ads. Engineer days (12/7) they'll be on 1,000w in 45 days. 12/6- KGYN-1210, 11:33-12 s/off completely over WCAU. I could not hear WCAU until after KGYN went off. 12/13- KIMI-1270 @ 8:01-8:42 o/CHAT & others, finally, for a report. 12/9- KBLL-1240 @ 1am s/off, too weak & fady for copy. Also 12/13 KRG0-1550 @ 6:45-7pm s/off (S/off not listed in log). (Darryl, daytime stations' s/off's vary each month, so obviously we cannot list all 12 -ERC) Totals now 399/157 w/veriss: KFBK KROC KPUR KLOV. Help! On Sun. 12/20 I was monitoring 860k & heard an FF from 1pm EST on w/a fantaxtic S 7-9 signal, looping SE. No IDs on hour, only dead air preceeding & after one tone, indicating the hour, & between programs. Dead air lasted from 30 seconds to one minute. Only thing near an ID was "Tci R. Canada". One DXef I know says this is CJBC Toronto but I can't see receiving a station over 1,000 miles away at noon local time w/a strady S-7 signal for hours! There is an IPRT in Ste. Rose du Lac about 130 miles SE of here (CBXF). Can the IPRT experts help me out here? (I'm no expert, Darryl, but CJBC makes IDs & IPRTs do not -ERC) It was about -20° so a 40w signal could really carry far. That's about all for now so I wish everyone in NRC loads of good DX in '71 & best of '73. Is there a ECB station relaying programming from an SW station whose slogan is "R. Tricolor"? I would like to know what country this might be as I have no up-to-date SW logs. (That slogan is used in Mexico & Colombia, for two - what frequency is the ECBer on? -ERC)

KEN LYON - 9415 Goodrich Road - Clarence Center, New York - 14032

DX this week: 12/22- CHEF-1450 heard @ 6:04pm w/FF, ID @ 6:05 w/QRM from CHUC. 12/24- WADD-1560 s/off @ 4:28pm w/SSB, very strong, o/all. Two veriss this week, KOAM-860, a very nice v/l, v/q & CM from the CE, & WRYT-950, a homebrew v/f from the NRC. I'm glad I can close that one out, as it has been hanging for a year. C U later.

STANWOOD R. MORSS - Route 3 - Bradford, Massachusetts - 01830
12/20- WMAJ-1450 State College Pa. 5:30am on AN Show topping
1450. 12/21- HCAW2-975 Guayaquil, Ecuador good @ 2:14 but unkn. WHN/CHUM/XEG
all off 1050 & CJIC tops @ 2. Grenoble strong for a few minutes on 1349k 2:15,
not enough for a report though. TT on 1450 at 2:39, but no ID - WIZS? C/w on
570 u/WKEN w/Tennessee Ernie Ford @ 3:02am & on?? XETRA topping 690 @ 3:30 -
rare. Verie, CJRC.

GEORGE KELLEY - 118 White Street - Belmont, Massachusetts - 02179
The Christmas Eve Special from TIRICA-625 with their new 1 mega-
watt XR just didn't flash; someone much have forgotten to plug in the 6,000 mile
extension cord that's connected to the Aswan High Dam. DX: 11/17- WVEC-1490 Va.
very good @ 2:20am w/soft MoR on the "Music Till Dawn" show. WDAK-540 Ga. w/fair
signal u/CBT/CBEF @ 5:45pm. 11/23- Signal on unkn Ukraine-1546 @ 12:15am was in-
credibly strong! Very good high-band openings that morning, no new stations
heard though. 12/6- WSCV-1050 N.H. logged fair o/looped WHN @ 4pm WXX headlines.
12/7- Italy-1115 (Pari plus six stations) w/great signal @ 4:20pm. 12/11- WKNX-
1210 Mich. heard w/ID, then into rr @ 4:25pm, good signal w/WCAU looped. 12/24-
WVAM-1430 Pa. on top of everybody @ 4:40pm w/rr. WHAG-1410 Md. w/business re-
port @ 4:45pm o/u WPOP. 12/25- YNS-555 good @ 12:20am. Jay Murley flew into
Boston this past weekend and the HQ crew really enjoyed meeting the ERBA/SCECPO-
SDDX representative. It had been some time since Jay had driven in snow; so the
last we saw of Mr. Murley he was sliding backwards down the hill known as Irma
Avenue. 12/28- WEEB-990 N.C. w/great signal @ 1:03am on TEST. UNID-570 this
morning playing comedy albums @ 3:45am u/c/w station which I guess was WKEN -
any ideas on station with comedy album? Goodnight.

TIM KERFOOT - 34 Cross Street - Weston, Ontario
I haven't been Musing much lately, partly because of lack of time;
partly because I am lazy. But mostly because of lack of DX to report. In the
thank-you department, thanks to Ken Lyon for the U.S. stamps. If anybody needs
Canadian stamps for return postage, just send some U.S. stamps and you will get
an equivalent number of Canadian. DX-wise: 12/8- WPUV-1580, 12:20-12:30am on
r/c. 12/18- WBRV-900, 12:30-12:45am r/c nicely through CHML. 12/22- WHWB-1000
4:14-4:31pm; WDR-910 4:43-4:47pm. 12/23- WCFR-1480, 12:04-12:07am on r/c; WMC-
570 1:18-1:27am; CKCN-560 1:32-1:45am. Two new QSLs: WCRV-1580 and WPUV-1580,
who sent a thank-you letter, a lint brush, as well as a v/q. My WRYT report was
rejected because of lack of info; I had lost most of the log I took on that TEST.
Best of luck to all in '71. 73.

ANDY KERR - Box 322 - Creswell, Oregon - 97426
Greetings from the land of rain. I just got my loop working a couple
of weeks ago. It works fine. I just got done mounting a vernier dial on it. A
heap of thanks to Dave Fischer for all his help. I also just completed an anten-
na tuner for 540 - 6800k (about). If anyone is contemplating building a tuner &
needs a good set of plans, he can borrow mine. Overall cost was about \$11.
Next on the project list is an MW trap to tone down ultra-local KPNW about 150db.
After bartending for the folks' New Year's Eve party, I figured I would tune a-
round a bit. No new loggings, just everybody wishing everybody else a Happy New
Year. After about 20 minutes of listening the prog started to get to me so I hit
the sack. In that time I did listen I heard: KCRL-780, not as strong as usual,
WCCO-830 I&C, CFGP-1050 & CBU-690 were really dominant. One last thing - if any-
one owns a Heath GR-78, please write and tell me your likes and dislikes. 73s.

DAVE COPELAND - (visiting in Atlanta, Ga.)
I'm staying in an HI surrounded by XRs of WAOK WPLO WIIN, two TVs,
and others. (David - for shame! -ERC)

PLEASE REMEMBER TO DOUBLE-SPACE YOUR MUSINGS REPORTS AND VERIE SIGNERS LISTS.
EVEN AFTER ALL THESE MENTIONS OF THIS WE STILL GET AN OCCASIONAL MUSING IN SINGLE
SPACING. IT IS ROUGH ON THE EYES HERE, MEN - PLEASE GIVE ME A BREAK - THANKS!

LARRY E. BLACK - 4917 Malibu - Bloomfield Hills, Michigan - 48013
I hope everyone got the new RX he wanted for Christmas. 12/6-
WPGC-1580 Md. fair to good. I've heard them several other times too. Might be a
good log if you look there. Things were slow 12/7. New WAMB-1190 Tenn. testing
o/KLIF. XERB-1090 B.C. weak w/religious program. They have a nice v/q. 12/11-
Something behind WSM, probably KORL, so a tentative report out. WAWV-990 Va. s/
off. CE said mine was first report from Michigan. 12/14- WKIX-850 N.C. TEST ve-
ry strong @ 1:01. WELI-960 Conn. r/c good @ 1:10. 12/15- There has always been
something behind semi-local WMPG. I had the patience to listen this time. It
turned out to be WCWA-1230 O. WMVR-1280 O. caught after WOAP s/off. 12/16-
WTPR-710 Tenn. dominating w/no sign of WOR on SRS. That evening WENR-1090 Tenn.
on SSS. They've also been heard a few times since. Much wanted WNOE-1060 La.
strong w/no KYW. 12/17- KSKY-660 Tex. s/on heard (about five words). I wrote
them anyway, but CE said not enough for a verie. At least he replied - that
shows an interested CE. I could have heard more, but KOZN Neb. s/on cut them to
pieces. Verie said KOZN was using 500w PSA at the time. 12/21- New province of
Alberta logged, CFAC-960 & CJCA-930. It was -27° in Edmonton that night - wow, &
I think out plus-17 is cold! CJCA is a good bet for Alta. as they were also on
12/28. WLEE-1480 Va. fourth Richmond station. WAZY-1410 Ind. TEST through, w/
little WING. Long wanted WSUN-620 Fla. heard. CKLC-1380 Ont. also on. 12/22-
WLDS-1180 Ill. o/WHAM. WNRV-990 Va. s/off in porry. WTEY-1590 Conn. in but was
soon covered by WAKR. 12/28- I never really believed it possible until now: KRDS-
1190 Ariz. like a ton of bricks o/KLIF. That's all there's room for. Bob Hurt
might be down 1/22, semester break. C U then. 73.

BLAKE LAWRENCE - Box 803 - Canon City, Colorado - 81212
The arrival of a new set of headphones has made DX a lot more
pleasant lately. At least it won't wake up the rest of the family at Jan from
now on, hi! Here's what I've heard: 12/24- KLIF-970 Neb. w/ID @ 6pm u/KFEL;
KCNW-1300 Okla. w/c/w @ 6:18 a/KVON, and a surprisingly good signal from KANQ-
1350 N.M. which blasted semi-local KKNM off the dial @ 6:53pm, though unkn here.
12/26- UNID-1190 w/good MoR signal lost at apparent pattern switch @ 5:55pm u/
KLIF/VOUS, WMO? Also WBAQ-790 Wis. @ 6:33 pm. SM 12/27- KFOA-990 Cal. w/rr, BK
@ 5:15am, XERB-1550 Tajana @ 5:44, then a real surprise & W First split, 4VNR-
1035 Cap Haitien, Haiti w/detailed EE ID @ 6:30 after religious mx, very clear,
country #6. UNID-1040 w/SS mx, woman's voice, fofofo, then @ 6:30 following
this program, a man began a long spiel and an EE ID @ 6:31. Colombia? Um MUGY-
1130 w/Drake rr @ 4:18pm, KOLB-1570 Okla. @ 6:05 & several UNIDs w/very little
info. M 12/28- KBYL-970 r/c. CFM-1470 w/rr @ 4:37, poor signal, XRW-1280 good
for listed 600w, w/call letter ID @ 5:42am. KXKI-1520, my first from Crygun,
showed up weakly @ 4:30 ID, then semi-cl mx. UNID on 1030 had R. Centro IDs after
long pause @ 5:50am, strong - XERB? I thought they ID'd as R. Mil. (R. Mil is
XERB-1000 - "hill" is SS for "thousand" -ERC) XER-960 Nuevo Laredo @ 6:48pm 12/29
w/EE rr & SS talk. I now have a supply of KTIK SCs as well as some from KIMN and
KDZA, please write. Anybody who wants to strike up a correspondence please write
also. I am now in IRCA & am enjoying the benefits of the two greatest MW Clubs
in the WORLD! One verie, a short v/1 & two CMs from KBOI. Holdouts: WWL-870
KMOX-1120 KV00-1170 KIXZ-940 KSTP-1500 & KOMA-1520. Are these normally good veri-
fiers? What am I doing wrong, hi? So long from the "Climate Capital of Colorado"
Canon City! 73.

THOMAS R. SUNDSTROM - Box 205 - Willingboro, New Jersey - 08046
WEEB-990, Southern Pines, N.C. heard 12/28 w/ID @ 1:30 dur-
ing TEST, but tape sounded distorted & nothing after 1:40. I suspect WING OC is
culprit. WKIX-1350 Portsmouth, Va. heard 1/3 4:30-5 w/listed NRC DX, but no spe-
cial announcements or programming heard (on tape). It appeared to be RS operation,
excellent signal here. WIMR-800 Camden, N.J. apparently operating w/reduced power
PSA a s/s on each day is now 6am, normally 5kw. I will call & check some day.
They had made suggestions that this would be this past Summer. 73.

PLEASE DON'T FORGET TO DOUBLE SPACE. THIS DOES NOT APPLY TO MUSINGS ON POSTCARDS!

DAVID GLEASON - WUNO - Box Q - Hato Rey, Puerto Rico 00919

Saludos. Witness the return of a DXer. Admittedly, few have heard from me since the exciting Denver NRC Convention (Yes, Ed, there was a Denver), and most do not even realize that I exist. So, therefore, onward; I was once a real live DXer (50 states, 2,000-plus veries, etc. ad nauseum) and have hopes of at least partially reverting to same. I admit that I am not terribly well equipped, in that I have no receiver, but that never stopped some of us. I am going to have an HQ-180 or something similar shipped in as soon as possible. I also plan to build an FET loop, and perhaps a digital frequency meter. I am presently managing WUNO-1320 in Rio Piedras, P.R. So I can be blamed for another AN-7 operation. I also continue to hold the eight or nine stations in Ecuador. Locally, WRSJ-1190 is no longer AN, WAPA-680 is AN except most MMs. To add a comment or two on the DXer-Verie Signer polemic, having myself signed veries for a number of stations, such as HJED-820, without working there, I feel qualified to state that the DXer is generally a far more qualified person than the staff of most stations, and is not going to QSL an incorrect or flimsy report. I'd like Ed Krejny's address and Zip Code. 73 to all. (Welcome back to DX NEWS, David! How's about a half-hour dedication of AN-RS on a MM to NRC/IRCA? -ERC)

JOHN E. LOMBARDO - 23 Grove Terrace - Irvington, New Jersey - 07111

DX has been fairly good here. I managed to meet my goal by reaching 500 heard before 1971. On 12/17 WICK in Pa. was heard w/an ID on 1400 before fading. The WNAK TEST was heard here w/calls mentioned from Bruce Bennett & myself. The WGOE TEST was in here rather well w/calls over the air from Bruce Bennett, Harry L. Helms & myself. I picked up another split on 12/21 w/Cuba being received on 845? At 3:17 WQAM was on through WFIL w/an ET. At 3:30 I picked up WKIG-1580 in Ga. w/r/c ending @ 3:34. WANT in Richmond was in there @ SSS w/their s/off @ 5. 12/22- At 4pm I tuned to what I thought was WDEL-1150 but I was surprised to hear it suddenly s/off as WGHM in Skowhegan, Me. WKAR-870 Mich. was in well @ SSS until they s/off @ 5. KOA was heard here for the first time in almost a year @ 10:05pm. I didn't do much DXing on Christmas but I did hear CFOX in there w/a rather good signal so I decided to send them a report. At noon I finally heard WHLW-1170 in Lakewood N.J. on RS w/a very weak signal w/WWLE QRM. 12/28-WCBG-1590 in Pa. was heard w/r/c 12:01-12:15. WEEB was in here w/a good signal w/a good signal w/a call mentioned from Sheldon Swartz. WFMJ in Youngstown was heard w/a very weak signal @ SSS w/heavy fading. WASA in Md. was received @ SSS w/their s/off right through local WEVD-1330. On 12/29 WBAZ was heard again w/another ET @ 1:37. On 12/30 * received KGMO-1550 on r/c again w/a very weak signal between 1:11-1:23am. WGVA-1240 N.Y. was heard w/QRM from WSNY @ 1:28. WRKL-910 was heard w/an uncoisted f/c between 12:03-12 14am. WINF-1230 Conn. was #500 heard here w/their s/off @ 1:02am. WMTR was on w/an ET @ 2:40. On 1/1, CHEX-980 in Ontario was heard for the second time @ 4:45pm. Recent veries include WNAK and WRYT from BGK. Thanks, George! Congratulations to Mr. & Mrs. Bill Alisaukas Jr.!

RD2 J. ALEX BOWAB - OI Division - USS Forrestal - FPO New York - 09501

Dunno when WHLH-1400 quit ANing, but they're now silent 12:35-4:30am daily. There would appear to be a correlation between this and the fact that WRAP, Tidewater's only other Soul outlet, quit AN within the past year - an example truly worthy of imitation. But you must hear Big WHLH's s/off announcement - about four minutes are expended extolling the virtues of all stations in the Spiedel Chain; then power is given as "one million milliwatts" (oh come now!) I recommend verifying WOAI-1200, if you haven't already. Owner of KONO-860 is buying it, subject to FCC approval & his simultaneous disposal of 860. The smart money says KONO calls and format will go clear-channel, so WOAI may become an extinct call. Daytime DX was good last month - 'twas unusual to hear a Northwestern FB game on WMAQ-670 around 3pm on a Saturday in November. I was at sea 100 miles E of Delmarva at the time!

DUO TO CIRCUMSTANCES UNFORSEEN WHEN WE ANNOUNCED OUR RETURN TO A THURSDAY DEADLINE THIS ISSUE WAS CLOSED OUT IN BROOKLYN BY YE ED ON WEDNESDAY, JANUARY 6, 1971.

ANGEL M. GARCIA - 17 Fort George Hill - New York, New York - 10040

Greetings! After several weeks of inactivity I was surprised to turn on thw RX & find unusually good reception to LA on MM 12/14. Several low-powered Colombian & P.R. stations were heard in addition to the HCJB TEST which managed to get by WLW & WOR. Recent veries: XEDD, Andorra-818, Portugal-665 & Poland-1502. Dave Copeland: XERH verified on the back of an XERH/XEHH/XERR business card two years ago; XERH specified, fortunately. You may try addressing your report to A. Arsenio Tuero C., Director General, address per WRTH. In reference to the Great Circle Maps article in a recent DX NEWS: A memo issued by the Dep't. of Commerce states "Effective Oct. 9, 1970, the N.Y. Field Office, National Ocean Survey, formerly Coast and Geodetic Survey, will move from 90 Church Street N.Y. N.Y. to Room 11 (Mezz.) 30 Rockefeller Plaza, N.Y. N.Y. 10020." At a personal visit to their new office I was informed they no longer handle the distribution of charts. Chart 3042 is available from the Hammond Map Service, Inc., 1 East 43rd Street, N.Y. N.Y. 10017 (Phone 212-MU7-5675). Another source of supply of the maps listed is from the N.Y. Nautical Instrument Service Corp., 140 West Broadway, N.Y. N.Y. The price for #3042 is still a good ole 40¢! Best of DX in the New Year. 73s.

BRUCE ZUCKERMAN - 3 Suburban Road - Clark, New Jersey - 07066

Greetings from the gome of WNJR's hets, WOR's Jean Shepherd's Fan Club (about two houses away) & last but not least, WBEH. I've been a member of the NRC for about one year but I've never Mused, so a short introduction is in order. I'm 17, a senior at Arthur L. Johnson Regional H.S., and have been DXing since I was around 10. I'm using a Hallicrafters S-120 & a 75' copper longwire antenna running NE/SW. I just got back from a week in Mexico City, & DXing from there was interesting. Most kids there listen to XERC-790, which has a format similar to WABC, but more pleasant than WABC. Now let's get to DXing. WNAK TEST not heard. WKIX TEST in very well 12/14 @ 1-1:15. WCAZ Ill. noted testing w/TT, ID @ 1:30, one minute before WIBG started TTing. XEOY, R. Mil, Mexico, D.F., noted w/air signal w/WCFL off. That was at 1:33. WAMB Term. heard testing w/jazz @ 1:52. Almost all above were heard 12/14/70, as well as WPRA, P.R., s/on weakly @ 3:54, but first from P.R. Reports out: WKIX WCAZ XEOY WPRA WAMB WMFJ & WIRV. Recent veries in: KFAB WIP KNX KVOO KRMG & WEPT. 73s & Merry Christmas & Happy Hanukah! (And Happy Musing from now on - we hope, Bruce! -ERC)

JOSEPH FELA Jr. - 150 Robert Place - South Plainfield, New Jersey - 07080

Recent veries are v/l's from WPUB-1130 W DAN-1490 WBRX-1280 and WEEP-1080. Also a v/f from WLOR-730 & v/qs from CJOE-1290 & WPIC-790-TEST. Now 992 veries here w/no "instant veries". Recent DX: 12/13- 4:05pm, CKNX-920 on top for first RS reception from them (they were previously logged on a DX); 4:15, self dom heard WEAV-960 on top; 4:38 CKOX-1340 ID noted in passing; 4:45 CFTJ-1110 s/off; 4:55 WOKY-920 noted, which is rather unusual at SSS; 5 s/off WKAR- 870; extremely strong (I wonder how many DXers have been over-looking this easy SSS catch now since it is 10kw?) 5:29 s/off WSSA-1570; 5:30 s/off WSKT-1580; 5:56 CFCF-600 rather than the Cuban was ripping up WICC, a pleasant change. 12/14- 1:30am WDAE-1250 ID u/WTAE, 1:31 WAMB-1190 on another ET/mx; 2:35 WMID-1340 on AN; NSP now? 2:55, WCOG-1400 starting NX, QRM from WFTL w/gucg IDed @ 3; 3:02 s/on "Ondas del Caribe" (YVMV)-1150 (even I couldn't miss it!); 3:33 WINA-1420 ID on ET; 4:17 WWXL-1450 strong on r/c-TT; 4:28 WILM-1450 DX; 4:40 WLLL-930 ID on ET u/WPAT; 4:59 WSGA-1400 s/on. 12/19- 12:07am s/off of pirate WUMS-1340 noted; 12:15 WBKC-1560 TT; 12:40 WFSR-1380 TT, probably a f/c, used many code IDs. 12/20- 4pm, WHLW-1170 first noticed on RS, a big S-3 (which is the same strength as WDEL-1150 about 50 miles further in distance though); 5:14 s/off WNOG-910. During December, WTHE-1520 was noted signing off @ 4:45 & WHWB-1000 @ 4:30. In both cases, wasn't this 15 minutes past their correct s/off time? 73. (Odd, for WLIX-540 signed off @ 4:30 in December -ERC)

BE SURE TO GIVE CALLS & FREQUENCY OF YOUR CATCHES, AS WELL AS DATE AND TIME!

STEVE KAMP - 6149 Monteverde - San Jose, California - 95120

Veries: v/q- KSO-1460 Des Moines & KAST-1370 Astoria Ore. v/1- KQIK
-1230 Lakeview, Ore. & KBRE-940 Cedar City, Utah. v/r- KNAK-1280 Salt Lake City.
v/f- WACO-1460 Waco, & v/r, KUEN-900 Wenatchee, Wash. DX here: 12/18- KASA-1540
Phoenix good SSS w/religion @ 7:05, till 7:17 s/off; KPOL looped. KOBY-1550 Reno
also good SSS 7:25-7:30pm s/off. KBLF-1490 Red Bluff 8:52-9pm. 12/19- KIRV-1510
Fresno SSS w/local spots 6:48-6:51pm. 12/20- KPQ-560 Wenatchee, w/MoR 5:16-5:30
am. MM 12/21- WDAK-540 Ga. ET w/TT & rr 2:43-3am; KUJD-1450 3:09-3:16am, r/c from
Great Falls. KEWI-1440 Topeka s/on @ 6:05, rr till 6:14 tuneout. WGEM-1440
Quincy, Ill. fair 6:34-6:38 w/Ae NX WX ID & MoR. 12/22- With KABL-960 off, I heard
KOOL Phoenix & KALE Richland, Wash. KPUR-1440 Amarillo 5:25-5:37am. SSS, KBRV-
790 Soda Springs, Ida. @ 6:25-6:32pm, KSVN-730 Ogden, U. @ 6:57-6:59pm s/off, and
KGMI-790 Bellingham, Wash. @ 7:28-7:33pm. The Worcester Loop arrived here 12/21
PM. It is very sensitive & directional, probably second only to the GPN Loop. I
think GPN got stuck w/a faulty unit as I don't have any problems with the aluminum
shielding. 73.

ROGER GIANNINI - 180 N B. St., Scott A.F.B., Illinois - 62225

(30 miles from St. Louis). Random checking on 12/1 @ 1pm found
CX quite fantastic. WCCO was at near perfect reception w/just a trace of KBOA-
830. Their noon temperature was 39; pers, 72. WCCO remained like this for two
hours before f/out @ 3. At 3 I checked out 1030 & found WBE slightoy o/KCTA to
wualify record of Mass. for daytime state 13 (10am - 2 pm local time). KCTA re-
gained its composure at 3:17pm & dominated till s/off. I was finally able to
make a loop and it works quite good. I use a 4' spiral. I will build a few more
of these before I attempt to build the Admiral Loop. I am able to eliminate the
Cuban on 720 and get better reception of WGN. I will have to use the loop to lis-
ten to Cubs' nightttime BB because the interference from the Cuban is horrendous.
I can pick up KFI after looping out CMQ-640 as early as 6pm on most nights but I
can't eliminate the splatter from KXOK-630. On MM 12/7 I had KORL-650 at good
level @ 2:30am so I went fishing for 4QD-1550 @ 3am & @ 3:30 I found an SS that
was very weak & playing light instrumental mx. I have this on tape if anybody
would like to ID this for me. KORL is on the same tape so records of the two sta-
tions can be compared. On 12/14 KAAV-1090 @ 12:30am played an FB record called
"Short Squashed Texan" (in reference to the Texas-Ark. FB game the next day) ha
ha. 73 & I hope that everybody has a Merry Christmas & Happy New Year.

ROGER W. WINSOR - 718 North Fremont Road - Valparaiso, Indiana - 46383

Not very much DX, as with the upcoming holidays, plus a busy
work sked. DX must take the back seat. I usually work a steady midnight shift &
SSS have been poor until recently, but now I have lost the desire to fight the
QRM. Since last time, only MM 12/21 to report. WSWN-900 Fla. again w/1/2-second
TT bursts & ID @ 12:15am. WBBQ-1340 Ga. noted beginning r/c @ 12:15 w/poor signal,
WRYD-1270 Ga. on ET/TT & low hums @ 12:30ID, even though local WWCQ was on the
air, but I hear they're a reluctant verifier, so no report. WLCY-1380 Fla. domi-
nant @ 12:55am w/Sermonette, then into 1 s/off. KWK only heard after that w/old
rr. Something has changed at KWK - St. Louis members, what gives? I finally
logged WYMB-1410 S.C. on r/c 12:56-1:01 s/off w/great signal. I missed the last
one a few months ago. This check is not monthly, I think. Mystery on 1170 in SS
@ 1:10 w/mx & long involved SS talk w/lots of cheering in the background. Back @
1:30 & gone, anybody catch this? WGAU-1340 Ga. on for r/c 1:15-1:30 w/fine signal
for a graveyard. They were the higher-pitched of two TTs. The other, I guess,
is KSID, although I never have been able to ID this one here. I also noted KIMS
-1480 Neb. on for f/c 1:40, usually fourth MM, so maybe a catch-up. A few veries
in, finally I am over the 1,000 mark w/WELF WAVU both v/1, PP/c from WLOT & v/cM
from KFSA. Only four reports out this month, so I won't have much coming back.
Usually I am in the full swing in the month of December, but this year I just don't
seem to care to DX much - I don't really know the reason why. I hope everybody got
WJRL in well. I have mailed them a reminder card.

ROGER SABO - 36 Bryant Street - Bridgeport, Connecticut - 06605

Recent veries received in the mail lately are QSIs from WNEW, which
was received in two weeks and WQXR which was received in five days. I have re-
ceived no replies from WPTR ~~WHOW~~ WLW. Does anyone know if they verify reports?
I think that I will start construction of the altazimuth loop any day now. This
should lead to many more logged stations.

ROY H. MILLAR - Box 851 - Everett, Washington - 98270

December DX: 12/3- KGMV-1450 Missoula, Mont. ID 6am, apparently
AN. 12/14- KRKS-990 Denver, ID at end of ET @ 5:29am. 12/25- KOFE-1480 St. Ma-
ries, Ida. s/off @ 7pm. 12/27- CKYR-1450 Jasper, Alta. s/on @ 7:59am. 12/30-
WVOK-690 Birmingham s/on @ 7:45am. Only verie in was from CBXY-1490, Falher, Al-
ta., 40w IPRT. This is my most distant IPRT being about 560 miles, although not
best on MPW basis. Of particular interest is the fact that they were not relay-
ing CHFA when I heard them, but rather a CBC/FF network. Note from CHFA says
CBXY relays CHFA 37% of the time. I don't know if AN MM or not, but if they are,
they would be only 1490 AN-MM under 1,000 miles at this time - no wonder I keep
working 1490 Mms! Recent DX NEWS article re Canadian IPRTs was highly interest-
ing. I suppose that next to "graveyard" DX this IPRT DX category would be my
greatest special interest- with CBXY I now have 19 of these CBC relays verified,
plus 50w CFPM, an RCAF outlet at Puntzi Mt., B.C. A phase of Canadian DX that
little has been published about is the military broadcasters, such as CFPM, & the
station in Senneterre, Que. (if memory serves correctly) on 1425k that some in
the E have. Above 1450k tapings bring total verified or taped thereon to 58;
CBXY brings 1490 to 43. As '71 rolls around, I note it is now close to ten years
since my last EC graveyard loggings. I believe coast-to-coast DX on graveyard
channels is still possible, but I'm not doing much to prove such! 73.

ERNEST R. COOPER - 438 East 21 Street - Carrier Route 23 - Brooklyn, N.Y. 11226

Fellow Brooklynite Dave Copeland was over here the other
night & he brought his Lancaster Loop with him and we tried it out on my HQ-180.
It more than DOUBLED the S-readings on most non-local signals here - and it con-
vinced me that I would benefit greatly by adding one to my DX Den, so one has
been ordered. It is very compact and neat, can sit on top of your RX out of the
way, and is easy to rotate on its spindle. One verie, plus a long tape, from
R. Central-970, in Maracay. Now, if I only had a tape recorder---! DX: MM 1/4-
On 540, two SSES noted @ 1:10; 1:20 or so one s/off w/Dominican Republic NA, so
it must have been R. ABC. The other was Horizonté, in Bogota. The WJRL TEST was
tough here - if that was they - as my neighbor had a late Chop Suey party next
door, featuring an old fluorescent light. Also chiming in with trouble for WJRL
was the over-modulated (apparently) WKEW with their AN Children's Hour. There
also seemed to be an OC atop WJRL. Much telephone calls heard - both ends of the
conversation, from Corpus Christi, Fort Smith (a girl) and c/w records from time
to time. A tentative to WJRL. They did mention calls of KECK and a station in
Mission, Kansas, so I'm confused. An rr tested on 1350 around 2:20, but no IDs
heard. Unn WIBC-1070 noted atop @ 2:45 on AN, NSP? On SM 1/3, I too heard
WKLX, but no mention of NRC while I listened - until they played ten straight
minutes of rr - I heard about 1/4 minute, and - to bed, disappointed that they had
apparently decided against any NRC dedication. The CE said yes, the PD must have
disagreed. 1/5- WJDM-1530 logged on second day of this call, ex-WELA, Elizabeth,
N.J., a listenable semi-local here. They're getting rr-er & rr-er, though.

"AN" SITUATION

ONS: 1260	W I X Y	Now NSP	OFFS: 850	W R A P
1450	K G M Y	SPU	1190	W R S J
1200	W O A I	NSP, MoR	1400	W H I H (off 12:35-4:30am daily)

Heard Since Last Issue

1170	W S N E	Ex-1410 kc/s.	1530	W J D M (ex-WELA, 1/4/71; rr)
1130	W P U B	Camden, South Carolina	1300	W X R L (ex-WMMJ)



SM-1

Reviewed



- NRC HQ

The next property we checked out on the SM-1 was the shielding; according to the flyer, it is "completely shielded from electrostatic noise". Loop antennas are shielded by surrounding the windings with a conductor which does not form a complete shorted turn. Circular aircraft-type DF loops are usually shielded with a toroidal metal shield with an air-gap someplace along the periphery and the SM-1 is shielded by the aluminum case along the outside of the assembly. **What are the effects of shielding a loop antenna?** The primary reason for shielding a loop antenna - and the reason why virtually all loop direction finders used for navigation purposes are shielded - is that shielding will reduce the pickup of very nearby electrical noise. By very nearby we mean just that: noise that is being generated so near to the antenna that the actual dimensions of the antenna become significant. Loops intended for aircraft and shipboard use have traditionally been shielded because their exposed locations tend to generate severe electrical noise due to static electrical discharges from the antenna structures themselves. Because the noise-generating discharges from navigation-type loop antennas occur very near the antenna, electrostatic shielding is essential to reduce the static produced by these nearby static discharges.

Electrostatic shielding of a loop antenna is not necessarily always desirable though. The presence of the shield around the loop winding reduces the Q of the primary pickup coil and results in a reduction of loop pickup of about 6 db (a factor of two). The exact pickup reduction depends upon the distance from the the shield to the coil, the width of the gap in the shield, the frequency, and a number of other physical and electrical parameters better measured than calculated... **Note that the roughly 6 db signal pickup reduction** introduced by the presence of the shield is effectively a reduction in antenna pickup; that is, the presence of the shield, local noise effects neglected, significantly degrades the signal to noise pickup of a loop in the event that the loop pickup and input amplifier noise levels are roughly the same.

To check out the shielding of the SM-1 we set up an electrically very noisy discharge tube at some distance from the two loops under test. This tube was a defective fluorescent bulb which generates very strong noise spikes; careful shielding of the power lines guaranteed that only near-field pickup took place. **At a distance of 5 feet the SM-1 was very significantly quieter** than the big FET Altazimuth loop; the relative signal to noise pickup compared to a standard distant reference signal was at least 20 db in favor of the SM-1. But when the noise generator was moved to a distance of about 40 feet (which is relatively large compared to the dimensions of either loop) there was no measurable difference in signal to noise ratio between the SM-1 and the larger antenna. We then removed the shield from the SM-1 (with the noise source still 40 feet away) and measured an increase in signal and noise pickup of about 5 db; i. e., both the signal and noise increased by the same amount within the error of measurement.

The shielding on the SM-1 is quite significant but only if the noise source is very nearby, within roughly 20 feet, for example. Beyond that distance, the effect of a bad BCB noise source such as a neon sign or SCR light dimmer appears to be the same for either a shielded or unshielded loop. **This is** consistent with the reported near-field loop effects reported in the literature over the years.

For the loop-using DX'er this means that use of the SM-1 will permit the logging of otherwise inaudible stations if and only if the local noise is generated by appliances within a distance of say 30 feet; otherwise there will be no significant improvement in electrostatic signal to noise pickup between the shielded SM-1 and an ordinary unshielded magnetic loop. The removal of the shielding from the SM-1 will result in a pickup improvement of up to 5 db, however; if you happen to be in an electrically quiet area and are trying for a weak signal right at the level of the noise generated by the SM-1 front-end amplifier, this additional gain can make all of the difference between a certain logging and not. **Whether or not the shielding of the SM-1 is an** advantage or not depends upon a number of rather complex factors: the location of nearby noise sources, the gain and noise figure of the receiver in use, local background noise level, etc. **Generally speaking, urban DX'ers** - especially apartment dwellers - should notice a significant improvement in local noise rejection using an SM-1; DX'ers out in the sticks will probably feel that the SM-1 is not delivering as much signal as a longwire, especially while DX'ing during mid-day or during quiet MM's.

Overload and crossmodulation are extremely difficult to measure accurately. The only technique for measuring overload that we've found to be satisfactory for loops is to compare the azimuthal pickup for the loop-amplifier under test with that expected from an ideal cosine pattern. (The effects of loop pickup from sources other than the loop's magnetic dipole pattern are very minor in the pattern peak as compared to the effective null distortion produced). Using this technique we found that the SM-1 was rather sensitive to overload compared to the FET Altazimuth loop; while the response of the Altazimuth loop tended to "flatten out" on very strong locals such as WRKO, WHDH, and WCOP, the SM-1 began to flatten out at least 30° earlier to pattern center peak than did the AAL. **Audio on our most powerful local stations** was noticeably distorted on the SM-1 but not so on the AAL.

Since receiving the original flyer for the SM-1, we've gotten a copy of an updated version featuring a "deluxe" model of the SM-1 containing a 'distant - local' switch, presumably to compensate for the SM-1's overload **sensitivity**. While we haven't seen a schematic for the improved version (available for about \$5 extra), it's hard to imagine any circuit alterations capable of reducing overload sensitivity without adversely affecting the signal to noise ratio of the antenna-amplifier combination.

The next problem we checked for was one we had experienced quite some difficulty with in the design of the Altazimuth antenna: crossmodulation in the loop amplifier. **Crossmodulation is the undesired transfer of programming**

from a strong signal to a weaker signal on a nearby channel. If, for example you have a very strong station locally on 1030 kHz, crossmodulation would show as the programming audio from the 1030 station appearing also on 1020 and 1040 kHz weakly in the background. Many DX'ers have experienced this effect one time or another - it is one of the first symptoms to start showing up when an RF or mixer tube goes bad. Ordinary transistors (i. e., non-field effect types) are often quite bad about crossmodulating; while FET's are supposed to be quite immune to this defect, it's been our experience that this is only so when proper care is taken in the selection of the operating point. We tested each antenna for crossmodulation by carefully tuning each to 1500 kHz (peaking each on a 1500 kHz local signal generated by the frequency meter) and then checking for the presence of audio from 50 kw local WMEX on 1510 kHz. 1500 kHz is very close to clear here under those circumstances - just the slightest traces of WFIF and WTOP - and this has always served us as a very sensitive test for crossmodulation. Under the test conditions we found weak but definite traces of WMEX audio on 1500 kHz due to crossmodulation in the SM-1 amplifier. It's pretty much meaningless to try and assign a quantitative figure to crossmodulation in this type of test; the effective audio transfer is great enough however to be a nuisance if trying to DX weak channels adjacent to locals on a quiet MM, for example. When the same test was tried on the FET Altazimuth loop, crossmodulation varied from undetectable to very much worse than the SM-1 depending upon how carefully the FET amplifier was adjusted for neutralization! This is a significant problem in the FET loop with some transistors; crossmodulation can appear to be a problem on the top of the band if sufficient care is not given to the cross-neutralization adjustment. Adjustment of the neutralizing caps will always eventually clear up the problem but the adjustment is sometimes more critical than we'd like.

In summary then, the relative performance of the SM-1 and FET Altazimuth loops is as follows:

- a. Apparent signal pickup. The FET AA loop provided a bit more than 20 db gain improvement over the SM-1 as judged from the oscillographic equivalent of a straight S-meter reading. This corresponds to a difference in signal strength of about 10.
- b. Relative signal pickup (including amplifier noise). Because the noise generated by the SM-1 amplifier in the unit we tested was stronger than background atmospheric noise level, the actual useful gain of the FET loop is considerably in excess of the 23 db apparent "S-meter" difference recorded.
- c. Tuning sharpness (Q). The Q of the SM-1, while less than that of the FET AA, is nonetheless very high - a feature which can lead to the loss of some audio quality on the bottom of the band due to sideband cutting; this problem can be eliminated with the use of the Q control on the FET AA however.

- d. Null depth (ability to eliminate a very strong local). Due to the basic electrostatic imbalance in the SM-1 design and its inability to compensate for wave tilt (i. e., only rotation, no tilting), some stations which can be easily be totally eliminated with the FET AA loop will demonstrate only shallow nulls on the SM-1. Under some circumstances of signal wavefront polarization figure, frequency, etc., the SM-1 can show nulls as deep as the FET AA but, because of the superior electrostatic balance of the AA, the SM-1 will never show nulls deeper than the AA's.
- e. Pattern symmetry (direction-finding accuracy). Again, because of the unbalanced configuration of the SM-1, the pattern is skewed; while fine for rough direction finding on stations, attempts to use the SM-1 for close DF work on skywave signals (within say, plus or minus 5 degrees) will show significant and unpredictable errors due to the interaction of wave polarization effects with the distorted pattern of the SM-1.
- f. Overload (distortion on strong signals). SM-1 is significantly more prone to overload than is the AA loop; this defect has been presumably cured in the improved version now available at additional cost.
- g. Crossmodulation (strong signal audio transfer). FET AA loop superior to SM-1 only if carefully adjusted, otherwise inferior (especially at the top of the band).
- h. Shielding efficiency (near-field noise quieting). In the presence of very nearby sources of electrical noise (within say 20 feet; in the next apartment, for example) the SM-1 will provide a significantly quieter signal than the larger loop; beyond that distance the performance is essentially identical as best we can tell.

Lest we appear to finish this comparative review on a seemingly discouraging note we hasten to point out that the SM-1 will very likely outperform any unamplified non-altazimuth loop you might be using now. Compared, for example, to an old NRC box loop or an IRCA spiral used with a relatively insensitive receiver, the SM-1 should be a distinct improvement as far as the rejection of spurious responses and local noise is concerned and may, in some but not all cases, show better nulling and improved weak signal pickup (bearing in mind signal to noise ratio). DX'ers using simple loops and insensitive receivers will notice a considerably more dramatic improvement when switching to the SM-1 than those using highly sensitive receivers such as the HQ-180, etc. By the same token, the DX'er who replaces an outside longwire with an SM-1 may or may not find it to be superior (direction properties ignored); local noise generators, the sharpness of the antenna tuning for the longwire, receiver noise level - all these factors must be considered. One class of DX'er who's guaranteed to notice a great improvement in reception upon switching to an SM-1 is the urban DX'er who's been getting by with a short piece of wire in a noisy apartment building! The gain, compact size, noise rejection, and directional properties of the SM-1 should seem very impressive indeed!

Y.A.D. 1970 AWARDS!

In recognition of outstanding achievements in the DX and DX-related fields, the Youngstown Area DXers are proud to announce the results of our first annual Awards Banquet. The following awards were made:

Best of the Year: Ed Krajny and Jim Warner (tie)

Hotz Cup for Outstanding Achievement in the field of Portable Transmitter development: Jenefly Broadcasting Company

Golden Lamp Award for outstanding Convention Decorum: Staff and Management of Room 227

Steinmetz Rivet-Club-We-Feel-Most Plaque: S.C.I.S.P.S.D.D.X., a sordid throng of California DXers recently declared war criminals by the Salvation Army

Silva Zahnestock Statuette for outstanding achievement in the field of Technical Writing: Iowa SW DX Club for their celebrated "Echoing Eternally" series

Broadened Horizons Certificate of Merit for the club devoting the most space to non-DX or non-radio subjects: International Radio Club of America (I.R.C.A.)

Best Taped Verification Award to J. Bennington Farnsworth for his amazing local-quality tape of Wellington Front on 1484 kHz.

Golden Gook Award for most amusing Convention performance while under the influence of one thing or another: John Dallas

Most Interesting Vacation Slides Award to J. Bennington Farnsworth for his beautiful slides shown from his vacation in Gibraltar.

The Bring-Us-Together Certificate for the most successful Merger of 1970 to the Northern and Southern Chapters E.R.B.A. who have shown other clubs a fine example of how successfully Merger can be brought about when petty differences are thrown aside and all members unite under a common bond (i.e. booze)

The Waste-Not-Want-Not Award to Russ Edwards for uncanny ability to extract amazing number of years use from a single typewriter ribbon which was purchased second-hand in 1955

The coveted George Tom Trophy for Unusual Culinary Achievements At A DX Convention to: The Grill of the Harbortouch House and it's chef, Buster of the Booray.

The Silver Citizen Award (presented in cooperation with the American Legion, U.P.W., and K of C) for outstanding participation by a member in community affairs to George Kelley

Certificate for Technical Excellence to Mr. Harmon Ickh 2nd. Not to be outdone by the announcement of the ability to transmit two channels on one AM frequency (as is being done by X E J R A), Mr. Ickh has perfected a method of transmitting ~~one~~ channel on ~~two~~ frequencies. His 10 kw transmitter is tested nearly every Monday morning from a secret location rumored to be near Lodi, New Jersey. In addition to it's primary frequency of 1540, Ickh's development causes the transmitter to produce a readable sub-harmonic on 770. Isn't science wonderful?

Congratulations to all the lucky recipients. These awards will be presented on an annual basis or, if conditions warrant, every year.

Signed: STOSH KOWOLZKI

for the Awards Committee of the
Youngstown Area DXers, Room 17

VERIFICATION

WOTX 8

WAVERLEY, MASS.

CONFIRMING YOUR
RECEPTION OF 4/26/65

George Kelley C.E.

9

5

KC.

WCBB

- color radio -
- Boston -

Johnny Rande III

Reggie Cameron

G.P.N.'s Bootleggers

WEGN

This is to verify reception of radio WEGN,
Radio Waltham, 1065 kHz on November 17, 1969
from 1500-1600. WEGN operates with a power
of 16 watts.

M/R/EGAN



IDXD Monitor reports - Bob Foxworth, GPO Box 2111, New York, N.Y. 10001
 Receptions: (All times are in GMT).

- 585 St. Kitts. KIZ hrd only twice on this freq, 12/2 and 3 with BBC-type discussion pgs at 2345; v/ strong, o/RMS-984 even in loop null. (Taylor)
- 638 Cyprus. BBC EM Relay, Linnasol hrd 12/7 and again 12/8 from 0115 to 0140 in Arabic with fair signals, chimes at 0130 then "huma London"; sig gone by 0200 recheck-s/offr Taped for Cy. #82. (Taylor, N.J.)
- 660 New Zealand. Tent. reptn only of 2YC in null of post AMer HJUM at 0900 on 12/21, seemed beginning newscast, lang was definitely DU-accented English but signal marginal and near noise level. Had traces of carrier and audio also on 844 and tentative 440-1550 0915-30 also 12/21. (Taylor)
- 680 Mexico. XEIG was very strong AN 12/21 while looking for WING-dx. They surely can't be using their nighttime pattern as filed with FCC, just too strong. (Hart, Texas) (Perhaps they occasionally remain on day ptn)
- 700 Ecuador. HJUB hrd on BK 0700-0800 12/14, generally poor quality and u/ WIM most of time. Marches helped and did get 1 clear ID. (Sullivan, Mass)
- 750 Alaska. KPQD noted 11/30 and 12/7 between 0830-0930 with only ID making it thru JBC's AN soul pgs; 2 ID's taped which sounded like same cart: "KP-QD, Anchorage, Alaska" and some other talk about CBS news upcoming on KPQD and about "more music on KP-QD" with a pause between the F and the Q in the call. Call seemingly is given slow enough that it can penetrate the QRM on this spot. (Taylor, N.J.) (Great stuff, Page. Nov. ed)
- ** 770 Cuba. CMRE, Las Mercedes is the "R. Revolution" here; strongest CMRE making it into So. Fla. daytimes. (Schatz, Fla.)
- 782 Syria. Tartus mixed with German and mainly atop with chanting, 0320 on and off 12/26. (Taylor, NJ)
- 880 Brazil. PRI-3, Belo Horizonte hrd per ERC tip at 0800 s/on 12/14 and again 26th; excit sigs both dates w/frequent ads and such tropical style rhythm music; Peruvian under them and KE newscast looping N.Z. noted 12/28 at 0900 with PRI-3 called. (Taylor, NJ)
- 882 Dom. Rep. Presumably Radio Santa Cruz, Mao noted here with potent sigs at 0945 12/28 with frequent commercials and Latin music. (Taylor, NJ)
- 1020 Tonga. ZOO, Nuku'alofa noted on several different occasions with f/in appx 0750 and remaining listenable until 0900, KIRA OC ET doesn't help much, nor does KIBS. First logging 11/30 at 0800 ID "This is the Tonga Rdeq Com. with Tonga" heavily emphasized. Next logging was 12/7 at 0830 with "ZOO" and nose-flute. Best signal of all was 12/21 and a complete IS taped 3 times and "This is the call of the Friendly Islands" as signal peaked s-5. Hrd again but poorly 12/26 with IS and ID 0800 but too much KIBS this date. One simply hasn't lived until one has hrd the raucous sound of a Tongan nose-flute. The IS, by the way, is note-for-note correct as is shown in WPTVH. (Taylor, NJ)
- 1040 Peru. "Coca Popular" Lima was the dominant stn of 3 hrd 3M 12/27. Had constant minute TC's over the sx. Was hrd better in Calif. (Schatz, Fla)
- 1040 Hawaii. KHVH "Information Central" at times thru Peru-Brazil 12/27 (RFB)
- 1100 Antigua. Logged and taped 12/19 at 2340 with clear ID "This is ZEK... stay tuned for more music on ZEK." WKYC called. Has US-style Moll mx and the aner sounds Canadian, not West-Indian, accent. (Taylor, NJ)
- @Noted this one 1005-1025 with frequent AST TC's, quite easy thru WKYC OC. Missed s/on but was into RE. (Brauner, Pa.)
- 1114 unID. SS looping same as 1133, same strength, ran AN MM 12/28. (Schatz)
- 1133 Brazil. unk, looping along western frontier, drifting noticeably across weaker TA as hat dropped, zeroed and rose again in a few minutes MM 12/28. Sig fair to mngst. Lots of uninterrupted mx but got cigarette concl 0717; 0749 ID going "... agui, ... agui" "Está é rádio Coração" was sung twice with samba beat, 0827 gave "Radio Guarajá - 1130 quilobertz" with no location. Could also be Marajá, Agaji or such. Frequent ment of Brasília in cncls suggest that as location. Closest fit in PHIS is Belém-1060 Rádio Guarajá but last syllable doesn't match. (Schatz, Fla.)
- Have more but forced to hold. Note WKBS-880 now s/on 0500 MM ex-0530 EST.73

INTERNATIONAL DX DIGEST

Gordon Nelson, 19 Irma Ave., Watertown, Mass. 02172

REPORTEDLY IN OPERATION...

INDONESIA. Ever heard of Radio Enshinta - PM2DCK - on 1500 kHz? Probably not, since - so far - it cannot be found in any station list. Yet it is the most popular commercial broadcaster in a capital city of 4 million inhabitants... by name of Djakarta. Officially there are no MW stations in Indonesia, but readers may remember an exclusive item here in IDXD some time ago to the effect that unlicensed stations were allowed in Indonesia as long as they stuck to the MW band.

When switching on my small portable receiver during a brief business visit in Indonesia in the beginning of December my suspicions were verified: I could hear at least a dozen stations! With few exceptions, however, they were not as I had expected "amateur" stations but highly professional sounding commercial stations with perfect modulation and programming techniques!

Most of the stations were broadcasting Western music only, mostly top 40, rock and roll, pop, or "good" music. A few stations even carried international newscasts, and one carried Japanese language lessons.

Unfortunately I could not make any accurate frequency measurements with my pocket radio. However I found that most stations were using frequencies above 1000 kHz (and probably also above 1600 kHz up to 2300 kHz where the 120 meter Tropical Band begins). I only managed to ID a few. The most popular station seems to be "Radio Enshinta" (1500 kHz), with programs published in Djakarta's English language daily newspaper, and heard carrying a PanAm sponsored program with spots in English. Another definite ID was "Lungala Broadcasting Service". Probably there does exist some kind of licensing of these stations, because some of them also announced call letters: PM2DCK, PM2DCO, etc.

Apparently the post-Sukarno, Suharto regime, which has done much to bring Indonesia back to a hopeful economic situation in a very short time, has also adopted a more liberal attitude towards private commercial broadcasting. (Lars Ryden, Japan)

NORTH & SOUTH KOREA. South Koreans are legally not permitted to listen to broadcasts from the North. To ensure compliance, the ROK government operates a number of jamming transmitters. When in Seoul, one very strong jammer, obviously local, was covering 690A kHz. At least two other jammers were heard in Seoul, covering 655A and 750A kHz. They were not audible in Pusan so probably they are located north of Seoul. In Tokyo, after 1500, and sign off of local NHK stations, powerful jammers are heard covering North Korean programs on 690 and 1080, whereas the jammer on 655A is heard only weakly beneath the North Korean. After 1500 hours jammers also cover 600 kHz and of course Okinawa-1178 here in Tokyo. (Lars Ryden)

KUWAIT. A transmission from Radio Kuwait was recently heard in the Near East in English and Arabic on 539; may well be a test of the new high power transmitter due to come on sometime fairly soon now. (SDXC)

THE CLASSIC AURORAL STORM OF 12/14

-G.P. Nelson

Those who happened to be DX'ing on December 13-14 were treated to a sudden and severe auroral/geomagnetic disturbance which produced very significant effects on the MW band and permitted highly unusual receptions in many parts of the country. Here in New England the zone of auroral-induced absorption extended over the entire sky, resulting in essentially complete "blanketing" of this area - almost no skywave signals were audible even from the most powerful 50 kw distant clears and reception was limited almost entirely to groundwave locals and semilocals; conditions were quite similar to those experienced at high noon. Further to the south, in New Jersey, the effective southern boundary of the absorbing region was above the horizon and Page Taylor reports classic "auroral conditions" from his Butler location (see next page). We'd be interested in hearing from other members about conditions experienced that day, especially listings of missing "regulars" noted that AM. The following account of the geophysical events of that period is from NOAA (ex-ESSA); note that the period of maximum geomagnetic disturbance corresponded to the onset of BCB effects. (Note that 12/09 Z corresponds to December 12th, 0900 GMT in their notation)

Highlights for 09-15 December 1970: Nineteen events of class M or greater were observed during the past seven days - fourteen small class M (class M3 or less), one each of class M5, M7, and M8, and two class X1. In addition a minor proton enhancement and a major geomagnetic storm were observed. McMath regions 073 (N15W54, L=034) and 077 (N10W17, L=357, includes region 079 which was combined with 077 on 14 December) accounted for 15 of the events. Region 077 produced the following major events - class M5 imp 1N at 09/0758Z with minor radio frequency emission and significant ionospheric disturbances; class X1 imp 1B at 11/1016Z with a 630 flux unit burst at 2700 MHz and significant SID; class X1 imp SB at 12/0856Z with minor radio emission and major SID; and class M7 imp Sn at 12/2348Z with minor radio emission and moderate SID. Region 073 produced the class M8 imp 2N event near N16W00 at 11/2215Z. This flare was accompanied by a major radio burst of 1020 flux units at 2700 MHz and moderate SID. The ATS-1 satellite observed a proton enhancement with a gradual beginning at about 12/0500Z. The 21-70 Mev energy range peaked at two particles per sq cm per sec (about four times background) near 12/1700Z. Peaks occurred in the 5-21 Mev flux at 13/1800Z (152 particles per sq cm per sec), 14/0200Z (300) and 14/0800Z (250). Nighttime absorption of 0.6 db was observed on the Thule 30 MHz riometer. Proton fluxes have now returned to background. The 14/0200Z peak in the lower energy particle flux had a very sharp onset and rapid decay and coincided with a geomagnetic sudden commencement at 14/0156Z. The A-index at Fredericksburg was 56 for 14 December. The largest K-index at Boulder and Fredericksburg was eight in the 14/06-09Z interval. Despite a full moon, faint aurora was observed at Boulder during this interval. The proton enhancement and geomagnetic storm were probably associated with the 11/2215Z class M8 flare.

THE DECEMBER 14TH AURORAL STORM AS EXPERIENCED IN BUTLER, NEW JERSEY

-Page Taylor

Near-normal conditions prevailed until 0648 GMT on the morning of December 14th, when all normally-received 50 kw clear-channel stations disappeared completely. A quick check of normally-received regionals between 1300 and 1400 kHz yielded the following receptions:

- 1300 WTIL Mayaguez, P.R. (WERE/WFBR normally received)
- 1320 WUNO San Juan (WJAS/KXYZ normal)
- 1350 XEQT-HJDS-WSMB dominant vs normal MM reception of WSLR alone
- 1360 WKAT weak with unidentified Latin American (WBAY normal)
- 1371 HJEA Popayan, Colombia all alone vs normal WSPD
- 1430 XELL Veracruz almost alone with WNEL Puerto Rico (WIRE normal); the 250 watt Mexican was incredibly strong!
- 1450 WMFJ, Daytona Beach all alone! This channel is normally a cacophonous patois of class IV stations within 300-400 miles.
- 1460 HJJW Nuevo Continente, Bogota was all alone with religion; normal reception is WPNX, Alabama, and KDON in California.
- 1470 XESM, Radio Fiesta, Mexico all alone (normally CFOX is hrd MM's)
- 1440 XELZ Mexico City alone vs WHHY (Alabama) and CKPM (Ottawa)

A check of some of the more productive lower frequencies yielded the following:

- 1150 YVMV Punto Fijo all alone, no trace of Domestic.
- 1260 XEL Mexico City with a very weak WWOK, Miami present
- 970 XEDF Mexico City all alone (WWSW, WAVE, CKCH all missing)
- 960 PRF3 Sao Paulo all alone by 0800 s/on? Listenable well past 0900 with traces of ZFB1 only (normal CFAC and CHNS missing)
- 880 PRI3 Belo Horizonte way on top of Peru by 0815 and in all alone; BBC on 881 kHz is usually dominant here on an average MM.
- 1050 XEG 100%, not even a whisper of the normally-received CJIC/CHUM duo.
- 1010 XEHL Alone, no trace of CFRB or CBR.

Sunset skip on the evening of the 14th showed the following trends:

All N. Y. C. clears and regionals heard throughout the evening via ground-wave only; no trace of the usual skywave signals. XERF dominated 1570 with CKLM/CHLO/CFOR not heard; HJAX on top of 1550 with a weak CBE behind; HJLQ completely obliterating ubiquitous WKBW-1520. All graveyard channels yielded receptions of stations normally heard only in the daytime. WAPA-680 completely alone, no traces of friend WRKO, and WKAQ-580 alone and potent.

EDITOR:
F.J. Edmunds
Box 948
Wayne, N.J. 07470
(201) 335-8397

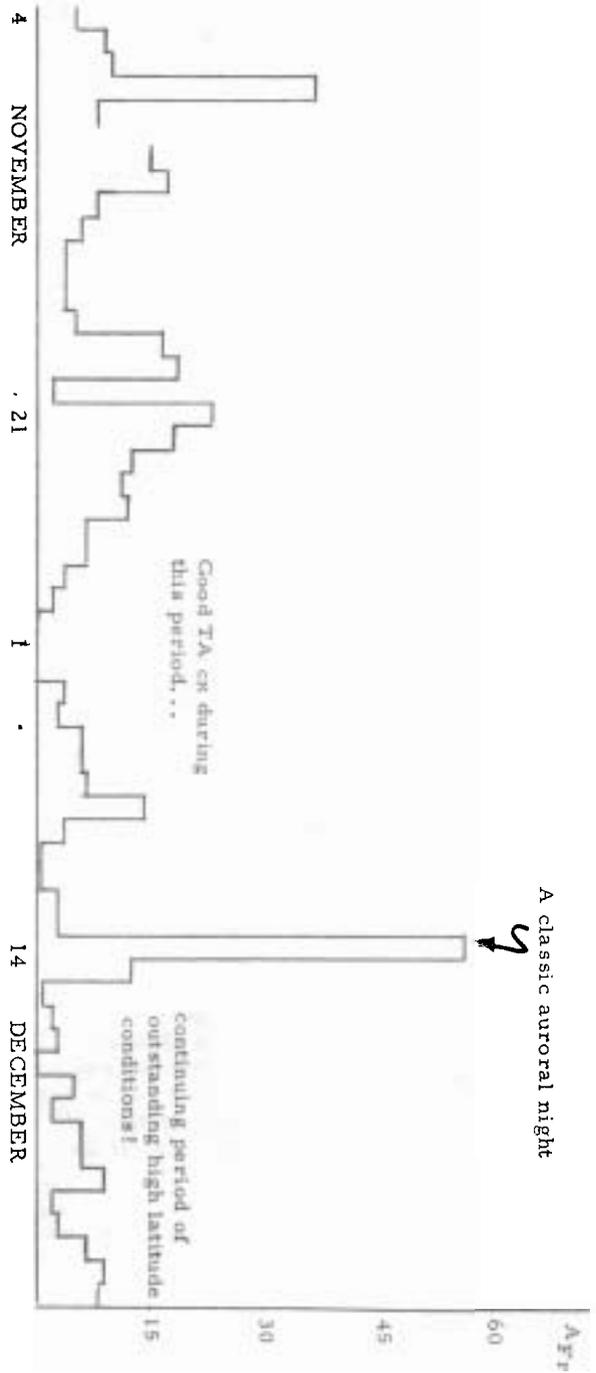


DOMESTIC DIGEST

Well, folk, 'tis time for another edition of ye olde DIGD. Due to holiday parties (at least in my case, hi) DX appears to have been slight, and due to holiday mails, the reports of same are a bit slow in coming, with a week from postmarked date to received date not at all uncommon within the Eastern section of the nation. And that 3/2 day postal holiday....

midnight to sunrise

- 540 WDAK-Ga ST/TT & mx 12/21 switching back & forth betw. day and nite pattern, no ID's 0045-0300+ (Dave Schmidt, Youngstown, Ohio, who listed it as unID) ** Page hrd it as did Steve Kamp (per last issue), Dave - RJE
- 560 WIS-SC Noted on ST/TT 12/22 0417-0446 w/ WEBW off (Schmidt)
- 610 WHP-Va S/off 0005 w/ Lord's Prayer then SSB o/a WDAF, WIP, WTVN (Wes Boyd, Youngstown, Ohio) 12/19
- 630 CKBC-Mb Well atop freq. 12/20 0400 w/ ID & rr (Schmidt)
- KNOW-Co Noted atop freq. 12/21 0209-0221 w/ MoR (Schmidt) ** Eged, Youngstown is even usurping DDKD, hi, or else that's the only place DX is happening... -RJE
- * 730 CFCO-On Noted AN 12/28 MM w/ c/w & hotel spots, NSP? (Schmidt)
- KSWN-Jt Hrd ET 12/27 0250-0320 w/ OC only, 5 voice ID's w/ OSLG only other audible signal. (Paul Hart, Ft. Worth, Tx.)
- 780 KCRJ-Nv Hrd for the first time w/ lt mx MM 12/28 0313-0335 w/ nice, clear ID @ 0329. No spots or PSA's, so maybe an ET? (Dave Long, Lockport, NY) ** They appear to be off MM's irregularly, Dave -RJE
- 790 CKSO-On Atop freq. 0030-33 12/28 w/ rr then gone (Schmidt)
- 850 WDH-Ma ID & mx 0330 12/21 o/ the HW- (Dick Truax, Charleston, WV) ** Welcome back, Dick, see you here often ?? -RJE
- 910 KRHV-Tx Is off AN sked, not on 12/29 (Hart)
- 930 WCHR-Pa Hrd 0642-45 12/20 w/ spots for Nat'l Bank of Wilkes-Barre (Boyd) ** Interesting, as Bloomsburg & W-B aren't that close to each other... -RJE
- * 940 WMAZ-Ga S/on 0640 w/SSB, new Sun. AM s/on time?? (Boyd)
- WYLD-La ID 0236 12/28 on ET o/TFRE (Truax)
- 960 CHNS-MS Inn, but this and CFAC alone on freq. 0425-35 12/21 (Boyd)
- 970 WJRE-MJ W/ ABC mx & c/w 0039-0046 a/WAVE, WWSM, CKCH, WDAF, KQAQ... (Boyd) ** Good grief - RJE. Incidentally, if pending sale of this one comes off as planned, format switch to rr is planned as competition for WABC, only JRE wouldn't be teenie-bopper oriented (sorry if the term offends anyone, but it's the only legit name for the phenomenon in the trade, hi).
- 990 WEEB-MO TEST not copied due to QRM de CSW, ETKT, EBCL. (Hart) ID & into Dixie @ 0135 on TEST, s/off 0138 (Truax)
- 1100 KLUC-Nv ID's after each rr from 0300-0315 12/28 on ET, easiest Nv for BC'ers (Truax) ** Yeah, if you're lucky enough to be there when they are - RJE
- 1150 WOOV-Tn Hrd MM's w/ rr 0410-20 12/21. Also hrd 12/25 0050 well o/WOUE & CKOC (Boyd)
- WJRD-Al Hrd 0055-0103 w/ mx, Ford spot, ID, mx 12/25 (Boyd)



This graph shows the daily values of A_{fi} , the Fredericksburg index of geomagnetic/auroral disturbance in the Earth's magnetic field. High values of A_{fi} occur during a heavy influx of electrically charged particles into the upper atmosphere as the result of certain types of solar disturbances. The medium-wave signal absorption produced by one of these events is strongest in high latitudes and persists for some days following the initial particle influx. Values of A_{fi} above about 20 are invariably associated with high levels of absorption along high-latitude TA and TP signal paths. Very high values (above about 40) are usually accompanied by E layer blanketing over North America and Europe; on such a night stations from the South will appear to dominate most channels. Long periods of low geomagnetic/auroral activity are necessary but not sufficient to guarantee excellent high latitude TA and TP reception - other ionospheric effects such as the "Midwinter Anomaly" may effectively mask what would otherwise be periods of excellent reception on high latitude paths during periods of continued low geomagnetic/auroral activity.

A classic auroral night

LOGGING THE FIFTY STATES REVISITED

In the light of a few of the responses to our 50 states list, we'll do a bit of update and rehash herein, hi:

First off, we erroneously listed KPNW-Or as 1020 kHz., when in reality it's on 1120 kHz., and generally loggable only on the 1st XM of the month after 0300 EST when KMOX is off.

We've received a few comments on our list, notably one from George Sherman in Minnesota, which covers most of the others as well, so we'll go over George's comments, and perhaps add a few more tips:

ALABAMA: George pens that WAAV-1550, being the only US AN on 1550 should be easiest, and, while we agree that it should be easy, it should be noted that this one gets out poorly to the east and northeast and to some parts of the west. Likewise, of course, the QRM from HJAX can often be incredible. Furthermore, we note that while WBSC (SC) is listed as signing off at 2315, they've been heard as late as 0200 this season, tho' somehow passed over in reports to DDXD. George also mentions WBRG-960, which was our third choice, and WPHX-1180, which last season had regular MM HT's which were widely heard. Somehow, though, that trend hasn't continued.

ARIZONA: George mentions the additions of KHOS-940 and KTKT-990, and, indeed, had we listed four stations, they'd have been next. We simply tried to list one or two good bets, tho' we realize that for many states, there are several.

DELEWARE: In many areas of the country, 1150 (WDEL) isn't DX-able, and the addition of WAMS's f/c on 1380, which is a generally clear frequency is suggested. We agree, but note that even in NJ, we've not been able to hear that one with any consistency. Perhaps they get out better to the west.

FLORIDA: This one is a toughie, and we knew it when we did the original article. On the f/c circuit, George suggests maybe WONE-1180, which, and we agree, gets out about the best.

GEORGIA: WCLS-1580 is another good shot, especially, as George mentions, for DX'ers near WJR.

MARYLAND: We're told that WPOC-1580 is a pest on ERS in the mid-west.

MISSISSIPPI: On the f/c route again, WSAO-1550 is also a good bet.

MONTANA: KJHL-790 w/ HI should be good, per George, but w/ h HI'ers on the channel and the mess 790 is in many places, we doubt it. Again, for f/c's, KFLW-960 and KOYN-910 are possible.

NEW HAMPSHIRE: George suggests the addition of WHEB-750 and WTSN-1270, tho' we doubt that the latter gets out well, as it's rarely hrd at this close range.

NEW JERSEY: George suggests not only our third and fourth choices of WPAT-930 and WVID-1340, but WVAH-1580 on f/c, which, we in Northern Jersey, cannot ever remember having heard. On RS at 883, sure, but on f/c, they must go due west with it.

NORTH CAROLINA: For those who have KPAB problems, WPTF should be a good bet, per George, tho' there's a lot of QRM on that channel (680).

OHI : Other choices, if you've got a local NSP 710 or 690 (which we do, WOR) might be WKYC-1100, WUPH-1220, WCKY-1530, though WOR auses no trouble for WLW most nights even within 10 mil s of WOR's XR.

OKLAHOMA: Also KRMG-740, WKY-930, and KAXD-970 (NSP). But, 970 is a mess in much of the country, vis: WRR, WQSW, WAVE, KXCH, KJAAQ, etc.

SOUTH CAROLINA: We respectfully apologize for not noting that the log is wrong on this, even tho' the correct s/off for WBSO hasn't been determined, it is late, and during any kind of remotely rural ex, it comes in atop QRE in many areas. George suggests WSPA-950 or WVEH-1130's MM s/en. Depending on your WRO7, WPOW, KPH or other problems, we'd agree, but with reservations.

SOUTH DAKOTA: George ts sever , but most are only good for mid-Westerners: KXRB-1000, XISD-1230; 0-1320. do like his suggestion of KOCB-1240's f/c, which does occasional get out ll.

WASHINGTON: KEMO-1380 has been mentioned by George and many others, but it's not going to get much South or East of Younstown, dus, among other things, to WGUS, WLCY, XEDD, and random Southern testars.

WEST VIRGINIA: For those who have trouble hearing WQVA, whom we expect are few indeed, George suggests the s/en of WCHS-580

Again, we thank George for his efforts, and ask that others who have comments send them on to DDXD. In making the original list, we tried to get the best shots at a state, and we realize that although I've the benefit of log editing, and Page the benefit of several DX excursions thru Can a, we can easily be in error on this. Likewise, we also solicit additions or corrections to the LA's listed in part #3 of the series, and those upcoming in the section on IA's.

RJE

Gordon P. Nelson, NRC HQ...

Hey, Joe Worcester - we've been working with loops far too long to make the error of trying to run the SM-1 output into a balanced input; all of the comparative measurements that we have made were with a single-ended input for the SM-1 and a balanced input for the Altasimuth. Just for interest though we did go back and measure the affect of running the SM-1 into a balanced input on the receiver. As expected, it did cut the signal delivered from the SM-1 considerably - although with our inputs we found a difference of between 2 and 7 db depending upon frequency, and not the 25 db you suggest. Running the SM-1 into a balanced input greatly increases the distortion in the SM-1 pattern (sometimes wiping out the nulls completely) and the sensitivity to hand capacitance but as best we can determine does not significantly alter the signal-to-noise ratio of the signal. When I spoke of the shield of the SM-1 being RF "hot" I was referring to the fact that even with the shield connected to receiver ground the pattern of the SM-1 is affected by hand-capacitance because of the nonuniform capacitance distribution resulting from the unbalanced configuration. This is a very basic point and has long been known; see Wireless Direction Finding, R. Keen, ILIFFE & Sons, 1954, pp 104-109 for a good treatment. Steve Kamp: you see the affect best when you've nulled a strong local signal quite deeply; then reach out and touch the case with your hand in different places; with a good deep null (say 40 db) it's often possible to get enough effective electrical rotation of the pattern due to hand capacity to result in 20 or 30 db change in pickup - this with the shield grounded to the receiver. More on this entire topic next week if time permits. Good DX to all!