



# DX Monitor

Devoted Exclusively to  
Broadcast Band DXing

March 7, 1981

Volume 18, Number 24

Issue Number 577

## In This Issue

Broadcasting Information .....	2	Non-reciprocal Skywave Propagation	12
New Members .....	3	Western DX Roundup .....	13
The IRCA Technical Column .....	4	DX Worldwide - East .....	14
Swap and Shop .....	9	DX Worldwide - West .....	18
Eastern DX Roundup .....	10	Eastern DX Forum .....	20
Central DX Roundup .....	11	Ancient Thoughts on Loops .....	22

## DX Calendar

- Mon Mar 9 WSAJ-1340, Grove City, PA, will test 0100-0130 (maybe 0200) EST w/TT, sweep tones, code & voice IDs, and march mx. Will use 100 watts into a longwire antenna. Send reports to Jim George, Stn Mgr, WSAJ, Grove City College, Grove City, PA 16127.
- Mon Mar 16 Various-1220, WGAR-Cleveland is scheduled to be off from 0000-0400 EST and a bunch of DXers back east are frantically trying to line up a bunch of tests from obscure daytimers. Keep an ear on 1220 during this period for last-minute tests, plus the following two.
- WRIB-1220, Providence, RI, 1000 w ND, exact test period has not been determined but it will be sometime between 0000 & 0400. Will consist of code and voice IDs every five minutes, with beacon-style single-letter morse code identifiers (using 5 kHz tone) filling the intervening voids. Send reports to Craig Healy, Technical Dept., WRIB, Water Street, East Providence, RI 02914. Arranged by Craig Healy.
- WKBK-1220, Keene, NH, 1000 w ND, will test 0000-0030 with a format similar to WRIB's. This test is still tentative. Send rpts to Lindsay Collins, CE, WKBK, 13 Lamson St., Keene, NH 03431. Arranged by Craig Healy.

## Other Remarks

There is no WDXF this week because Ric Heald had the creeping mungus and lacked the strength to crawl from his bed to the typewriter (i.e. he had the flu....). Last week's DXWWW showed up, but this week's is still in transit somewhere. Oh well, there's still plenty of fascinating stuff in this week's issue.

To our Canadian members who have been experiencing postal delays, Andrew Rimington has unearthed part of the reason for the problem. It seems mail from the U.S. to Canada is first dumped into huge bins with the rest of the overseas mail and shipped to some regional processing center; in B.C.'s case it's Grand Forks, a small town out in the middle of nowhere (about 200 miles from Vancouver). Here it sits for several days, at a lower priority than local mail (including third class junk), until they get around to sorting it, and then shipping it back to Vancouver, where it is further sorted before being shipped to the other provinces. I know it sounds weird, but Andrew swears it's true. To some extent, this explains why mail from Seattle to Victoria, B.C., 70 miles as the crow flies, often takes nine days by first class mail, and sometimes takes up to three weeks. This bit of inefficiency recently became public knowledge and steps are being taken to correct the problem. But in the meantime, you folks will just have to grit your teeth and hope the P.O. in Yellowknife decides to clean house and send you your Christmas issue of DX Monitor.....

Don't forget to nominate your choices for President, Secretary-Treasurer, and Board of Directors. 73 and good DX. See you next week. bp.

# Broadcasting Information

Greg Monti  
1110 Fidler Lane #1424  
Silver Spring, MD 20910

call	kHz	day/night	
KSXO	600	1000/1000	Redding CA wants 5000/5000
new	680	1000/	Bountiful UT wants KFAM
WJJQ	810	10000/	Tomahawk WI wants 640 kHz and 10000/1000
KFRB	820	1000/1000	Fairbanks AK wants KCBF
new	910	1000/1000	Mishawaka IN granted construction permit
WMYL	930	1000/	Johnstown NY application for 1000/1000 dismissed
WZIP	1050	1000/	Cincinnati OH wants WSOI
WBZY	1140	5000/	New Castle PA wants new freq (1120 or 1160?) and 10000/2500
WKCM	1140	2500/	Hawesville KY wants 1160 kHz and 2500/1000
new	1150	1000/500	Gaithersburg MD wants WJOK
WHMT	1190	500/	Humboldt TN wants 1160 kHz and 500/1000 (?)
WLIB	1190	10000/	New York NY wants 1200 kHz and 10000/10000
WMSO	1220	1000/	Collierville TN wants 640 kHz and 1000/1000 (?)
WFKN	1220	250/	Franklin KY wants 1000/
WGNV	1220	5000/	Newburgh NY wants new freq (1200?) and 10000/1000
WBME	1230	250/250	Belfast ME now specified hours, granted 1000/250 unlimited hours
appl	1230	1000/250	Gatlinburg TN
KSWW	1250	500/	Wickenburg AZ wants KUUK
KWIQ	1260	1000/	Moses Lake WA wants 1020 kHz and 5000/
WMRO	1280	2500/500	Aurora IL wants 1200 kHz and 10000/1000
appl	1320	500/	Pleasant Prairie WI
WENA	1330	500/	Penuelas PR granted 1000/
WOLD	1330	1000/	Marion VA wants 5000/
appl	1370	5000/	Elloree-Santee SC
WACK	1420	500/500	Newark NY wants 5000/500
WLIS	1420	500/	Old Saybrook NY application for nighttime dismissed
new	1450	1000/250	Silverton CO wants KDRW
KYSN	1460	1000/500	Colorado Springs CO wants 5000/500
WGIS	1460	500/	Moss Point MS wants WJXX
WABB	1480	5000/5000	Mobile AL wants 1160 kHz and 10000/1000
appl	1490	1000/250	Sydney NY
appl	1490	500/250	Beaufort SC (WSIB-1490's renewal has been denied)
KDKO	1510	5000/1000	Littleton CO granted 5000/5000
WGOR	1520	1000/1000	Toledo OH wants WVOI
WUTQ	1550	1000/	Utica NY wants 1000/1000 (no freq change specified and I doubt this can be done on 1550)
WJVA	1580	1000/	South Bend IN wants WONQ
WAWA	1590	5000/	West Allis WI wants 1200 kHz and 5000/2500
????	????	?/?	Pittsburg KS existing station owned by American Media Investments wants KKOW

From the 2/2 to 2/16 issues of Broadcasting. Sorry about the information gaps this month. Broadcasting has taken to listing only station owners, not the old calls, when showing call changes. They've also mostly stopped listing new frequencies in frequency changes.

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**RADIO** Stations and formats: WAPE-690 Jacksonville FL may be  
**PROGRAMMING** the next station to jump on the country bandwagon...KSD-  
**NOTES** 550 St. Louis MO has switched from news/talk to country...  
WKVW-1450 Jeffersonville IN has switched from beautiful  
music to Music of Your Life...WDGS-1290 New Albany IN may return to the  
air with a gospel format soon...KWEZ-1150 Englewood CO is rumored to be  
going off the air soon, but has just switched to oldies...Bill Wilkins  
is doing both morning and afternoon drive times on KNEW-910 Oakland CA...  
If you're hearing new names from time to time on WLS-890 Chicago, it's  
because the AM and FM stations are sharing their air staffs...KASH-1600  
Eugene OR has added a news block 0630-0830 PLT...KYAC-1250 Seattle WA  
has added sports talk at 1815 PLT...WYON-1390 Chicago IL now airs its  
"Hotline" talk show to run 2000-2400 CLT. Rumors of a change to all-  
Black talk are about...KYXI-1520 Oregon City OR has picked up the Dave  
Dawson talk program from KIRO-710 on a regional network...WGST-920  
Atlanta is all-talk from 2000-0500 ELT, including sports talk 2230-2400  
and LARRY KING overnight...WNBC-660 New York is now the nation's most-  
listened-to (cumulative audience) radio station. Its cume  
of 2,833,800 beat WABC-770's 2,484,100 according to the fall Arbitron.

Network news: ABC/I now claims 636 affiliates, including WAXO-1220 TN, WJSA-1600 PA, KBFI-1450 ID, KAGI-930 OR, KWIV-1470 WY, ..APR has announced its 800th affiliate: WKRP-1500 Dallas GA. ..CBS adds a new weekday feature, DAN RATHER REPORTING, fed at 1624 ELT. It replaces WALTER CRONKITE REPORTING. CBS has extended its contract with Major League Baseball for broadcasts of the World Series, Championship Series, and All-Star games through 1983. ..Mutual has switched stations in the nation's capital from WTOP-1500 to WGMS-570. LARRY KING remains on WTOP. New to LARRY's program: WSBT-960 IN, WPAM-1450 PA, KLBJ-590 TX, KDWN-720 NV, KCMO-810 MO, WARK-1490 MD, WTMA-1250 SC, KBEE-970 CA and KVNI-whether on 1240 or 1080 at this time, ID. ..New to NBC: WHK-1420 OH, replacing WBBG-1260 which is now on ABC/C, and KSBQ-1480 CA. NBC's "The Source" network is now at 149 affiliates and is resuming its SCREEN SCENES entertainment feature three days a week at 0711 and 1711 ELT. ..RKO now claims 200 affiliates and has begun feeding FOR THE RECORD, public affairs feature, at 1515 weekdays. ..Gannett News Service is providing daily audio news feeds to its owned stations from Washington. .. In sports, Oregon State basketball has been heard on KPNW-1120 Eugene. .. KCBS-740 replaces KSF0-560 as flagship of the San Francisco 49ers next season.

In Syndication: Drake-Chenault has added 13 hours to its HISTORY OF ROCK AND ROLL. It's now a revue of 1956-1980 and lasts 52 hours. .. There's a new, weekly, country series out called LIVE FROM GILLEY'S. It's on 230 stations including WJJD-1160 IL, KHJ-930 CA and KLIF-1190 & KENR-1070 both TX. ..Radio Arts is syndicating a new series, YOUR HIT PARADE (revival with original announcer Andre Baruch, still highlighting big-band era hits) and two specials, FROM THE SIDEWALKS OF NEW YORK TO THE STREETS OF SAN FRANCISCO (4 hours) and THE BRITISH INVASION AND THE AMERICAN REVOLUTION (6 hours), both about music of the '50's and '60's.

Thanks this month to: Mike Cooper, Atlanta; Ernie Cooper, Provincetown MA; Ed Ryan, Seattle WA; Ken McHarg, Jeffersonville IN; George Greene, Akron OH; NBC, CBS, RKO press releases and a couple issues of Radio & Records and Variety.

## ★ ★ *New Members* ★ ★

IRCA—Our 17th Year

*Editor: Rich Segalas • P.O. Box 26254 • San Francisco, CA 94126*

*New Members, Membership Renewal, Address Changes—Send to the Above Address*

Tom McNiff, 2148 Fairfield Street, San Diego, California 92110  
 Jerry Ball, 428 159th Place SE, Bellevue, Washington 98008  
 George Coppen, 88 Noble Avenue, Winnipeg, Manitoba, CANADA R2L 0J6 (rejoin)  
 Raymond Harris, 1036 Pinon Lane, Carlsbad, N.M. 88220  
 James E. Olson, 6408 Everest Way, Sacramento, California 95842 (rejoin)  
 Robert P. Bennison, 2 McDonald Drive, Cohoes, N.Y. 12047  
 James Heathcote, 2023 Ardmore, Ferndale, Michigan 48220  
 Dan Hughes, 1705 Kingston Drive, Urbana, Illinois 61801  
 Jim Farley, 23 Iroquois Avenue, Palisades, New York 10964  
 R.S. Kukreja, Box 2379, Pikeville, Kentucky 41501

RENEWALS AS OF 27 February 1981

Armand DiFilippo, W.R. McIntosh, Adolph Rattay, Andrew Rimmington, Rick Evans, Randy Miltier, Bill Nittler, Kermit Geary, David Wurl, Larry B. Godwin, David Johnson, Fr. Jack Pejza, Craig Healy, George A. Santulli, Ed Krejny, Dennis F.X. Dyroff, Paul A La Freniere, Joseph Mockus, Kenneth R. Carr, Ralph Fidyk, Fred McClelland

### ADDRESS CHANGES

Mike Burns, 710 C East Elk Avenue, Glendale, California 91205  
 Joseph A. Markewicz, 201-795 Fairview, Victoria, B.C., CANADA V9A 5V2  
 H. John Clements, 7310 Ensign, Sun Valley, California

DON'T FORGET THAT ALL RENEWALS AND ADDRESS CHANGES SHOULD COME TO ME AT THE ABOVE ADDRESS.



# the irca technical column

Editor: Nick Hall-Patch  
1538 Amphion St.  
Victoria, B.C. V8R 4Z6  
Canada

Armand Di Filippo writes: "If there are any medium wave DXers who presently own or are planning to purchase the new Yaesu Musem FRG-7700, they should be informed of the fact that early production models have a 1 kHz error when memory frequencies are recalled. At the same time, a beat sound is audible during this operation. (Armand has kindly sent me a copy of the Yaesu bulletin #28 outlining the modification to clear this up. It uses 2 1N60's and a 3.3 k-ohm resistor. If you would like a copy write me. ed) I would suggest that any potential buyer make sure that either the unit being purchased has the new circuitry or the dealer agrees to make the necessary modifications."

\* \* \* \* \*

### An attenuator patch cord for taping DX by Gerry Thomas

IRCA's A DXer's Technical Guide does a good job of detailing the use of a tape recorder for BCB DX, but some DXers might encounter problems when taping DX on some of the newer portable cassette decks. This is because most of these newer units (especially those with built-in condenser mikes) lack the "auxiliary" input jack necessary for handling the output levels from the "record" jack or speaker taps of most radios. The use of the microphone input which most cassette decks do have overdrives the recorder and results in very distorted audio---what is needed to correct this problem is an attenuating patch cord. Unfortunately, it's been my personal experience that the readily available patch cord sold by Radio Shack for this purpose reduces input so much that taped audio is barely discernable even when recorded at the highest recording level. What follows is a cord which has proven to be just right for my set-up and might be of interest to others who have encountered a similar taping problem.

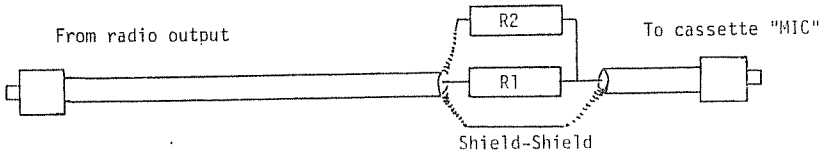
#### Parts:

- Male jacks to match cassette input and radio output
- A length of shielded cable (e.g. RG-174U)
- 47k-ohm, 1/4 W resistor (R1)
- 4.7k-ohm, 1/4 W resistor (R2)

#### Construction

Resistor R1 is connected in series with the center conductor of the cable. One end of R2 is connected to R1 on the cassette input side; the other end of R2 is connected to the shield of the cable on the radio output side. Finally, a jumper is soldered to connect the cable shields on either side of the resistor network. (The illustration below should clarify the preceding)

If the resulting patch cord still overdrives the cassette deck, try R1 and R2 values of, respectively, 56k and 5.6k, 68k and 6.8k, 100k and 10k, etc. 73's--GT



\* \* \* \* \*

### The Crudley-Bathbrush 26?!?---a homebrew MW DX receiver

by NHP

A couple of years ago, Randy Tomer suggested that a fairly decent MW DX receiver could be had for about \$200 by upgrading the sensitivity and selectivity of a TRF (#12-655) and adding a digital readout. Well, I agreed with him at the time, and still agree. To start with, hearing MW DX is about 70% listening on the the right frequency at the right time and 30% (or less) owning a fantastic receiver---location is important also to say the least. As well, MW DX is limited by local noise and sideband splatter, so there are limits to the amounts of selectivity and sensitivity that can be used to advantage on MW. Stability of local oscillator tuning is easily achieved at the relatively low MW frequencies. The major problem with any MW DX receiver is achieving a reasonable degree of strong signal handling, so that your local doesn't pop up all over the dial. The TRF portables don't do too badly even in this field, considering the simplicity of their circuitry.

Rather than modify an existing receiver, I decided to build one from scratch, using textbook circuitry and available components (no surplus or custom-built components). The idea was not to build the best possible receiver, that will come later I hope, but to build one which was inexpensive, but that would rival the FRG-7 or similar receivers in its ability to hear MW DX. Portability and simplicity of operation were also requirements as I wanted to use it on beverage DX'peditions. In fact, simplicity of circuitry was a

requirement, as I had (and continue to have) enough difficulty troubleshooting simple circuits.

Well, I didn't quite make it with exact textbook circuitry. The mixer and local oscillator ended up being tinkered with a fair bit. Because the supplier I got the coils from had longwave coils available, I decided to use some bandswitching, and get a longwave band as well. That introduced problems in tracking in the two sections of the variable capacitor that I won't go into here, especially as this was supposed to be a MW receiver. The RF transformers throughout this receiver came from an English supplier, Ambit International (200 North Service Road, Brentwood, Essex CM14 4SG, England). These are the inexpensive shielded, slug-tuned variety found in solid state radios the world over. I got them from Ambit because I was unable to find an American mail-order distributor. J.W. Miller has some similar ones, but for 3-4 times the cost.

I chose not to use an RF amplifier in this receiver because the mixer would have gain, and too much gain before the IF filter is not a good idea. An RF amplifier would have introduced another stage of tuning in front of the mixer which would have been useful, but I couldn't find any inexpensive, small 3-gang tuning capacitors, and wished to avoid a preselector tuning capacitor. An attenuator control (a 5k-ohm linear potentiometer) was placed between the antenna input and the mixer, as I was sure there would be signal handling problems (see Figure 1). The mixer circuit is a conventional one using a 40673 MOSFET, which is reputed to have the best signal handling ability of the various single-ended mixer designs, and has some gain too. Often the 40673 circuit has a 10k resistor placed across the output transformer in order to avoid excessive voltage swings and the resulting spurious responses. I tried this but found little attenuation in the spurs I did find--just a decrease in gain, so I left the resistor out.

The local oscillator (LO) circuit is a little unconventional in that it uses a "tickler coil" for its feedback. Most FET oscillators use a tap on the tuning coil for feedback. The 40673 mixer requires about 5 volts peak to peak signal from the LO for best operation and gain, and I found that the tapped-coil FET circuit didn't provide enough voltage, particularly with the peculiar bandswitching arrangement I had to use to make the LO "track" with the mixer tuning. The circuit I used provided a greater voltage

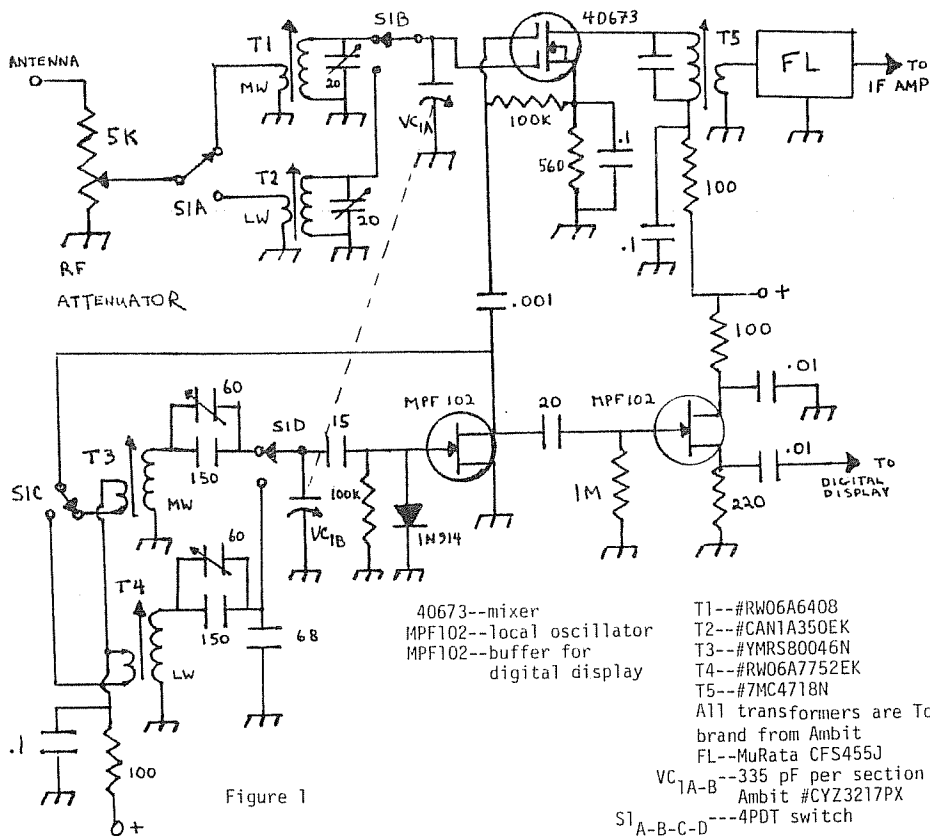


Figure 1

output, yet did not seem to generate an undue amount of harmonics. Incidentally, the tuning capacitor was a 2-section 335 pF per section "Polyvaricon" from Ambit. A 6:1 vernier drive is used with it, and I can tune to the nearest kHz without backlash.

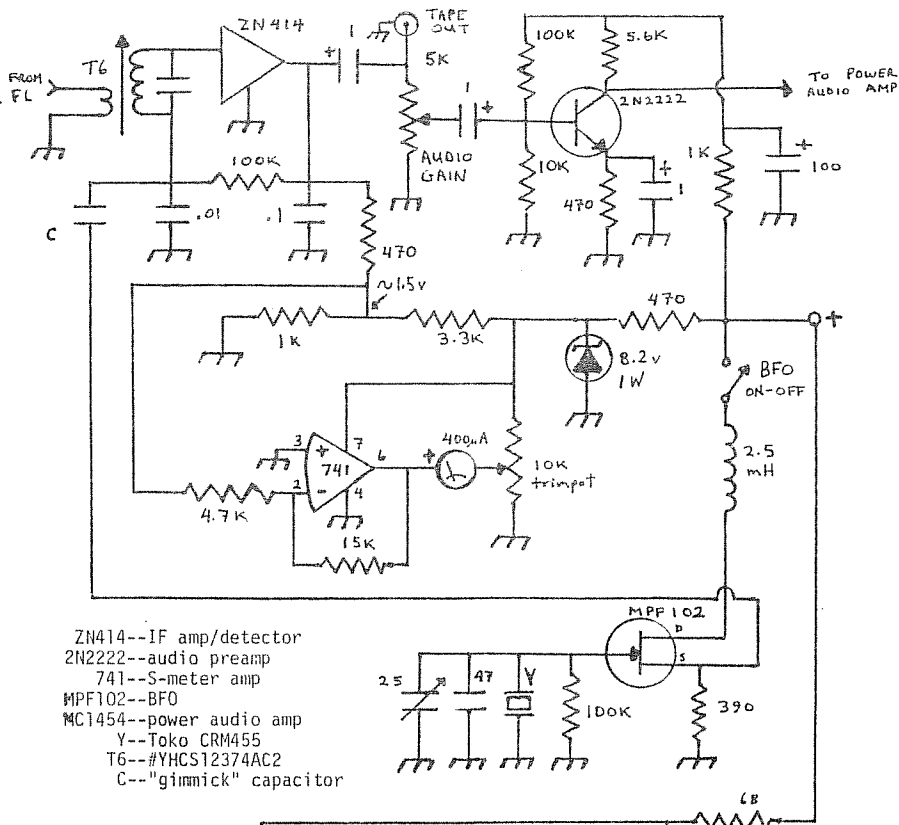
I used a digital display with this receiver, because I already had one with the necessary 455 kHz offset, a Radio West DD-2. It would have been time consuming and reasonably expensive to put together a tuning dial with even 10 kHz accuracy, so I opted for the digital display. Torretronics and Mattis Electronics also sell digital display kits suitable for 455 kHz (addresses in A DXer's Technical Guide; yes, that's a plug for the book). I use my digital readout for three different receivers now, so it was a good investment. To avoid any loading of the LO by the digital display, a buffer amplifier is placed between it and the display input, again see Figure 1.

The IF filter used in the finished product was a MuRata CFS-455J with 3 kHz bandwidth at -6dB and 9 kHz at -70dB. This filter can be obtained direct from MuRata (unfortunately they have a \$100 minimum order), from Gilfer Associates (their 3kHz MOD-1 kit at \$45; you might check as to whether they will sell the filter separately) or from Ambit (£12.25, about \$29 US; more if customs duty must be paid). Gilfer might give better value if the US government wants their cut. I tried out two other filters before settling on the CFS-455J. The MuRata CFG-455I is rated at 4 kHz at -6dB and 10 kHz at -70dB, has more spurious responses, but is a bit cheaper at £7.25 from Ambit (about \$17 US). I also had a Collins 455FD-29 which I believe costs in excess of \$70 when purchased from Collins nowadays.

How did they work out, and why did I settle for the CFS455J? I first tried the CFG-455I filter and was fairly impressed with it. The tuned transformers (T5 and T6) at the input and output seemed to eliminate any filter spurious responses even next to locals. Tuning across CKDA-1220 would yield readable audio at about 1216.6 kHz and readability cease as one tuned beyond about 1223.4 kHz. Lots of splatter on either side though, but in another test, there was no problem hearing Belize 834 between 830 and 840 with both channels at about double strength to 834. The transition point from splatter to readable audio and back was somewhat indistinct, as it was also with the CFS-455J. The CFS filter yielded readable audio between, say 1217.4 and 1222.6 kHz with lots of splatter on either side, and has allowed a goodly number of split channels through--weak audio on Tahiti-738 when in Seattle for example. The Collins filter was very impressive; readable audio would appear at 1218.5 and cease at 1221.5 (this has a 2.9 kHz -6 dB bandwidth) and the transition from readable audio to splatter was very sharp. Of course, with none of these filters would it have been possible to log a station on 1215 kHz (or even 1200 kHz much of the time) because there was just too much splatter. Tuning around semi-locals yielded some interesting results. Using a station at 600 kHz, each filter had about the same readable audio bandwidth as before, and with about the same quality of transition from splatter to readable audio and back. But once you had tuned past readability using the Collins filter, you were treated to large amounts of splatter, which was much more obnoxious sounding than the splatter noted with the ceramic filters. So although readable audio would cover a DX signal within 3 kHz either side of the 600 kHz semi-local when using the CFS filter, heavy splatter would obliterate any signal within that range anyway when using the Collins filter. Where the Collins filter made a difference was on 660 kHz where a TVI het is at 660.8 kHz. The TVI could be positioned outside the steep skirts of the Collins filter and XERPM or WNBC would be free from the TVI het. This is not really possible with the more gradual skirts of the CFS filter. These experiments were all performed with a shield between the filter inputs and outputs with little change in the results.

I chose the CFS filter for this design due to its relative inexpensiveness; I felt it to be more suitable for this cheap and simple circuit than the steeper skirted Collins filter. However, if I build a receiver with a really good quality mixer, IF amplifier, detector etc., then I would choose the Collins for its ability to "shave off" interfering carriers a few hundred Hertz away. So far, I've not really missed the Collins filter in this radio, except for DX'ing channels like 660. The CFG filter (similar to the CFR series but smaller) would be more useful for anyone who DXes few split channels and wants to save a few dollars.

There is only one IF stage in this radio and it is included in an integrated circuit with the detector. This IC, the ZN414 is available from Circuit Specialists, Box 3047, Scottsdale, AZ 85257, and was originally intended for use as a small TRF (rather than superheterodyne) style AM radio using a high-Q ferrite RF coil. It features RF gain on the order of 70 dB, has some automatic gain control in the circuit as it is portrayed here and needs between 1.2 and 1.6 volts for its power supply. This voltage is provided by the divider made up of the 3.3k and 1k resistor in Figure 2. The IF filter and matching transformers provide the 455 kHz signal to the exclusion of others, and T6 matches the 2k impedance of the filter to the high impedance input of the IC. Incidentally, T5 matches the high impedance of the 40673 output to the 2k input of the filter. The gain of the ZN414 is not fully controlled by its available AGC voltage, so on semi-locals and locals the RF attenuator in this radio must be backed off to allow distortion-free audio. As the radio was meant for DX'ing rather than listening to locals, I didn't consider the overloading a problem, and the ZN414 certainly simplified the building of the IF stage.



- ZN414--IF amp/detector
- 2N2222--audio preamp
- 741--S-meter amp
- MPF102--BFO
- MC1454--power audio amp
- Y--Toko CRM455
- T6--#YHCS12374AC2
- C--"gimmick" capacitor

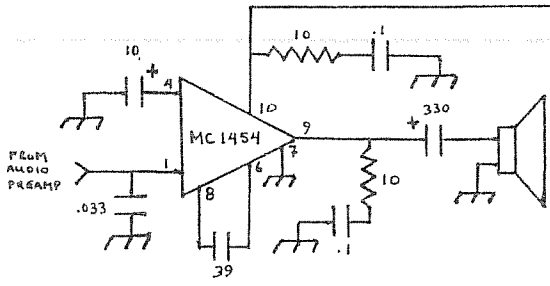


Figure 2

A basic S-meter can be obtained by putting a 1 mA meter between the 1.5V supply and the 470 ohm resistor in the ZN414's circuit. It will indicate about .35 mA when no signal and about .6 mA for the strongest signal before the device overloads. I wanted an S-meter which gave greater meter range and indicated "0" when no signal was coming in. I had to abandon the textbooks almost entirely at this point, but what I came up with seems to work fairly well. A stronger signal at the ZN414 input will draw more current from the voltage divider. As this happens the voltage available at this point decreases. So the stronger a signal is, the lower the voltage will be at this point. This voltage is fed to the inverting input of a 741 operational amplifier. The output voltage of this configuration of the amplifier increases as the input voltage decreases, so a stronger signal at the ZN414 input means a greater voltage at the output of the 741. The output voltage is compared with the voltage available across a trimpot used as a voltage divider, hence the zener diode; the voltage must be steady at this point. The trimpot is set so that the voltage at its wiper terminal is equal to the voltage output of the 741 when there is no signal at the ZN414 input. The meter will read "0" at this point. If you use a different value meter (say 1 mA) it will still read "0", but maximum signal strength at the ZN414

input will only indicate 400 uA on the meter. The value of the trimpot could be reduced to allow for a greater current flow, or the value of the 15k resistor from pin 2 to 6 of the 741 could be increased for greater gain in the 741. You'd have to tinker a bit for a different value meter. I eventually replaced the 10k trimpot with a 1k trimpot between a 5.6k resistor, and a 3.3k resistor to ground. Easier adjustment of meter zero was the result.

A beat-frequency oscillator (BFO) is useful for spotting carriers of weak MW signals, but for this purpose you don't need a variable frequency BFO. One set to 455 kHz will do for carrier spotting. The MPF102 circuit in this radio works fine with a minimum of components. The frequency determining element is a ceramic resonator ("Y" in figure 2) worth about 75 cents (again from Ambient). You need a resonator which is parallel resonant at 455 kHz. "Transfilters" usually used as emitter bypass filters are series resonant at 455 kHz and will oscillate up at about 480 kHz. The only "problem" with this circuit is that it has a good output voltage. "C" in Figure 2 is simply a length of insulated wire running from the BFO output, which is draped in the neighborhood of the ZN414 input. The BFO does a good job with that small amount of coupling.

Fortunately, we return to the realm of the textbook with the audio amplifier. A 2N2222 provides preamplification, and an MC1454 IC is the power amplifier. A switched headphone jack can be placed in the speaker line. The 68 ohm and 470 uF capacitor are for greater filtering of the DC supply. If your supply is very clean, you could omit these components. I used a cheap 12 volt DC adapter to power this and it works fairly well. This radio can use a 9 to 14 volt DC supply, although the 470 ohm resistor between the power supply and the zener diode may have to be changed with one extreme or another of voltages. At 12 volts, the current used by the entire radio ranges from about 20 to 70 mA, depending on the audio gain setting. The current drawn by the digital display is another matter however...

I constructed the mixer, local oscillator/buffer, IF amp/detector, S-meter/BFO, and audio amplifier on different PC boards, for ease of troubleshooting and modifying. In a way, the hardest part of the whole project was to set up the boards for easy access, and to place the whole works in a box with jacks, controls etc. in useable positions. I used a 6"x8"x3½" "mini-box" to contain this lot, and if one were an expert designer, the circuit could be fitted into a lot smaller space I'm sure.

Alignment is fairly straightforward if you use a digital display and have the S-meter circuit set up right. Assuming that everything is working (you should be able to hear your locals at any rate), let the radio warm up for ¼ hour at least, with the S-meter disconnected. Set up the S-meter circuit for meter zero, by setting the RF attenuator to full attenuation or grounding the antenna input, and adjusting the trimpot for a zero reading on (preferably) a milliammeter with a larger range than the one you will actually use. Now tune to a local, and get as much signal as possible, overloading the IF and keeping the AF gain down. Observe the meter reading at this point, and see if your meter will take it. If there's too much current, reduce the 15k resistor between pins 2 and 6 of the 741, or increase the trimpot value. If there's too little current to go full-scale on your meter, do the opposite. Keep cutting and trying until you get a meter range between zero and full scale of your intended S-meter scale, then replace the test meter with the S-meter. Now adjust the local oscillator for the desired tuning range. I found that mine covered 515-1650 kHz (read this from the digital display). The lower edge of the band is set with the trimmer capacitor, the upper edge with T3's adjustable slug. You may have to go back and forth until you get the desired range. The longwave band covered 148-420 kHz, using T4 and its trimmer.

Now, tune in a weak, steady signal (check that it's not a spur) anywhere in the band. Adjust the slug of T6, then of T5 for maximum signal as indicated by the S-meter. Tune to a weak, steady signal between 1400 and 1500 kHz; make it weak with the RF attenuator if necessary. Peak the mixer trimmer capacitor on that channel. Tune to a weak steady signal around 600 kHz and peak the signal by adjusting the slug of T1. Go back to around 1400 kHz, repeak the trimmer, return to around 600 kHz, repeak T1 until you get to a point where further adjustment is unnecessary. Finally, tune the receiver to any signal and make sure that the digital display reads exactly that station's frequency. Then turn on the BFO and adjust the 25 pF BFO trimmer capacitor for zero-beat with the desired signal. The ceramic resonator can drift around 40 to 50 Hz from this setting, but that will not be noticed when spotting MW carriers, and it's a lot cheaper than using a crystal in the BFO.

So, has the radio worked according to my original requirements? More or less... Conditions have been generally poor in the last couple of months, but I've heard virtually anything on this radio that the HRO could pull in--CBW-990 at 2PM PST, HIJB-830, HLAZ-1566, 1YA-756...I've also compared it with a FRG-7 in Seattle, and the general opinion is that it is comparable to that. The FRG-7 has somewhat better audio and AGC action, but the homebrew has 1 kHz readout and no birdie on 910 kHz. Sensitivity seems pretty good using an unamplified 3' box loop, but then sensitivity is not that important when conditions are right; I've heard W. Germany-756 with the Realistic TRF held up to that same box loop!

Signal handling ability is OK as long as the RF attenuator is kept set fairly high when using the loop. A birdie from CKDA-1220 is noted on 1530 ((2x1220)-(2x455)) and a birdie from CKNW-980, CJVI-900 and CFAX-1070 ((3x980)-(900+1070)=970) is found on 970.



Both can be knocked down with the attenuator, but at the expense of sensitivity. Using a longwire with the radio in this high signal area is a dead loss. CKDA alone puts out .4 V rms into a 5k-ohm load from my unamplified loop. However, the two-pole antenna tuner described in the Technical Column of the January 27, 1979 DX Monitor makes longwire listening possible, and clears up the 1530 and 970 birdies to boot. I think that I would wire in a two-pole preselector if I were to build this again, but there's no room in the present box. I did try replacing T1 with a higher Q custom wound pot core (tnx EHG) which attenuated the 970 birdie somewhat, but not really enough to justify the work involved in getting the mixer to track with the L0 when using the core. Longwave works poorly with a longwire-- lots of BCB spurs, but adding parallel capacitance to my MW loop yields reasonably clean beacon signals, so guess I'll have to make a longwave loop.

Outside of the IF filter, there's about \$40-50 worth of parts in this radio, so even assuming that you buy a new fully constructed digital display unit specially for this project you would have a reasonable (but not fantastic) MW DX receiver for around \$200. It will only receive MW and LW of course, but I see no reason why coverage couldn't be extended to 4.5 MHz as coils are available, and image problems shouldn't be too great up to that frequency. Of course, one could add a loop input, S-meter, BFO, digital display, and decent IF filter to a stock TRF or GE Superadio and have something very similar in performance to this homebrew job, with less work...but this did prove to me that a reasonable MW DX rig doesn't have to cost \$500, and has given me experience towards building better MW receivers. Maybe by 1984...!

## SWAP & SHOP

Tim O'Hare

20023 84th West

Edmonds, WA 98020

FOR SALE THREE SPR-4 XTALS FOR 4.0, 5.0, & 14.0 @ \$ 4.25 EACH PREPAID.

WANTED LATE MODEL DRAKE R-7 / DR-7 IN MINT CONDITION UNDER \$ 1300.00

ALSO WANT PANASONIC RF-2200 OR RF-2900 IN MINT CONDITION.

JIM UERLINGS - 3908 KELLEY DR. - KLAMATH FALLS, ORE. 97601

COLLECT CALLS ONLY AFTER 0100 GMT @ 503-884-7659

WANTED NEED THE FOLLOWING COILS FOR A NATIONAL HRO-60. " A " : " E " : " F " .

ALSO WANT MS-4 SPEAKER AND AL-4 LOOP ANTENNA FOR DRAKE SPR-4

TIM O'HARE - 20023 84th. W. EDMONDS, WASH. 98020

FOR SALE PALOMAR LOOP ANTENNA WITH PLUG IN COILS FOR STANDARD BROADCAST AND 160 THRU 80 METERS SHORTWAVE. PURCHASED NEW FROM GILFER RECENTLY WITH LESS THAN 10 HOURS ACTUAL USE TIME. PRICE INCLUDING SHIPPING AND INSURANCE IS \$ 120.00 - BANK DRAFT ONLY.

DAVID M. WURL - 908 W. 14th. St. - MARSHFIELD, WI - 54449

OR CALL 715-387-3947 WEEKENDS ONLY.

FOR SALE 1. - 22 $\frac{1}{2}$ " FERRITE BAR LOOP ANTENNA KIT. THIS KIT INCLUDES ALL PARTS TO ASSEMBLE A FINE LOOP. TUNES 150-6.0 Mhz. SEND FOR INFO. PRICE \$ 100.00

2. - 24" BOX LOOP KIT. CONTAINS ALL PARTS TO ASSEMBLE A BOX LOOP THAT WILL TUNE 530-1650 Khz. SEND FOR INFO. PRICE \$ 65.00

3. - DIGITAL READOUT - ASSEMBLED ; EASILY INSTALLED. WILL WORK ON THE RADIO SHACK TRF, PANASONIC RF-2200 (AM) ONLY, YAESU FRG-7, AC OR DC POWER. WILL FIT INSIDE OR OUTSIDE THE FRG-7. PRICE \$ 85.00

4. - " KS " PRESELECTOR CLOSEOUT. SOME WITH MINOR SILKSCREEN FLAWS. A FINE UNIT WITH COVERAGE OF 2.5 - 28 Mhz. CLOSEOUT PRICE \$ 50.00

ALL PRICES INCLUDE SHIPPING. ORDER FROM: RALPH SANSEIRINO - 8422 CRANE CIRCLE - HUNTINGTON BEACH, CAL. 92646.

FOR SALE RADIO SHACK DX-160 LW / MW / SW . 2 YEARS OLD IN EXCELLENT CONDITION WITH MANUAL AND MATCHING SPEAKER. \$ 105.00 UPS IN US.

DAVE YOCIS - 190 McDOWEL - EAST LANSING, MI. 48825.

CALL 517-353-1039 PREPAID ONLY.

# EASTERN DX ROUNDUP

Bob Lazar

1711 Wainwright Dr.

Reston, VA 22090

Deadlines: Tuesdays

- 730 WJMT WI Merrill, 1/22 1743 w/ promo for NBC Radio's "Galaxy" pgm, s/off anmt, no SSB, off at 1745. Fair-good o/ CKAC. (MB-ON)
- 790 WNWS FL South Miami, 2/9 1950-2005 call-in pgm, Hollywood Bank ad, nice ID on hour. Best stn on this frequency tonight. (DHM-PA)  
2/16 1815 spot for Barnett's Store, south FL ment by OM. Xlnt before sudden QSB due to nighttime switchover. (WPT-DC)
- 850 WKIX NC Raleigh, atop w/ 2 ID's, lengthy promo 1752 2/6. (DY-MI)
- 900 WFIA KY Louisville, w/ ID, rx o/u unid rocker 1750 2/6. (DY-MI)
- 940\*KIXZ\*TX\* Amarillo, 1/26 0300-0311 ET w/ pop mx, OC, "Not Fade Away" by the Stones, ID at 0311 "KIXZ ... Amarillo" then off. Fair-poor w/ Cuba QRM. (MB-ON)
- 960 WBEU SC Beaufort, 2/16 1756 "Rocky Mountain High", into local nx. Fair w/ WBOC QRM. (DHM-PA) (WBOC is now WSBY--ed)  
\*unid\*??\*TT 0041-0057 o/u WFIR, frequent ID's but only in fades (Hi Murphy!) by low-voiced male. Maybe WELI r/c on late? 2/2.(DY)
- 1010 KLRA AR Little Rock, 1/28 0220-0235 fair in WINS null during rare CFRB SP. Larry King Show, interviewing former GOP National Chair-woman, 0228 PSA for crime prevention, spot for Walker's Mobile Homes, 0230 local wx & ID at end "35 degrees at KLRA in Little Rock", then back to King. (MB-ON)
- WGUN GA Atlanta, 2/16 1810 interview then s/off, no SSB. (DHM-PA)  
(CPRB)ON Toronto, off 1/28 0200. (MB-ON)
- 1050(CHUM)ON Toronto, also off 1/28 0200. (MB-ON)
- 1070 WCIR WV Beckley, w/ ID surfacing o/ pile 1756 2/3. (DY-MI)
- 1080 WCII KY Louisville, 2/3 0300 poor-fair in fight w/ KRLD & WTIC w/ auto-mated-sounding C&W mx, "Country Eleven" ID's. (MB-ON)
- 1150 WNDB FL Daytona Beach, 2/7 2008-2014 and 2058-2103 first hrd w/ pop mx, DJ patter & ID. Covered by Latins, faded up again @ 2058 w/ PSA, complete ID, into CBS nx. (DHM-PA)
- 1190<sup>t</sup>WDZY FL Pine Castle, 2/17 1805 ment of central FL by OM during nx. Good, then QSB'ed out. (WPT-DC)
- WBDY VA Bluefield, 1/30 1729 w/ sign-off anmt, mentioning FM on 106.3, no SSB, fair-poor in WOWO null. (MB-ON)
- 1260 WALM MI Albion, s/off noted 2200 2/7, change log. S/off mentions 1000/500 watts, FM, Our Father (sung by man). (DY-MI)
- 1280 WGBF IN Evansville, xlnt w/ 2 ID's, R&R 0005. (DY-MI)
- 1330 WPOW NY New York, 1/27 1730 w/ stn promo, ID as "WPOW New York" into Polish or Ukranian pgm, poor-very poor in fight w/ WRIE & WHBL.
- WHBL WI Sheboygan, 1/27 1706-1711 w/ spot for Sheboygan County Citizens Bank, local wx, high school basketball scores, promo for a contest to win a case of Pabst Blue Ribbon. Fair-poor u/ WRIE. (MB-ON, last two)
- 1380 WLCY FL St. Petersburg, 2/8 1758 on top w/ instrumental mx, ID, into Ac nx. (DHM-PA)
- 1400 WKWK WV Wheeling, 2/9 0100 on top w/ s/off. (DHM-PA)
- WMAN OH Mansfield, w/ spots, "R. 14" and "Total News and Information Center" ID's, call ID 1800 2/4, then Ai nx. (DY-MI)
- 1410 KQV PA Pittsburgh, w/ CBS, local nx 1809 2/4. (DY-MI)
- 1450 WCTC NJ New Brunswick, 2/16 0100 ID by OM, call hrd w/ heavy GY QRM. Fair. (WPT-DC)
- ?WRNB?NC? New Bern, 2/16 0103 nx by YL, wx rpt, then ID during s/off by OM, no SSB. Good and atop GY pile. (WPT-DC) (Something is wrong here. WRNB New Bern is 1490, 1450 New Bern is WHIT, per my info--ed)
- KFIZ WI Fond du Lac, w/ ID, nx commentary 1820 2/3. (DY-MI)
- 1460 WBRN MI Big Rapids, w/ R&R o/u WPOW 1609 2/3. Fair. (DY-MI)
- 1550 WYNX GA Smyrna, w/ ID, probable s/off 1815 2/3. (DY-MY) (I think they're now fulltime--ed)
- 1570 WHII MS Bay Springs, 2/8 1844 tough but definate copy of s/off u/ the Canadians. (DHM-PA)
- 1580 unid ?? s/off 1802 2/6 w/ "People's Radio" ID. Who? Virtually no sky-wave in any direction all night, so likely close or very southerly. (DY-MI)
- 1600 WNEU WV Wheeling, w/ C&W, s/off, ments 6 a.m. s/on, FM, "we don't want to s/off now." O/ WAAM 1800 2/3. (DY-MI)

EASTERN DXERS: MB - Mike Brooker, Toronto WPT - Bill Townshend, Washington.  
DHM - Don Moore, Bellefonte DY - Dave Yocis, East Lansing

# CENTRAL DX ROUNDUP

Robert Kramer  
4639 N. Albany  
Chicago, IL 60625

## UnIDed, Special, Changes, et. al.

- 980 WKLF AL CIANTON, 2/2 0130 fair thru WCFL ET slop W/IDs & mx on DX. KDF-IL, 2/2 W/older C&W mx, short TT & a couple of IDs hrd. Poor-good signal 0145-0200 W/mucho KMBZ & CKRM QRM. NZ-NE
- 1260 WMUU SC GREENVILLE, 2/16 weak U/WNDE, noted TT W/male ment. "This is WMUU Greenville South Carolina conducting equipment tests." ZOC-IL, 2/16 poor-fair W/short TT, several IDs partial or complete & rel. mx, 0102-0125. WNDE & KVSV QRM. NZ
- All da Rest
- 540 WDAK GA COLUMBUS, 1/26 fair W/C&W mx, Ai Net. Nx, "K Country" slogans, request line # 0300-0400. NZ-NE
- KMMX NM LAS VEGAS, 2/7 1920 fair W/SS IDs, Mex. mx, ads, S/Off in EE @ 1945, KDF-IL
- 610 CKTB ON ST. CATHERINES, 1/30 a new suprise W/C&W mx, Knob Hill Farm spots, Nx, in null of WDAF 0200-0304. NZ-NE, 2/14 2230-2300, male ancr playing MoR mx by Anka, Sinatra & others until 2200 when stn IDed, Nx & Wx. Good usual pests WDAF & WLP quiet. DW-WI
- 620 KWFT TX WICHITA FALLS, 2/14 0105, CBS mx, lcl nx, CBS Weekend Feature on taxes, S/Off @ 0012 W/male vocal SSB. Good with WTMJ fairly quiet. DW-WI (Dave, is this in CST ? KWFT signs off at 0112, unless they changed, ed.)
- 640 KFT CA LOS ANGELES, 2/14 0315 weak to xInt sig, Rocky Horror Show spot, Barry Manilow & America mx, male ID, much wanted. ZOC-IL
- WOI IA AMES, 2/8 1445 weak, classical mx, male ID @ 1447. ZOC-IL
- 850 WKIX NC RALEIGH, 1/30 1745 strong, received after WIWS S/Off, male ancr ID W/rr mx. Quickly into QRM. ZOC-IL BHW-IL
- 860 WLBG SC LAURENS, good O/HILR W/ET. Played C&W mx W/full ID @ 0243, then OC, 2/15//
- 930 KRDE WY SHERIDAN, 2/19 new W/C&W mx & complete S/Off 1925-1933, fair sig. NZ-NE
- 940 WCPC MS HOUSTON, 1/17 1800 fair sig, disco mx, ID, quick fade. ZOC-IL
- 970 WDAY ND FARGO, very good O/XEJ, C&W mx, TC & ID by OM @ 0138. Was looking for WFLA but no luck yet. BHW-IL (Brock, I still haven't hrd them in 11 years, ed.)
- 990 KNIN TX WICHITA FALLS, 2/16 2027 very loud ID "KNIN, AM Nine-Ninety", Neil Diamond mx, ID, wx, Sonny James oldie, Billy Preston mx, O/CBW. DW-WI
- 1070 KNX CA LOS ANGELES, 2/18 0330, much QRM, rpt on credit, then ID & fade. ZOC-IL
- 1110 WUHN MA PITTSFIELD, 2/6 0645 suprise S/On, ment. of "Radio One" & "Music of Your Life", into schmaltz mx. KDF-IL (Did they say who won the contest ? ed.)
- WBT NC CHARLOTTE, 2/19 finally a good-sure log on this one W/KFAB off. C&W mx, Trucker wx. Fair plus sig W/fades, QRM from CHQT & CKJD & I believe KRIA was in behind there too. NZ-NE
- WZAM VA NORFOLK, 2/4 0701 strong W/rock ads, WZAM/WMYK IDs. KDF-IL
- 1150 WDEL DE WILMINGTON, New state for me. It overtook the CKOC/WJBO mess W/up-tempo MoR mx, jingle W/call & city @ 0157 2/6. BHW-IL
- WIMA OH LIMA, 1/24 2235 fair sig, C&W mx from 61, ID, spot, Steely Dan tune, promo for poster, O/U/CKOC. ZOC-IL
- WYNE WI KIMBERLY, 2/12 0638 $\frac{1}{2}$  fair in mess W/promo. RK-IL
- 1210 WILY IL CENTRALIA, 1/22 0830 fair sig, W/nx female ancr. ZOC-IL
- 1230 WKBO PA HARRISBURG, 2/9 0212 briefly atop W/ID, rock mx. KDF-IL
- 1240 WEDC IL CHICAGO, 2/16 0220 SS mx hosted by female ancr, EE ID @ 0230 followed by SS ID & then nx or talk show in SS. Atop the mess. DW-IL (Dave, note calls, ed.)
- WEBQ IL HARRISBURG, 2/9 0259 weak W/ID, possibly nx. KDF-IL
- KAKZ KS WICHITA, 2/9 0150 W/ET, OC & ID in WINN null, another ID @ 0154. KDF-IL
- KCLV NM CLOVIS, 2/9 0253 H-R Block spot, KCLW sports, ads for local Florist, Unicorn Tobacco Shop, promo for Frank Stanley nx 3 times daily on KCLV, into Eagles mx & then gone. My best catch on this frequency. DW-WI (I hope you wrote to them to verify this, ed.)
- 1370 KSOP UT SALT LAKE CITY, 2/20 hrd thru UnID OC W/C&W mx & one slogan ID. Good sig till covered by TT. Another new night operation on air. NZ-NE
- 1400 KTFS TX TEXARKANA, 2/16 on ET of OC, pop mx & one ID. 0207-0220. New here. NZ-NE
- 1500 WTOP DC WASHINGTON, 1/16 2210 extreme weak, just hrd ID by male ancr. ZOC-IL
- 1520 WRMG SC NEWBERRY, 2/5 0715 weak in KMPL/KOMA null W/S/On. KDF-IL
- WIDD TN ELIZABETHTON, 2/3 0716, tent, possible S/On thru KOMA/KMPL, then rooster crow & weak "WIDD" hrd. KDF-IL
- 1560 WAGL SC LANCASTER, 1/26 1715 xtrem weak, much QRM W/ID & rr mx. ZOC-IL
- 1570 WFRR MI GRAND RAPIDS, 1/29 1730 weak sig, caught last part of S/Off. ZOC-IL
- 1590 WTVB MI COLD WATER, 1/29 1730 fair sig, hrd Tri-State nx by female, Tri-State wx, Tri-State sports. Sent QSL in triplicate, hi. ZOC-IL (You'll be lucky if you get one in singlicate from these guys, ed.)

1340 KKIT NM TAOS, 2/18 found W/TT & ID @ 5 mins. 0236-0245, fair per list. NZ-NE

Out on Parole:

- KDF... Karl Forth 2714 N, LeClaire Chicago, IL 60639  
(HQ-160, loop, pear tree (Partridge flew away).
- RK.... Not him again  
(HQ-129X, HQ-100C, 2 loops. LW, Karl Forth's partridge)
- BHW... B. Rock Whaley (alias Tom Snyder) 1313 W. Pratt Chicago, IL 60626  
(HQ-140X, Palomar loop, LW, pear from Karl's tree)
- DW.... David M. Wurl 908 W. 14th St. Marsfield, WI 54449)
- NZ... Neil G. Zank 623 Lyncrest Dr. Lincoln, NE 68510  
(HQ-180A & RF-2600)
- ZOC... John Zochert 511 S. Craig Place Lombard, IL 60148

Welcome to new reporter John Zochert.

Guidelines for Reporting to CDXR

1. Always double-space between items.
2. Please limit you report to only essential items. You don't need to say when there was talk by a DJ.
3. Please use the reporting format used in this column. Don't send me a clump of details & expect me to write your report for you.
4. Only report UNIDed stations that you have a chance of IDing. Just reporting test tone is not enough. Neither is a specific type of music (unless it is unusual).
5. Your initials must be on every item you submit.
6. Please type, or write so I can read it.

NON-RECIPROCAL SKY-WAVE PROPAGATION

1. Introduction

A recent paper\* describes an analysis of measurements made in the United States of America which indicates that sky-wave propagation in the MF broadcasting band is non-reciprocal on east-west paths, the transmission loss being greater on paths from east to west. The paper says that these differences should be considered in any frequency assignment process intended to make optimum use of the MF broadcasting band.

2. General

A theoretical paper\*\* has shown that nonreciprocal transmission losses are to be expected on east-west multihop paths due to the change in polarization occurring at the intermediate ground reflection. The paper shows that greater transmission losses are expected on paths from east to west and that the difference between the two directions of propagation is greatest at magnetic-dip latitudes of about 60°, and increases as the frequency increases. The difference between the two directions of propagation is likely to be most pronounced on paths which are just beyond the range of the one-hop mode and where the intermediate reflection point is on land; at this distance (2000 to 2500 km) the two-hop mode is reflected at angles near the Brewster angle. Little difference between the two directions of propagation is to be expected when the intermediate reflection point falls on sea water.

If non-reciprocal propagation is confined to east-west multi-hop paths over land at about 60° dip latitude it will be significant only within a small part of Region 2. The conditions for non-reciprocal propagation can be satisfied in Canada and the United States of America, and here it appears to have been confirmed by measurements. In Central and South America, two-hop paths with intermediate reflection points on land are possible only at dip latitudes less than 30°, where the non-reciprocal effect is unimportant.

3. Conclusion

In common with the field strength prediction method described in Annex 1 to CCIR Recommendation 435-3, with all of the earlier methods described in CCIR Report 575-1 and with methods based on the PCC curves, the method recommended here for planning purposes in Region 2 does not take account of non-reciprocal propagation. Any method would become very complicated if such a correction were to be properly applied, while in most parts of Region 2 the improvement in accuracy of the predictions would be small.

\* CROMBIE, D.B. [1979] Comparison of measured and predicted signal strengths of night-time medium frequency signals in the USA. IEEE Trans. on Broadcasting, BC-25, 86-89.

\*\* KNIGHT, P. [1973] MF propagation: non-reciprocal ionospheric propagation on multi-hop paths. British Broadcasting Corporation Research Report 1973/17.

# WESTERN

## DX ROUNDUP

Nancy Hardy  
2301 Pacific Avenue  
Aberdeen, WA 98520

All times are  
Eastern Local

Phone for hot WDXR tips: (206)532-6827 till 10:30pm(PLT)--no collect calls

DEADLINES: Thursdays 3/12 (Anniv. Issue), 3/19, 3/26, 4/2, 4/16, 5/7, 6/4

REPORTERS FOR THIS ISSUE:

(WJH) Bill Harms-University Station P.O. Box 7428-Provo, UT 84602

Realistic TRF

(SMM) Steve Mittman-2248 West 37th Street-San Pedro, CA 90732

Realistic TRF, FRG-7, 3' wedge

(RT) Rich Toebe-556 Santander Drive-San Ramon, CA 94583

Grundig 3400, Radio West loop

(RW) Robert Wien-1309 Dentwood Drive-San Jose, CA 95118

GE long-range portable, SM-2

GUEST REPORTER:

(MJ) Michael Jeziorski-3908 Circle Drive-Brookfield, IL 60513

\*\*\*\*\*

570 (KLAC) CA, Los Angeles Sa 2/21 0935-0944 off the air for 10 min.

during SRS due to a temporary pwr. outage at the station. (SMM)

?KJRT? NM, Las Cruces Sa 2/21 0935-0944 probably the one w/C&W mx w/

loop pointed towards NM. KJRT is D-1, 5000w, so was almost

certainly them. Unfortunately, sunrise was wiping them out, so

no ID's hrd. Would have been a nice catch.... (SMM-CA)

630 \*KOH\* NV, Reno Mon. 2/16 0423 off at this time, testing their 5kw ND

xmtr. Running ID's, wx reports & mx. Good signal. (RT-CA)

760 (KFMB) CA, San Diego Mon. 2/16 off that night. 1st noted 0530. (RT-CA)

790 \*KEKA\* CA, Eureka 2/17 0309 ID noted as part of test, w/KABC. (RT-CA)

830 KDOR CA, Los Angeles (Central Hollywood) IS BACK ON THE AIR w/250

WATTS! Hrd Su 2/22 0200-0430 w/rock mx & ID's as "K-D-O-R,"

"K-Door 8-3-oh" & "Your little tower of power in Central Holly-

wood." Also carries numerous PSA's. Also hrd 2/23 0200+. Called

both times & the DJ's were very excited to hear from me. See

WDXP for further info. (SMM-CA)

860 CFPR BC, Prince Rupert 2/16 0401 s/off annct. then GSQ. Good signal,

KTRB off. (RT-CA)

?LPRT? BC?, 2/16 0406 after CFPR s/off, I noted another GSQ but much

weaker. Is this an LPRT? If so, am confused as NRC Log shows

them going off a few minutes before CFPR. (RT-CA) (CEU-690

s/off is now 0406. Most likely you had one of CBU's relays.-NH)

1120 (KPNW) CBKF2 SK, Saskatoon 2/16 0748 on top of channel w/FF program. (RT-CA)

OR, Eugene-Springfield 2/19 0330-0430+ noted w/OC, totally off

later on. (RW-CA)

1180 VOA FL, Marathon Key 2/16 0630 fair sig, Yankee Doodle IS, then SS

talk. (RT-CA)

1220 \*KIBE\* CA, Palo Alto 2/18 0325 w/OC, choral mx. ET'ing a lot lately.

KBNO CO, Denver 2/22 0856 poor-fair w/SS hymns, ID "...own- //(RW-CA)

ceh (11)...radio kah-beh-enne-oh." Paded out to Denver SR &

various QRM CJOC/CKDA, etc. New. Killed by KCCS s/on 0900 and

KIBE a few seconds after that. (RW-CA)

1280 KWKS UT, Salt Lake City is now news/talk daytime weekdays, news/MOR

weekends, news/Larry King nites, off MM. (WJH-UT)

1370 KEEN CA, San Jose 2/24 0417 while adjusting my LCD clock rx, just

tuned KEEN on for less than 10 sec. to hear a man named Dan

Brickman calling from Seattle, WA w/a request for YL DJ on

duty. Went. KEEN is a "pest" for him, & he also listens to KGO

regularly. Said he was getting QRM from a stn in Westlock, AB

(CFOK). DJ almost dropped the phone o/the air. Very interesting!

Anyone in Seattle area know this guy? (RW-CA)(He's in IRCA!-NH)

1470 CJVB BC, Vancouver 2/17 0331 nx, wx, then s/off. Fair u/unID. (RT-CA)

1510 KDKO CO, Littleton 2/16 0521 TC, ID, jazz mx all alone on channel

at first but a few min. later something showed up underneath,

probably WLAC. (RT-CA)

DX TEST:

1440 (WGIB) GA, Brunswick MA 2/23 0430 test tried for, not heard. (SMM-CA)

HELP WITH AN UNID:

DM's KLYX-1520 tent. in 2/14/81 WDXR most probably was KMAV Mayville ND.

Grand Forks, ND is near Mayville, ND (KMAV), not Sioux Falls, SD (KLYX)(MJ)

Everyone in WDXR-land please remember Anniv. Issue deadline of 3/12! ♡

# DX WORLDWIDE - EAST

Neil Kazarov

Union College Box 1024

Schenectady, NY 12308

## TRANS ATLANTIC DX ROUNDUP

- 531 ALGERIA pr-fr w/AA chants & het w/530 beacon 0115 Feb.23(Kaz-RI)  
 828 MOROCCO fr-gd w/AA chanting, WNYC slop phased, 0130 Feb.23(Kaz-RI)  
 765 SENEGAL Dakar very loud w/African instrumentation & female vocals, about 30 db better than WABC, 2341 Feb.7. Xlnt w/AA talk 0722 Feb.8. (Connelly-MA)  
 855 SPAIN Murcia fr-gd in some slop w/ mellow rock mx 0137 Feb.23 (Kaz)  
 873 SPAIN Zaragoza EAJ101 fr w/ MOR vocal SS mx, & SAH of about 2 Hz which I believe is caused by AFN , 0139 Feb.23. (Kaz-RI)  
 891 ALGERIA Algiers xlnt/ like local on car rx w/ absolutely no trace of any 890 stations; female AA chanting & rhythmic instrumentation 2153 Feb. 4. (Connelly-MA) Noted w/ weak SAH 0143 Feb.23. (Kaz-RI)  
 1161 UNID 0225-0230 Feb.8 loud het from 1100 - looped E-W, at first - no audio , but later man in lang. Deep fades at 0231 & gone 0232. -ed (Stutterheim-NY) Strasbourg, France is on AN so it could be them  
 1403 GUINEA Conakry good w/ talk 0111 Feb.8, Xlnt w/ Koranic AA chanting 0549 Feb.8. (Connelly-MA)  
 1557 FRANCE Nice 0610 Feb.16, armchair copy of FF pgm! (Stutterheim-NY)  
 1584 COMMONWAVE 0600 Feb.16, tried to pull an SS ID from the several audible signals but too much jumble. (Stutterheim-NY)

## PAN AMERICAN DX ROUNDUP

- 540 VENEZUELA Villa del Rosario YVOV blasting in / totally dominant w/ SS party mx, ID " Esta es R. Perija, la primera" 0529 Feb.7 (Con)  
 541 DOMINICAN REPUBLIC Santo Domingo presumed here w/ OC 0555 Feb.8  
 550 VENEZUELA Caracas YVKE atop channel w/ Mundial ID LA disco 0600 Feb.8 (Connelly-MA, last two)  
 580 CUBA Baracoa CMKF good w/ woman in SS // 590, 600 0525 Feb.7 (Con)  
 580 PUERTO RICO San Juan WKAQ noted w/ rapid fire SS mx, Reloj ment. WKAQ ID o/u Cuba w/ no domestics audible 0604 Feb.8 (Connelly-MA)  
 600 COLOMBIA Barranquilla HJHJ atop Cuba w/ slogan " Desde Barranquilla R. Libertad" then festive SS mx 0608 Feb.8 (Connelly-MA)  
 610 COLOMBIA Bogota HJKL o/slight Morocco - 612 het, mixing w/ WIOD Repetitive group vocal mx, RCN ID 0617 Feb.8. (Connelly-MA)  
 620 NICARAGUA Managua YNGR o/ jumble w/ SS pop mx, slogans about Sandanistas 0624 Feb.8. (Connelly-MA) Note new calls on this, they been heard using them occasionally - ed.  
 630 PUERTO RICO Santurce WQBS good w/ brassy mx, Salsa 63 jingle, atop pest Cuban & third LA; WPRO totally obliterated, 0627 Feb. 8 (Con)  
 640 COLOMBIA Santa Marta HJBJ u/ CMQ; R. Suceso RCN network ID, Banco de Colombia ad 0520 Feb.7. (Connelly-MA)  
 640 VENEZUELA Puerto la Cruz YVQO atop Surinam/Guadeloupe, potent w/ Ondas Portenas ID 0048 Feb.8. (Connelly-MA)  
 675 COSTA RICA R. Sonora ID hrd at 0500 Feb.16, following LA mx. Very strong. (Stutterheim-NY)  
 690 MEXICO Tijuana XETRA T40/soul mx w/ ID in SS followed by " The Mighty Six-Ninety" in EE. They sound automated at this time, and the records run fast, on top of freq. w/WMAQ slop, 0753 Feb. 15. (Whaley-IL) I wish this would make it further east - ed.  
 700 JAMAICA Montego Bay JBC blasting in! Atop channel w/ anmt " Enjoy cricket at its best on JBC R.1 & R.2" JBC R.1 jx, disco 0536 Feb.7 (Connelly-MA)  
 700 COLOMBIA Cali HJCX very loud w/ Sutatenza pgm. // 810 0047 Feb.8  
 710 VENEZUELA Caracas YVKY xlnt. w/ ID " R. Capital" disco 0535 Feb.7. (Connelly-MA, last two)  
 720 JAMAICA Kingston o/ CMGN soul mx 0550 Feb.7. (Connelly-MA)  
 720 COLOMBIA/ CUBA/CUBA HJAN Barranquilla w/ accordian mx o/u CMGN w/SS talk; both o/ the weak Cuban Reloj stn, & weaker WGN 0440 Feb.7. (Connelly-MA) WRTVH lists a 10 kw R. Liberation tx in Baracoa , maybe this is the Reloj tx, although my observations indicate that this weak Reloj is prob. about 1 kw, but we all are too familiar w/ WRTVH's track record concerning LA's- ed.

- 725 COSTA RICA San Jose TILA good w/ 2 SS ancrs. 0541 Feb.7. (Connelly)  
 725 SURINAM Paramaribo xlnt w/ Roger Whittaker song 2323 Feb.7 (Con)  
 730 COLOMBIA Bogota HJCU xlnt o/ Cuba/ CKAC: R. Melodia ID, spirited LA  
 mx 0441 Feb.7. (Connelly-MA)
- 735 ECUADOR Quito HCGC1 good w/ uptempo piano mx & shouted SS words  
 over the mx, 0553 Feb.7. (Connelly-MA)
- 735 UNID Weak carrier looped south, 0555 Feb.8. (Stutterheim-NY)
- 740 CUBA/COLOMBIA Cuban // 730 good w/ cl mx, a Colombian w/ shrill  
 rustic accordion mx well under 0443 Feb.7. (Connelly-MA)
- 750 NICARAGUA Managua YNA good w/ man in SS, Managua ments. 0/YVKS/WSE  
 0444 Feb.7. (Connelly-MA)
- 750 VENEZUELA Caracas YVKS xlnt w/ R. Caracas ID, TC jingles, then  
 disco 2342 Feb.7. (Connelly-MA)
- 760 COLOMBIA Barranquilla HJHJ dominant w/ LV de Barranquilla ID &  
 RCN ment 0647 Feb.8. (Connelly-MA)
- 760 CUBA Habana CMCD Reloj o/ dogfight of other LA's 2337 Feb.7. Reloj  
 o/ UNID US pop mx SS str both o/ JJR 0453 Feb.7. (Connelly-MA)
- 770 JAMAICA Spur Tree xlnt ATOP JABC/HJKH!!!! Anmt. " This is nx of  
 Jamaica, the Caribbean, & the world from RJR, 0500 Feb.7. (Connelly)  
 Now ! this str has eluded me even w/ JABC off - ed.
- 770 PANAMA Chitre totally atop channel w/ R. Nacional de Panama ID;  
 JABC knocked out of the box by AU, 0646 Feb.8 (Connelly- MA)
- 775 COSTA RICA San Jose TIM fr-gd w/ US pop mx 0449 Feb.7. R. Uno ID  
 Rock mx, good 0723 Feb.8. (Connelly-MA)
- 780 CUBA Camaguey CMJN like a local, several ancrs. in SS way o/other  
 LA's JBBN 0448 Feb.7. (Connelly-MA)
- 780 BRITISH VIRGIN ISLANDS Roadtown ZBVI loud o/ Cuba: disco, local ads  
 using reverb, then reggae & rapping type soul records, 2340 Feb.7  
 (Connelly- Cape DX, MA)
- 785.2 UNID 0405-0430 Feb.16 very weak carrier - believe I hrd some mx of  
 unknown type s/off 0430 (Stutterheim-NY) No idea as I have JEAN  
 on 790 in RI - ed.
- 800 VENEZUELA Maracaibo YVTE mixed w/ FJE: Exitos ID SS mx 2329 Feb.7
- 800 NETH. ANTILLES Ponaire FJE at cruncher level (Stronger than local  
 NIDH-850 ) mx in EE 0502 Feb.7. (Connelly-MA, last 2)
- 810 BAHAMAS Freeport xlnt w/ JGY : nx of various Caribbean islands  
 local mx (high 77<sup>0</sup>F, low 60<sup>0</sup>) R. Bahamas ID, Gospel songfest pgm,  
 audio tinny & restricted 0503-0506 Feb.7. (Connelly-MA)
- 810 COLOMBIA Bogota HJCY blasting in w/ Sutatenza ID, brassy mx w/ SS  
 vocal 0046 Feb.8. (Connelly-MA)
- 820 COLOMBIA Cali HJED o/ presumed Cuba & slight Morocco-819 het:  
 Cristal ad, colombia ment 0655 Feb.8 (Connelly-MA)
- 825 ST. KITTS Basseterre xlnt. w/ black EE preaching 2326 Feb.7.  
 (Connelly-MA)
- \* 830 \* ECUADOR Guayaquil HCRH2 was indeed what I heard on Nov. 27, 1980 at  
 0720z; ID as R. Huancavilca, ex -605. This per Bruce Portzer tip in  
 Jan.17 DEAN-Jest. (Connelly-MA)
- 834 BELIZE Belize City loud w/ man & woman in Caribbean EE / discus-  
 sion about Cuba 0508 Feb.7 (Connelly-MA)
- 840 CUBA Santa Clara CMHW fair w/ Cuban anthem, 0458 Feb. 7 (Connelly)
- 840 ST. LUCIA Castries xlnt w/ Caribbean FP (Creole) talk, wild mx,  
 2345 Feb.7. (Connelly MA)
- 840 PANAMA Panama City atop w/ anmt "Tranmite R. Nacional.... servicio  
 para los Panamenos" 0701 Feb.8 (Connelly-MA) / 0547 Feb.16/  
 UNID weak carrier - Peru believed to be breaking thru. (Stutterheim)
- 854 UNID weak carrier - Peru believed to be breaking thru. (Stutterheim)
- 880 VENEZUELA U/NCES w/ SS ads, reverb, many Venezuela ments. 0044  
 Feb.8. (Connelly-MA)
- 885 MONTSERRAT Plymouth JJP fair w/ reggae mx 2348 Feb.7.(Connelly-MA)
- 890 COLOMBIA Bogota HJCE good o/slight Algeria 891 het, WLS absent:  
 LV de Bogota ID mellow mx 0605 Feb.7. (Connelly-MA)
- 900 MEXICO (B) Mexico City Loud w/m&w in SS 0558 Feb.7. (Connelly-MA)
- 900 BARBADOS Bridgetown fr-gd w/jazz, Carib. accented EE talk by man,  
 P. Barbados ID wx report mentioning heavy showers 2352 Feb.7 (Con)
- 910 VENEZUELA Maiquetia YVRQ bombing in w/ brassy LA mx, ad for some-  
 thing in Catis la Mar, R. Aeropuerto ID - totally annihilating  
 HRCQ 2359 Feb.7. (Connelly-MA)
- 914 SURINAM Nieuw Nickerie xlnt., unbelievably loud- STRONGER THAN  
 ADJACENT WHJH!!! - Hindi mx w/ violins similar to AA mx & very  
 shrill female vocal 0040 Feb.8. (Connelly-MA)
- 940 CUBA Espana Republicana R. Reloj Nacional 0331 Jan.25 very strong  
 in CBW null , usual ticks, anmts. Only 1kw?? (Moore-PA) I'd  
 estimate their strength to be about 5 kw, they are definitely  
 stronger than 860 which I feel is 1 kw as listed - ed.

- 940 CUBA/UNID Reloj bombing in w/ usual stuff, 2ndLA under which sounded Colombian 0716 Feb.8. (Connelly-MA)
- 950 DOM.REP. Sto Domingo HIG dominant w/ mellow LA mx, R. Popular ID 2355 Feb.7. (Connelly- MA)
- 990 VENEZUELA Barquisimeto YVTA good w/rhythmic SS vocal, Mundial Tricolor ID, then Creedence Clearwater oldie 0717 Feb.8. 2nd stn, well under had Colombian-style accordion mx. (Connelly-MA)
- 995 ECUADOR Guayaquil HCEW2 fair w/ plaintive SS ballad, 0720 Feb.8.
- 1005 COLOMBIA -ad for Cristal (soft drink or Beer) "savor ... de Colombia" -- is this still R. Colossal or is it another HJ? Feeble 1006 het present. Hrd @ 0156 on Feb.8. (Con- MA, last 2)
- 1005 COLOMBIA R.Colossal good sig. Feb.8 0305-0355 -"Space Sound" "IS" w/ SS pgmg, bad het from 1006 CL mx Cuban, 1005 was // 4945. Also Feb 16 0350-0405, two men in SS discussion again // 4945 but no het from 1006- has 1006 gone back onto reg. freq? (Stutterheim)
- 1010 COLOMBIA Barranquilla (where else- hi-ed.) HJOP had live SS talk which sounded like an auction, audience addressed as "Barranquilleros" (people from Barranquilla) o/WINS & 2nd SS LA, 0153 Feb.8. (Connelly-MA)
- 1015/  
1016 Weak carriers noted 2345-2350 Feb.8. (Stutterheim-NY)
- 1020 COLOMBIA Monteria HJZD good o/YVRS w/ KDKA out of the picture entirely; ad for Cristal (soda?) R. Panzenu ID, Colombia accordion mx 0149 Feb.8. (Connelly-MA) Tuned in to hear rice complete ID u/ KDKA. (Moore-PA)
- 1020 VENEZUELA La Asucion YVRS loud/alone w/ Mundial Margarita ID,TC 0449 Feb.8. (Connelly-MA)
- 1035 HAITI 4VEC in w/ EE rlg pgm 2340-2345 Feb.8. Faded completely but at the start it was stronger than either 1030 or 1040. (S- NY)
- 1040 COLOMBIA Barranquilla HJAI good w/ Cristal ad, festive mx CAROCOL ID 0429 Feb.8. (Connelly-MA) Cristal soda huh! Maybe that's why you hear all these stations from Barranquilla?!? - hi- ed.
- 1050 COLOMBIA Arauca HJLZ suspected as the stn heard w/ CAROCOL ID, LV de ----(prob. Cinaruco) ID atop 3 other LA's killing WHN 0439 Feb 8. (Connelly-MA)
- 1060 UNID male ancr. sounded like one of the R. Havana staff; anmt "Eschuchemos Addressa" BFL mx 0135 Feb.8. (Connelly-MA) R.Encyclopedias has this type of mx - ed.
- 1069.8 COLOMBIA Barranquilla HJAG easily splittable from the the 1070 mess SS talk, Emissor Atlantico ID 0437 Feb.8. (Connelly-MA)
- 1080 VENEZUELA Barcelona YVQJ good o/u 4VRD o/WTIC; YVQJ had "Dancing Queen" by Abba, Puerto la Cruz local ad, 0141 Feb.8. (Connelly) R. Barcelona 0102 Feb.5. Strong & on top. Many ads for businesses in Puerto la Cruz & Barcelona, then SID, verbal ID, & into local mx. (Moore-PA)
- 1090 UNID 0505-0508 Feb.16 w/ ments of "Plaza Publica" Bogota, & R. Progreso, slow fade out. (Stutterheim-NY) Nothing here that I know of w/this slogan- ed.
- 1100 COLOMBIA Barranquilla HJAT pegging S-meter (almost as loud as local WOCCB-1240 down the street, hi) reverberated ads for carnival, R. Reloj en Barranquilla ID 0142 Feb.8. A 2nd SS LA way under; no trace of WWNE (Connelly-MA)
- 1110 CUBA Good w/ infamous "Patria o Muerte" slogan, Cuban theme mx 0459 Feb.8. (Connelly-MA)
- 1120 DOM.REP Sto Domingo HICN good at s/off stating "transmissora en Santo Domingo, capital de la Republic Dominicana" NA followed, 0501 Feb.8. (Connelly-MA)
- 1120 CUBA R.Cadena Habana CMCM Artemisa 0050 Feb.5 ballads YL ancr // 1160 (Moore-PA)
- 1130 COLOMBIA Barranquilla HJAC o/bad growl w/ TODBLAR ID nx, several other LA's were battling it out underneath w/ only an occasional appearance by JNEN, 0504 Feb.8. (Connelly-MA)
- 1150 VENEZUELA Punto Figo YVMM u/ WHUE w/ brassy mx, Ondas del Caribe jx 1:30 TC 0532 Feb.8. (Connelly-MA)
- 1160 CUBA R.Cadena Habana CMCV Guines 0117 Feb.5 ballads YL ancr. //1120 (Moore-PA)
- 1160 DOM.REP Sto Domingo HIBG very good w/ fast SS talk by man, Radiolandia ID, female SS vocal 0521 Feb.8. (Connelly-MA)
- 1165 ANTIGUA St. Johns xlnt/like local w/ Caribbean- accented EE rlg, pgm 0120 Feb.8 (Connelly-MA) Noted w/ EE rlg 0045-0050 (S-NY)
- 1205 CAYMAN IS. R. Cayman Georgetown 0201 Feb.8 EZL mx, poor 1555 which was ..xlnt (Moore-PA)
- 1220 CUBA R.Ventiseis (22) CMDM 2340 Feb.7 strong in wGAR absence, LA mx OM/YL anvr w/ ID @ 2358 nx @ 0100 (Moore-PA)



- 1220 BRAZIL Rio de Janeiro ZYJ458 R. Globo atop chan. w/ PP talk, dogged slightly by WOCE bucksot. 0 117, Feb.8. (Connelly-MA)
- 1290 t VENEZUELA Puerto Cabello YVLF 0110 Feb.8 on top w/ local mx, TC "en Puerto Cabello" but no ID so tent. A ment of "desde Quito, Ecuador" exited me beyond mention, until on replaying the tape I found out that the singer was from Quito!. (Moore-PA)
- 1310 t COLOMBIA Typical Colombian accordion mx, SS talk, rough growl u/WGH 0538 Feb.8. (Connelly-MA)
- 1313/  
1315 UNIDS Two weak carriers noted at 0053-0058 Feb.8. (Stutterheim-NY)  
1315 should be R.Bani in D.R. - ed.
- 1350 VENEZUELA 2 outlets listed w/ same slogan- R. Vision ID, LA mx w/ lots of circus-style electric organ instrumentation, well atop WNIS 0113 Feb.8. (Connelly-MA)
- 1360 t COLOMBIA ID sounded like listed "Ecos de Risaralda" but too much WDRG for definite log 0546 Feb.8. (Connelly-MA)
- 1395 UNID 0513-0520 Weak carrier, soft mx, man in SS, followed by woman Tried SA//4875 for "Esmeralda" but no trace (anyway the listed s/o is 0500, & this guy was on until 0530 at least. (Stutterheim-NY) Did you take a DF bearing on this? I think you may have had R. Tirana as you noted other high band TA's in along this low Euro. bearing. R. Tirana uses many languages & often has M&W ancrs.-ed
- 1411 UNID LA het 0109 Feb.8 (Connelly-MA)
- 1471 UNID LA bits of SS vocal putting mean het on WLAM 0107 Feb.8.(Con)
- 1500 UNID US pop/soul hits , SS-sounding talk weak o/u equally weak WTOP 0055 Feb.8. (Connelly-MA)
- 1520 COLOMBIA Barranquilla HJLQ rising o/5-SS-LA dogfight w/ Minuto ID, Flute mx; WKBW "Auroraed-out" 0105 Feb.8. (Connelly-MA)
- 1531 UNID LA het: is this Dom. Rep? Noted 0052 Feb.8. (Connelly-MA)  
I think so- ed.
- 1532.6 UNID 0300-0400 Feb.16 man in SS - carrier all but gone 0311 - back on recheck 0314 w/ "Listen to the mx" & various American RR songs, fade again 0320 - carrier detectable @ 0348, but believed to s/o at 0400. (Stutterheim-NY) I don't know what this is. D.R. R.Accion is AN & the 1531 het LA has been hrd AN - anyone know who's drifting above 1530 - ed ??
- \* 1550 \* BOTH WRTVH 81 & the Caribbean groundwave report from D.R. list Turks & Caicos as on 1460 & not 1550, so the EBC-type pips I hrd must have been from another source. I'm quite embarrassed to admit that's it's about time I learned to use a tentative when I don't hear a VOCAL ID. (Kaz-RI)
- 1550 t COLOMBIA Barranquilla HJCB 0628 Feb.16 Accordion mx, SS talk by OM #20 overall on 1550. Fair (Townshend-DC) In w/ RCN ID o/u other SS LA 0058 Feb.8. (Connelly-MA)
- 1617 GUATEMALA Rabinal RAB Feb.16 0640 Radio beacon w/ ID's in Morse Code. Fair. (Townshend-DC) Is this a freq. switch from 1613 ? -ed.

#### CONTRIBUTORS:

- Mark Connelly 7 Trowbridge Path, W.Yarmouth, Cape Cod, MA 02673 R390A two 37 meter phased LW's
- Neil Kazaross 30 King Philip Rd. Pawtucket, RI 02861 R390A Sanserino Loop two 50 meter phased LW's
- Don Moore Box 157 RD#5 Bellefonte PA 16823 FRG-7000 R.West 15'' ferrite loop.
- Matt Stutterheim RD#1 Box 702 Glenford NY 12433 R390A R388 1000' s-n bev 1300' s-n terminated bev., 400' E-W LW.
- Bill Townshend #901 4500 Conn Ave. NW Washington DC 20008 TRF
- Brock Whaley 1313 W.Pratt Blvd. Chicago, IL 60625 HQ-140-X, Palomar Loop, LW

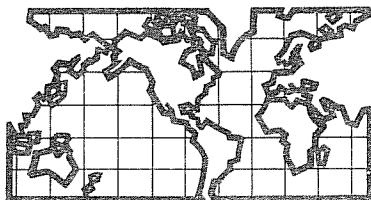
73's and enjoy what's left of this DX season KAZ

#### AM stereo proceeding delayed by FCC

At the request of the companies that propose to market the systems, the Federal Communications Commission has delayed its consideration of standards for AM stereo-radio broadcast and receiving equipment, probably until late spring.

The delay is the latest in a series since the Commission decided (in July, 1980) to reopen the AM-stereo proceeding. Originally, the FCC had proposed a system developed by Magnavox as the only permissible one. That move brought protests from several other firms with competing systems, prompting the FCC's reconsideration.

The final comments on the reconsideration were to be due on January 8, but in December, commissioners agreed to a February 9 date. The latest change pushes the date back to March 9. A decision in the proceeding will follow the comment deadline. However, at this time, the decision is not expected until April.



## DX WORLDWIDE - WEST

Pat Martin - Editor

P.O. Box 843, Seaside, Oregon 97138

(503) 738-3198 - deadline Tuesday

DX of late seems to still be pointing towards the Latins. However, the MM on 2/16 was very good for yours truly for DU's. Pulled in alot of stations I haven't heard for a while including a new one. We had a pretty good turn out with DX tips this time around. Read on:

### PAN-AMERICAN DX ROUNDUP

- 655 EL SALVADOR, San Salvador-YSS,noted w/R. Nacional de El Salvador ID,TC and a variety of LA mx at 0950-2/8. Good to nil. A little early for them,me thinks. (BP-Wa)
- 700 COLOMBIA, Cali-HJXC at 0308-2/12, ID:Radio Sutatenza,emissora de noticias...." poor to fair with mx. (CK-Colo)
- 750 NICARAGUA, Managua-YNX-0301,2/12,excellent, "Desde Managua,capitol de Nicaragua libre, Sandino" ID. (CK-Colo)
- 760 CUBA, Havana-"Radio Reloj,2/11-0410-OM nx w/time ticks, ID and 2 "R" in morse code.poor PANAMA, Panama City-HOXO-2/16-1108 "La Voz del Istmo" slogan shouted by ancr. (CK-Colo) weak sig. in WJR/KGU null. KFMB off. (RT-Ca)  
UNID, at 0415-2/12-station here w/OM talk most of the time o/Reloj-HJAJ,etc. ments, phone #'s and "en Lima,Peru" (CK-Colo)
- 830 MEXICO, Navolato,Sin.-XEVQ-2/16-1331 ID,ads noting Navolato,fair signal,no sign of XELA. (RT-Ca)
- 834 BELIZE, Belize City-2/11-0405 vy good w/SS and EE Nx items, ID. (CK-Colo)  
\*Also noted w/best signal ever crystal clear,C&W mx. (RT-Ca)
- 840 COLOMBIA, Santa Maria-HJBI-2/11-1045,poor w/Colombian NA and "Una emissorsa en portal" slogan ID,o/UNID TT (CK-Colo)
- 360 DOMINICAN REPUBLIC, Santo Domingo-HILR-2/16-1004 on top of channel with "clarin Informativo" spot, followed by music. KTRB off. (RT-Ca) (Good catch-PM)
- 870 MEXICO, Ciudad Juarez-XERPW-2/16-1259-quick ID,then mx. Good signal. (RT-Ca)
- 880 HONDURAS, Radio Honduras-0357,2/11-poor u/WWL w/sports, ID'd by // 880 and 890. (CK-Colo)
- HONDURAS, Tegucigalpa, Radio Honduras-0400-2/11,vy poor u/KRVN w/live sports ment. Tegucigalpa, // 870,890. (CK-Colo)
- MEXICO, Los Mochis,XEPMK-0157-2/12,excellent w/mx,"Technica Mexico" program ments. and call ID's. (CK-Colo)
- PERU, Lima-OBZLN-2/16-0930-R. Union in again, Clear signal, I'm not an expert in SS, but I think they said "From the USA to Chile,Argentina, and Brazil-R. Union".(RT-Ca)
- 1010 MEXICO, Torreon-XEVK-0356-2/12-fair w/call letter ID and ment. of the "Hoy Mismo" programs. (CK-Colo)
- 1050 MEXICO, Mexicali,B.C.-XED-0301,2/11,poor to fair in XEG null, ID "X-E-D, la gran "D" de Mexicali" (CK-Colo)
- MEXICO, Monterrey-0308,2/11,noted carrying SS w/campesino mx, "Radio Melodia" jingle, loud,XEG- (CK-Colo)
- 1140 MEXICO, Monterrey-XEMR-0318,2/11,dominating freq.(o/KGEM),et. al w/Mexican vocals, and ID. (CK-Colo)
- 1205 t CAYMAN ISLANDS, 2/16-1121-fair signal,EE rel. program,looping Caribbean,1 KHZ het causing slight interference. Very clear signal at 1128,then faded out. (RT-Ca)
- 1470 MEXICO, Los Mochis-XECU-dominant o/domestics w/ranchera mx and ID's-XECU, La Rancherita,los Mochis Sinaloa-1055-2/2 (BP-Wa)
- 1613 GUATEMALA, Rabinal-"RAB"-0418,2/11-code beacon ID,vy poor. (CK-Colo)

### TRANS-PACIFIC DX ROUNDUP

- 531 AUSTRALIA, Kempsey-2MC hrd. w/"Mid Coast" slogans at 1033-2/16.New call change. (PM-Or)
- 747 AUSTRALIA, Toowoomba-4QS,good w/ABC mx at 1200,after pips on 2/16. (PM-Or)
- 765 NEW ZEALAND, Hastings-2ZK-good w/Concery programme at 0910 on 2/16. (PM-Or)
- 319 UNID, at 1205-2/11,poor het on WBAP-looping NZ?? (CK-Colo) (Probably. PM)
- 337 AUSTRALIA, Rockhampton-LRK,good w/ABC mx at 1202, // to 747,etc.-2/16. (PM-Or)
- 846 KIRIBATI, Tarawa-South Seas mx briefly,good thru KTAC sloop at 0844-2/9 (BP-Wa)  
\*Also from 0851-0905,2/13-sig. faded in and out,polynesian mx,talk at 0900 but too muffled to understand. Lots of hets looping DU at the time,inc. 657,862,738,891.(RT-Ca)
- 355 AUSTRALIA, Maryborough/Eidsvoid-4QB/4QO-fair // to 837 at 1206-2/16. (PM-Or)
- 864 AUSTRALIA, Hobart-7HO,hrd. w/Pop mx, ID at 1130 w/ID jingle,spots-2/16. (PM-Or)
- 373 AUSTRALIA, Sydney-2GB hrd. w/talk show at 1034 on 2/16,fair o/NZ. (PM-Or)
- 882 AUSTRALIA, Brisbane-4EH, good w/EZL mx at 1037 on 2/16. (PM-Or)
- 945 SOLOMON ISLANDS, Gizo-fair to poor w/KJR sloop at 0834 on 2/17,w/Island mx, // to 1035, but much weaker. (PM-Or)

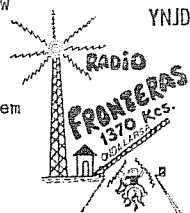
- 1008 NEW ZEALAND, Tauranga-LZD in like Gangbusters from 0730 on 2/16, with Pop mx. Hrd at 0910 w/Tonight show. (PM-Or)
- 1035 SOLOMONS/NEW ZEALAND-both fighting it our until SIBC s/off, then 2ZB all alone-noted mixing from 0700 on 2/16. (PM-Or)
- 1044 NEW ZEALAND,Dunedin-4ZB,good and // to 1035,1026,1008,etc,also w/Tonight Show , AN 2/16. (PM-Or)
- 1053 NEW ZEALAND, New Plymouth-2ZP-// to 1044 all night on 2/16.2KW,nice to hear again.(PM)
- 1080 NEW ZEALAND, Auckland-LZB, good mixed w/KIOE,also Tonight show,noted at 0915-2/16.(PM)
- 1188 AUSTRALIA, Inverell-2NZ,fair w/KEX off at 1009 on 2/16,noted w/Elton John song,spot ment. Inverell, and 2NZ ID. (PM-Or)
- 1197 AUSTRALIA, Surfers Paradise-4GG, fair o/UNID (NZ?) w/Commercial, back into mx after brief ID,at 1039 On 2/16. KEX off. (PM-Or)
- 1206 AUSTRALIA, Grafton-2GF-one of the best DU's received here,noted arm chair copy AN 2/16 w/lots of spots,ID's, Pop mx-noted at 1047,1145,etc. (PM-Or)
- 1251 (t) WESTERN SAMOA, possibly the one w/Jungle mx,too much 0954 slop,at 0800-2/9, spon gone into mud. Will keep trying. (PM-Or)
- 1269 (t) AUSTRALIA, Sydney??-2SM possibly the one with Pop mx and quick paced ancr,but was fading by the time the ancr spoke,will keep trying,noted at 1050-2/16. (PM-Or)
- 1287 (t) AUSTRALIA, Tamworth-2FM poss. the one with C&W mx, and DU ancr,but too weak to tell much at 1016 on 2/16. (PM-Or)
- 1296 AUSTRALIA, Brisbane-4BK,noted w/Pop mx and "4BK music" jingle,o/NZ (LZH) at 1234 on 2/16. This should have read 4BK, instead on 4BH, a few weeks ago in the column.(PM)
- 1359 (t) WESTERN SAMOA, again poss. the one with Island mx at 0957-2/9, too much 1360 SLOP. Will keep trying. (PM-Or)
- 1366 AUSTRALIA, Sydney-2EA, fair to good, w/ending European lang. prog, brief EE ID, then into Slovic? lang. prog. at 1300 on 2/16. (PM-Or)
- 1404 WESTERN SAMOA, Apia-2AF-fair with OM in Samoan and Drum mx at 0753-2/15.(PM-Or)
- 1413 AUSTRALIA, Newcastle-2KO, good with 2KO ID's and rr mx,o/NZ? at 1134-2/16. (PM-Or)
- 1476 NEW ZEALAND/MALAYSIA-R. Hauraki o/Malaysia w/rr mx, Malaysia w/YL and talks at 0956 on 2/11. (PM-Or)
- 1485 (t)AUSTRALIA, Wollongong or Brisbane, sounded Ethnic, but too much slat from 1480 to tell, soon gone under mess at 1117 on 2/16. Poss. could have been NZ, but sounded like Foreign language. (PM-Or)
- 1512 AUSTRALIA, Newcastle-2NA-vy strong w/ABC mx after 1000 and pips,on 2/14, noted also on 2/16. (PM-Or)
- 1530 AUSTRALIA, Moree-2VM,hrd w/Pop mx and a couple spots,one for Beer??,into Macquarie National mx at 1300 on 2/16. Taped and reported, New! KFBC off (PM-Or)
- 1548 AUSTRALIA, Emerald-4QD good w/slop from KGAR,noted w/talks at 0947-2/16. (PM-Or)
- 1575 AUSTRALIA, Wollongong-200-"Two Double O" ID's-rr mx and clear sig. at 1109-2/16.(PM)

Well it looks like the DU's may be coming back. Hope so..On to veries:

- 620 NICARAGUA, Managua-YNGR,sent SS vl in 2 months for SS taped rpt. w/2 IRC's,VS-Esperanza Roman,Segundo Responsable-Onda Internacional. Said they were very happy to receive my report and tape,that such things are extremely inportant in this new era of Nicaraguan broadcasting and that they would like future reports. Also encl. pennant and old postcard of clothing merchant. Letter was dated 1/16,postmarked 1/21 received 2/5 via/airmail. (BP-Wa)
- 747 HOLLAND, Flevoland,sent 2nd verie for my 3/80 report. Ky first one was mailed 1/5 w/45¢ postage and gave xr site as Lopik. This one was mailed 12/24 w/60¢ postage rxd 2/6,gave xr site as Flevoland. Either they think I hrd both xrs or else an error. Same unreadable sig. on both cards. (BP-Wa)
- 1467 FIIJ,Rakiraki-R. Fiji 2 verie in 2 months,signed S.B. Raniga,10th freq. verified from Fiji-2KW. (PM-Or)

THANKS TO THESE REPORTERS:

- CK-Chris Knight-598 S. Clarion Drive-Fueblo West,Colo. 81007  
FRG-7,San. loop coupled w/22 meter long wire ant. SE/WN
- BP-Bruce Portzer-6546 19 NE-Seattle,Wa. 98115  
HQ-180A,4 ft. loop ant.
- RT-Rich Toebe- 556 Santander Drive-San Hamon, Ca. 94583  
Grundig 3400-R. West loop
- PM-Yer Editor- E.H. Scott (RBO-2), 230 foot 1W/4 foot loop/Ground system



YNJD



A la Orden del Comercio Nicaragüense  
TELEFONO: 2  
SOMOTO, MADRIZ, NICARAGUA, C. A.

# EASTERN DX FORUM

Paul Mount  
471 Emerson Avenue  
Teaneck, NJ 07666

HARRY J. HAYES 9 Henry St. Wilkes-Barre PA 18702

While listening to the much talked about "Music of Your Life" format on WFEL-1390 the other night I took note of the similarities between it and local WKRZ-1340. Both use the same catch phrases like "The Few sound of 13-90" only here it is 1340. Also both rave about the letters that they receive about their programming in exactly the same fashion. Talk about homogenizing the nation! The format is taking this area by storm if the local paper is any indication. This new format along with the upcoming jazz festival here in February have been enough to spur on a weekend column in the paper here called "The Wax Museum", which discusses pre-rock and roll music and upcoming performances in the area. By the way Wilkes-Barre is the home of the jazz festival. It made its debut here in February 1951, thus the upcoming celebration. This 30's and 40's music is not "new" to this area. WYZZ-FM 92.9 had this format long before WKRZ came on the scene, although one of the long time DJs of WYZZ is going over to WKRZ-AM. My personal feelings about all this is that I welcome these formats to the area, but the approach of WKRZ, as I said above is disgustingly homogenized across the country. There is no room for local color. WYZZ-FM presents this format in a much more original form and their playlist is much more extensive. It would be a shame if an automated monster like WKRZ would take the glory away from WYZZ who deserve it.

ERNEST R. COOPER 5 Anthony St. Provincetown MA 02657 2/10/81

Veries are in from WVOV-1000, WQXQ-1490, WMCL-1060, WJ's, and WCSE-1350-TEST v/f, and v/pp/c's from WGGT-1410, & after SEVEN tries, "friendly" WIEG-1520, to bring my total to 4, 184. WMCL-1060 is now on with 2,500 D-3 directional e/w, and was in for over an hour here on Mon Feb 2 - must have been the Ground Hog's influence! Their only interference was from unnn WHFB 1060, withnno sign of the usual KYW/CJRP combo, and this is very unusual here, to receive SSS DX from the West, and very welcome indeed. Watch 1610 you guys along the coast. I'm hearing one between 1:00 and 3:00 a.m. almost daily which I have not yet IDed. By the time you read this, I will have begun a tour of Jury Duty, starting Feb 23. Here, this involves driving 90 miles round-trip daily! I would enjoy reading many more Fora from other Eastern members - surely there are enough of us to make this section as big as Ric Heald's - what say? Does anyone know of a device of any kind which can be attached at the TV set to prevent it from interfering with AM radios in the immediate area? I have such a problem from my tenant's portable Telly, and solving it would be a boon (Hi, Daniel!). We are hoping to get Provincetown's new non-commercial "Community" FM station on the air by summertime - they will be on 91.9, 1000 w, with the calls WCMR for "Cuter-Most Radio" I hope to be at the very least their verie signer. They're trying to raise enough money to get the necessary transmitting equipment. So come on, send in a Forum, and as they say in Melbourne FL, "WTFEE" - We'll Make Mount Busy!"

GERRY THOMAS P.O. Box 2036 Pensacola FL 32503 (904) 432-8208

Hi all. It's been awhile since I've visited these pages and even longer since I've DXed intensely. No, the hobby isn't losing any of its appeal; I've just been devoting virtually all of my hobby-related time to cranking up a company of sorts. As many of you know, finding components for radio construction projects can sometimes be more challenging than the project itself. And when the parts are finally located, the price or minimum purchase requirements are often prohibitive. In addition, in my opinion, many of the ready-made DX accessories that are available to hobbyists today are overpriced. Hopefully, at least partial solution to these problems will occur in the next few months when COMQUEST RESEARCH gets fully rolling. I, along with the able assistance of a local ham and electronics enigneer, am rounding up suppliers of components germane to radio experimentation as well as designing, and testing several items of use to the BCB, FM, TV, and SW DXer. Which brings up another point---How does a business go about buying advertising space in DXM? If a policy presently exists, I'd appreciate hearing about it. I'd also like to acknowledge a too-brief visit over the Christmas holidays by fellow Floridian Ron Schatz, who was on his way to a holiday season in Mexico when he made the stop in Pensacola. Good to see you again, Ron. 73's and best of DX.

IF YOU WOULD LIKE TO PHONE IN YOUR FORUM, BEST TIME TO REACH ME IS BETWEEN 11 and 11:30 PM WEEKDAYS, AND IT'S ALSO THE CHEAPEST. TELEFORUM 2018361137.

PHILIP BOERSMA 15570 Cleveland St. Spring Lake MI 49456 20 Feb 81

Here is a format report on stations in West Michigan which are re-  
ceivable here. In addition, slogans will be listed in quotation marks, and  
additional comments will be in parenthesis: 590 WKZO--MOR, adult contem-  
porary. 810 WJPW Standards, Easy Listening. 850 WKBZ "KB-85" adult contem-  
porary with sports in the evening and R&B all night. 940 WJOR Adult con-  
temporary & MOR. 980 WACP Still C&W as of this date, but they have request-  
ed a call change, and may change format. 1060 WHFB Adult Contemporary &  
MOR. 1090 WMUS Modern Country and country rock. 1140 "KWM" WKWM Soul/R&B.  
1230 WCZU Country by day, sports/talk at night. 1260 WJBL Easy listening.  
1300 WOOD Adult Contemporary. 1340 WTWN (please note this station is in MI  
not VT) "hometown Radio", "Always Talking" talk & sports. 1370 WGHN "Con-  
tact 1370" Easy listening and MOR. 1410 WGRD Top 40. 1430 WICN Grab bag,  
everything but hard rock. 1450 WHTC Mix of ADCon, C&W, and MOR. 1480 WTAX  
"Newsradio 1480" News and talk. 1490 WLRQ still silent. 1520 WKJR "Family  
Radio" ('Sunshine Lane' is the name of the afternoon drive show) Traditional  
and MOR Christian. 1530 WYGR "Sonshine Radio" Contemporary Christian.  
1550 WSHN Soft rock. 1570 WFUR Traditional and MOR Christian, lots of  
preaching, also "Family Radio". 1600 WTRU "The station you grew up with",  
"Muskegon's Favorite"; Adult Contemporary. Hope this helps someone. Siyanara

PAUL MOUNT 471 Emerson Avenue Teaneck NJ 07666 and other cities...

The trip to Ohio went pretty well, only rained one day, and that was  
Monday coming home. Left Thursday Feb 12 after work w/no riders this time,  
driving right past WRNJ-1000 on US 46, then thru Allentown on 22/78, seeing  
four towers on the right believed to be WKAP or WAEB. WKAP-1320 had a  
slightly better signal to the west of Allentown; both beam mostly East at  
night to protect the rest of the country, hi. Both are long-playlist top  
40s basically; WKAP mentions an oldies show Su 2000. Stayed the night just  
south of Breezewood PA on I-70, not a bad DX location but I didn't have much  
time to. Drove thru Cumberland MD the next day on US 48/40; there are 3 top  
40's in this small town - WCMD-1230, WTBO-1450, and WKGO-FM, which changed  
from 'm' last time through. WTBO seemed to have better personalities and  
calls itself "Cumberland's Best AM" and got West better than WCMD, though  
WKGO outdistances either by far even daytime. On to I-79 past Fairmont WV  
whose WFMN, "M-92" must be nice background for offices - a lot of segues  
out of spots and little talk in their T40 format. Visited GWDXA member  
Randall Clark near Parkersburg, dubbing tapes and trading promo items (if  
you're a promo item trader please write me). On to Athens Oh to do business,  
drove through Nelsonville, my old hometown, listening to the new WYHO-1130,  
"The Best Country Sounds in SE OH", sounded pretty good; signal is strong  
past Athens and Logan. Visited friends incl. WGN in Logan Fri-Sat, back to  
N-ville but again got there after WYNO s/off no visit, and on to Athens  
seeing WATH-970/WXTQ and another old friend where I stayed. Sunday flew up  
to Akron (Marietta to Newcomerstown in an hour) where I got to see Dave Grim  
and Dave Arbogast, the latter at his bedroom/dungeon studio, again dubbing  
tapes and trading items. Saw ex-member Tim Davison Monday, stopping at  
Arbo's on the way home. With stops for sleep, I finally got home at 0421,  
w/work at 08. Radio details inspired by Phil's Fine Forum - very valuable PB.

IF YOU SENT YOUR ANNIVERSARY FORUM LATER THAN THE MARCH 1 DEADLINE, DON'T  
WORRY, IT SHOULD APPEAR WITHOUT ANY PROBLEM ANYWAY. 73 and GOOD DX. FRM

BRUCE PORTZER - 6546 19th Avenue Northeast - Seattle, WA 98115

Hi Gang. with DXF-West out of commission this week, I guess someone  
has to hold down the fort for the west coast. DX This week was very good  
with an excellent DU/Latin opening MM 3/2. SE DXWWest in a week or two  
for results. Judging from ex here I'd say Doug Nyholm and company picked  
a good weekend for their Beverage DXpedition.

Anyone who wants to learn about Latin American mx should tune in the  
BEC's pgm on Latin American mx, aired Monday nights at 2230 EST (0330 UTC)  
on a bunch of SW freqs. The shows are quite interesting and seem to focus  
on one particular type of LA mx each week. The 3/2 show, for example,  
featured Cumbias. It's a good way to learn more about the mx you pick up  
on Central and South American stations.

Ernie Cooper: two relatively simple solutions to TV-induced QRM (which  
may or may not work) are to install 1) a filter at the TV's antenna lead-in,  
the same kind of filter intended to keep CB signals out, and 2) a filter  
for the power cord. Sometimes, the racous TV-buzzsaw noise is radiated  
out of the TV along the antenna lead-in or the house wiring, which in turn  
radiates noise which is picked up by DX rigs. If those solutions don't  
work, more drastic means must be taken, such as covering the entire TV with  
steel plate, lead foil, etc (including the picture tube....) or (better  
still) throwing the offending set into the bay, hi.

I see the end of the page coming up so will say 73 til next week....21

**LOOP, ANTENNA ACTION OF.**—Any loop consists of vertical wires and horizontal wires. The loop might be circular or the wires placed at various angles, still we would have some wires running up and down or practically so and others running across or horizontally.

As shown in Fig. 1 a loop operates as a coil or an inductance in which the radio waves generate a signal voltage. On the other hand an open antenna, outdoor or indoor, is primarily a condenser on whose plates the radio waves build up electric charges.

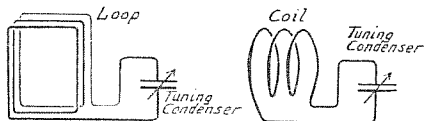


FIG. 1.—The Loop Is, in Effect, an Inductance Coil.

The radio signal may be considered as traveling horizontally away from the transmitting station. Oncoming radio waves will strike first one edge of the loop, then pass across to the other edge. As a wave strikes one side of the loop it causes a voltage to be generated in the vertical wires on that side. The wave then travels across the loop, strikes the other side, and causes an exactly equal voltage to be generated in the vertical wires on the other side of the loop. The two voltages oppose each other as may be seen from Fig. 2. Both voltages tend to force current up or both tend to force it down

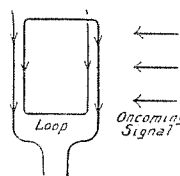


FIG. 2.—Equal Voltages Generated in Both Sides of Loop.

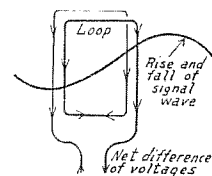


FIG. 3.—The Phase Difference Allows a Net Voltage to Be Delivered by a Loop.

on both sides of the loop. Naturally two currents flowing down on opposite sides of the coil formed by the loop will meet each other, and if they meet at exactly the same time and in equal quantities will balance each other completely. The same thing will happen with two currents both flowing upward on opposite sides of the loop.

The only reason the loop delivers any signal to a receiver is because, the two voltages generated on opposite sides of the loop are not generated at exactly the same time. The voltage in the side of the loop toward the transmitting station, in the side the radio wave strikes first, rises to its maximum a little before the maximum voltage in the side of the loop away from the transmitting station. There is a difference in phase or in time between the two voltages.

Because of this difference in phase the voltage peak in one side of the loop will occur when the voltage in the other side is not quite at its peak as in Fig. 3. The difference between the higher voltage on one side of the loop and the lower voltage on the other side of the loop will be the net voltage that is available as signal strength in the receiver.

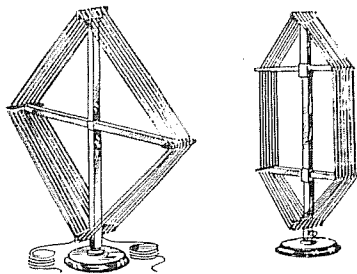


FIG. 4.—Box Type Loops.

Were it possible to build the loop with its sides so far apart that they would be separated by one-half the length of the wave we would have ideal conditions because the rise of the wave to positive voltage would then act on one side of the loop while the increase of the wave in negative voltage acted on the other side of the loop. To build loops as wide as one-half a wavelength would mean they would be of the general proportions of lightning-rod and this is not practical. It is true however that the greater the distance between the sides of the loop the greater will be the power received.

The higher the loop the greater will be the length of the vertical sides. The greater the length of wire exposed to the radio wave the greater will be the voltage generated in such a wire. Therefore, the higher the loop or the longer its vertical sides the greater will be the signal strength received by the loop.

The signal is increased by increasing the width of the loop and it is also increased by increasing the height of the loop. The greater the area of the loop the greater will be the signal strength it delivers.

The signal energy received by a loop increases with increase of the number of turns or with increase of the inductance of the loop. The signal energy increases with decrease of resistance in the loop. A loop will receive short wave or high frequency signals with more power than it will receive long wave or low frequency signals. The average loop picks up less than one-tenth the signal strength that is picked up by the average outdoor antenna. Even though the total length of wire be the same on two loops of different area, the strength of signal from the loop of larger area will be much greater than from the one of smaller area. Under this condition the signal strength varies almost directly with the area.

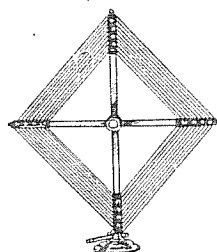


FIG. 5.—A Spiral Loop.

The resistance of a loop increases rapidly as its natural frequency is approached. The natural frequency is determined by the inductance and the distributed capacity of the loop. For best results the wavelength of the signal must be equal to at least three times the natural wavelength of the loop. For wavelengths closer to the natural wavelength the results will be unsatisfactory. Therefore, for short waves or high frequencies the operation of a small loop may be better than that of a larger one.

The capacities between parts of the loop circuit cause it to act as an ordinary antenna as well as act as a loop. For this reason the actual strength of signal received by a loop is always greater than the strength that might be expected from calculation only.

This antenna effect is one reason why the signal from a loop can never be reduced to zero no matter how the loop is turned with reference to the direction of signal travel. The loop effect or the coil effect might be completely eliminated but the antenna effect would remain. Under some conditions it is found that the antenna effect is stronger than the coil effect in the loop.

The approximate ratio between the signal strength from a loop and from an outdoor antenna is shown by the following formula:

$$\text{Signal Strength} = \frac{\text{Loop Area} \times \text{No. of Turns}}{\text{Antenna Height} \times \text{Wavelength in Meters} \times 0.1597}$$

Thus, assume a loop with an area of 3 square feet and with 15 turns to be compared with an antenna 30 feet high, both operating at a wavelength of 300 meters. The upper part of the ratio would be equal to 3225, or 45 as representing the strength of loop signal. The lower part of the ratio is equal to  $30 \times 300 \times 0.1597$ , or 1433.7 as representing the strength of antenna signal. The ratio of loop signal to antenna signal is then 45/1433.7 or approximately one thirtieth in strength.

There are two principal types of loops, one called the box loop and the other the spiral loop. The box loop of Fig. 4 is made with its turns side by side around the outer circumference of a framework, and has approximately the shape of a single layer coil of great diameter and little length. The spiral loop of Fig. 5 is wound on the spokes of a flat form, the inside turn of the winding being toward the hub or center and the following turns being wound around and around, progressing toward the outer edge of the framework.

**LOOP, DESIGN AND CONSTRUCTION OF.**—In building a loop for a receiver the safest method is to use an excess length of wire to begin with. After the loop is wound, a high wavelength or low frequency broadcasting station should be tuned in. If the dial setting of the loop tuning condenser is much too low, that is, if too little of the condenser is used for this wavelength, wire should be removed from the loop. Take off one-half turn at a time. The loop should be retuned after each alternation and wire should be removed until the dial setting is correct for the station being received.

The inductance of the loop and the maximum capacity of the tuning condenser used with it determine the highest wavelength or lowest frequency to which the combination will be resonant. It would be highly desirable to use a loop with large inductance and very small tuning condenser because the large loop would collect much more energy than a small one and the voltage changes across it would be greater than those across a small one.

However, it is unfortunate that such ideal combinations cannot be made to handle the entire range of broadcasting frequencies. The small condenser has not sufficient change of capacity between minimum and maximum settings to change the L-C value over the necessary amount for tuning. Furthermore, the distributed capacity of the loop winding forms a much larger proportion of the whole capacity in the circuit when the variable condenser is a small one and this distributed capacity in the loop is not subject to variation for tuning.

It will be found that a tuning condenser of 99235 microfarad capacity is slightly too small for loop work in many cases. With a carefully constructed loop having the wires well spaced a 99935 condenser will generally cover the entire broadcasting range. A condenser of 99935 microfarad capacity will be still easier to tune and the signal power will be only slightly reduced. It should hardly be necessary to use a 991 microfarad condenser to tune a loop.

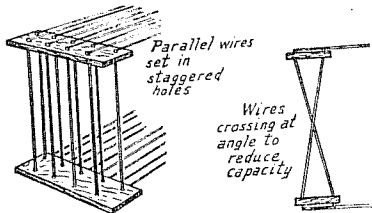
**Condenser Capacities.**—Loops with few turns have a greater range of tuning than those with many turns. The big problem in designing and building a loop is to reach the lower wavelengths or higher frequencies when a small condenser is used. It is desirable to use the largest loop and smallest possible condenser because the larger the loop in area and number of turns the greater will be the signal strength collected. With such a combination the minimum

capacity of the condenser must be small and the distributed capacity of the loop must likewise be small, otherwise the two capacities combined will prevent tuning to low wavelengths because of the combination of the capacity with the large inductance in a big loop. By using a larger condenser and a smaller loop the change of capacity in the condenser between minimum and maximum settings is great enough to avoid trouble in tuning, but the signals will not be as strong.

The wires on the sides of the loop may be run in two banks staggered with reference to each other as at the left in the illustration. They may also be run at angles with one another as at the right in the same drawing. Either of these methods reduces the distributed capacity of the loop but reduces the inductance at the same time.

**Length of Wire on Loop.**—The length of wire on a loop has no direct bearing on the frequency or wavelength to which the loop will respond. The frequency depends on the inductance of the loop just as the frequency to which a coil will respond depends on its inductance and not directly on the number of feet of wire in the coil.

Loops of average size and construction, when used to receive broadcasting stations, require about eighty-five feet of wire when the loop sides are short, and about one hundred feet with long sides. This wire should be flexible stranded, double silk covered. Loop wire generally consists of thirty to sixty strands of very fine bare copper wire such as number 38. Solid or stranded wire may be of number 14 or number 16 gauge.



Arrangement of Wire on Loop Framework.

**Construction of Frame.**—The framework of a loop should have no metal inside of the turns of wire. Any metal within the loop is, in effect, inside the field of a tuning coil, and the eddy currents set up in the metal cause a loss of energy. The framework of the loop should contain the least possible material of any kind and whatever material is used should have low dielectric losses. That means that the most suitable materials are the high grade moulded and laminated compounds such as Formica, Bakelite, Celoron, etc., also well prepared woods and glass.

All supporting points for the wire windings should be made of the best of insulating material. It is not sufficient to depend on the insulating covering of the wire alone. If wood is used for supports the wires should not rest directly against the wood but should be carried upon some insulation of greater resistivity.

The two ends or terminals of the loop winding should be kept at the greatest possible distance from each other. They should never be connected to a duplex cable, a cable with two conductors, on their way to the receiver but should be kept well separated. This is to avoid the bypassing effect of the capacity between parallel wires and terminals that are close together.

**Spacing of Wires.**—A loop, like any other coil, has inductance which is desirable, and distributed capacity which is undesirable. Therefore, we do everything possible to increase the inductance for a given length of wire or resistance and do everything possible to decrease the distributed capacity without too greatly affecting the inductance.

Inductance is increased by using more turns, greater length in each turn, and less spacing between turns. Distributed capacity is reduced by using fewer turns and more spacing between turns.

It will be seen that these requirements are opposed to one another. We want more turns to increase the inductance, but fewer turns to reduce the capacity. We want less spacing to increase the inductance and more spacing to decrease the capacity.

There is a more or less critical spacing beyond which additional spacing does not greatly reduce the distributed capacity. For a loop only two feet square the gain with spacing greater than one-eighth of an inch becomes less noticeable. For a loop four feet square this critical spacing is somewhat less than one-quarter of an inch, while for a loop eight feet square the wires should be at least three-eighths of an inch from one another.

As the number of turns on the loop is increased the distributed capacity becomes greater. At first this increase in capacity is quite rapid but as more and more turns are added to the loop, bringing its ends farther apart, the increase of capacity does not keep pace with the number of turns.

**Turns Required on Loops.**—The following table shows the number of turns required on box loops of various dimensions when used with tuning condensers from .00025 to .001 microfarad capacity. The loops are considered as being square, that is, with four sides of equal length. These sizes run from ten inches square up to thirty-five inches square.

Dimensions are given both for length of the sides of a square loop and for the area in square inches of the side of an oblong rectangular loop. A rectangular loop having the same area as a given square will operate satisfactorily with the number of turns specified for the square loop. The longer dimension of the loop should not be more than twice its shorter dimension.

As an example, a loop having sides of 16 inches and 25 inches has an area of 400 square inches. A loop 20 inches square likewise has an area of 400 square inches. The numbers of turns given in the columns for loops 20 inches square are applicable then to loops with sides 16 and 25 inches long or to any other combination of dimensions which yields an area of approximately 400 square inches.

In winding loops which are longer than they are wide and using the following tables in determining the number of turns, it is always advisable to place at least one extra turn in the beginning to care for changes brought about by the difference in shape. The extra wire may then be removed if it is found unnecessary, this being known when the loop is tried out with the tuning condenser which will be regularly used. The added turn or turns may be supported in a temporary manner while testing.

Turns Required for Rectangular Loops

Condenser Capacity in Miks.	Length of Side in Inches - Square Loop or Area of Rectangular Loop											
	Spacing 1/4-inch Between Turns											
	10x10 100	12x12 144	14x14 196	16x16 256	18x18 324	20x20 400	25x25 625	30x30 900	35x35 1225			
.00025	—	—	—	25	24	21	17	15	13			
.00035	—	—	22	20	18	17	14	12	11			
.0005	—	21	18	16	15	13	11	10	9			
.001	16	13	11	10	9	9	7	6	6			
Spacing 1/2-inch Between Turns												
	10x10 100	12x12 144	14x14 196	16x16 256	18x18 324	20x20 400	25x25 625	30x30 900	35x35 1225			
.00025	—	—	—	—	—	—	20	17	15			
.00035	—	—	—	—	23	20	16	14	12			
.0005	—	—	24	20	18	16	15	11	10			
.001	22	17	14	12	11	10	8	7	6			
Spacing 3/4-inch Between Turns												
	10x10 100	12x12 144	14x14 196	16x16 256	18x18 324	20x20 400	25x25 625	30x30 900	35x35 1225			
.00025	—	—	—	—	—	—	24	20	17			
.00035	—	—	—	—	—	25	19	16	15			
.0005	—	—	26	22	19	18	15	12	10			
.001	—	21	17	14	12	11	9	8	7			

Source: Unid radio encyclopedia, 1930's vintage.

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DX MONITOR, the official bulletin of the IRCA, is published 34 times a year; weekly from October to March, twice in September and April, and monthly from May to August. PUBLISHING STAFF: Bruce Portzer (editor-in-Chief), Dave Korinek (Publisher), Evelyn Portzer, Nick Hall-Patch, Jef Jaisun, and Phil Bytheway. Phone: 206-522-2521 (Portzer)

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DX Monitor is printed by Save-on Printing, Seattle, WA.

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19

