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<td>WJTZ-640</td>
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WJTZ-640, 640 Radio Way Suite 286-B, Blountville, TN 37617 will conduct a special DX TEST on Monday morning, April 15, 1991 from 0430-0500 EST. This test will consist of tones and code IDs. This will be the last portion of WJTZ's POP testing. Our thanks to Mr. Mitch Sandige, Chief Engineer for this test. Arranged by the Colorado CPC Machine for the National Radio Club.

WYRU-1160, Box 711, Red Springs, NC 28377 will conduct a special DX TEST on Monday morning, April 22, 1991 from 0540-0545 EST. This test will consist of code IDs that will be broadcast just prior to WYRU’s 0545 s/o. Our thanks to Mr. Richard Atwell for this test. Arranged by the Colorado CPC Machine for the National Radio Club.

Corrections ... My apologies for a poor job of proofreading families last week: WNL's test was arranged by Stephen Keesee, and new member Chuck Wolski is N2IKW.

They joined ... Roger McDonald, Germantown, TN, and Todd Roberts, Hilton Head Island, SC.

DXChange ... Ken Romstadt, MI, is offering his Space Magnet-1, which is in good shape, for $60, shipping included. He's also looking for an FM tuner, such as a TX 9800 or 9100. Give him a call at (517) 486-4440. And former member Clarence H. Freeman - 705 Hill St. - Yreka, CA 96097 is offering 40 pounds worth of DXN's ranging from 1969 to 1981 for just the shipping costs.

From the publisher ... FM DXD with new editor Todd Brandenburg returns with this issue. and we're debuting our new column. For Beginners, courtesy of co-editors Jack Woods and Mike Hawk. Also, in spite of doubling our usual 24 pages to 46, we still have left a few submissions which we'll try to squeeze in next issue. Thanks to all editors, authors, and contributors for making this issue so information-packed!

"FFAGWNDXP"... stands for AMANDX's "First Annual Great White North DXpedition" scheduled for May 17-20 at Hecia Island Provincial Park, about 90 minutes north of Winnipeg, Manitoba. For more information, write to AMANDX at 30 Becourter Bay, Winnipeg. MB R2N 2X9, Canada: mention the NRC when you write.

Remaining DXN Schedule, Vol. 58

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DX Time Machine

From the Pages of DX News

50 years ago ... from the March 29, 1943 DXN: Steve Mann, Lakewood, OH, reported that March 24 was an excellent morning for TP reception - 12 were logged at signal strengths up to 50.

25 years ago ... from the April 4, 1966 DXN: ANAREC was publicizing its first annual convention July 29-31 in Kansas City. ... Daniel Burstein, Bay- side, NY, found five new SS signals on March 23 on 1170 (2), 1180, 1200, and 1220.

10 years ago ... from the March 23, 1981 DXN: First-class postage increased from 15c to 18c ... the issue included several Radio Shack TRF woods ... Mark Connolly compared the TRF, the GE Superadio, and the Sony ICF-555W.
CALL LETTER CHANGES

Old call:

640 WBMX MI Zeeland
660 KZGR ND Williston
910 KGCL OK Miami
980 WMAY KY London
1240 WMAE MS Flowood
1330 WBIG SC Conway
1450 WQON AL Phenix City
1540 WQRE OH Circleville
1550 WQCE FL New Smyrna Beach
1580 KDAY GA Santa Monica
1994 WQAG MS Pascagoula

New call:

WDRR
KEYZ
KVIS
WBEE
WQOA
WPJS
WPNX
WNRJ
WMBH
KBLA
WZ7J

*Note: Change from KGSR to KEYZ on 660 kHz reflects the move of existing station KEYZ from 1360 kHz, more in Otherness.

APPLICATIONS FOR NEW STATIONS

None

GRANTS FOR NEW STATIONS

770 NY Youngstown: 5000 D3 (suburban Buffalo, NY)
900 PA Brockway: 500/500 U4 (10 miles north of DuBois)

*Note: In answer to several requests we will try to include a short description of new station locations if they are not obvious.

APPLICATIONS FROM EXISTING FACILITIES

796 CIAO ON Brompton: to 530 kHz with 250/250 U7 (move will take place when CUTF moves operations to FM
1210 KBSG WA Auburn: decrease night power to 6500 watts
1580 WQFZ FL Punta Gorda: amend powers of previous application to 670/430

GRANTS TO EXISTING FACILITIES

540 KPLP CA Carmel Valley: day power to 50000 watts
670 KIRK CA Simi Valley: day power to 50000 watts
1200 CBQW MT Rose/Edzo: to 1160 kHz
1230 CILW AB Wainwright: to 830 kHz with 10000/3500 U4, relocate transmitter site
1260 WJOT SC Lake City: power to 5000 watts
1430 WMMZ TN Germantown: day power to 2800 watts, relocate transmitter site

OTHERNESS

660 KEYZ ND Williston: call and format has moved here from 1360 as KEYZ buys this CP for new station. The license for 1360 kHz has been turned to the POC-Portsmouth. station has turned in the license for this silent station, remove it from your Log

750 WHEB NH Williston: call and format has moved here from 1360 as KEYZ buys this CP for new station. The license for 1360 kHz has been turned to the POC-Portsmouth. station has turned in the license for this silent station, remove it from your Log

Need more information about Medium Wave DX'ing?
Mail $1.00 to NRC Publications - P. O. Box 164 - Minneapolis, NY 13651-0164; ask for the Reprints Catalog.
**Domestic DX Digest - East**

**William Hale**

734 Burleson
San Marcos, TX 78666-4335

**MEDIUM WAVE AM List**

- **DDX-D-W** Editor Wayne Heinle forwarded a DX report from new member Bob Thompson of Marysville, Kansas. Remember, if you live in or near DX from the Eastern or Central Time Zone (East), send your reports to me. If you live in or near the Mountain or Pacific Time Zone (West), Wayne's your guy. In any case, welcome aboard, Bob. Hope to hear from you again soon. Also, a BIG DDX-D-W welcome to Bill Nienajady of Clifton, NJ. Since being a member for 3+ years, this is Bill's first report. Now that the reporting drought has been broken, let's hear more from you. And our third new report this month is from Rainer Destin from Buffalo Grove, Illinois, a Chicago suburb. The report's just fine Rick. So...what's the deal on the "Ranger"?

- If you've been paying attention to our contributors lately, you've noticed the name of Mike Hartlieb. I noted in Monitoring Times (March issue) that Mike was deployed to the Middle East. I was kind of shocked as I've been getting regular mail from him with an NC postmark. A quick call to Mike's desk revealed that not only did he pass along some information, but another DX magazine did, too. Glad you're still on this side on of the Atlantic, Mike. Rumors, rumors, rumors?

- Rod O'Connor, up Kodiak, AK way, sends word that Camp Blanding, FL (see inquiry in Issue 21) is 40 miles southwest of Jacksonville on Hwy 901. Well, my map doesn't show it, but maybe it's one of those new stealth bases, hi. Thanks, Rodrick!

- And Chuck Rel reports that as of March 8th, the BBC English AM service is still running all-night.

- When sending in your reports, try to format them in the manner seen here. IE divided into the various areas as seen here in 24 hour ETL time, report in frequency order, print neatly on type, on one side of the paper, keep it current, and very important...ensure it's true DX. I'm sure Wayne wishes you'd do the same. Oh, by the way, deadlines are ALWAYS one week prior to the Topixa deadlines. See the cover of Issue 21 for those dates.

### SPECIAL

530 **GIFT ON FORT BRAGG**- formally a rare receiver, not heard in 3-4 weeks (as of 3/11), so pressed off forever. (RUF-PA)

560 **WYOR** The DX contest was a silent when 225 DX News arrived (see Issue 20 Ed.), nor had it been silent since my arrival in Nashville in December. However, WYOR did go silent during the week of 2251; they had been BRN Bumbers, and that format was taken over by WNTN 99.7, which went on the air 1/21 (DS-TN)

610 **KDAL** MN DULUTH - format is T/LK/AC (MH-NE)

750 **WSB** ATLANTA - no AM such hotel noted since 9/90 (EB-GA)

740 **WEND** FL BRADENTON - re question raised in Issue 20, address is 2857 Executive Drive, Suite 100, Clearwater, FL 34622, according to M Street Journal Yearbook via Stan Morris; now Mike Breder can send them a follow-up (Ed-TX)

800 **WJR** MI DETROIT - now carries ABC's Nightline via WXYZ Channel 7 (RCW-MI)

870 **WCLW** IN WINSTON-SALEM - new carries WJCB Channel 2's 6 AM Newscast weekdays (RCW-MI)

860 **WCTR** VA EARLYSVILLE - 225 1627 new station now on the air with AM programming; 24 minute sermon Voice of the Day of Prophesy by Brother Stair of Kansas, Reston, VA; for money for broadcasts, followed by WIBL mix until USA Radio News at 1700; USA Business Radio Report at 1705; sign-off at 1745 (PCV-A)

850 **WACF** GA ATLANTA - 271 1830 noted with ComChair mix, Love 88 is WACF Atlanta legal ID - The Urban Alternative with Dr. Tony Evans; power cut/pattern change at 1831, fulltime CP is NOW ON with 1225 500 (EB-GAI)

870 **WLAM** ME LEBWISTON - 3 2225 good with WBIV ID, on new frequency (BC-NH)

1110 **WHT** NC CHARLOTTE - 2 2144 noted with CBS Mix no and mono, ex NBC/ABC/CBS and Kahn Stereo (EB-GAI)

1140 **KLUC** NV LAS VEGAS - perve, power is 25000/5000, not 10000/2500 as in Log, phone is 702-739-383 (MH-NE)

1160 **WAMB** SC COLUMBIA - 3 2235 good with WOY ID, broadcasating in Japanese(?), thought I heard a NHK (Japanese Government Radio) ID, but given that I don't speak JI, I'm not sure (DS-TN)

1180 **KKAR** NE BELLEVUE-OMAHA - add CNN to Nets (MH-NE)

1210 **KDLY** WI LARAMIE - format currently OLD, slogans K-Oldies (BM-NE)
HARMONICS

WJR MI DETROIT - 223 1925 good with martial law, pacemaker (HF-M12)

MIDNIGHT TO 0800 HOURS E/B

WAYR FL ORANGE PARK - 225 0633 fair, out of tape, REL pgn. Financial assistance for this program on WAYR will be appreciated [DS-TN]

WDUN GA GAINESVILLE - 37 0000 fair with Larry King, ID, local tx (DS-TN)

WWL 870am

KFYR ND BISMARCK - 223 0456 with AC mix, ABC Ns at 0500, F-Flag Radio News from Elizabeth Camps at 0600 and Doug Raiber with F-Flag Radio Weather, good in WRKQ (RCW-M1)

KLVI TX BEAUMONT - 37 0100 good with legal ID, then network tx (DS-TN)

WKYX KY PADUCAH - 225 0221 good with Sports Special, Extra, 253 heard at 0239 (RD-I3)

WCB AC RUTHERFORD - 3/8 0617 poor with CKWV, spalock; had ads for a clothing store in Forest City and The Storm's Natural Dining at Dining Furniture in Spangle where you get a freebie in you mention you heard this ad on WCB - southern Ohio mix with group call Back to the Bible (REHN)

KSJN ND JAMESTOWN - 223 0516 with IRS and local wx cut-ins at 0516 and 0542 with Jim Good; as ID 600, KSJN and AM 600, KSJN, very good atop channel (RCW-M1)

WSQK NJ NEWARK - 223 0734-0811 surprisingly good, way atop channel, with slight to howling on the AC mix, and some WMAA-GW on a spread; all is in SP with POP mix and mx, best over bird - good report (HE-M13)

KFJ CA LOS ANGELES - 222 0200 fair with TC by female: It's 11:50 at 4400 KFI, Los Angeles - traffic for the San Fernando Valley (RD-JA)

WJTN TN SLOBBINELLE - 224 0729 fair with CHR, It's 8:26 at 66 WJTN call ID

WBBQ SC GREENVILLE - 3/3 0646 fair with C&W; SC 55 (MH-ME)

WCRX VA RETREAT - 3/3 0636 with C&W/GOS mix and ID: Country WCRX; fair with WFNJ nulled; thanks to WMIC which normally has sign-on at WFNJ for their 0100 Sunday sign-on (REHN)

WGRG NC BREVARD - 224 0730 USA mix - local & wx construction of store at US 64/72 junction, info on Transylvania Community Hospital, there is a... (TS-TN)

KKDA TX GRANDE PRAIRIE - 37 0108 good with Soul 37, KKDA logo (DS-TN)

CIGM ON SUDBURY - 223 0448 with 680 crows, CIGM SID (HF-M12)

WPMD NY GOLDENBERG - 223 0757-0752 with local ads, community calendar and ID as The call letters of this station are WPMD, WPMD, Goldbergs, segments noted: AM Stereo, WPMD, and WPMD, Your Variety Country (MH-MO)

WIAJ WI CRYSTAL LAKE - 223 0748 tune-in with EJL (mostly local instruments with one vocal by Andy Williams); legal ID at 0830; was overpowered KOA with WMRM on OC 'til 0800 sign-on; IL 345 (REHN)

WJHDM MA BOSTON - 226 0647 Talk Radio WJHDM, with calls about auto problems; logged after LSR switch, behind WEEI with WJAC nulled (PC-VA)

WRFD OH WOR FORT WORTH - 226 0755 good with end of Eight-Right REL pgn. promo for Lighthouse Hour with wx ID (DS-TN)

CKLQ MB BRANDON - 223 0329 good with wx and current temps across Manitoba - song by Waylon Jennings (RD-JA)

CKLQ MB BRANDON - 222 0640 fair - good, chucking up partially-nulled WDCS with C&W mix, 0645 ID as The best country on AM 890 CKLQ, promo for Feedback with special guest, Federal Grains and Oilseed Minister Charlie Mayo. (MB-MO)
Jim Renfrew
61 Wilcox Street
Rochester, NY 14607-3832

International DX Digest

Foreign DX catches. Times are UTC; for ELT, subtract 5 hours.

It's been such fun predicting the column each week that I'm a bit sad as we move into the DX News Spring Bulletin banish in any event. Keep those reports coming! As always, submit your reports in UTC (MET + 7).

The major ice storm that hit Rochester last week brought down thousands of trees and paralyzed several counties. Our house stayed on line, but eleven others in the neighborhood are still without power. Local KISS-990 and WFXL-1370 were off the air for several days, allowing me to get six new ones, as well as a tentative reception of RDF St. Peter's, even though there is a strong noise level, possibly due to arcing in various nearby stressed power lines and transformers.

Welcome to new reporter Hugh Montgomery!

JIM

TRANS-ATLANTIC

153 APRILIA 0024 3/6. AA talk and signal good, but interference. Also heard 3/7 at same time not heard 3/8. No other DX to report. Thanks for the Kenwood noise blanker!! (TM-OH)

PAN-AMERICAN

590 MEXICO YES. Durango 1305 2/4. Poor w/RFI. Excellent DX. Nothing more.

850 MEXICO YES. Log M chaotic 1120 2/3. Completely off, rare SP for this mega-West. CSL/USA noted in their absence.

850 MEXICO YES. Puerto Vallarta 1156 2/3. Poor, full fader R. Parade siren, mentioned power is now 1 kw. Has probably been 1 kw for the last several months.

740 CUBA GB. Gran Campana 0716 2/5. Weak through local RFN with usual Relo program.

770 MEXICO YES. 1130 2/5. Rancho and mention of Monterrey.

CONTRIBUTORS

(TM-OH) Jim Hall, Chula Vista CA
Send QST to: 1010 Radio West Loop

(11-MH) Hugh Montgomery, Jr., Bethel
(567) Highwood 5000 with
beverages N-S-S (terminated)

(3R-USA) Jim Renfrew, Rochester NY
HG-150, SH-1

March 2nd. Finally an afternoon for DXing! Peace and quiet in the house, a nice day to chat with some old friends. I have kept track of 3000 miles of same, reasonably good A-index, prior day of the month for sunset split.

Turn on the receiver... OFFICE RUSH! And thirty minutes later a strongステーション eastward going through, as it's July. My neighbor from California has been hearing for a blizzard since arriving.

At least the mail has been friendly, with GBLs from Norway, Spain and Haiti, and loggings from new reporter Stephen Pender.

JIM

TRANS-ATLANTIC


193 GERMANY Searchers 0023 2/15. Good w/RFI in FAA.

216 FRANCE Systèmes 0016 2/15. Good w/RFI in FAA.

234 LUXEMBOURG Junglisten 0015 2/15. Excellent FAA, good to very good.

300 IRELAND Clarekeng 0013 2/15. Fair to good w/RFI, fast.

250 IRELAND Turloughore 0013 2/15. Excellent FAA, and some "sleep" beacon DXM noted. 0019 2/5. Excellent w/RFI, "Sandy the Jam" by Tranchair, excellent DX.

567 IRELAND Turloughore 0023 2/13. Excellent FAA, and some "sleep" beacon DXM noted. 0019 2/5. Excellent w/RFI, "Sandy the Jam" by Tranchair, excellent DX.

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770 IRELAND Turloughore 0023 2/13. Excellent FAA, and some "sleep" beacon DXM noted. 0019 2/5. Excellent w/RFI, "Sandy the Jam" by Tranchair, excellent DX.
The main generator also failed, leaving the ship freezing cold and without adequate lighting. After a period of galess even the small generator on deck failed on the evening of 10th December. After contact with the coastguard a RAF helicopter was able to lift the three crew members to safety leaving the ship. Revenge distressed at sea. On Friday 14th December the Chinese engineers managed to reach the Ross Revenge which had been in danger of being boarded by salvagers. Full power, heat and light were restored. However, before being able to reclaim the ship, an assurance had to be given that the DBC that had no communications facilities on board would be made. It is questionable if the station will ever broadcast again. (China Information Monitor, WRL & ACR Infor in Via Comm. Jan 1991/Distance)

Lithuania BS: Special broadcasts in support of the Lithuanian government monitor on 3:01. 14:00 & 14:00 kHz in Lithuanian, English and Russian and Polish. Soviet troops regained the broadcast facilities. Mostly Russian programs are heard on the Lithuanian frequencies. (Several monitors via Distance) USSR: Leningrad is being off the air for maintenance and service. It is possible that this powerful transmitter will start with a new external commercial service in EE probably in mid-1993. The programs will be primarily beamed to Great Britain. (AD/URS via ARM in DCX #3/Distance)

Portugal/MADEIRA Band-Scan

I'm reporting mostly on the stations usually heard on this side of the Atlantic. Incidentally, there are lots of 2 m hats in Portugal from 2130 on through the night, probably many from Brazil as well as NA, but I could pull practically no real audio on my Sony 49C.

504 MARCAO SAo-Paulo A strong daytimer on the Portugal coast, but unlikely here because of Even frequency.
549 ALGERIA Les Trappes Very strong at night.
594 PORTUGAL Madeira Good days in Lisbon area w/100 kW.
603 MADEIRA Alca At 10 kW is the best bet for Madeira lgt.
618 MADEIRA Espirito-Santo Good in Portugal day and night.
621 CANARY Is. Santa Cruz Not the best CI station in Madeira. Fair days and good nights.
666 PORTUGAL Lisbon at best and night in Lisbon area.
775 FRANCE Marseille Best FF station in Portugal.
684 SPAIN Sevilla Semi-local days in Lisbon area and on the south coast. 100 kW at night in Madeira, no fading. No wonder its heard so well over here. Now using 500 kW.
702 MADEIRA Espirito-Santo Strong days on south coast of Portugal. Distinctive because of Berkeley mix.
711 MADEIRA Lapa-Doce Not strong in either Portugal or Madeira.
Area Codes for DX'ers ... Mike Hawe

Have you ever heard an area code of a distributor, but could just get an ID from the station? This is a list of all 975 and Canada area codes with a map. Hopefully, this will narrow down the possibilities for that unidentified station.

Not sure about renewing?
Consider these benefits of a membership in the National Radio Club: 728+ pages per year of printed, easy-to-read, comprehensive DX and radio information ... reduced prices for publications ... responsive editors ... and the friendliest of DX! Why not send that renewal check to Ron today!


What's Wrong with Present-Day Loop Antennas. Dallas Lakefront

The purpose of this article is to discuss what's wrong with present day loop antennas, and to suggest some solutions for those problems.

There are often several reasons why a given loop antenna does not perform well, but the most frequent problem for amplified loops is excessive amplifier gain. I don't know why so many loopers are anxious to get the most out of a loop at any cost. I believe that the static in the network is increased, and that's bad — the dynamic range of the receiving system is degraded. High gain amplifiers are not usually the cause of spurious emissions; they are often the cause of spurious responses such as interference from other systems and cross-modulation.

When I introduced the 4 square, balanced, tiltable, amplified, air core loop, it was not optimized for efficient use of amplifier gain. The loop must be matched to the amplifier gain, and that's not easy to do. It's not easy to construct a 4 foot square loop which is mechanically stable. The 4 foot square loop is too large. Most DXers do not have room for such a large loop, and it is not easy to construct a size that is mechanically stable. The 4 foot square loop is still the most common air core loop antenna. However, the first loop I built was long ago tossed in the circular file. Subsequently, I have built just about every loop type I've ever tried. All of them have found a use, and all have suffered from spurious responses and other problems related to excessive signal levels.

Perhaps it is important to remember here that no single loop antenna is optimal for all receivers and locations. There are many factors, such as the BC-104A, an unamplified, 2 foot, air core loop is no better. For others, such as the BC-104B, the BC-105A, a 100 watt gain amplifier is needed for adequate signal levels. In both cases, the BC-105A, 2 foot, air core loop antenna is still the most commonly used air core loop antenna. The BC-105A, 2 foot, air core loop antenna is still the most common air core loop antenna.

I have described how to use a high performance loop antenna for DXing unless you have a high performance loop antenna. The following discussion about loop antennas is for use with an amplified, 2 foot, air core loop antenna. The loop antennas are not described in detail for other loop types, but I'm sure you'll get the idea. The BC-105A is a sharp receiver, and a DX receiver. The BC-105A is a sharp receiver, and a DX receiver.

It doesn't make any sense to use a high performance loop antenna for DXing unless you can use it with a high performance loop antenna. The following discussion about loop antennas is for use with an amplified, 2 foot, air core loop antenna. The loop antennas are not described in detail for other loop types, but I'm sure you'll get the idea. The BC-105A is a sharp receiver, and a DX receiver. The BC-105A is a sharp receiver, and a DX receiver.

If you aren't inclined to build a rather large and complicated air core loop antenna, there is a much easier way to get a small and very good loop antenna. Doyle's Radio Works offers a "Great Little Loop" and modify the map for reduced gain. This loop has been around in various forms for many years, and is built by Ralph Samuels. The map used in these loops is a balanced directional loop which Ralph told me he obtained from John Kolb in late 1970 or early 1971, see Figure 1 below.

1 I first saw this map about 1960 in WBCX's WBCX, a description of a balanced, tiltable, amplified, 2 foot, square, air core loop written by Ralph. A few years later I tried the map with my 2 foot air core loop, but like all the other maps I tried, it had too much gain for a 2 foot air core loop. Through correspondence with Paul Kowalski I learned that the same map was used in a 2 foot air core loop. When I received a copy of the 1971 edition of the ARRL LQS, I found a chapter on loop antennas and included a copy of the map for the "Great Little Loop".

The map gain was too much even for the lower signal levels developed by the ferrite rod loop. However, I recently discovered that an R4 gain can be reduced by reducing the value of R4. Using a 2M0L, with R4 reduced to 500 ohms, resulted in an R4 gain of about 10 dB, a 30% gain reduction, and a much smoother signal level.

After considerable listening tests with different values for R4 and R5, the optimal value for R4 and R5 was found to be about 470 ohms for the following three types of ferrite rod configurations; see Figure 2 below. One loop consisted of a four rod bundle with two rods to end under the two other rods stacked in the middle. The rods were 8" long, 3/8" diameter, 125 percent ferrite. This bundle was wound with a toroid of low loss, very fine stranded wire, close spaced, at the center of the bundle. The second bundle consisted of seven rods of the same kind, bundled together without overlapping, and had a 25 turn coil. A third loop used a Space Magnet rod which is 12" long by 9/16" diameter, 400 permeability. The
After discovering how to reduce the gain of the amp, I turned my attention to the remaining two problems with this amp—amp noise and spurious responses. With the original 4.7 K load resistors, amp noise was quite obvious on 70 db or more carrier meter indication on a K-390A with the receiver tuned to an empty spot above or below the MW band and the loop detuned to the opposite end of the MW band. Some improvement in amp noise was obtained by hand selecting Q1 for minimum noise, but 3 or 4 db noise remained despite my best efforts. Spurious responses were minimized by “matching” Q1 and Q2 in the sense that they were hand selected for nearly equal voltage output (within 2 db) with constant signal levels. However, some spurious responses remained. The remaining spurious responses were found to be well under 15 db products, and were generated by both pairs of MW signals and pairs of SIR signals. As entirely by accident (while testing a differential amp designed and developed in the UK by Trevor Brooks and Dave Porter) I discovered that amp noise could be further reduced (to 0 meter indication on an R-390A) by changing the 47K load resistor, and that spurious responses could be reduced by increasing the source resistor R3 from 1 K to 4.7 K. My final circuit is shown in Figure 3 below.

At first, the two band tuning was switched Q2 was replaced with simple band tuning by deleting Q2 and replacing Q1 and Q2 with a 600 pF air variable capacitor. I also specified the main tuning capacitor C1 as straight line frequency. Second, the 100 K gate resistor R1 and R2 are not optional for this circuit. Without the gate resistors R1 and R2 the Q of the tuned circuit is considerably higher, so high that signals may be distorted unless they are tuned precisely. With R1 and R2 the Q is lowered and audio quality is improved. Also, the lower Q reduces amp gain by maybe 4 to 6 db, which lowers 2nd order IMD products by about 8 to 12 db.

As before, resistors R4 and R5 are the load resistors, and they determine the gain of the amp. The maximum gain of the amp occurs when R4 and R5 are about 7.2 K, so there is no point in using larger resistors. Maximum gain should be used with the ferrite rod loops discussed above. I have also used the amp with a one foot air core loop, 20 turns, 1/4" spacing between turns. In that case the load resistors R4 and R5 should be about 470 ohms. However, I do not recommend using the amp with a one foot air core loop because weak sound products were observed at the threshold of detectability on nights with strong signals (loop tuned to my super local, and K-390A tuned through the 480 - 520 KHz range with the SW7 omni). The only amplifiers I ever used which is completely free of IMD products is my 2 foot air core loop with high dynamic range balun amp. I will discuss a 2 foot air core loop, balun, and a high dynamic range amp in a future article.

**Figure 3**

With a 600 pF air variable capacitor the tuning range can be adjusted for at least 500 KHz to 2000 KHz. This is more than is needed for tuning the SW band, but covers the typical frequency range. So a smaller capacitor can be used. For example, Ralp uses a 2000 section polypropylene variable capacitor in both sections wired in parallel for a maximum capacitance of 150 pF. But I like to use the old style metal frame air variables both for aesthetic reasons and because the mechanical rigidity is needed for stable operation with my phasing units. I also use air variable capacitors with a straight line or semi-straight line frequency. The shaft of these capacitors does not pass through the center of the metal plates, but to a side, with tear drop plates for straight line frequency, and smaller plates for semi-straight line frequency. With these capacitors the tuning is not squeezed together at the high end of the tuning range. And I use a Jackson Brothers dual speed planer drive, 6:1/3:1 for loops which I plan to use with a phasing unit because the extremely low tuning rate is needed for phasing accuracy, and the improved dual speed pattern values. If you do not plan to use the loop with phasing units, no tuning reduction is needed. The 600 pF value is not critical. You could use both sections of a 2 section 365 pF air variable, which would have a maximum capacitance of 730 pF.

The 2N3819 PEEs are currently available at Radio Shack, as are PP102s which work equally well. If you use PP102s be sure to observe that the pin out (G.S.D) is different than the 2N3819s. The PP dual speed drive is available from Radiokits (for example) $18.80. Their catalog is P, and their address is 700 N. Howard Ave, OH 43106. Other parts (metal boxes, 9 volt battery holders, etc) are available from Radiokits and suppliers like Mouser. You can get a Mouser catalog by calling their toll free number (900) 992-4963. If you live in the continental USA, For Alaska, Hawaii, Canada, and Puerto Rico call (800) 345-8473. With prices like $28.75 for Radiokits two section 365 pF air variable (and I don’t even know if it is semi-straight line frequency), one is inclined to shop around for less expensive parts. One of the newest 600 pF air variables I have found recently is available from Antique Electronic Supply, 6221 S. Maple Ave., Tesla, AZ 85723. The capacitor, catalog number 20240, is a dual section 320/345 pF, priced at $4.15 each plus shipping. I believe the AES catalog price is $3.00. If you buy some of these capacitors, you will need to remove the old dried out greases with a suitable solvent and replace the bearings because the original grease is so dry that shaft rotation is stiff and bumpy.

**High Dynamic Range Balun Loops… Dallas Lankford**

March, 1991

This article is a continuation of my previous article, “What’s Wrong With Present Day Loop Antennas.” In that article I pointed out that the main problems were excessive amplifier gain, usually accompanied by spurious responses, and amplifier noise. The improved version of Ralph...
Sanzorino's balanced differential amp which I presented in that article is excellent for use with ferrite rod loop antennas, and very nearly solves those problems completely. For DXers in urban areas with high ambient noise levels, one of the amplified ferrite rod loop antennas I described in my previous article is most adequate for short notes, provided it is used with a top-of-the-line tube receiver such as an HQ-180(a) or ‘HQ-90’ in good operating condition. But for some of us who are fortunate to have occasional low levels of power line and other man-made noise, a well designed 2 foot air core loop antenna will sometimes produce audible signals where these kinds of amplified ferrite rod loop antennas will not. It may be that small ferrite rod loops are inherently less sensitive than a 2 foot air core loop, or it may be that balanced differential amp inputs lessens their sensitivity, or possibly some combination of these conditions. As I said in my previous article, no single loop antenna is ideal for use with all receivers. For example, a 2 foot unsimplified air core loop is sensitive enough and provides adequate signal levels for an HQ-180(a). In fact, it is ideal for use with an HQ-180(a). An amplifier would not improve sensitivity; it would merely degrade the dynamic range of the receiving system. For other receivers, such as an ‘HQ-90M, 512-4, or HQ-150,’ the signal levels produced by an unsimplified 2 foot air core loop antenna are not sufficient. Perhaps a larger air core loop, say 4 feet square, would provide adequate signal levels for these receivers. But as I said in my previous article, most DXers do not have adequate space for a 4 foot square air core loop, and mechanical instability becomes a problem for such large loops. A better solution is to use a low gain, high dynamic range amplifier with a 2 foot air core loop.

In this article I will describe a balanced 2 foot square air core loop in several versions for use with the receivers mentioned above. First, I will describe the loop with balanced feed lines for use with an HQ-180(a). Next, I will describe the loop with a balun (balanced to unbalanced transformer) so that the loop can be connected to an HQ-180(a) with a single unbalanced feed line. Finally, I will describe the loop with a low gain, high dynamic range amplifier which makes the 2 foot air core loop ideal for use with an HQ-90M, 512-4, or HQ-150. Curiously, the amplified version has virtually no gain when used with an HQ-180(a), and so the amplified version can be used with all of these fine receivers.

In my opinion, loop antennas should be balanced because balanced loops have fewer nulls than unbalanced loops, which makes them better for nulling local noise sources or strong interfering stations. The simplest way to connect a balanced air core loop to an HQ-180(a) is by direct coupling with balanced taps; see Fig. 1 below.

An HQ-180(a) has two A terminals and a G terminal on a rear chassis terminal strip. When the shorting link between the G terminal and the adjacent A terminal is opened, the antenna input terminals are configured for balanced input. With a 1/4 turn loop configuration, which is typical for 2 foot air core loops, the coil taps should be turned each side of center tap. In this case, the taps provide an impedance match to approx. 51:1. Taking 350 ohms as the impedance of a tuned circuit at resonance, a source impedance of 4.9K ohms is presented to the HQ-180(a) antenna input terminals. Theoretically, this is not a good impedance match. According to the HQ-180(a) manual, the antenna trimmer can be used to match antenna impedances between 50 and 600 ohms. However, as I will explain below, a better match does not increase signal levels or improve sensitivity.

While enough details will be given for an experienced builder to duplicate my circuits, it is not recommended that a reader attempt to do so with a step-by-step construction article. If you are not an experienced loop builder, you would still like to try building one of these loops, get the NRC Antenna Reference Manual and Ralph Sanzorino’s IRCA reprint A8, and study how loop antennas are built. I can tell you that you will copy any of these designs exactly because your loop frame will be determined to some extent by locally available construction materials.

My loop coil L is 14 turns, center tapped, of #18 stranded bare copper wire, 7 strands of S22, which was obtained by stripping the insulation from some Radio Shack speaker wire. The 7x22 speaker wire does not seem to have a fixed Radio Shack catalog number, but my friendly Radio Shack store put a 3/$11 price tag on an inch off the end of a 50 foot spool and led me count strands. I do not recommend other kinds of wire because I have found that the 7x22 has the best balance of strength, rigidity, and flexibility. Currently I am using 11/16" spacing between turns which is a +1/32" between the two 1/4 turn turns of coil C. The 1/32" gap is due to my use of 2 by 2 f/s (actual dimensions 1-3/4" by 1-3/4") for the loop cross arms and a metal box containing the tuning capacitors G mounted on a cross arm below the bottom loop coil L support; see Fig. 2 below.

The source and lower frequency limits of the tuning range are determined by the air variable capacity capacitance range and by the spacing between turns. In my previous article I recommended a 600 pF air variable, and discussed several sources. In that article I neglected to mention that if the capacitor has resonators, the trimmers should either be removed (the best approach) or at least set for minimum capacity. Otherwise, the minimum tuning range of the modified version I will describe below, the tuning range from just below 500 KHz to beyond 3000 KHz for the 1/16" spacing between turns. The modified version which I will describe below, the tuning range from just below 500 KHz to about 2000 KHz for the 1/4" gap spacing between turns. I built my own loop, so the tuning range is not quite as wide as I would like. My design target was at least 2000 KHz = 5000 KHz. That is why I recommend a 600 pF capacitor for the main tuning capacitor. With narrower spacing between turns, the high end frequency range is about 3000 KHz for 1/16" spacing and about 1750 KHz for 1/4" spacing. The narrow spacings also lower the low end frequency range to about 200 KHz for 1/16" spacing and about 500 KHz for 1/4" spacing.

I used 12" wide by 4" high pieces of 3/16" thick plywood as bas my loop coil supports. A better choice would have been 1/4" thick plywood, at least for the bottom support, because when tension is applied to the coil with spreaders, the bottom loop coil support plate slightly. Spreaders are desirable because they apply tension to the 3/16" strung wire which helps maintain uniform spacing between turns and a rigid geometry for the turns. I used 12" long pieces of 2 by 1/2 f/s (actual dimensions 1-3/4" by 1-3/4") to build the spreader plates between alternate turns of the loop coil; see Fig. 3 below. The plans for the R.A.C. Two-Foot Loop specify 3/4" wide spreaders, but I found 1-1/2" wide spreaders a better choice.

As shown in Fig. 1, the tuning capacitor C is mounted inside a metal box. This is not necessary for the unsimplified version, but in my experience nulls are about as good with a simple "open air" mounting arrangement as with a metal box. However, the box does provide an impedance match to the capacitor from dust and from damage by accidental contact. If the capacitor is mounted in a metal box, it must be isolated from the ground, and the tuning knob should be isolated from the tuning knob with an insulated coupling such as a Killz #99000. Shortcuts like using a short length of 1/2" wood dowel are acceptable for prototyping loops, but they don’t hold up well under heavy use. The coax feed-through connector to the loop may be RG-58 (my choice), RG-59, miniature coax, or even audio coax, wired entering and exiting the box may be implemented with proximately spaced lines, or with insulated feedthroughs (K. N. Smith #9550 or #9555) and connectors (KGA, BER, or SE-399). I like Smith #9550 feedthroughs and BCN connectors.

To make tuning easier, I recommend a 61. Planetary reduction drive. If you plan to use the loop as part of a phased array for generating cardioid patterns, you should use the amplified version below with a dual speed 6:1/30:1 Jackson brochure planetary drive.

As I said above, the output impedance of the loop of Fig. 1 is not well matched to the input impedance of an HQ-180(a). A better impedance match is obtained by using a balun; see Fig. 4 below. The balun T of Fig. 6 is a 4:1 balun designed to minimize any load impedance balance. With the 4:1 balun, the 4.9K ohms source impedance of the taps is transformed into a 1.25K ohms source impedance. However, there is little, if any, difference between the meter readings for the two methods of feed. Apparently any loss in the feed of Fig. 1 is offset by the higher voltage levels of Fig. 1. The only advantage of the balanced feed of Fig. 6 is that it permits the use of a capacitor (PL-259, or BC with a BC to PL-259 adapter) for connecting the coax to the HQ-180(a).

Are you expiring?
We hope not! To avoid expiration, mail your renewal check or money order for your new renewal data to appear on your DXN mailing label.
The balun T of Fig. 4 is a 70 bifilar turns of #30 enameled copper wire on an Amidon FT-92-61 ferrite toroid core. This is not an off-the-shelf item. You will have to wind the balun yourself. Take two 8' lengths of #30 enameled copper wire, twist the two lengths together, about 4 quarts per inch, and start winding. It is somewhat like sewing. The 70 bifilar turns are close spaced, and will just barely fit, covering the entire toroid. The exact number of turns is not critical, with close spaced turns, which means the turns touch each other as completely covered.

As with Fig. 1, the circuit of Fig. 4 may be mounted "open air" or the capacitor and toroids may be mounted in a metal box. And as before, the nubs of the open air version of Fig. 4 are about as good as with the box mounting arrangement. In Fig. 4, the coax is attached to the A and G terminals on the HQ-180(A) chassis rear. Alternately, you may use a PL-259 connector and attach to the 50-239 socket on the HQ-180(A) channels rear. In both cases, be sure that the shorting link is connected to the adjacent A terminal.

The 2 foot, unamped, air core loop I have described are ideal for use with an HQ-180(A). Unfortunately, the signal levels are not quite adequate for an R-390A, 514-4, or HQ-150 if (and only if) you occasionally have very low levels of power line and other man-made noise. In that case, some (but not much) amplification is needed. After extensive testing over several years, I have arrived at the amplifier design shown in Fig. 5 below.

Before I discuss the amplifier, let me elaborate the point I have made repeatedly in this article and the previous article. Excessive signal levels do nothing but degrade the dynamic range of a receiving system, which may make it more difficult to hear the signal you want to hear. At my location, for a foreign split to be audible with my amplified loop or 80 foot inverted L, the signal level must be at least 30 dB and usually more like 40 db on the R-390A carrier meter. The signal levels with one of the unamped loops I have described are typically about 15 db lower than with the amplified version when used with an R-390A, so a split becomes audible when it reaches about 30 db on the R-390A carrier meter. That is plenty of signal for a split to be audible; in fact, if you use the amplified loop you can hear the split on my R-390A which the amplified loop can be heard evenly well with the unamped version of Fig. 4. The only exception might be on 750 kHz at local summer which tends to have lower signal levels, but I have never had a split fade out on my receivers. For DXers in large urban areas with high power locals, one of the unamped versions may be a better choice for the following reasons. Because they have no amplifier, the unamped versions are of the theoretically infinite dynamic range and no spurious responses. Any spurious responses you hear with the unamped versions originate in your receiver or elsewhere. If you are plagued by strong locals, one of the unamped versions may actually improve the performance of your receiver. Here is how. In theory the 3rd order IMD products should be about 30 db lower when using one of the unamped loops I have described compared to the amplified version below. The only cases where the amplified version is used with an R-390A are for sunrise viewing, daytime DXing, sunset DXing, and using the loop as part of a phased antenna system.

The amplifier is based on designs discussed in A. Buresse's November 1975 Ham Radio article, "Low cost design broadband IF amplifiers to provide top performance from VHF to over 100 MHz," pages 2 - 18. The amplifiers discussed in that article are grounded gate amplifiers which have low input impedance, low gain, and high 2nd and 3rd order intercepts (typically 35 dB and 25 dB respectively). Their main disadvantage is that the signal is usually biased for relatively high current drain, typically 10 ma, which eats up batteries quickly. The current drain is determined by resistor R of Fig. 5. The article above contains no information on how a lower drain current would affect the 2nd and 3rd order intercepts. So I made a few tests at a time listening with different values of R. I observed no spurious responses with values of R as high as 470 ohms (which corresponds to 5 ma current drain). I recommend you start lower drain current with a higher value of R. Because a small lossy data book notes the behavior of the noise figure of grounded gate U-310s mags begins to increase as drain currents fall below 5 ma. There is not only one super local at my location, so it is possible that some spurious responses would be observable in urban areas with several super-locals. I suggest that you start with R=470 ohms and use a lower value of R (higher drain current) only if spurious responses are observed.

Transformer T1 is a 4:1 broadband balun which converts the balanced and rather high impedance of the loop coil taps to an unbalanced and low impedance. Up to this point, the circuit is identical to the circuit of Fig. 4. Transformer T2 is a 4:1 broadband transformer which converts the impedance to a still lower value, about 310 ohms assuming 240K ohms for the circumference of the toroid, you will be within a few turns of 70 turns when the toroid is completely covered.
discriminate against noise and other spurious signals. Construction of an effective loop antenna is not particularly difficult.

Let's direct here and consider the reference material available from the NRC Publications Center. The Product Catalog lists a wealth of DXing information in the form of booklets and reprints. Prices are nominal. The material has been contributed by NRC members over the years and includes articles on antenna types and construction, receiver performance and comparisons, and many other subjects. If you don't have the catalog, send $1.00 to the Publications Center. The mailing address is on the back cover of DX News.

The horizontal sweep circuits of TV sets generate noise throughout the medium-wave band. It shows up at 3.75 kHz intervals. It is more of a problem with older sets. The noise is radiated by the screen itself and by the signal input cable and power cord. Ferrite beads and toroids can be easily installed to reduce radiation from the power cord and signal cable. Whether the noise reduction is in any particular installation is worth only be determined by trial and error. A free catalog and NFI tip sheet can be had from Palomar Engineers, Box 455, Escondido, CA 92023.

Electric light dimmers are a common source of noise which shows up as a loud buzz throughout the band. Dimmer switches which contain interferences-suppressing circuits are available at small extra cost. To buy a dimmer look for words such as "NFI suppression" on the package.

Overhead power lines can generate noise due to defective insulators, transformers, connections, etc. Prompt repairs by the power company may result if they are told where a trouble source is. Therefore, some detective work is necessary. A neighborhood with a portable receiver can often detect such trouble. The best way is to switch individual lights on or off. These units when defective can generate high amplitude noise. If the noise starts at dusk, look for a light fixture with reduced brilliance or which does not come on at all.

Some ideas on choosing a receiver will be the subject of a future article.
A word of explanation from the editor - actually two. For those of you who regularly follow this irregular feature in DX News, you’ll notice that one-half of the newcomers here at DX News no longer appear in the roll call of station logs. This is due to the fact that we have dropped the reference option, a practice that has been in place for quite some time. So what happened? I don’t know, but I do know that some of our DXers have stopped sending their logs, and I think it’s time for us to take a closer look at the situation. As I mentioned in the previous issue, we have received a number of inquiries from DXers who are interested in getting back into the game. If you’re interested in seeing your logs appear in DX News again, please let me know. We’re always looking for new DXers to join us, and we’d love to have you on board.

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**1230 kHz**

Logged from Jan 1, 1960 to Present

**Date of Last Update: Feb 12, 1961**

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GREETINGS! I have received several comments regarding the question posed last time about the antenna system of Realistic DX-400, which is, as I recall, virtually the same receiver as the Sangean ATS-805A. The answers received were quite varied, with some suggesting that for DX only, I should not be this far from the station. However, I know your knowledge on the subject. I should therefore recommend that you write directly to the manufacturer for this information. If you can get a reply, I’d appreciate seeing a copy.

QUESTION: I recently purchased an ICOM R71A receive. As I have a problem with the display, I live about 10 miles from the heart of New York City, will a good loop help with this problem?

ANSWER: You bet! Any receiver should have no problem in that location. I would suggest that you try an unamplified loop, as it is likely that a high-gain amplifier could cause other problems that could offset the benefits of the loop itself.

QUESTION: When auroral activity is at a low level, the residual noise in a ground wave receiving system is often audible. In your location, where ground wave distance of all sorts of government and military
installations, SW spurs, harmonics
and/or subharmonics would be
expected. The TV and other
electrical noise are, of course,
common in many locations. The
loop should perform much as
a locally generated electrical
noise, unless it's actually getting
into your receiver via the power
lines. The signals, etc. which are
externally generated should show
little influence on your usual antennas,
other than directionality.

QUESTION: I am in possession of a McIntosh program called "DX Helper" which calculates Maximum Usable Frequencies (MUFs) worldwide based on the Solar Flux numbers. What is the relationship between MUFs and DB DX? Can I somehow use the program for BC?

ANSWER: I've seen something about this package (which is available in other than Mac as well, somewhere out there, but I'm not sure where) probably in Popular Communications, but I can't remember what it was. I know it works, but it's not my job to break the floodgates. However, the MUF never gets down as far as the BC, and, if it did, it would mean that the signals above the frequency would be so heavily absorbed that there'd be little left. All the DXing stuff is above anything and you may have to use an assist from one of our other readers as well.

QUESTION: For DB DX, I use a McKay D-77 amplifier. This has metal casing on 3 sides. The top and ends are covered by an aesthetic panel. I have one installed in the box and insulated aluminum foil behind the end panels, leaving only the top open, and hand-crafted shielding as a result. I have noticed, however, that the Great Little Loop, the Shotgun Loop, and the NCVR-70 loop are all totally unshielded. Would I be better off removing all of the shielding on one of these loops? What are the benefits and drawbacks of this shielding?

ANSWER: For starters, the designed purpose for the D-77 is different from that of the BC DX. The DB TX is not specifically a DX antenna. It was originally designed for use in the broadcast industry, not for DXing but for antennas with high fidelity over moderate distances. Therefore, I'm not sure about the benefits of such a configuration. The fact that you've achieved greater transmission (I'd guess this is due to the pattern) from your modification is a plus for DB DX, and indicates that on the DB-7, at least, removal of the shielding might further degrade directivity. I'd leave it alone, and if your antennas, as modified strongly resemble the AmToy Space Magnet series antennas in terms of shielding now. Without knowing the various design elements of all of these antennas, I'm not able to state with accuracy whether or not one might work on another.

QUESTION: I use an Autel QF-1 audio processor. It consists of a notch filter, a peak filter, and a low-pass filter. Only one can be used at any one time. Each is tuned by two knobs, Frequency and Selectivity. For spoken word, I have considerable trouble getting a good peak. Where, in the spectrum of sound, does the human voice lie? How should I set this unit to maximize its voicepeak capabilities?

ANSWER: The QF-1 is primarily designed for AM signals, where QF-1 is usable on BC. A filter of this type is primarily designed to work on AM signals, heterodyne along the voice, and be used as a voice-peak filter. For AM signals, your voice quality may be improved by using a voice-peak filter. For AM signals, your voice quality may be improved by using a voice-peak filter. For AM signals, your voice quality may be improved by using a voice-peak filter. For AM signals, your voice quality may be improved by using a voice-peak filter. For AM signals, your voice quality may be improved by using a voice-peak filter.
Welcome to my first attempt at a DX column. I have been DXing FM since 1980 when I heard Florida with an AM/FM/8-track boombox. Since many of you don't have a lot of equipment for FM, I'd like to focus on getting as much as possible from a modest station. I would particularly like to hear from those of you who do your DXing with modest equipment. Much of the luck in catching E-skips, properly known as Sporadic E, on FM is purely a matter of being near the radio at the right time, but even when the E-skips aren't visible, DX is still possible via tropo-downdraft, aurora, and meteor-scatter, to name a few modes. Elaborate equipment is not necessary, just a good tuner/receiver and directional antenna. My first real DXable set-up was an old Marantz receiver and a 6-element Radio Shack yagi, which let me hear almost everything within 150 miles. Currently I use a Marantz ST-300 analog tuner which I calibrated with 150 kHz ceramic bandpass filters, a Heathkit AR-160 receiver (circa 1980), and an AntennaCraft FM-10 6-element yagi at 38 feet which is feed with RG-6 coax. The 150 kHz filters are a godsend for adjacent-channel selectivity, with 150 being the bandpass at 20 MHz. My current 6-meter-long-boom FM antenna that Radio Shack sold years ago, now being marketed under their own name.

This is for now. TTY W8B MAMK
Todd KAOKAN

Hank Holbrook - 407 Arundel Rd. - East Haven Cliffs
Dunkirk, MD 20754

Date: 1220-1400 EST

103 WFXZ Milford, DE - Good signals parked in driveway here at house. New station with religious programming.

Me-Silver Lake, KS
Equipment see above

92.1 KCMA Broken Arrow, OK - Classical music stereo. Would have been impossible without the narrow filters because of KQZ-92.3 Newton KS 3,1297 2208

93.5 KWME Wellington, KS - News > 2/off and mention of sister in KLEY KS #48 and much wanted. Hard to hear due to co-channels KOTE Eureka KS, and KLCB Parsons, KS.

First, thank you to all who wrote to tell me how much you enjoyed the CREAM profile. I am glad that you did. - CREAM was indeed an unusual station. The next profile you see will be WMBR, which I wrote last month. I've been writing Profiles of your favorite station. I do want to do profiles on WRMF-1550, Coral Gables, and transmitter in the middle of Biscayne Bay. WKB-450, Home (my first verse, but I get it in Fairbanks, not in CTR), CJMR-1220 (they use 117W), with its compendium of rock, religion, and local news, CIAC-790 which lives on ethics, programming, and KSR-790, the Glendale, which as you can suggest. There is a station on 1220, I believe, that is a small town at 12,000 feet elevation, somewhere in Colorado. Also would like to do WCMY-1220, in Taylor, MI, which is allegedly 50,000 watts with 17 towers, WDKK, in the same area as WCMY, which operates on 660/690, KJIR with quite a history, and KSN-660, a Wavelo station. Other suggestions??

The FM DX Digest is written by Los Angeles that KIHE-1270, Glendale, is now running CNN Headline News between brokered talk shows. Also, KFV has laid off half of the staff, and, finally, part of the KIEV hamshock antenna was partially dismantled last month. The wires and one of the supporting towers came down when the owners of the Glendale Hotel (former studio location) wanted additional parking space. But the city objected, because the hotel is a historic landmark, and receives a tax break. The unused antenna is a part of the structure...so the owners must rebuild the hamshock on the roof. A NEW HAMSHOCK antenna being built in 39911.

WINN-1220, Newburgh, NY, has dropped its nostalgia format in favor of CNN Headline News... and runs with very few watts at night. I noted as I returned from the last night. The signal hardly cleared Newburgh, and barely crosses the Hudson River into Danford. And, also in the Nutmeg State, WREC-1160, Trumbull, is indeed on the air with an easy listening format, with real DJ's, as opposed to a satellite. Speeds are "Your face to the pie", and "Fresh air for the Finger Lakes". As I drove to Syracuse, I lost WJCH just north of Ringhambone for these folks. WINN.....your chance for Maine!! (Unless you live in Chicago).

Our column is from Phil Boorstin, Dave Schmidt, our Musings editor, Jim Guthrie of the City of Angels, Geov Parrish and your writer. Here goest...
Greetins a...President Bush’s propo-
osed budget shouk the FCC setting an
SNCREASE in their atissont. If we
proceed with our contritunt, they oonti
not to col-
Aa...Bob Collins, the morning
man at Chicago’s mighty WGN, oonti
not to run for re-electi.
Bob continues to suik in many areas of
the country. KDKA’s late night talkshow host Joe Garein
has been given his walking papers
Aa...Howard Elson and Bob Kop-
py_tv have been demoted to
klik 1500’s perpasive
sostice. KDKA’s news reports have been
relegated to part-time status...
Aa...word on the street in LA has the Pi-
rate Radio concept sinking fast.
Scott Shannon is no longer on the
air...It is said to see the demise of a
once great radio station.
Philadelphia, WCAU became
no, and the results have been disas-
trous...In the recent book they went from 3 to 0.6,
in 10th place. Baa...While loyal
radio fans know I have a personal fondness for
soldiers, this isn’t the time...Baa...Tel

by John D. Bowker

This is the complete list of U. S. broadcast stations on the
indicated frequency as published by the Federal Radio
Commission in 1934. "S" means
Radio means specific hours; "T" indicates transmitter
location; "D" means daytime operation only; "U" means
limited time.

Frequency (ke)

Call letters

Main studio and transmitter
location

Power

Time designation

960.

WIBG

Glenisde, Pa.......

100 kw

D.

970.

WCFL

Chicago, Ill. ..... 15 kw

L KJR 6:00

980.

KDKA

Pittsburgh, Pa..... 60 kw

V.

Tower Tip

11.6

WKD-1410

400 W. 5th St.

For text above, please refer to the image.
Radio Waves
Laura McCusker
c/o WROW - 341 Northern Blvd.
Albany, NY 12204

News of the industry, of interest to DX'ers

...To start off this edition, a
collection of something listeners have wanted...
In 1984, the stations visited, a power pattern was generated out of
receptivity, and 16% of the stations checked were operating over or
derunder licensed power. This info from
Radio Waves for 1980... saying that it isn't "economically viable as a satellite-delivered format"... Uniter will no longer carry
music of your Life as of April 15, 1980, was originated at station
WABK in Springfield by the
Terminal at 91 in 1984. AX's also went up, thought, as expected, by much less.
A station's close at 4,686 in '84, compared to 5,205 in '91... and
lastly, the FCC is trying once
again to dispel a rumor that has persisted for 16 years - that
they are considering banning religious programming. The story began in 1974 when a
station, AM-2493, was made to seek a license on \( \text{AM} \) applications by religious institutions for radio or
TV channel use. The FCC dismissed the petition the following year, and that was the end of the issue. Unfortunately, for the FCC, rumors continue to circulate that they are considering a religious program ban, and they continue to receive as many as 63,000 letters a month concerning the imaginary "ban." The problem with inquiries has become so pervasive that the FCC now has a phone number those with questions on AM-2493 can call. The phone number is the latest attempt to quiet the rumors; in the past
the FCC has issued a general notice to the subject, and old stories in TV Guide and Time, hoping to get the message out. For whatever reason, it's turning out to be the rumor that simply refuses to die.

Musing... of the Members

BOB CURTIS - 17 COBBLEVIEW DRIVE - COLESTON, VT 05446-1180
A big thanks to DON LYNCH for sending in the article from the Springfield (MA) Journal on the story of WBC's early days. I'm told that in the late 1920's and early 30's when WBC was a mainstay in the area of Living in Springfield, WBAI was our local. I did some of my first BC DX'ing from a Westinghouse set and even found an accidentally left over DX Mems with a barrage of a few DXers I listened to in the "new" DX World of those days in the 1970's. The old time DXer remembers the days in the late 1970's and 1980's when WBAI was a mainstay in the area. I was attending the local meeting or the old New York DXers Club in that time. BC DX'ing was a bit different, believe me! My first BC DXing was done in the Boston area, in 1972.

BILL TOWNSEND - 4500 CONNECTICUT AVENUE NW #501 - WASHINGTON, DC 20008
Greennior, one of 10 from the land of Sharon Pratt Dixon, or the mayor, I joined the WBC in the spring of 78 at the same time I bought a Radio Shack 12-650 TRF receiver which still works but shows its age. I have it at my office. On just a few things, DX Mems with a barrage of a few DXers, including
my Super Bowl Bands was yielded 15 stations carrying the game (a
real head baseman) including both flagships, WABC-550, WTAF-790, WSB-950 (now WJY), WNB-1090, WML-1100, WDB-1100, WJRW-1120, WOC-1100, WCH-1130, WAM-1180, WAGE-1200, WGO-1210, KQV-1410 & WCKY-1530. I may be out for some long hikers before long, the winter has been the mildest in several decades with the temperatures in the 30s. We may be wont by March or early April. I did add 11 stations to my AM log this fall and winter bringing the total to 1277.

Time for SP, LXXI!!

ERNST COOPER - 5 ANTHONY STREET - PROVINCETOWN, MA 02650
Two more brings me up to 3177, a QRP from WBB-1300 and a hand written one from WBB-1400, which also brought me a veer for them I heard
before last summer. The Commonwealth Electric Company sent their trouble finding truck down my new path and they found it, coming from the porch light on the head of the stairs to our tenant's apartment. Seems he had one of the photos-electric gizmos that turns on the light when it gets dark, and that some of those places were the source of the buzz, which has now been corrected. So the electric company came to me to find my trouble. It was about 26 feet from my receiver and I couldn't get mad at them for raising the cost of electricity. I'd like to see the usual problems on the zoom-shots 900 KHz and using the slogan "K-900." I believe it's a Canadian, either CTV or CBA. And some one else on 900 on the Sports network in there also, all U/OCHEL. 2/3 I note WBB-750 is still off as of 2/26, open 1700 for SSB DXing, which so far has featured CBO. I'm trying to ex-see OWXQ but so far, N6K.
2/6OWM CKM-750 "Star Country" stop here at 2:27A. Has CKM-1507 and 900 KHz and using the slogan "K-900." I believe it's a Canadian, either CTV or CBA. And some one else on 900 on the Sports network in there also, all U/OCHEL. 2/3 I note WBB-750 is still off as of 2/26, open 1700 for SSB DXing, which so far has featured CBO. I'm trying to ex-see OWXQ but so far, N6K.
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The Canadian AN classical music replay program is heard here on 1250, anybody know if this is CQAN or CBUP? Noted now that WBRH's off AM. And which Canadian AN back on Networks on 1330? CKBC or CNR? 3/18 found WV2D off and an FV was in there with some talking by a man & woman, some phone calls - also but nothing sounding like an ID. (Also noted here-DNS). Could this be Gualtiero's, a farm radio? 2/19 WAGS-800 in at 5:00-5:15 with preacher looking for $5,000. 2/23 was sitting on 1570 trying to pull in WSPW, suddenly an ID came in over all from WSPW for a very unexpected name at 2:52A. 2/26 WAGS-1080 on again at a hard time 1:30-2:30A with 99.7 WDRS ID's, must have been on their day pattern. To ta - Forward - March!

MIKE HUNT - KBRSX - 10212 P STREET - OMAHA, NE 68127-2130

Hello again! Latest happenings here is me getting back into ham radio. I expect to buy a Kenwood TS530S which can transmit up to 150 watts. In NN happenings, I finally got NRI's last receiver, loop amplifier which gives a bit more gain to my loop. If you have a weak station, it helps bring it up to an understandable level. On 720, WSR was off the air. I had heard only 4 other stations on 220 besides them. In their absence, K2RS was dotted with some programming. WEMM was also noted. KE5T came in for a few minutes with an ID as Sunshine. Radio Shack program short after. K2RS was seen on their carrier, it was full of static. They shut off and on again in a few minutes, and it popped off again. This went on for a while. They corrected the problem and returned to normal later on. I also noticed W2000-1540 running a couple of different nights. I have now made my mind up, less letters will be sent to stations and more to the NRC. Recent veris is from WO1-640. 32 reports have been sent out this year and 13 have been received. Hopefully, this will improve my results. I think I may have heard M5 on 870, as I noted HH type music but no ID, commercials, or details of any kind. For iow freq, DX, I am going to use the Sangean AT-300 (equivalent of the Radio Shack K2444). It's built in ferrite but antenna works better than my loop from 600 KHz down. I noticed this when I heard 4 NRI8 on the ATV 800 and 2 on the 2100. I got the DX report but I'm after a 20 month wait but I'm not complaining! I ordered the DTMF address book in late December. With all the stations on 24 hours now, I have been trying for KK4, K5S & NNM but haven't had any luck so far. Local KK5Y-1420 DX call change in format a couple months ago, they are STL now, they are more of a soft AC. I noticed this while trying to see what I could hear in their null. That is all for now. 73's

NEIL SEAN - 623 LINCOLN DRIVE - LINCOLN, NE 68510

I wonder if it is legal to use a Walkman radio in bed rather than when one is walking? Oh well, I'm just going to play the M9 game. The following has been listened to here at my locations: 2/5 WBRH-1570 in pretty well 1:50-2A w/music & full ID on the hour. 2/10 CHOW-1570 quite well 2:00-3:40A w/music & CJ-3840 laments the CFC test from WEMP-1570 was heard 3:15-5:46A w/stations of code IDs but nothing else was heard. Very weak on this one already. 2/11 WHRD-1580 1:50-2S5A w/Mid. News Net., rock classics, IDs and a string of ads. 2/16 brought 2 new ones at the same time, WICA-1030 1:10-2:05A w/AM; music. 'K7 Country' stations and I believe CBS news at the top of the hour. WMSR was heard 9:33-10:30A w/Larry King, and I believe NRI news on the hour. IDed only once. 2/25 KQHD-880 7:00-7:10A w/Mid. News Net., Progressive Ag. Met. news, Arkl. Weather, CW music. Earlier had noted KXHJ 6:35-6:40A w/sports news & Agriculture Canada report. First time heard on 880, ex-1570 station. KXHJ evening newspaper carrier was interesting article listed on the radio licensees. They pointed out how often times the losing applicants are rewarded because they are paid to drop out by the license winners.

DAVE SCHMADT - P.O. BOX 11562 - WILMINGTON, DE 19852

Had a nice visit week with George Satche in PA (near Elmer) and round the area for a nice long drive, about 9000 points on field. I've managed to secure 1000 feet of sis copper wire for $38 (including shipping) from Davis NF, P.O. Box 230, Carlisle, MA 01741. With one of the B930's, maybe we'll hear something good before the static season sets in. In good news, Dallas Penford sends a note that the HOLLOW STATE NEWSLETTER will be published by RALPH S. SCICLUNO, 1130 MACH, NORCROSS, GA 30073, noting the Chris Hanson stepped down as publisher in May '80. The FF station ERC noted in his report on 2/16 was also noted way north here at 2A. Reports have it that Hamilton, NJ 1580 is back with the K2RS in the middle, if we hear WDDO-1400 (talk format). Thanks to all for this support to the column and we trust it will continue! 73's CR1D

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