STATIC FROM HQ

Just a few notes...this is the last of the weekly (weakly?) issues for this season, but don't let that stop you from sending in your reports as we still have the every other week issues and monthly issues to go! If you liked those great sweep and test tones used on the KIUP test, Eric Fithian has a deal for you!! He has obtained 10 broadcast carts (these are not 8-tracks) of the same tones for use by testing stations. He'll make the carts available, paying postage both ways, to test arrangers or directly to the testing station. His address is P.O. Box 452, Beuna Vista, Colorado 81211. (Thank you Eric!!)....Our intrepid secretary has been working a lot of overtime (even Saturdays and he's a government employee!!) so he says to stand by if you wrote us and have no reply as yet....also, now is the time to register for St. Louis--the information and registration form is inside this week! That'll do it--we'll see you in two weeks!

CPC TESTS

Times are Eastern Local.

Every Monday in March
- WTHM-1530 Lapeer, Michigan 0400-0600 (may be able to get earlier time). No details. 5 kw, directional. SASE is necessary for reply. Reports to WTHM, c/o Frederick R. Vobbe, CE/OM, P.O. Box 147, Lapeer, Mich. 48446. Fred is a good friend of NRCer Gary Siegel and of all DXers. Arranged: Bryan Lee.


March 26 KORE-1050 Springfield, Oregon 0400-0500. 1000 watts, non-directional. Will use tones and IDs. Prepaid calls to 503/746-1631. Reports to Steve Barton, CE, KORE, Box 296, Springfield, Ore. 97477. Arranged: Pete Nolan, GWDXA, who will be at the mic.

THEY JOINED

Martin Roppolo, 612 Armadale Place, Louisville, Ky. 40243
Wayne Moseley, P.O. Box 1349, Crestline, California 92325
Herb Childs, 1810 Euclid Avenue, Berkeley, California 94709
Martin Foltz, 211 Elvin Court, Lansing, Michigan 48912
Bill Harms, 865 N 160 W #2, Provo, Utah 84601
Bill Regan, 110 Craddock Street, Syracuse, New York 13207
John P. Ludwig, Rt. 2, Box 79A, Harper's Ferry, W.Va. 25425 (re-joins)

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DOMESTIC DX DIGEST

RAY ARKURA
47 BURT ROAD
ACUSHNET, MASS. 02744
(617) 998-9398

DOMESTIC DX DIGEST

DX TESTS

KONA - Not heard by FRM, ROSS, RA.

KGWA - Not heard by FRM, ROSS, ERC.

KUKU aired by DS, FRM, tent. by ERC, not heard by ROSS, RA.

WCWS - Tent. w/TT by ROSS.

KNDZ - Tent. w/TT by FRM, DS, not heard by RA.

WCBS - Heard by RA.

WQKN - Not heard by MS-MB.

Radio Station WOKW

P. O. BOX 1410
4th Mon. WJDY-1870 per list by ERS, FRM, RA.

BROCKTON, MASS. 02403

WQEO-1590 RA.

SPECIAL

1060 KNY PA PHILADELPHIA - to be Phillies flagstaf station per announcement on nx broadcast. (ERC-RA)

1330 WPBC SC GREENVILLE - is now AH-7, noted during KUKU test period. (ERC-RA)

1520 WELPA PA LANCASTER - to change calls 3/12 from WDGL. (ID)

1540 WVOS MD MIDDLETOWN - on w/snow-extended broadcasts 2/8 & on 0555, 2/15 on until 2100, 2/20 on 0600-2100, 2/20 on 0600. (MT-ND)

1530 WBNJ PA LAKESHORE - 2/21 2100 w/local spots/ads. (BL-CT)

1545 1590 ---- -- giving a 617 phone number, "960 Radio" etc. Could this be the PRN Stan Morss is talking about? (DS-DE)

The following stations noted on during evening of 2/19 w/snow info/closings:

900 WJUW

970 WAND On day pattern/power.

1260 WSPD Tentative.

These three noted by DS-DE.

MIDDAY TO MIDNIGHT

580 UNID -- -- 2/11 noted w/KC Kings BKB 1853-1900, gone completely @ 1900 so suspect NIBW, but no ID. (JB-NY)

630 WKBX GA SAVANNAH - 2/9 1801-1815 W/FM, station ID (KM-ND)

730 UNID ON BLIND RIVER - 2/16 & 3/12 RFX w/nx & 2200. (JB-NY)

780 WBRS VA ARLINGTON - 2/19 1030 w/religion (WMRD-750 snowed out till 1045 allowed this). (MT-ND)

790 KPYO TX LUBBOCK - 2/23 2000 mixture of C&W mx, MQR, into CBS Nx. (FS-KS)

790 WTOR VA NORFOLK - 2/26 noted @ 1223 during eclipse time. (ERC-RA)

800 CXLW OH COLUMBUS - 2/12 noted 1210 during eclipse time. (ERC-RA)

910 KAPE NH SANTA FE - 2/24 w/C&W mx to s/off 1933-1945. (FS-KS)

930 CFBW NB ST. JOHN - 2/26 in null of WWNR during eclipse, 1Ided 1206. (ERC-RA)

940 WYLD LA NEW ORLEANS - 2/24 2030 w/disco/black mx & "Disco 94" IDA. (FS-KS)

950 WJW MI DETROIT - 2/19 2300 new mixing w/WFEN w/nx, "Newradio 95" IDA. (SM-MA)

950 WSPA SC SPARTANBURG - 2/10 1940 all alone but weak w/"WSPA Radio 95" ID, rare here w/only 2nd or 3rd time ever heard. (JS-IL)

960 KFPS MO CAPE GIRARDEAU - 2/25 noted w/Mutual Nx @ 1900. (FS-KS)
1410 WYKY FL FT. MYERS - 2/28 0150 strong w/WFOP w/rr. (ERC-MA)
1430 WQIU FL DAVENPORT - 2/15 0340 strong w/o Cuban, common
last few weeks. (DS-DE)
1450 KKNW MN BRECKENRIDGE - 2/11 0138-0204 w/sports, wx, &/off, saying
they would return @ 0534 (CST), 2nd time heard in three
years. (MS-MB)
1470 WOL DC WASHINGTON - # 8 GY logging good 2/19 0128 w/ID &
Soul mj. (SM-MA)
1510 UNID ---- - 2/26 running "Rock & Roll Roots" 0135 break, (-PFR-)
1510 WAB CT BRIDGEPORT - 2/26 0155 w/PSA, phone # sounded like
621-1450 then IDs & contest promo. (PRM-MA)
1510 UNID ---- - 2/26 0301-0321 high pitched TT in/out all
the miles. (ERC-MA)
1460 WQCB PA HARRISBURG - 2/26 fair 0058 w/ID then Al Nx, equal
@ 0100 to semi-local WBSN. (PRM-MA)
1450 WMBD IL PEORIA - 2/26 New 0306 ending nx and instantly a pest
thru 0125 while trying for KRDZ Test. (PRM-MA)
1450 WRGA GA ROME - 2/19 0232-0245* noted ending nx, then CAW mx,
gave some cancellations due to wx, id'd on day
pattern as local like here, o/WSAN. (DS-DE)
1490 UNID ---- - TT 2/28 0141-0146. (ERC-MA)
1510 KGO WA SAN FRANCISCO - 2/18 wx, then CAW. See fair w/some local
KRKS clop. (ATC-CA) Time? (RA)
1510 WATT GA DALLON - 2/26 0121 another ET w/religious mx/thru
the needles get replaced in the turntable! (DS-DE)
1510 WAAW AL HUNTSVILLE - 2/25 0210 tuned in to immediately hear
"...it's 56 degrees at W-A-A-Y..." good signal, much
stronger for 500w. (JD-RA)
1540 WNOO AL MOBILE - 2/19 0158 another ET w/religious mx/TT/thru
the needles get replaced in the turntable! (DS-DE)
1540 UNID ---- - 2/19 0110-0119 instrumental mx noted, lotsa GC,
1540 WJZO TN JONESBORO - 2/20 0015 noted ending announced frequency
check w/TT, ID @ end, way o/WQJ/WWQ/KARK. (DS-DE)

Nice to hear from Jerry Bond this time around. I did not notice any­thing unusual across the dials during the 2/26 eclipse. A few semi­local daytimers seemed a little stronger and that was about it. Until
the next action packed episode, 75....
CUBA R. Reloj, this unid one still noted occasionally, best weak carrier w/SAH, nothing noted on 529, 0046/21. (Connelly)

MOROCCO Sebaa-Aioun fair w/man in AA 0445 2/24. (Connelly)

TRINIDAD AND TOBAGO Port-of-Spain NBS 0205 1/1-highly accented EE, soul mx, possibly nx, into pop/calypso. No definite ID. (Baskind)

MOROCCO Sebaa-Aioun fair w/man in AA 0445 2/24. (Connelly)

DOMINICA Roseau poor w/island rhythms and much QRN 0225 2/23. (Thomas)

CUBA R. Guama 0435-0458 2/26. SS ID, then cl mx pgm. Good w/WCFL 1200 COLOMBIA HJNF R. Super, Cali good w/ID, SS vocal o/u unk LA 0644 2/22. (Baskind)

NEW ZEALAND 2YC Wellington very weak w/cl mx. A few American tunes mixed in. (Hayes)
when it's 2:30 AM. One of these days I'll learn not to hold the column to
with some LSI frequency counter chips than DX'ing.... Per the March issue
And mercifully, I reach the end. Mercifully is indeed the word to choose
of 7 the Gilbert Islands will become independent in July and change name.
not run because I make it a policy never to print info if the source is not
NRC'er sent me some info but would not divulge the source. Some of it was
1480 HONDURAS HROC R. Bahia 0255 2/1 w/mention of Guatemala, 3 ID's, be-
1467 MONACO Monte Carlo fair to good w/man in SS who gave Radio Trans-
1365 HONDURAS Danli HRTR almost good w/female SS vocal 0830 2/27. (Thomas)
1314 UNID weak TP carrier 1040 2/26. (Tomer)
1287 CZECHOSLOVAKIA Praha-Melnik fair w/cl mx o/SAH 0038 2/21. (Connelly)
1593 WEST GERMANY Langenberg xlnt w/GG nx and wx, then Brahms Lullaby IS
1494 FRANCE Bastia running TT (as was 1557), atop SAH, traces of male
1476 SPAIN (not sure of city) SS'er dominant w/disco mx, then SS song w/
1422 WEST GERMANY Saarbrucken to fair peaks w/mx and interspersed GG
talk, then Big band GG march 0500-0502 2/25. (Connelly)
1458 UNID probably Albania-s/off w/march mx 0459 and carrier off at 0500
1467 MONACO Monte Carlo fair to good w/man in SS who gave Radio Trans-
mundial 10, then he wished all "Buenos Noches". Music box IS follow-
owed, then carrier went off 0000-0001 2/21. Fair to good w/woman in
way better than 1593, 0505 2/24. (Connelly)
1476 SPAIN (not sure of city) SS'er dominant w/disco mx, then SS song w/
1420 VENEZUELA YVOP 1035 2/8 doorbell sounds, echoed ID's, sports pgm.
1376 ITALY Bari RAI fair w/man and woman in II, light classical mx 0513-
2775. (Faskind)

And mercifully, I reach the end. Mercifully is indeed the word to choose
when it's 2:30 AM. One of these days I'll learn not to hold the column to
the last possible moment waiting for a flood of reports Recently an
NRC'er sent me some info but would not divulge the source. Some of it was
not run because I make it a policy never to print info if the source is not
identified, because if the credit should be given it the info is from another
organization, and (2) we have a right to know who to hold responsible for
the info, should it be erroneous. Also, some info comes from copyrighted
sources and it would be illegal for me to use it as such. Forewarned is
fair warned.... Conditions seem to have declined precipitously from poor
... the part west from which the expected values
of the average atmospheric and galactic noise power can be computed
for each for the four seasons and each four hour segment of the day
through the frequency range of 10 hs to 100 ms. Because the spring
0000 - 0600 graph is typical of night time noise in the BCB, we have
shown a part of that world map of expected noise power for 1 ms
in figure 2 below. The units of the contours in figure 2 are in db
above kT, b (which will be explained in more detail below). Figure
1 allows one to compute the expected value of noise power for
frequencies other than 1 ms. For example, in the midwest near
Chicago, the noise power at 1 ms is 60 db above kT, b. Thus, by
figure 1, the noise power at 1.6 ms is 75 db above kT, b and at 0.54
ms is 90 db above kT, b.

In figure 1, we have deleted the part above 30 ms, and the parts
above 130 db and below 10 db. Use of the interpolation curves has
been illustrated above. There are also two broken lines. The one to
the galactic noise is the ultimate minimum in noise power.
The one to the left is man made noise. In any case, the minimal noise power one can expect is galactic noise, which is
about 58 db at 540 hrs and 47 db at 1.6 ms.

In figure 2, we have deleted the southern hemisphere, the part west
of Hawaii and Alaska, and the part east of the Mediterranean. The
contours on the graph are noise power curves at 1 ms in db above
kT, b. Their use has been indicated above.

Several general comments can be made about the noise power based
on the graphs in the CCIR report.
(1) Noise levels are generally higher at night than in the day.
(2) Noise levels are generally higher in the summer than in winter.
(3) Noise levels generally decrease as one gets further from the
equator.
(4) Noise levels are generally higher at lower frequencies.
(5) Galactic noise is the ultimate minimum in noise power.

This article is based on Hyder's excellent discussion [1] of
atmospheric and galactic noise for frequencies above 1800 ms. We
also use information in the 1964 CCIR report [2]. The CCIR report
has graphs like figures 1 and 2 below from which the expected values
of the average atmospheric and galactic noise power can be computed
for each for the four seasons and each four hour segment of the day
through the frequency range of 10 hs to 100 ms. Because the spring
0000 - 0600 graph is typical of night time noise in the BCB, we have
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equator.
(4) Noise levels are generally higher at lower frequencies.
(5) Galactic noise is the ultimate minimum in noise power.
Any resistance has a thermal noise power, denoted $P_t$, that is independent of anything but the temperature, and is given by $P_t = kT_0 B$, where $k$ is Boltzmann's constant, 1.38E-23 (Eg denotes 10 to the $n$th power), $T$ is the temperature in degrees Kelvin, and $B$ is the bandwidth in hertz. In particular, the above equation holds for the radiation resistance of an antenna. For a 2.1 kHz bandwidth, $P_t = (4E-21)(2.1E3) = 8.4E-18$ watts at 290 Kelvin (63°F). In the CCIR report, $P_t$ is computed for 288 Kelvin (the difference with our value is negligible), thus 8.4E-18 watts is the $kT_0$ mentioned above.

Let us assume we have a hypothetical receiver with a sensitivity of $0.5\mu$V into 50 ohms at 2.1 kHz bandwidth. The thermal noise voltage is $4.5\mu$V (in 10 dB), the received signal is $1.5\mu$V, and the receiver noise is $5\mu$V. To determine $S/N$, we can convert the 10 dB signal to a voltage in parallel with a 50 ohm source to a voltage in series with a 50 ohm source by multiplying by two. Thus the signal to thermal noise ratio for a $0.5\mu$V signal is $20\log(0.5/0.005) = 22$ db. The receiver is rated as having a 10 db signal to noise ratio, so the receiver has a noise of $5\mu$V, and $5 = 12$ db noise figure, which we denote $F$. The received generated noise power, denoted $P_r$, can be computed by the formula $f = 10 \log(P_T + P_r)/8.4E-18$. The receiver generated noise power for our hypothetical receiver is thus $P_r = 1.26E-16$.

We now calculate what signal levels are required to produce both 0 dB and 10 dB signal to noise ratios at both ends of the BCB, assuming galactic noise of 58 dB at 540 kHz and 47 db at 1.6 MHz. We do only the calculations for a 10 db S/N ratio at 540 kHz. Galactic noise power, denoted $P_g$, is $(3.8E-18)(9E-21)(2.1E+3) = 8.9E+3$ watts. The required signal is $63$ dB at 540 kHz, or $5.8$ watts. The required signal is $58$ dB at 1.2 MHz, or $5.8E-12$ watts. Thus sensitivity into 50 ohms at 540 kHz bandwidth, the radiation resistance of an antenna. For a 2.1 kHz bandwidth, $P_r = 1.26E-16$.

From these figures, it is apparent that exceptional sensitivity is not necessary for weak signal reception in the BCB. In fact, it can be shown that a 2.1 kHz bandwidth receiver with a 10 dB sensitivity into 50 ohms requires a $31$ dB signal-to-noise ratio, and a $10$ dB signal-to-noise ratio at a 1.6 MHz bandwidth. Thus there is virtually no difference between a $0.5\mu$V sensitivity receiver and a $0.005\mu$V sensitivity receiver when using unbalanced loops. Evidently these figures hold up in practice, since recent Collins receivers are rated at 10 $\mu$V for the BCB.

All of the information in the CCIR report is for a short vertical receiving antenna. The CCIR report has very little information about improvements which can be expected as a consequence of using direct radiation antennas. We have seen it said elsewhere that balanced loops (which respond only to the magnetic field) are superior to unbalanced loops or long wires because the electromagnetic wave resulting from a lightning discharge has a large longitudinal component. But we know of no definitive studies of this alleged phenomenon. Contrary to some recent popular misconceptions, an unbalanced loop or long wire gives the impression of being a vertical wire antenna. On the other hand, a balanced loop will exhibit a noticeably lower background noise in subjective listening tests relative to long wires. Perhaps this is only because a loop can be used to isolate local noise sources or localized thunder storms. When dealing with the ultimate limit of receiver sensitivity, galactic noise, we expect that there is no significant difference between an unbalanced and a balanced loop. On the other hand, a beverage antenna may give a significant reduction in atmospheric and galactic noise, judging by user reports. So when using beverages, receivers sensitive on the order of 1 $\mu$V may be necessary for weak signal reception in the BCB.

**BASEBALL LIST SUPPLEMENT**

BASEBALL LIST SUPPLEMENT

Since it takes about 7 pages to type the whole 1979 major league baseball list, we give a sample list like the 1978 list appeared in the DXN with an update in the 6/12/78 DXN (pp. 28-29). I thought it'd be simpler to print just the changes for 1979 and let each of you amend your 5/15/78 DXN list. If any of you know of further changes, please send them to me, Bill Hardy, 2301 Pacific Ave., Aberdeen, WA, 98220, as soon as possible. I should add that some teams have not yet sent me their 1979 lists, so further changes are still possible.

**SYMBOLS:**
- **D** - Daytime station (no FM simulcast)
- **D+** - Daytime station with FM simulcast
- **F** - Fulltime station with FM simulcast

Flagship stations are underlined. Other symbols explained en route.

**AMERICAN LEAGUE CHANGES:**

- **BALTIMORE ORIOLES** ... Flagship changes to WMAR will have an extensive net, but no other details are known so far.
- **BOSTON RED SOX** ... New announcers: Ken Coleman, Rico Petrocelli. (Incidentally, I won't attempt to update sponsor info for 1979. Anyone interested in 1979 sponsors may obtain a list from me free for an SASE, BH.)

**DELETE from 1978 list:**
- 790-WRMN
- 1290-WABC
- 1450-WIVY

**ADD** Call Change from 1978 listing:
- 1510-WNBC Boston, MA (ex-WXEX)
- ADD +** Sign: 1320-WQDI/WSV/WEI, 1240-WHAI, 1340-WFAP/WHQU, 1730-WWJ, 1380-WKLA, 1450-WKLD, 1450-WVL.

**ADD** these new stations for 1979:
- 610-WLWZ Miami, FL
- 930 WWNH Rochester, NY
- 1330 WHET Waltham, MA
- 1390 WPIM Plymouth, MA
- 1440 d+WMPL Williams, VT
- 1490 +WHY Haverhill, MA
- 1540 WRBC Milford, MA

Additional FM's now total 36.

**DETROIT TIGERS**

**DELETE** these old stations:
- 1300-KBCW Pontiac, MI
- 1580-WWEL New York

**ADD +** Sign: 1380-WPFL, 1450-WKLA, 1450-WIVS

**ADD** these new stations for 1979:
- 920 d+WMPL Hancock, MI
- 1260 +WCZJ Cheboygan, MI
- 1340 +WGBX White Mountains
- 1460 d-WERN Big Rapids, MI
- 1590 d-WGRY Grayling, MI

Additional FM's now total 5.

**MINNEAPOLIS BREVERS** ... Drop Mike Hagan from announcement. STATION LINEUP IS IDENTICAL TO 1976 LIST (miracle!)

**MINNESOTA TWINS** ... Drop Sid Hartman and Bob Carey from announcement (Garew got traded, hi). 1979 net not yet firmly up.

**OAKLAND A's** ... Radio coverage moved to KWM-910 Oakland, CA, in mid-1978. The team's plans for 1979 are uncertain at this writing.

**SEATTLE MARINERS** ... Drop Bob Robertson pre-game show.

**DELETE:** 590-KHQ, 790-KGM, 1120-KAO, 1290-KAAM, 1340-KAIN, 1450-KPLS, 1590-KQTL.

**ADD** these new stations for 1979:
- 1510 KGM Spokane, WA
- Additional JM's total 2.

**TORONTO BLUE JAYS** ...

**DELETE:** 1100-KGDJ

**ADD** these new stations for 1979:
- 1070 CNGX Sarnia, ON
- 1120 d-WNBL Buffalo, NY
- 1560 d-WWWH Brockport, NY (NOTE: Fulltime on 1590 kHz)

Still no FM stations. For anyone wondering, there is no French-language radio play-by-play for the Blue Jays.

**NATIONAL LEAGUE CHANGES:**

- **CINCINNATI REDS** ...

**DELETE:** 1300-WMGO, 1450-WLAP

**DELETE +** Sign: 1460-WHLI.

**ADD +** Sign: 1350-WCTM.

**ADD** these new stations for 1979:
- 1450 WLRN Athens, TN
- 1520 WSVL Savannah, IN

Additional JM's now total 36.

**TYPO TO CORRECT:**
- 730 d+WFMN Madisonville, KY

**HOUSTON ASTROS** ...

**NEW NET LISTING:**
- 560 KLLI Beaumont, TX
- 630 KMAC San Antonio, TX
- 710 KULY Edburg, TX
- 790 KOSY Texarkana, AR
- 950 KJAG Jackson, MS
- 980 d-KFRD Abilene, TX
- 1150 WBDU Baton Rouge, LA
- 1450 WWWM College Station, TX

For those who are interested, the new Spanish language radio play-by-play will move to XEGM in Seattle, cont.

**Baseball LIST SUPPLEMENT**

**Spanish:** Per the Dodgers, the Spanish language radio play-by-play will move to XEGM in Los Angeles, CA, to go fulltime.

**LOUISIANA DODGERS** ...

**Spanish** Per the Dodgers, the Spanish radio play-by-play will move to XEGM in Los Angeles, CA, to go fulltime.

**DELETE:** 1290-KKOA

**ADD** these new stations for 1979:
- 1350 KAXL Sparta, WI
- 1360 KXII Cherokee, IA
- 1410 KNAL Victoria, TX

**ADD** these new stations for 1979:
- **ADD** these new stations for 1979:
- 1340 KWTV Oklahoma City, OK
- 1540 WNOS New Orleans, LA
- 1560 d-KTKG Jasper, TX
- 1580 KWWB Brockport, NY (NOTE: Fulltime on 1590 kHz)

**ADD** these new stations for 1979:
- 1510 KOGA Spokane, WA
- Additional JM's total 2.
CAPE COD GROUNDWAVE STUDY

by Mark Connelly - 7 Trowbridge Path - West Yarmouth, MA. 02673

Cape Cod, the eastern extension of Massachusetts, has long been
known as a prime DX location because of waterpaths in nearly every
direction. Many people visit this summer holiday resort famed for its
beaches, dunes, and pine woods. Many come and enjoy the excellent
direction. Many people visit this summer holiday resort famed for its
beaches, dunes, and pine woods. Many come and enjoy the excellent

As noted at the end of the article, beverage users might be able to
extend the range of groundwave to the entire eastern seaboard from Cuba
to Newfoundland. Now - on to the DX!

540 to 590 kHz.
540: WLYX o/WMDV 550: WNGC o/CFBN, both o/WDEV 560: WGAN strong, way o/WINF/WIL 570: WNGC good, way o/CJEM 580: WTAG o/CRCL 590: WEFI

600 to 690 kHz.
600: WCC/WFST 610: WJIR o/WIP, both o/CHNC 620: WBLS/WJNY o/WNT 630: WPRD o/WFCS 640: weak Nova Scotia LPRT's 660: WBNB loud 680: WRSO strong; CFDR might be possible in tight null (Orleans area)

690: CBF o/WADS

ST. LOUIS CARDINALS...
This listing is almost impossible to obtain, so we need HELP!!! Anyone
with data on stations carrying Cardinals baseball in 1978 or planning
to do so in 1979 is asked to please send this info in as soon as possible.
Besides KMOX-1120, the Cardinals were heard on KAYL-990, KII-1070, and
WMED-1470 in 1978.

SAN DIEGO PADRES...
English: Flagship will change to
KFRS-750 San Diego, CA. Further
details will be available later.
Spanish: XEXX-1940 Mexicali, B.C.
Mexico will air home games, plus any
games at Los Angeles against the
Dodgers.

SAN FRANCISCO GIANTS...
NEW LISTING: Announcers: Lindsey Belson, Hank Greenwald
620 d-KWSD Mount Shasta, CA
680 KERR San Francisco, CA
900 KINC Eureka, CA
1400 KQNS Redding, CA
1430 KARM Fresno, CA
(plus 2 FM's)

Credit: Thanks to Joe Fela, Jim Hopkins, and Albert Lobel, plus the many
tags and flagship stations that contributed their station lists. (EH, 3/7/79)

1979 BASEBALL CHANGES, CONTINUED

MONTREAL EXPOS...
English: ADD this new station for 1979:
930 CFRC St. John, NB
Additional FM's total 2.

FRENCH:
DELETE: 630-CGJA, 1340-CHAD, 1440-CFKR
ADD these new stations for 1979:
580 CHCI Haurteurve, QV
620 CFRI Port Forestville, QV
710 CIPC Port-Cartier, QV
Still no FM stations.

PHILADELPHIA PHILLIES...
Drop Rob Roberts from announcers.
DELETE: 1350-CJPA, 1350-CHJQ
ADD new stations for 1979:
1350
DELETE: 800-WGHA,
-WHWH, PHILADELPHIA PHILLIES...
1400
This is an attempt to change
1440
1440

CALL CHANGES:
1450 WIN Atlantic City, NJ
ADD +*+ SIGNAL: 1440-WNWB
ADD these new stations for 1979:
1070 WOKK Sunbury, PA
1360 d-WAVE Wayneboro, PA
1420 WOKC Catsville, PA
1490 WBCB Levittown, PA
1580 d-WDDI Hammonton, NJ
1600 d-WPX Elizabethtown, PA
Additional FM's total 3.

Cape Cod, the eastern extension of Massachusetts, has long been
known as a prime DX location because of waterpaths in nearly every
direction. Many people visit this summer holiday resort famed for its
beaches, dunes, and pine woods. Many come and enjoy the excellent
direction. Many people visit this summer holiday resort famed for its
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As noted at the end of the article, beverage users might be able to
extend the range of groundwave to the entire eastern seaboard from Cuba
to Newfoundland. Now - on to the DX!

540 to 590 kHz.
540: WLYX o/WMDV 550: WNGC o/CFBN, both o/WDEV 560: WGAN strong, way o/WINF/WIL 570: WNGC good, way o/CJEM 580: WTAG o/CRCL 590: WEFI

600 to 690 kHz.
600: WCC/WFST 610: WJIR o/WIP, both o/CHNC 620: WBLS/WJNY o/WNT 630: WPRD o/WFCS 640: weak Nova Scotia LPRT's 660: WBNB loud 680: WRSO strong; CFDR might be possible in tight null (Orleans area)

690: CBF o/WADS

ST. LOUIS CARDINALS...
This listing is almost impossible to obtain, so we need HELP!!! Anyone
with data on stations carrying Cardinals baseball in 1978 or planning
to do so in 1979 is asked to please send this info in as soon as possible.
Besides KMOX-1120, the Cardinals were heard on KAYL-990, KII-1070, and
WMED-1470 in 1978.

SAN DIEGO PADRES...
English: Flagship will change to
KFRS-750 San Diego, CA. Further
details will be available later.
Spanish: XEXX-1940 Mexicali, B.C.
Mexico will air home games, plus any
games at Los Angeles against the
Dodgers.

SAN FRANCISCO GIANTS...
NEW LISTING: Announcers: Lindsey Belson, Hank Greenwald
620 d-KWSD Mount Shasta, CA
680 KERR San Francisco, CA
900 KINC Eureka, CA
1400 KQNS Redding, CA
1430 KARM Fresno, CA
(plus 2 FM's)

Credit: Thanks to Joe Fela, Jim Hopkins, and Albert Lobel, plus the many
tags and flagship stations that contributed their station lists. (EH, 3/7/79)

1979 BASEBALL CHANGES, CONTINUED

MONTREAL EXPOS...
English: ADD this new station for 1979:
930 CFRC St. John, NB
Additional FM's total 2.

FRENCH:
DELETE: 630-CGJA, 1340-CHAD, 1440-CFKR
ADD these new stations for 1979:
580 CHCI Haurteurve, QV
620 CFRI Port Forestville, QV
710 CIPC Port-Cartier, QV
Still no FM stations.

PHILADELPHIA PHILLIES...
Drop Rob Roberts from announcers.
DELETE: 1350-CJPA, 1350-CHJQ
ADD new stations for 1979:
1350
DELETE: 800-WGHA,
-WHWH, PHILADELPHIA PHILLIES...
1400
This is an attempt to change
1440
1440

CALL CHANGES:
1450 WIN Atlantic City, NJ
ADD +*+ SIGNAL: 1440-WNWB
ADD these new stations for 1979:
1070 WOKK Sunbury, PA
1360 d-WAVE Wayneboro, PA
1420 WOKC Catsville, PA
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As noted at the end of the article, beverage users might be able to
extend the range of groundwave to the entire eastern seaboard from Cuba
to Newfoundland. Now - on to the DX!
This graph shows the daily variations in Afr, the Fredericksburg (VA) index of magnetic activity in the earth's magnetic field. High values (above 20) indicate that the medium wave signals in upper latitude paths will likely be absorbed, thus resulting in "auroral conditions," with signals from the south and from local stations predominating due to this absorption. Low values indicate a likelihood of more receptions on the higher-latitude paths more northerly signals. Conditions return to normal after several days of low values, although this is not the only requirement for propagation. For more information on the use of the Afr and related indices as a DX tool, consult the NRC Reprints List for relevant articles.

**AFR GRAPH**

**RUSSEL J. EDMUNDS**

---

**MAINE STATIONS**

**LEGEND**

- **= Daytime Only**
- **= Unlimited Operation**
- **L** indicates local coverage only 250w or more power, with worldwide station operation.
- **Set** means special hex.

See NRC Reprints for explanation of symbols, map identifications.
WGN, 720 KHz, Chicago, has been my favorite radio station for more than 40 years. When I moved into a mobile home I discovered that a transistor radio with a fer­rite loop antenna would no longer tune in WGN because the aluminum siding and steel roof were grounded. Slightly more than a year ago I began to experiment with long wire antennas pointed in various directions and using more and more so­phisticated receivers. I tried a Dynec loop antenna but I couldn’t tune in much of anything but local stations. My final purchase was an R. L. Drake SP8-4 communications receiver and an FS-4 digital synthesiser. WHB still interfered with WGN, causing very severe slop at times. I found out later that the Des Moines metropol­itan area was within one of WHB's lobes, which helped increase the interference with WGN.

I finally decided to investigate the NRC loop antenna designed by Gordon Nelson. My only possibility was to mount this antenna above the roof line of the home and use a rotator. The NRC loop was then researched carefully. My receiver does not have two antenna terminals and I could not use the balanced FET preamplifier orig­inally designed for this loop. I then incorporated the unbalanced FET amplifier de­signed by James V. Hagan. Loop tuning was provided by a remotely controlled varac­tor tuner.

After considerable difficulty with moisture and condensation I tried coating the under side of the preamplifier P C board. Q-dope was used but extremely low tem­peratures separated the coating from the board. Clear silicone coating and seal was then tried, and it solved the problem. In fact since using this sealant no moisture problems have developed.

Reference Material Used to Construct the Loop

NRC Reprint A-17 An FET Loop Preamplifier with Coaxial Output James Hagan
NRC Antenna Reference Manual

Major Loop Components

NRC Altazimuth Loop Antenna
FET Preamplifier
Varactor Tuner and Control
Relay Box
Meter Box
Alliance Tenna-Rotor

Suppliers and Devices

Newark Electronics
Bud aluminum miniboxes and meter box
J W Miller chokes
Carnson Teflon insulated feed through terminals, in packets of 10
1/2" 6 aluminum spacers
Potter and Brumfield KT11A 5 ampere antenna switching relay

KJ Circuit Boards, Karl A. Raup, P. O. Box 8015, Orlando, Florida, 32806
P C board for FET preamplifier Ask for board for Hagan preamplifier

Semiconductor Specialists, Inc., P. O. Box 66125, O’Hare International
Airport, Chicago, Illinois, 60666
Motorola MW1403 or MW1404 varactor
Siliconix 2N4410A FET

Ralph Sanserino, 822 Crane Circle, Huntington Beach, Cal., 92646
Transistor socket pins and annealed bus wire

Amidon Associates, 12033 Otsego St, North Hollywood, Cal., 91607
T-106-1 powdered iron toroidal form for balun
32 gauge magnet wire for balun winding

Spiegel, Inc.
Alliance T-45 Tenna-rotor

Radio Shack
Trimpots, miscellaneous capacitors, resistors and terminals

Construction Hints

Use the three 58" lengths of 32 gauge magnet wire (31 gauge if it can be found) to wind the balun. Just about 55", 6 turns per inch. If you can find a hand drill, it will be easy to twist the exact number of turns. Then fasten one end of the three lengths of wire in a vase and the other three ends in the drill chuck, leaving the 55" to be twisted.

Before winding the balun, make a bobbin about three inches long from a popsicle stick or a tongue depressor. Slot this bobbin at both ends. Wind the trifilar winding on the bobbin, end to end. Thread the bobbin through the core. 40 passes will equal 40 turns. After winding the balun use some Q-dope to fasten the winding in place. Do not bunch the winding, but try to space it evenly.

It is a simple thing to find both ends of the three windings. Use an ohmmeter and after the ends are bared by removing the enamel, when identified, cut each of the six ends to the proper length and solder to the PC board. A 3/4" - 6/32 brass screw and hex nut together with a 1/4" length of popsicle stick should be used to fasten the balun to the PC board.

I have found that a 10" - 1/4" nipple screwed into a floor stand and then fastened to a 2" square piece of 3/4" plywood adequately supports the loop, and permits easy winding of the ten loop turns. The plywood square can be placed on a card table during winding. A second person feeding the wire makes winding the loop a much easier job. Wind the wire as tight as you can. The four holes in the 1/4" Plexiglas terminal plate should be larger than 1/8". It is much easier to feed the loop ends through the enlarged holes.

After completing the winding and the necessary soldering, use clear silicone glue and seal to fasten the loop wiring to the three arm plates, the terminal arm plate, and the eight spreaders, all of which are made of 1/4" Plexiglas. Be sure to allow sufficient time for the silicone to cure before mounting the loop on the rotator.

Mount the relay minibox above the varactor tuner. Two pieces of the same gauge al­uminum can be used to rigidly mount these miniboxes. The varactor tuner minibox should be bolted to a 1/4" thick piece of Plexiglas which is screwed to the loop cross arm below the terminal plate. The preamplifier minibox should be bolted to a 1/4" thick piece of Plexiglas and then mounted on the same loop cross arm but on the side opposite to the varactor tuner minibox. Both pieces of Plexiglas with the miniboxes are mounted on the cross arm on opposite sides to those shown in the photographs in the NRC Antenna Manual. This somewhat shortens the leads to the varactor tuner.

After mounting the miniboxes on the loop cross arm, a 1/8" or 9/64" weep hole should be drilled in each minibox at its low point, to drain any condensation or other moisture from the box. It is very important that the miniboxes on the loop are well sealed with the clear silicone paste and then allowed to cure. Clear silicone glue and seal should be used to seal all openings for power wiring entering the boxes, all exposed solder connections, the exposed parts of the feedthrough terminals and the FET preamplifier connector to the preamplifier minibox. Any exposed wiring splices should also be sealed with this silicone glue and seal.
The wooden cross arms and closet pole should be soaked in pentachlorophenol and then allowed to dry fully before final assembly of the loop. Even after this period of drying, and after the loop has been erected, it will be necessary to retighten all thumbsnuts on bolts through the wood, because the sun will dry the wood.

The external connections between the feedthrough terminals of the relay box and the varactor box should be made with pieces of the three-conductor cable used for the 115V leads to the relay box. Each end of both pieces of this wire should be soldered to a feedthrough terminal. Two parallel wires between the feedthrough terminals will result. The loop ends at the terminal plate and the loop midpoint at the terminal plate should be bared. These three bared points should be connected to the feedthrough terminals and solder lug on the preamplifier minibox, using three pieces of the 115V wire previously used. The two loop ends should be bared and then soldered to the parallel wires between the varactor tuner and the relay boxes. Be sure to leave enough slack in the wiring to the preamplifier to allow the preamplifier to be lifted far enough out of the minibox so that the gain and balance pots can be adjusted during amplifier balance. The gain pot can be advanced until the amplifier can no longer be balanced. About four milliamperes is almost the maximum current drain that will permit the amplifier to be balanced.

Use Vector board and Vector pins to mount the capacitors, resistors, varactor, relays and chokes in the meter box, varactor tuner and relay box. Do not attempt to support a Vector board from the feedthrough terminals. Instead use spacers and bolts.

Two angles should be bolted to the Plexiglas center brace marked ‘F’ and to tilt arm ‘b-2’ shown on parts drawings D, E and G, FET Altazimuth loop antenna, in the NRC Antenna Reference Manual. The photographs on page 18 clearly indicate the location of the braces.

When installing the loop mounting shaft in the rotator, be sure that the rotator indicator shows 5, and that the cross arm with the miniboxes points to the south. A good compass will help. Positioning the crossarms in this direction will allow the cables from the miniboxes to be taped to the loop mounting shaft (closet pole) and to the 1/4 conduit forming a loop of wires and cable large enough to permit the antenna to turn 360° without the loop catching on the rotator body.

Loop Operation

The remotely tuned loop does not have the same capability to null stations that the altazimuth loop has. However this loop is an excellent antenna for a mobile home. I am able to null KCBC, 1390 KHz, and a 1 KW local located 1/4 miles from my home, and receive KPVI, 1400 KHz, also 1 KW about 70 miles away during daylight hours. I can also receive KOEL, 950 KHz, 5 KW, about 110 miles away, during daylight hours with KIOA, 940 KHz, 10 KW, 21 miles away also broadcasting. During good evening reception KFI can be readily separated from Cuban interference on the same frequency.

If a Motorola MV1403 varactor and a 150 pF padding capacitor are used, the upper limit for sharp loop tuning is about 1550 KHz. If the MV1404 varactor is used with a 150 pF padding capacitor, the lower limit for sharp tuning is about 570 KHz. I use the MV 1404.

It is very important that the loop be shorted when not in use and during a thunder storm. Before using the loop I always check the static level with my long wire antenna. If the static is too severe, I do not use the loop. The reason for shorting the loop during a thunder storm is that lightning strokes, even if they are several miles away, can destroy the FETs if the loop is not shorted.

Checking the FET Preamplifier

The preamplifier can be checked out before installing on the loop. First connect the coaxial cable to the meter box and to the preamplifier. After the battery is turned on, short all three of the amplifier terminals. If the current drain is about normal, the preamplifier is OK. Now disconnect the short on the amplifier terminals. Grasp the coaxial panel connector with the right hand. Then touch each amplifier input terminal with the left hand. You should hear something on each terminal if a strong local station has been tuned in.

It is also possible to check the resistance to ground of each FET. First disconnect the coaxial cable from the amplifier. Then connect the ohmmeter of a VTVM or FETVM from each input terminal to the solder lug on the preamplifier. The resistance to ground should be more than 5MΩ for each FET. The actual resistance is not critical.
This loop was tested using the same receiver and a regular altazimuth loop. Very little difference was observed between the two loops aside from slightly better nulling with the varactor loop. In nearly all situations the externally mounted, varactor tuned, rotatable loop produced a stronger signal than a 75' long wire antenna. The loop also cleaned up many signals not separable with the long wire antenna.

In a mobile home you cannot use the regular altazimuth loop. The only antennas which will operate satisfactorily are externally mounted antennas.

As noted in the "Location Drawing for Varactor Tuner, Relay Box and Preamplifier" none of the miniboxes is mounted in the plane of the loop.

The varactor control box is not a commercially obtainable item but is fabricated in a 2 3/4" x 2 1/8" x 1 5/8" aluminum minibox. Four insulated terminals, a SPST switch and a 100KΩ potentiometer are mounted and connected as shown by the varactor control box schematic.

All arm plates, terminal arm plate, center braces and spreaders are made of Plexiglas.

---

**HAM OPS LIST UPDATE**

Changes: Delete: WAIKVI, let license lapse 2/20/79

Change: WBIFAX, to General

N2YNQ, to Portable /8

Adds:

K1 QHV A VT Dennis Jackson
WB1 ZBOB N2 Daniel Levine
KA2 DLT T NJ Bob Stonier 2 meters
WA2 MOT ? NJ Webb Linzmayer 2 meters
WA2 WEN G NJ John D. Bowker 75 meters
AB5 L ? TX Michael Hopkins 6 meters
WA6 IFD A CA Art Rideout
K7 AQ E OR Charles Cox
WBB BYE G MI Mark Mitchell
VE3 OKU ? ON Ron Sibbit

**Addendum**

This loop was tested using the same receiver and a regular altazimuth loop. Very little difference was observed between the two loops aside from slightly better nulling with the varactor loop. In nearly all situations the externally mounted, varactor tuned, rotatable loop produced a stronger signal than a 75' long wire antenna. The loop also cleaned up many signals not separable with the long wire antenna.

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**TALE OF TWO CITIES**

Reprinted from "R&R", December 15, 1978 via Dave Burns

Back in the beginnings of commercial radio broadcasting in America a few radio stations existed before the rule against multiple transmitters was enacted. We were permitted to stay in our current two city set-up. There was a possibility of changing frequencies years ago, but the previous owners of the station felt very good about our unique situation and the Commission allowed us to stay. Believe it or not, there was originally a third tower and transmitter site proposed for WLIH in Haverhill, which would have made three transmitters broadcasting on the same frequency from three separate cities! Just before that was to happen the FCC, thankfully, shot down the multiple construction permits. I think that was in 1936 or 1937.
If you think you've been having technical problems at your station, just think about WLB/Lowell & Lawrence and perhaps your troubles won't be so bad. Couple the technical aspects of dual transmission with the programming difficulties of dealing with two separate streets and it's sure your staff agrees. Jack Diamond has his work cut out for him. Thanks to Jack for his insight into a one-of-a-kind situation that is literally a "blast from the past!"

27 DEVON DR.
WEST ORANGE, N.J.
07052

ELLIOT R. STRAUS

NATIONAL RADIO CLUB

HEARD RADIO STATION:

GMT/EST: FREQ:

DATE: RECEIVER: ANTENNA: REMARKS:

Elliot Straus adds a creative touch to his station reports by including his listener card. Such cards were widely used in the 30's and 40's.

P.O. BOX 179 • ST. LOUIS, MO. 63166

F.C.C. Never Acted on Bootleg Station

Woodbridge, N.J. News-Tribune (12/6/78) via Allen L. Nissen

By FRANK BOURKE
News Tribune staff writer

WOODBRIDGE — A lot of listeners in Woodbridge and surrounding communities are going to miss "Wolfman Bruce" and the gang at WCBN.

The area's underground radio station "rocked until dawn" Saturday before signing off the air. The station's management, all Colonia High School graduates in their mid-20's, proved equipment or a federal license. They have promised themselves that be­fore.

WCBN, the Woodbridge-Colonia Bootleg Network, has been on and off the air, AM and FM, for the past nine years. The sta­tion's management, all Colonia High School graduates in their mid-20's, re­vealed that they have been transmitting il­legally and apparently unbeknown to the Federal Communications Commission (FCC).

The bootleg station poured out all 1,000 watts from its hand-built transmitter as "Wolfman Bruce" hosted WCBN's farewell party, which began Friday night and ran into the wee hours of Saturday.

The emphasis as always was on hard rock music. There were no commercials ("That would get us in big trouble") and the station's secret telephone request line buzzed continuously as scores of avid listeners phoned in with requests for their favorite cuts.

Others wanted to dedicate songs to friends such as the "Tossed Tokers" of Assembled and the boys from Hubbard's Cup­board. The Wolfman, Rick, Lou and Bob were only too willing to comply. The station has now signed off of the air indefinitely, and the transmitter, the "evidence" as Rick calls it, is in route to Haiti in the Caribbean, to a new owner.

The powerful unit was purchased by Rick, who built it, by a friend who says he will put it in a licensed use on the island.

Rick, now 23, is the mastermind behind WCBN, which had its "humble be­ginnings" through a group of Colonia students interested in radio and electronics. He built a small transistor while in high school, and proceeded to set up a fully­equipped studio in his basement.

WCBN, operating under modest power, became the unofficial Colonia-Assembled AM station, as through word of mouth most of the area's young people found out about the unlicensed rock station.

Since then, Rick and his cohorts have gone through several transmitters, the latest giving them a power equivalent to the daytime wattage of similar legitimate sta­tions.

The operators of WCBN are well aware of the FCC penalties they would face if caught broadcasting without FCC-ap­proved equipment or a federal license. "We could be fined $10,000 per day or sentenced to two years in prison, or both," said Rick, a Navy veteran. "But in nine years we haven't heard a thing from the FCC. If we hear that we are bothering any­body, we just go off the air for awhile. I don't think the FCC knows we exist really.

Rick says the FCC could easily trace the WCBN signal to his basement studio if they wanted to. "That would only take about an hour, they have the equipment to do it.

The four men have no explanation why the authorities have not tracked down their illegal operation. They admittedly have a large listening audience that in­cludes "the boys at the Avenue Fire­house," most of "Mr. B's" bar and grill and young rock music lovers from as far away as Dover and Staten Island.

Rick surmised that the FCC is concen­trating more on halting illegal citizens hand communication, and in the mean­time his powerful AM station has gone un­detected by authorities.

WCBN, which could be heard in most Middlesex County and the Bayshore area when on the air, has just about all the equipment found in a licensed studio. Rick can play albums, reel-to-reel tapes, cas­settes and eight-tracks for his listeners.

Callers, who number among the privi­leged few to know the station's unpub­lished number, can converse, over the air, with the DJs when Rick hooks up a spe­cial transformer to his telephone.

The phone number is that of Rick's parents, who are the only objection to their son's antics came when they found their phone never stopped ringing, all hours. To ensure peace on the domestic front, the ingenious station manager rigged up a device so that the phone no longer rings WCBN disc jockeys know when they have a caller by a flashing light on the phone receiver.

This past weekend's "going off the air party" left most of the station personnel in shock. Most had departed the studio by 2 a.m., others slept there peacefully while a determined Rick manned the microphone, promising to "rock your mind until dawn—at least.

Rick remained on the air in his final bow until his transmitter began to overheat and he was forced to say goodbye some­time around 4:30 a.m. Saturday.

"Goodbye, as in never to be heard from again," he said.

"Of course, everytime we go off the air we say that will be the last time," he laughed. "But I swear to you, this is the LAST time.

"Wolfman Bruce" seems to think his budding career is far from over.

"We are here to rock down this whole damn area, man, and the rock can never stop. Tune in again sometime."
MUSINGS

ERNEST R. COOPER
5 ANTHONY STREET
PROVINCETOWN, MASS. 02657

The opinions expressed in this column are those of the individual members, and do not necessarily reflect those of the editors, publishers, or NRC.

NO DX EXCITEMENT DURING FEBRUARY

MILE TUGGLE - 990 Noires Mill Road - Del Air, Maryland 21514

The Great Eclipse Day. - took the day off from work to check out the eclipse and listen to the DX specials. I knew the sky was going to be overcast but a place was so covered in rain & fog that the darkening at eclipse maximum (62% of totality here) wasn't even noticeable. But there sure was some nice TV coverage of the event out West. It was awesome to say the least. I've read that Western Skye was even better. Can't wait until the next eclipse.

A few DX specials were a complete bust. I even heard DX spots on WRN-750 in strong rain. The DC report was 3:30am on 55m with "You're tuned to WSKY-1580, Knoxville", religious mx. 1/29

WHIO, WMC, WERC, WHIS, WAPE, WAGL, WSKT, WSRF, NM0P, WHIO, WN0P, WB9I, WNWS, WKBA. I think is really a great help. The one I was using before was from 1974. Reports out to WIBG, 12 MHz. Among the NRCers there were TOM MATTHEWS.

JIM 60600, Y.M. -550 on the crystal set (I think): Big lawsuit if they don't have their 1kw directional signal & they are usually weak but this morning when they were

WZAP-690 Bristol, Va. 5:14pm w/s/off; WAPE-780 Morgantown, W.Va. 5:40pm w/SID.

WJTH-1240, CXO-1240, CBEU-1340, etc. all of whom relay WJSX, and they played the NA "Wasn't CBEU-900, because I tuned quickly to the QSO and they were all between.-050, 5:45. I don't remember the brand but BOBBY WALKER has exactly one of it.

"Twasn't CBM-940, because I tuned quicHy to than and they were (facing their own thing.

"Twasn't WHNR-1560, having learned a lesson from Ohio about SSS, I waited a while on

WJTH-1240, ck it made 200 miles and got the spot off. While I was in the dark, I had to call the weather. My family & I took a trip to Scotland for Christmas & New Year's to visit our relatives and my dad & I turned on my grandmother's radio and heard Germany, Moscow, France, Spain, etc. Just imagine getting those over here! My dad got a GREAT DEAL on an R F-2200. In a town where the DXers are all ga-ga about the Hammariunds, I'm one who keeps it simple. When I move into a new place, that's really the only way. Another..."

Some DX Club DXs from the Past

As good as any DXing period might be, it is bound to turn around some time. I am into the slow ones now. Some waves have come in for my collection: Keyr, WCAM, WQXI. The Keyr DX from 1976 hit 9:30pm between was sent. For actual new DX we have this: 2/12- WJTH-1560, Calhoun, Ga. DX hear from the DX Club DXs from the Past

FRIDAYS AT 8:00 PM, KDG-1240, New York, N.Y. 8:00pm on 30m, religious mx. The one I was using before was from 1974. Reports out to WIBG, 12 MHz. Among the NRCers there were TOM MATTHEWS.

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WJTH-1240, ck it made 200 miles and got the spot off. While I was in the dark, I had to call the weather. My family & I took a trip to Scotland for Christmas & New Year's to visit our relatives and my dad & I turned on my grandmother's radio and heard Germany, Moscow, France, Spain, etc. Just imagine getting those over here! My dad got a GREAT DEAL on an R F-2200. In a town where the DXers are all ga-ga about the Hammariunds, I'm one who keeps it simple. When I move into a new place, that's really the only way. Another..."
PLEASE, THEN, MUSE, AND TELL US ABOUT IT. BE SURE TO DO SOME SPADE. NEXT DEADLINE, 4/12.

have there professional basis as HON-professionals can. Don't since our takeover in April. Is there a regular basis. I would personally urge those not in favor to also voice their opinions operatively. We have been solicited to both write HQ and/or Muse decidedly in favor of continuing poetry on a regular basis. I was in extreme! v ooor taste. The policy we have tried to follow is to keep the publication that we are restoring to "professional" status. We are confident that this will be a success.

WE'LL BE BACK AT TWILIGHT IN CHESAPEAKE.

DXES EYES AND MOUTH: DXES Y'LL

NAME: RAY ROYNER

ADDRESS: 3602 2nd Street S.E. - #101 - 2002 Washington, D.C.

GREETINGS National Poetry Club members! Remember our club slogan, "A verse a day keeps the DX away!" Not too much activity lately, but I did log KOBW-130/26 1/7-3/3. 1/7 - 3/3. 1/7 - 3/3.

FOR THE RECORD: When there's an issue that some might construe as vulgar. The publication that we are restoring to "professional" status. We are confident that this will be a success.
ABOUT KANSAS CALL LETTERS

PAUL SMITH-MON - Box 50 - Republic, Kansas - 66975

Three new Kansas call letters are now in use: KGDK from Topeka, KZK from Garden City, and KCOL from Lawrence.

About his new station, KGDK, Tim Morgan said, "It's a great name for a radio station because the initials stand for 'Kansas Galaxy Daily' and our slogan is, 'The Voice of Kansas.'"

And about KZK, Gordon Johnson, owner of KZK, said, "We chose this call because it's a good name for a radio station in Garden City, Kansas."

As for KCOL, owner Bob Lawrence said, "We chose this call because it's a good name for a radio station in Lawrence, Kansas."

These new call letters are a welcome addition to the Kansas radio landscape and are sure to provide great music and local news for listeners.

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POETRY, BASKETBALL, AND WRITES

ROBERT HILTON - 905 Desert Isle Drive - San Jose, California - 95117

This is a continuation of my Musing on the banning of poetry in DX NEWS. Poetry is a form of artistic expression that uses language to evoke emotions and explore the human experience. It's a way for poets to convey their ideas and feelings through the use of imagery, rhythm, and sound. Poetry can be a powerful tool for self-expression and can help us understand our own thoughts and feelings in a deeper way. It's important to support and promote poetry and other forms of artistic expression, as they are essential components of a healthy and vibrant society. Let's celebrate poetry and all the other forms of artistic expression that make our world a richer place. ---
Dear member of the DX Club,

I have just returned from the DX Convention and I want to share some of the highlights with you. The convention was held in Orlando, Florida, and it was a great opportunity to meet fellow DXers and discuss our shared passion for DXing.

One of the most interesting sessions was on the history of DXing. We learned about the early days of DXing, when it was a hobby for a small group of enthusiasts. As technology advanced, DXing became more widespread, and today it is enjoyed by people all over the world.

Another highlight was the keynote speech by a well-known DXer who spoke about his experiences and tips for successful DXing. He emphasized the importance of patience and persistence, and how these qualities can lead to great DX success.

In addition to the educational sessions, there were also many social events, such as dinners and receptions. These provided a great opportunity to network and make new friends.

Overall, I had a great time at the DX Convention and I look forward to attending future conventions. If you are interested in DXing, I highly recommend attending a DX Convention. You will meet many like-minded individuals and gain valuable insights into the world of DXing.

Sincerely,

[Your Name]
Greetings again from the balmy South! No, it's not Summer yet, but the thermostat has given us some real-time readings here. It is final - I will be moving to the South Carolina area this month, leaving my home in Louisiana, to assume the responsibilities of full-time church work at Mount Harmony Baptist Church in Matthews, N.C.

Contrary to popular belief, I did not decide to move there just because I wanted to add R February 1st to my log. It is true that WABX-1230, the old station in the area and our local jazz and R&B station (1260) has been operating for some time, and the other assorted goodies and did it. I had a good time meeting some of the other DXers from around the state and viewing Bill's very impressive DX "shack". Until next time, 73.-

STEVE'S MOVING TO THE CHARLOTTE, N.C. AREA

RE: WOR-710, FM - 93.7 - NEW YORK CITY

Dave, W2EE, has been heard in New York City on the 93.7 FM band. He is blasting in, Fiji-711, and the WOR-710 signal is very strong there, according to the report from W2EE.

BULBS HIMSELF A NEW LOOP & LOVES IT

George A. S. - 1923

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LINDA BRODSKY - 245

land, I caught s/off
2/16 2
isn't a

Muse, my article entitled "Takeover in the Night" is a goodie, so be looking for this goodie!

Vi.EE-1480 Va., WRSC
-1150
-1380
1370 (1000?
is greatl (I don't know, Steve - they'd have to answer that -ERC) Weil, that's it for this

ors? Diey need your support too, as well as the HQ pubstaff committee. I guarantee if you
- maybe their
1010
1530
156O
1570
- WPTR.
1510-

announcing central New Eng -
on the dial? I guess they mi^mit have a point if the station's programming is so urcnanorable.

25, on the cover and not in Bob Curtis' excellent "EDXR" column. As I mentioned in a just recent

w/"You Needed Me"; and Arizona, with KNIX

3:33, 5:00 today; 'WRK0-630 on OC only, no IDs from

1:05-1:35
done well o/CKLM 3 6:13pm. PZX-914, Ideuw Nickerie, Sur-

3/3-
1230
1:17am about even w/fffW; this channel is workable now that the Cuban has gotten on

3/5
1230

frequency; previously, low, they caused an awful het here. "Your Radio Station", WABK-1280,

1:58/6/79
-WQQW/WAKR. 1600-'WWRL/WUNR. Diassail.
73-

And so we end the weeklies for another season - my thanks to so many of you for your support.

for their comments on my erstwhile Musings, and particularly to Dave Yoois who pointed out to
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3/5
1570.

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MEET US IN ST. LOUIS

The 1979 NRC annual convention will be held September 1-3, which happens to be the 10th anniversary of the 1969 NRC St. Louis get together. The site of this year's bash will be the Noah's Ark Motor Inn located just west of the Missouri River on I-70 at the 5th st. exit in historic St. Charles Missouri. The place is within sight of the highway and is unmistakable as the adjoining restaurant is built in the shape of Noah's Ark (what else hi). The motel has all the usual features such as gift shop, room service, limousine service to and from the airport, swimming pool, two restaurants, snack bar, and cocktail lounge. In addition they have a game room with pinball machines, laundromat, a barber shop, heated outdoor pool and Whirlpool.

The area has several fast food chains such as McDonalds, Burger King, Steak and Shake, and Pizza Hut as well as several regular restaurants. Close by is a small shopping center and a Cinema 4 Movie Theater. Also as a special treat for Ted there is not too far away in St. Louis County Northwest Plaza which has over 150 stores (just think of all the credit cards to be applied for there, hi).

For those arriving by car St. Charles is easily reached via I-70, I-40, I-44, and I-55. By plane you will arrive at St. Louis Lambert International Airport located 10 miles east on I-70. St. Louis is also served by both Greyhound and Trailways buses. Of course there will be the traditional tour of local radio stations etc., the auction, and the buffet-banquet. For those interested in such things tours are available of Historic St. Charles which has among other things Missouri's First State Capital.

Well that should give you some idea as to what you can look forward to, and we will keep you all updated as plans progress. Till next time this is the BISTATE B0IS with 73's.


1979 NRC ST. LOUIS CONVENTION REGISTRATION

Mail to: Louis Buehler, 42 Jamestown, St. Peters MO 63376

Please complete all items and mail as soon as possible, as it will make things easier for the convention committee if we have some early indication as to the number to expect.

Name ____________________________ Phone ____________

Address __________________________ State __________ Zip __________

I plan to attend the Convention ______ I will stay at the motel ______ I will not need accommodations at the motel ______

I will // ______ I will not take part in the buffet-banquet (mark one) ______

I will take part in the tour // I will not take part in the tour ______

I will be arriving (date-time) __________ // I will depart ______

I will travel via car/ bus/ plane/ boat/ bicycle/ other/ ______

The registration fee is $15, this is to cover the cost of refreshments, hospitality room, etc. The registration fee may be paid on arrival but it would be appreciated if you paid when sending in this form.

NOAH'S ARK MOTOR INN--ST. CHARLES, MO

ROOM PRE-REGISTRATION, NATIONAL RADIO CLUB CONVENTION, SEPTEMBER 1-3, 1979

Name(s) __________________________

Address __________________________ State __________ Zip __________

Arrival date _______________________ Departure date _______________________

ROOM PREFERENCE (all rooms have queen size double beds)

SINGLES (1 double bed) 1 person $23.50/ 2 persons $28.50 each additional person $3.00

DOUBLES (2 double beds) 1 or 2 persons $31.00/ 3 or 4 persons $36.00 each additional person $3.00 Children under 12 stay free.