

The magazine of the National Radio Club

-SINCE 1933-

Volume 56, No. 28 - Monday, July 24, 1989 (ISSN 0737-1659)

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From the editor ...

Another plethora of riches again ... thanks, all, who contributed.

the development of the Superloop, Model MWL-900, unveiled at last year's convention in Milwaukee: it's now available for purchase, after some - Cambridge, WI 53523; technical data is available for \$1.00.

I'm rapidly building up a backlog of articles and clippings, more than I can ever possibly use, so if your clipping doesn't appear right away, don't despair, and don't be like one member who ods: from August 18, 11 pm to August 27, 11 pm threatened to quit the club if his clippings weren't (CLT), and from August 31, 11 pm to September 4, used (ironically, neither Mike nor l ever received 11 pm (CLT). They'll be blowing out the lines ... any). The first priority in these pages is to publish items of use to BCB DX'ers, with hIstorical, programming, and other items secondary, and as long as the DX information columns continue to be so heavily supported as they are now, clippings will appear minimally. Submissions going right into the trash unfortunately include non-AM or FM items, outdated stories, photostated copies which are grey or reduced in size, and those marked with highlighter (which repros as black), scribbled or marked with pen, or with pieces missing. Also, I can no longer use stories about format changes, unless very unusual. Please also include the name of the publication and your

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name, for proper credit, and DONT write on the back of the clipping. Thanks!

Publications ... Universal Shortwave is offer-Big news for those of you who have awaited ing Catalog 89-07, 52 pages, for a dollar/3 IRC's or free with any purchase: 1280 Aida Drive -Reynoldsburg, OH 43068. Latin American Radio World, by Julian Anderson and Gabriel Iván Barfour years of research. Information is available by rera, includes much useful DX information curwriting to Dajja Enterprises - N4561 Circle Drive rent through July, 1989, and it is available for U\$5 or 10 IRC's: Casilla 4616 - 1000-Buenos Aires -Argentina.

> Please stand by ... De Boss says that the Credit Card Order line and NRC HQ phone number will be closed during the following time peri-

> Finally, Ken Onyschuk says that WBEE-1570 signs off at 1900 instead of 0100 as in the log.

DX Time Machine From the pages of DX News

Twenty-five years ago ... From July 18, 1964: Russell J. Edmunds, Little Silver, NJ, reported a 'sickly" verie return average of 80.1 ... Ken Butterfield, Plymouth, MI, reported his verie average as 89.8 ... 15year-old Rich Gula didn't listen to summer DX naysayers and added 50 stations to his log in the first two weeks of July ... and the top 20 names in Supremacy Ratings (listed by countries heard) were Hank Tyndall, Ken Mackey, Art Cushen, C. M. Stanbury, Kermit Geary, Hank Holbrook, Ben Dangerfield, Bob Botzum, Stan Morss, Steve Johnson, Hilding Gustafson, Ernie Cooper, Pete Taylor, Dave Pope, James Gangler, H. J. Wilkinson, Norm Maguire, Gene Allen, Roy Millar, and Ron Schiller.

Ten years ago ... From July 16, 1979 ... Gary Houdek reported that WOW-590 was using AM Stereo through August 3 ... Jerry Starr reported 22 attendees at YAD-6, including the elusive Alfonso Bedova.

AM Switch

Jerry Starr

c/o WHOT Radio 4040 Simon Road Youngstown, OH 44512-1320

Status changes in AM stations, supplied by the FCC and NRC members

CALL LETTER CHANGES

01d c	all:		New	call:	01d c	all:		New	call:
560	WFIL	PA	Philadelphia	WEAZ	1260	KTYE	CO	Aspen	KSNO
910	WRCQ	CT	New Britain	WNEZ	1330	WNYM	NY	New York	WWRV
980	KICJ	LA	Shreveport	KIOU	1390	WPKO	OH	Bellefontaine	WBLL
1050	WTPO	GA	Conyers	WPBE	1440	WSLE	GA	Bremen	WBKI
1140	KPHD	TX	Conroe	KSSQ	1450	WFRG	NY	Rome	WPIG
1230	KPAK	CA	Redding	KLXR	1510	KDVE	TX	Nederland	KQXY
1240	KZZE	TX	Brownwood	KXYL	1520	WRQK	OH	Canton	WINW

CALL COMMENTS According to the M Street Journal, the FCC has FINALLY made a move toward computerizing the Call Letter Department. Yep, that's right, while the master inventories have been on computer for a long time, the bureau that deals exclusively with call assignments and reporting is still doing it all by "longhand" and card files! The FCC states they "have been releasing flawed, incomplete and untimely records of broadcast call letter changes. Since many organizations, including several areas of the FCC, are tied to call letters for record keeping the flawed data spreads out from the FCC and is recirculated through other sources." NO FOOLING? This is NOT a big news flash here at AM Switch! The Video Services Department has loaned John Wong to Call Letters to impliment the project. He admits "the job is a very large one and will take some time." MSJ notes that the latest Call Letter Notice (#114) contained only four changes and failed to list the cities for any of them. Maybe finally the outpouring of bad and incomplete call data will be changing and it's about time. Your government dollars at work! Place your bets on what year (or century) they'll finally get this long standing mess straightened out.

APPLICATIONS FOR NEW STATIONS

1020 FL Kendall: 10000/2200 U4

1030 AZ Cortaro: 10000/1000 U4 (reapplication)

GRANTS FOR NEW STATIONS

610 PR Patillas: 1000/500 U4

700 WA Camas: 12500/1000 U4 (note the 700 Camas denial last issue was for a second competing application)

770 TX Garland: 1000/1000 U2

APPLICATIONS FROM EXISTING FACILITIES

- 540 KDFT TX Ferris: city of license to Desoto, TX
- 630 KIAM AK Nenana: reduce powers to 2200/2200
 - KHDL WA Opportunity: to 840 kHz with 50000 watts (no mention of night)
- 740 WWNZ FL Orlando: 50000/50000 U4
- 920 WTTM NJ Trenton: day power to 1400 watts
- 1190 WOOO FL Royal Palm Beach: 890/1000 U2
- 1240 WAGO PA Reading: studio location to Ephrata, PA (we don't normally list studio changes but we note that the new address is that of WIOV-FM so you might expect to hear WIOV simulcast on WAGO)
- 1290 WHGR MI Houghton Lake: 4600/4900 U4
- 1400 KEBE TX Jacksonville: reduce powers to 450/450 watts
- 1490 WMOG GA Brunswick: reduce powers to 600/600 watts
- 1520 WTRI MD Brunswick: reduce CH power to 1400 watts

GRANTS TO EXISTING FACILITIES

- 720 WGCR NC Brevard: power to 10000 watts, city of license Pisagah Forest
- 1020 WRIX SC Homeland Park: day power to 10000, CH power to 3000 watts
- 1130 KBMR ND Bismarck: to 710 kHz with 10000/4000 U3

- 1480 KMEX TX Dallas: night power to 1900 watts, relocate XR
- 1490 KDMO MO Carthage: relocate XR
- 1540 KGHT AR Sheridan: day power to 50000, CH power to 31000, relocate daytime XR (note this is for their 880 kHz CP)
 - KSGB TX Fort Worth: night power to 5000 watts, relocate XR, city of license to University Park, TX

OTHERNESS

- 540 KPUP CA Carmel Valley: target date was 7-1, may be ON THE AIR
- 670 WWFE FL Miami: may be ON THE AIR by the time this reaches you
- 720 WRZN FL Hernando: may be ON THE AIR by the time you read this
- 770 WWAM FL North Fort Myers: new station is ON THE AIR
 - KBEC TX Waxahachie: CP for this frequency is DISMISSED as part of a settlement agreement which paved the way for the granting of the new Garland, TX station as noted under New Stations above.
 - KBEC will remain on 1390 kHz
- 880 KUTE CA Desert Hot Springs: construction of this new station slated to begin in September 1989
- 1020 WPJC PR Adjuntas: may be ON THE AIR by now
- 1050 KMBA NM Los Ranchos de Albuquerque: silent station is back ON THE AIR
- 1170 WKFL FL Bushnell: may be ON THE AIR by the time you read this
- 1220 KBET CA Canvon Country: may be on the air by now
- 1300 WSSG NC Goldsboro: silent station has been sold, may return soon
- 1480 WCIN OH Cincinnati: station is reported to be SILENT
- 1510 WXLX NC Blowing Rock: silent station has been sold, may return soon
- 1520 KJSM WA Sequim: request for extension of CP for new station DENIED
- 1530 WJPJ TN Huntington: station is SILENT
- 1550 KOZR CA Apple Valley: announced target date is September 1989
 - Beltsville: latest news on the NAB anti-skywave experimental station: Construction began 6-26 with testing scheduled to start in August 1989, 295 foot tower erection was expected to take eight days. Although a power of 5000 watts was granted, most transmissions will be in the 400 watt range and all tests will be conducted at night. The Prestholdt antenna to be tested first consists of the traditional vertical tower with the addition of a horizontal radiator at about 220 feet fed by a separate balanced network and supported between the guy wires. Mobile monitoring units located 10 to 15 miles from the test site will take field strength readings to determine the design's effectiveness. According to Prestholdt the horizontal radiator can be oriented in the direction in which skywave presents the most problems so evidently this antenna is not expected to have anti-skywave properties in ALL

directions. In the next issue we hope to have information on

to check 1660 kHz periodically when you are DXing at night.

getting a QSL from this station if you hear it so don't forget

FM 99.3 AM 1340

1660 KA2XXB MD

THANKS to the following members who contributed Otherness items: STEVE KENNEDY (via the NRC Net) FRED VOBBE, WAYNE HEINEN, HOWARD KEMP, CLAY ADAMSON and B. B. McCLURKIN (who successfully located Tse Bonito, NM for us)

73 and Good DX, Sany & BKF Jerry Starr & Buffalo K. Foonman

LAST MINUTE FLASH: via Dick Truax (NRC net) 790 WVEZ Louisville, KY call change in DX News four issues ago was given as WWKY per the FCC. The new call is actually WKKY. Please make this correction in your Logs.





John S. Bowker, Valparatso, IN

GUIZ ↔ 30

Only one city in the United States has stations operating at the five dial positions shown below. Of course, there may be other stations in this city too! Can you spot the city?

Hare is a hint; it is one of these: Proyidence, Denver, St. Louis (The answer will appear at the end of the next City Quiz in DX News.) The answer to City Quiz #29: San Francisco

Station Address Changes

Address Jerry Starr c/o WHOT Radio 4040 Simon Road Youngstown, OH 44512-1320 Supplied by NRC members and other sources

1000	WJLS	$W\nabla$	BECHLEY	P.O. BOX AB 175Bet	RV~VA
e. [-()	MIOD	FL	MIAMI	1401 NORTH BAY COUSEWAR STEEL	F-V
A 200	WZEN	ME	BANGOR	861 BROADWAY	SW 4-146
2 day	1595	00	COLORADO SPRINO	IS 2864 SOUTH CIRCLE DELIGHTED The General	- ar co
E! a :	WEAT	FL	WEST PALM BEACH	4 2406 SOUTH CONGRESS	1514 1.189.)
200	WEWH	FL	BELLE GLADE	F.O. BOX 1505	- '네시 네고
12171	WHOO	FL.	ORLANDO	L RADIO ROAD	_14.49 E14(-
100000	MEDIE	I i	CHICAGO	875 N. MICHIGAN AVENUE, R. 1900 CORGIL 1997.	180 19
1080	WVCG	HL	CORAL BABLES	2100 SALZEDO STREET	- 40 TTD-
Hou	WULLD	l L.	CHICAGO	180 N.MICHIGAN AVE., SUITE 1.00 COROL	149 191
4900	wit I ,	[7]	BREWER	417 WILSON STREET 04412	W. E. D.
1.290	WBCZ	PΑ	NEW CASTLE	1906 WILMINGTON ROAD 16105	(H) 1 m

1200	域式料色	F-{	WEST FALM BEACH 1500 NORTH FLAGLER DRIVE	
ESCIO.	WELLS	FL	MARATHON BOOT NEY ROAD, BOOT KEY 35050	
LSOn.	LISMI4	NE	MCCOOK R.R. 2, BOX 125, OBERLIM.E. 6/ 47	
1.20	MHHO	Ν'n	HORNELL BOX 726 14843	
540	MOME	MF	DOVER-FOXOROFT GUILDFORD ROAD	
140	MUL?	£Ά	WILKES-BARRE Same as old-WPLJ (ex-WYOH)	
1,350	WUYE.	PΑ	YORK 1360 COPENHAPFER ROAD 17404	
180	WAGS	SD	BISHUPVILLE 142 WASS DRIVE 29010	
400	METEL.	- L	FORT LAUDERDALE 2100 NW 21st AVENUE	
410	WHAG	MD	HALFWAY 1250 MARYLAND AVENUE, HAGERSTOWN 21740	
45.0	M > M	ME	LINCOLN PARK AVENUE	
470	WJDY	MD	SALISBURY 1633 NORTH DIVISION STREET 21801	
[490	KARE	co	MANITOU SPRINGS 2812 WEST COLORADO AVE.,# 200 COLORADO SPRINGS, CO 80904	
			COLORADO SPRIMOS, CO 80904 (////	4

**** CONTRIBUTORS ***

5th AVENUE, STOCK ISLAND, FL

6001 WILKINSON ROAD 23227

	www.m. tornalis.torion	India were	7	
RVVA	 ROBERT VANCE, FT.BELMOIE,VA	SW-ENG	и и	STEVE WILLIE LUGLAGE
WH-PA	 WILLIAM PRATER, DALLAS, MA	JT-00		JEE' TYMAN, Paldik, OU
WHITCH	 MAYNE HEINEN, AURORA, CO	RW-MI		ROBERT WALLER, WIROM.MI
MM-CO	 L:O			

Formats

15000 METZ EL LEY MEST

1540 WKIE VA RICHMUND

Tony Fitzherbert

JEL LERG

MD III

1.00 04

dd 1115 c

WILL CO.

Min. 15 c.

122, 526

 $\mathrm{Jd} \to \mathrm{Jd} \, \mathrm{b}$

1921 THE

544 + 145

메드 [일]

HH 130

SØ 1 No

129 96

356 Jackman Avenue Fairfield, CT 06430

Changes in programming status; reported by NRC members and others

Welcome to the midsummer edition of Formats. First, here in Fairfield County, WCFS-1260 has gone back to its original call, WMMM (which stood for "Westport's Modern Minute Man" - a figure on the town seal). The format remains oldies, however. And Bridgeport's WICC-600 will have changed hands by the time you read this. About all of the on air staff has received its notice, and the new owners have obtained Soupy Sales, among others to do air shifts until the new staff is in place. Stay tuned for a new format. the new owners also own WEBE-107.9, an AC station headquartered in Norwalk (with the transmitter elements on the side of a United Illuminating power house stack in Bridgeport).

It has to happen! The M Street Journal notes that WRKT - 1530, Northeast, PA., has gone to an all-Beatle format, //with its FM. This is a temporary format, until the owners decide what to do with their new purchase. And, KZZI - 1510, West Jordan, UT, former home of some Nazi programming (covered internationally in the press) is returning from silence to carry WNN motivational talk. Ah, what a fine station ... contributing liberally to the suburban Salt Lake City culture, and blaring from every sunbather's radio on the briny shores of the namesake lake, ha!!

Al Holtz, of Conrail, in Philadelphia notes that the call WFIL - 560, once the great rocker of the '50's and 60's has been shelved ("parked") by the present owners, as they are // WEAZ-FM.They id as "WEAZ-AM". WFIL is being considered for purchase by a West Coast outfit, and, it is speculated, it would carry all brokered stuff....how the mighty has fallen. Also, in Philly, WHAT-1340 has been sold for \$1.65 million, and the new owners will air a Black talk format.

The only contributers this issue are the M Street Journal, and Pete Taylor. Are the rest of you on vacation???? Here goes....

```
540
      KPUP CA Salinas
                              - On in mid July w/ modern CWM, ABC
                              nx on the hour (Pete taylor).
      W.TMW
            PA Bloomsburg
550
                              - Oldies, standards (M).
      WGAT
            NC
                Elizabeth City - Transtar AC (M).
580
      WELO
            MS
                Tupelo
                               - Transtar oldies (M).
580
      WHP
            PA
                Harrisburg
                              - News, talk (M).
610
      WAES
                Charlotte
                              - SMN Kool oldies (M).
            NC
                Portland
620
      KGW
            OR
                              - News, talk (M).
760
      KGU
                Honolulu
                              - News, tlk, BRN Business News(M).
            HΙ
790
      KOSY
                              - SMN AC (M).
            AR
                Texarkana
790
      WVEZ
            ΚY
                Louisville
                              - To be WWKY, CWM (M).
790
      WSVG
            VA
                Mt. Jackson
                              - SMN Oldies (M).
840
      KVEG
            NV
                North Las Vegas - FBN Business News, Sports (M).
890
      WT.S
            TT.
                Chicago
                              - Talk, info (M).
890
      WHNC
                              - Transtar AM standards (M).
            NC
                Henderson
900
      WEAS
            GA
                Savannah
                              - SMN Heart and Soul oldies (M).
900
      KOEZ
            ТX
                Hamilton
                              - Spanish (M).
      WNEZ
           CT
                New Britain
                              - Ex-WRCQ with standards, now
                              EZL(M).
920
      KDES
            CA
                Palm Springs
                              - Adult standards (M).
920
      KOLO
           NV
                Reno
                              - News, talk (M).
940
      WADV PA
                Lebanon
                              - AC, oldies (M).
950
      WJDK
           VA
                Richmond
                              - AC, News, information (M).
960
      KZXY
           CA
                Apple Valley - Soft AC (M).
960
      WSBY MD
                Salisbury
                              - To be WLVW, oldies (M).
960
      WFIR
            VA
                Roanoke
                              - News, talk. (M).
1010
      KS PT.
            CA
                Thousand Palms - Silent until July (M).
1030
      KBEQ
           MO
                Blue Springs
                             - SMN Z-Rock (M).
1060
      KFTT
           тX
                Lockhart
                              - Religious talk (M).
1080
      WVCG
           FL
                Coral Gables
                              - All brokered variety (M). The
                              "Voice of Coral Gables" becomes the
                              voice of anyone who wants to pay
                              for it (TF).
1120
     WHTT NY Buffalo
                              - Oldies // FM (M).
1120
      WOXM
           GA
                Gordon
                              - Soft AC (M).
1150
      KEZX
            WA
                Seattle
                              - Now BRN Business News (M).
1190
      WHUM
                Hughsville
           PΔ
                              - Transtar CWM (M).
1230
      WFAS
            NY
                White Plains
                              - AC, lots of news and info for
                              Westchester County (TF).
1230
      WKBO
           PA
                Harrisburg
                              - CNN News (M).
1230
     KERV
           ТX
                Kerrville
                              - EZL (M).
1240
      WROV
           VA
                Roanoke
                              - Oldies (M).
1270
      KDJI
            ΑZ
                Holbrook
                              - SMN Oldies (M).
1270
      WKHO
           MΙ
                Charlvoix
                              - BRN Business News (M).
      KKAL
1280
           CA
                Arroyo Grande - CWM (M).
1290
      WDEC
            GA
                Americus
                              - SMN Heart and Soul oldies (M).
1300
     KPTL
           NV
                Carson City
                              - AC, oldies (M)
1300
      WXPX
           PA
                West Hazelton - AC, ABC Talk (M).
1310
      WJRA
           AL
                Priceville
                              - Gospel (M).
1320
      WLQY
            FL Hollywood
                              - All brokered variety (M). Was
                              just another of many Spanish
                              outlets in the Miami market (TF).
1340 WITS
           FL Sebring
                              - MYL (M).
1360
     WXPQ AL
               Jasper
                              - AC, Info (M).
1370
     WBYE AL
                Calera
                              - CWM (M).
1400
     WAVD
           ΑL
                Decatur
                              - AC, oldies (M).
1400
     KVOE
           KS
                Emporia
                              - CWM (M).
                              - CNN Newss, talk (M).
1400
     WRAK
           PA
                Williamsport
1400
      KMLA
           ТX
                Texarkana
                              - CNN News, talk (M).
1450
     KATE
                Albert Lea
            MN
                              - Transtar AM Standards (M).
                Phoenix City
                             - News, ABC Talk (M).
1460
     WIQN
           AL
1490
     WTVL
           ME
                Waterville
                              - AC // FM (M).
                              - AC (M).
1500
     WBZI
           OH
               Xenia
1510
     KTID
           CA
               San Rafael
                              - New age // FM (M).
1550
     WSHN
           MI Fremont
                              - CWM // FM(M).
```

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1550 KWBC TX Navasota
                           - SMN Gold oldies (M).
                            - CWM (M).
1560
     WINV
          FL
              Inverness
1560 KEYJ TX Abilene
                            - CHR (M).
1560 KEGG TX
              Daingerfield - Silent (M).
                           - To be WYXE, CWM (M).
1570 WHLP
          TN
              Centerville
                           - News, talk (M).
1580 WCCF FL Punta Gorda
1590 WZRX MS Jackson
                           - MYL (M).
1590 KRQX TX Mexia
                           - CWM // FM (M).
1590 KVGB
           KS Great Bend
                           - CWM // FM (M).
1600 WPDC PA Elizabethtown - Drops REL for AC (M).
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And that is it...lots of changes. Two interesting trends...who said that network radio is dead? Look at the stations here that are eliminating on air staffs in favor of music from satellites. And some stations that have carried religion for years are dropping it for AC or oldies. Even religion has reached the saturation point. And, surprise, two Miami market stations are dumping their Spanish formats for a hodgepodge of whoever buys what. Even ethnic programming can become saturated. All for now, with gratitiude to the M Street Journal who, in effect, gave us a column this time. Thank you !!!!!

73's 7

Radio Roundup ... by Pete Kemp

WRCQ-910 has changed its call letters to WNEZ. They are currently programming soft music like their FM sister WRCH-FM. Both stations will fine tune their formats on July 3rd introducing more vocals and popular musical selections to attract a younger audience.

Advertisers are taking a much closer look at the programs they are sponsoring. While TV has been subjected to this pressure of late, the ABC Radio Network has recently aired a Barbara Walter's special on the controversial subject of abortion. The advertises stayed away, but ABC said they would NOT be intimidated airing the show anyway.

The White House has put forth the name of Alfred Sikes to be the new F.C.C. Chairman.

With recent events in China fresh in our minds, it is interesting to note that during the June 2nd to 11th period the CBS radio Network issued 116 special on-air reports.

Lee Coffee has returned to the WEW-AM fold in St. Louis...The oldest affiliate of the NBC radio Network, WGY, in Schenectady, has decided to sever its ties and join up with the CBS radio Network effective September 18th.

Jon Bauman, "Bowzer" of ShaNaNa fame, will host a new syndicated 2-hour radio show titled "Bowzer's Golden Oldies Countdown" commencing this October.

WGST, in Atlanta, is currently simulcasting on both 920 and its new frequency 640 KHz. That should temporarily boost their ratings.

WFIL has dropped its 2-yr programming of satellite fed oldies to simulcast its FM sister WEAZ's soft rock format.

Loyola University has sold WWL-870 in New Orleans. It is Louisiana's oldest radio station having gone on the air in 1922.

WDGY will be the flagship station for an 80-station net to handle the Minnesota Timberwolves professional basketball team games beginning in the fall.

Al Ford, WFLA's Helicopter Traffic Reporter, and a former Tampa Police Officer, reported seeing a UFO while on the air May 4th.

WISN's sports director Bob Dolan is hosting a weekday sports-talk show from 6 to 7 p.m., moving Sally Jesse Raphael to the 7-9 spot.

WLZR will carry all 11 Norte Dame's football games in the Milwaukee area.

Domestic DX Digest - Bast

William Hale

734 Burleson San Marcos, TX 78666

DX Catches in the Eastern U.S. and Canada, with 24-hr. ELT

MEDIUM WAVE rAMblings

- Sure enjoyed the brief telephone call from 8.8. HcClurken who was passing through town on June 19th. A 'Silent' member for many years, B.B. promised me he'd start reporting his DX from his home QTH in Irving, TX. Anyone passing through or by San Marcos on I-35, don't hesitate to call and say 'hi'. Or, maybe we can get together over a cold one?! Phone number here is 512-392-0082. Long distance calls, prepaid only please. Charles Reh calls pre-paid, and it only costs him his beer money, hi. See unIDs below, for one of the things we talked about.
- Well, I've gotten a new 'toy'. I finally bought a scanner, a Realistic PRO-38 portable. It's a little different than listening to MW, but still fun. Anyone who is into 'scanning' and can offer some tips on how to get more out of the VHF-UHF bands, I'd like to hear from you.
- I asked for suggestions last time on how to improve/change the column, and I have before me one to print full address data of reporters. I believe HQ has some policy about not printing addresses, due to a lawsuit several years ago. Musings prints addresses, so how 'bout this...I'll check with DE BOSS, and get back to this subject next month. OK? Another suggests to divide the column into three major groups, Midnight to Dawn, Dawn to Dusk, & Dusk to Midnight instead of what we have now. Well, what's dawn? O541? Dusk? 1909? I'll put that up to a vote of contributors. Let's hear from you on that one. Then again, if I could get the majority of reporters to divide their loggings into the categories...
- Welcome back to the NRC...Mike Hardester, USN. On his way overseas, he was in Portamouth, Virginia to DX. The results appear this issue.
- When submitting Graveyard Achievements, please alphabetize by state & city. Due to time constraints here, I can no longer accept the GY lists unless they are sorted in this manner. Others will be returned. Remember, you have only your list to deal with; I have several.
- If you submitted some loggings, and you don't see them here, chances are you failed to include "time" data. As noted in prior issues, loggings will NOT be printed without date and time data (certain circumstances excepted), as these are important parts of the logging. Also, please use 24 hour clock and convert to ELT, arrange your catches in the groups seen here, and get 'em in directly":
- MY next deadline is: AUGUST 5th, which is the last issue before the Convention '88. Speaking of that, I still have no concrete plans to go, but hope I can make it, and see YOU there!!

SPECIAL

630	KDWB	MN ST PAUL - 8/19 0220 with satellite OLD; change in format & MM
		eked as shown in log; hrd with CFCO on rare SP (CR-ON)
960	WLVW	HD SALISBURY - 6/11 0658-0725 good with mx like Close to You,
		Solitary Man; local nx, wx; a local here; ex: WSBY (HH-MD2)
	KZIM	MO CAPE GIRARDEAU - 6/20 0505 good, ending nx with non-ID The new
		authority, 960 KZIM; very early sign-on or AN; at any rate.
		change in aked as shown in Log (CR-ON)
990	WIVK	TN KNOXVILLE - 8/7 0158-0243 fairly good with C&W mx, wx, Midnigh

- Ride with WZZD QRM; in most AMs battling with WZZD (HH-MD1)
- 1000 WLUP IL CHICAGO 8/12 on AN this MM to give me a scare; however, off each MM since; may have stayed on to pick up WLS's listeners (all 3 of 'em) since WLS had a rare SP this date (CR-ON)
- 1390 WBLL OH BELLEFONTAINE 8/18 1500 with new CL and format of C&W mx; hrd with WFHJ/WNLF nulled but hvy splash from WJLB's preacher & WRKG's polkas; ex: WPKO (CR-ON)
- 1510 WHBT MI JACKSON 8/15 2007-2015 sign-off; noted with new format of CAN max & IDiThe country has come home to the HeartBeaT on WHBT, Jackson; also, this one has a PSSA that is used from JACKSON LSS (when earlier than Mashville's) 'til WLAC's LSS (a maximum of 30 minutes) (CR-ON)
- 1550 WOKJ MS JACKSON ~ 6/18 0525 under CBE OC & over WCCZ with AOR & non-ID K-Rock in Jackson, WOKJ; thought they recently switched to C&W (CR-ON)
- 1580 KTSS IA DAVENPORT per 6/5 <u>Broadcasting</u>, stn has been sold to Valley Ministries Ltd for \$70,000; these are the same folks who own REL FMer KBQC-93.5, so apparently they did raise enough \$66 (DS-WI)



UNIDS AND UNIDS IDD

580 UNID ?? - 8/17 0805 fair with end of of SNN nx; C&W mx noted before & after newscast; looped N/S; Log sez WBIL Tuskegee, Al is only stn on

- channel on the SMN, but I seem to think that this wasn't them; ideas, anyone? (RD-IA)
- 800 UNID ?? 6/4 0103 sign-off with CL sounding like WOVR; nothing similar in Log; has somebody changed CLs, or maybe using FM CLs? CKLW off 'til 0150; further review of tape revealed what sounded like owned by the ?

 Twin Cities? B'Casting Company & possible voice-over of different CL @ end of sign-off annot (CR-ON)
- 960 UNID ?? 6/21 2330 poor with ad for a Ford dlr in Stockdale, Missouri and final wrap-up of KC Royals BB game (SA-MB) (Barry Finkel's Sports Networks listing (Issue 27) shows 2 980's carrying the Royals, KMA-IA and KMEB-NE. KMA's pattern favors your QTH-ED.1
- 1070 CHOK ON SARNIA <u>definitely Waily Wawro's unID of 2/15 (Issue 23)</u>, as hrd the ad for <u>Northend Appliance Center</u> at 635 Cathcart Blvd in Sarnia (CR-ON) [Tentatively IDd in Issue 25-Ed.]
- 1140 UNID ?? 6/10 0548 poor with NOS/EZL mx Volare; looped SE; faded @ 0554 (SA-MB)
- 1160 UNID ?? 7/2 0110-0120 noted what I 1st thought was Jamming (USA vs Cuba) with "hash"-like noise often hrd on SW, under hash; recheck @ 0225 & frequency clear; have previously noted steady (fair level-as in not local) tone here during early afternoon (1200-1400 local) about 6/25; is there a CP here? jamming? What?? (MH-VA)
- 1200 UNID ?? 6/9 2316 noted ID:The stn that gives away money and plays all the hits, Energy 1200; who is this? (WAW-RI) (Easy. CFGO Ottawa. See 1200 Unids Issue 25-Ed.)
 - UNID ?? 6/11 2145-2205 with instrumental songs from the 30s & 40s & no ads or annots except @ 2201:This is ??? AM radio; this has been had a couple of times before with weak but steady signal and is about 600 Hz high of 1200; loops N/S; had again 6/23 1915 about 2 has before LSS so is probably semi-local; I suspect a northern Ohio pirate; only noted on weekends (CR-ON)
- 1320 UNID ?? 6/29 2143 fair with Chicago White Sox BB (RD-IA)
 1390 ?KRR2? ND MINOT 5/29 0110 goos with TTs of different or varying pitches;
 also OC @ 0145+Talknet; 0152 TT again; 0200 beeps @ 1/second; 0203
 Harry Chapin song to 0204, then TT to 0207, rest of Chapin song+Talknet; never IDd (SA-MB)
- 1400 WELL MI MARSHALL this is the mystery WELL from Wendell Ford's 1260 logging last issue; they apparently changed CLs & cities (ex:WKNR, Battle Creek) many moons ago, right after the new Log was published and both Wendell and the editor must have missed the AMS announcement (CR-ON)
- 1450 UNID ?? 6/18 0500 W (C?) 0 (B?) SID+MBS Nx; with possible lite rock B4 ID; looped south; poor (SA-MB)
- 1470 UNID ?? 7/2 0208-0218 with fade-up of C&W mx, ment of Cajun Country & Star Country, ad for Rod/Roth? Richard's & PSA from Atty General for/"against" drunk driving; WXKW Weather faded up with clear ID during a song, then back+mush; ideas? (MH-VA) [Well, KLCL Lake Charles, LA (bayou country) is listed as C&W. Star Country sounds like it's off the bird. Anyone else??-Ed.]

DX/EQUIPMENT TESTS

- 1000 WTAK AL HUNTSVILLE 6/5 0215-0255 (tune-in/tune-out) with ET of ROK OLD mx; sounded like IFM or playing tape from RS since annot The Domind's Pizza/Coca-Cola Classic Rock Hour was given several times; full ID @ 024%This is WTAK, Huntsville, Alabama, testing this morning, thirty-five hundred watts at one meg; signal ran abruptly from XLNT to poor and
 - back again, perhaps due to pattern/power switching (CR-ON)

TIS & OTHER

- 530 TIS WI POYNETTE 6/4 all afternoon very poor with construction info, ment of I-94, Hwys 73, 51 & 12/18; too weak to completely ID from home, but visit to XR site abt 40 miles away veried this is what I hrd (DS-WI)
 - TIS WI WISCONSIN DELLS 6/4 even weaker than, and mixing with, above; this one seems to be sponsored by Circus World Museum in Baraboo; a visit to the Dells showed it carrying continuous loop of museum ads (DS-WI)
- 1370 TIS VA MC LEAN No Date!! 1930-1940 with Tysons Corner Center Radio; good in Center but lost quickly after getting out on hwy; info on store hours, parking, security, etc; One of the Nation's Premier Shopping Centers (HH-VA)

WDLC

MIDNIGHT TO MIDDAY

- 540 WWCS PA CANONSBURG 6/10 0027-0109 XLNT, well over CJSB with annot for WWCS Day at the Three Rivers Arts Festival (TC-NY)
- 630 KDWB MN ST PAUL 6/18 1025-1036 weak with OLD by Argent, The Kinks,

 Chuck Berry, & The Troggs non-ID: K-63, The Twin Cities' Oldies Stn
 (RD-IA)

- 740 WDF2 TN TULLAHOMA ~ 5/21 0420-0430+ very good with OLD; 0428:WDF2 Tullahoma-Manchester ID; frequent 2-24 non-IDs; with unID OC nulled (DS-WI)
- 790 WWAZ RI PROVIDENCE 6/3 0208 just over CKSO with WTAR nulled and CKLW off; must have missed a format change 'cuz I was expecting BBD, but they had CLA mx (CR-ON)
- 800 WLAD CT DANEURY 6/3 0306 with CKLW off; stn promo by female giving Radio 80, WLAD non-IDs; after a long static burst, Larry King was doing his thing; mixing with unns CJNAD/CHAB/WKEE & unID OLD which turned out to be KXIC; my 1st catch on 800 since 2/28/74 (CR-ON)
 - KXIC IA IOWA CITY 6/3 0306 with CKLW still off; eastern stns had faded & was all alone with 60s OLD saying: The great oldies you grew up with, Classic hits for Eastern Iowa, AM 800, KXIC (CR-ON)
- 990 WWCH MI YPSILANTI 6/5 0525-0530 poor with end of Focus on the Family pgm+onnot WWCH 990 AM, please mention our callsign when writing this program+contemp REL mx (DS-WI)
 - CBW MB WINNIPEG 6/18 0108 <u>Lee Major</u> with Red River Country C&W pgm over WIVK and possibly WEEB (HF-MI)
- 1060 CHUM ON TORONTO 5/21 O520-0530+ fair, with AC; O521 Lighting Unlimited ad+wx, h; of 23t, currently 12t & Younge St & St Clare Avenue; unn, but rare (DS-WI)
- 1070 CHOKE ON SARNIA 5/21 0510 poor, under nulled local WTSO with CHR; ID sounded like CHOK, but too much WTSO QRM to verify (DS-WI)
- 1140 KRSR NV NORTH LAS VEGAS 6/10 0553 fair with The Crusher ID in metallic voice⇒hard ROK (SA-MB)
- 1160 KSL UT SALT LAKE CITY 6/12 0416 good with Larry King, mixing with R. Taino tonight (SA-MB)
- 1230 WJBC IL BLOOMINGTON 5/27 0445 fair with AM 1230, WJBC non-ID+lite ROK mx (SA-MB)
 - WMRZ IL MOLINE 6/5 0539 fair+good with ...on WMRZ, Quad Cities'
 Classic Rock, WMRZ, Quad Cities' First & Best..., & AM 1230, the
 Quad Cities' Oldies on WMRZ annots; OLD mx (DS-WI)
 - KWNO MN WINONA 6/4 OB30 fair with KWNO Minnesota Twins Contest promo→C&W mx; must be 24 hours, now; MN #97 (SA-MB)
 - KKUL HT HARDIN 6/4 0530 fair with 95-5 KKUL non-ID+OLD; ex:KBSR; new; HT #34 (SA-MB)
- 1240 WWCO CT WATERBURY 6/10 0009 with ROK mx, WWCO-Hit Radio slogan; poor signal; TA was too loud to hear it (WAW-RI)
- 1260 WWDC DC WASHINGTON 7/2 0130-0135 with song Guantanamara+AM 1260, WWDC non-ID & Music of Your Life promo; poor, with co-channel QRM (MH-VA)
- 1270 WKBF IL ROCK ISLAND 6/14 0108 with wx 4Cast, CL, <u>Crystal Gayle</u> song, under a partially-nulled WXYZ, this one had me goin' for a while as I recalled hearing that CL somewhere else; I finally recalled it was a defunct TV stn in Cleveland; no wonder I couldn't find it in my DX Log (CR-ON)
- 1320 WFHR WI WISCONSIN RAPIDS 8/24 0815 fair with Fool on the Hill→ID & local ada (RD-TA)
- 1350 WRAP VA PORTSMOUTH 6/7 0141 with loud non-ID over WSLR using bassvoiced annor end echo effect, then nothing; may have been an ET (CR-ON)
- 1360 WHBG VA BRIDGEWATER 5/9 0040-0116 well over WDRC, great for 25 watts; WHBG in the Shemandoah Valley (TC-NY)
 1390 WFBL NY SYRACUSE 5/19 0129-0200 XLNT, mixed with WHZQ; The MoYL
- 1390 WFBL NY SYRACUSE 5/19 0129-0200 XLNT, mixed with WHZQ; The Movil returns to Syracuse on May 22nd (TC-NY)
- 1400 WSAM MI SAGINAW 8/12 0503 fair, with 14 WSAM Saginaw ID in a mess; new, MI #54 (SA-MB)
- 1430 WNJR NJ NEWARK 7/2 0140 with concert (?) promo & ment of ...on WNJR; re-check @ 0200:55 caught single ID as WNJR New York+mx (sure they didn't say New-ark sloppily?-Ed.); poor with fading (MH-VA)
 - KBRK SD BROOKINGS 6/24 0645 fair with sign-on & ment of studio & XR QTHs (RD-IA)
- 1440 WROK IL ROCKFORD 6/24 0712 good with end of wx 4Cast→ID & Stuck With You by Huey Lewis & The Nx [Oops, that's News-Ed.] (RD-IA)
 - WWGT ME WESTBROOK 5/21 0132-0205 great over WFTQ with OLD, and #1 G98 in Portland (TC-NY)
 - WCHB MI INKSTER 6/18 0020 with Black Gospel up from jumble after local WBCM sign-off (HF-MI)
- 1460 WCMB PA HARRISBURG 7/2 0145-0200 with 60's OLD; sounded like annor's name was Pete James; ID @ :00 as WCMB Harrisburg-Lebanon-Carlisle+Petula Clark song; moderate fading (MH-VA)
- 1470 KILS KS LIBERAL 6/30 0632 weak with SSB & sign-on, under KERE (RD-IA)
- 1490 WDBQ IA DUBUQUE 6/12 0430 with NOS mx, & Dubuque's best mx is on 1490, WDBQ; good (SA-MB)
- 1540 WSMI IL LITCHFIELD 6/30 0655 fair with agri wx forecast for Southern Illinois→ad for Farmer's Week magazine (RD-IA)
- 1550 KSFT MO ST JOSEPH 6/12 Oll1 after CBE sign-off and all morning with C&W mx and Ai nx @ :28; very good @ times, may have operating on day pattern (CR-ON)
- 1570 WFUR MI GRAND RAPIDS 8/5 0545 fair with PSA on Social Security # for kids, 15 'til 2 TC, ID+wx, contemp REL mx (DS-WI)

WBUX PA DOYLESTOWN - 5/7 0121-0159 XLNT, no CKLM or CFOR with Your official Bucks fever 89 stn (TC-NY)

1580 WEAM GA COLUMBUS - 6/21 0600 very good with sign-on (RD-IA)

WVKO OH COLUMBUS - 6/9 0101-0120 fair with UC, 16 WVKO (TC-NY)

WWCC PA HONESPALE - 6/12 0003-0105 good with Wayne County's Country 1590

MIDDAY TO MIDNIGHT

- CJFT ON FT ERIE 5/2 2224 with Peterborough Thunder HKY; ad for 530 Athletic Warehouse (HF-MI)
- NY NEW YORK 6/3 2255 with Yankees BB, Brooklyn ads; ever/under 570 WKBN; 1st-timer here! (HF-MI)
- 590 WAFC FL CLEWISTON - 6/4 2159 with syndicated Solid Gold Saturday Night & dual AM/FM ID; All Hit Country was weak but all alone with CKEY nulled: CKWW-580 slop minimal for a change; 1st catch on 590 in over 14 years (CK-ONE
 - WKHX GA ATLANTA 6/11 2211 with C&W mx & non-ID as Atlanta Country Radio, Kix-101.5; was nicely over the Cuban with CKEY absent for a change; logged as WPLO back in '62 but this was 1st time with these CLs; looks like Sunday night for me to DX 590 with CKWW-580 doing REL TLK with little splatter (CR-ON)
- PQ NEW CARLISLE 6/22 2319 fair in FF with POP mx, singing CLs; relays 610 CHNC CHGM-1150; over/under WTVN, who is usually dominant (HF-MI)
- ON CHATHAM 6/13 2012 with Favorites of the 60s, 70s & 80s. AM 630, CFCO; anner Dave Walker; promo for CFCO Beach Blowout 4; ads for Chillington Insurance & Jackson's Drugs (CR-ON)
- 680 Whec MI ESCANABA - 6/14 2059 with Milwaukee Brewers BB; CFTR QRM (HF-MI) ON TORONTO - 6/14 2054 with MOR/POP mx; gave way to WDBC (HF-ON)
- 700 OH CINCINNATI - 5/28 1230-1300 fair, with rare, noon hour reception (DS-WI)
- PA SHIREMANSTOWN 6/9 2035-2045 all alone before being swamped by 720 WGN; WW2, where we're playing the hits (TC-NY)
- 800 IA IOWA CITY - 5/28 1240-1250+ poor in WDUX null with OLD: 1244 annet Iowa City's First & Best... (rest wiped out by fade) (DS-WI)
- 850 WATT IL CRYSTAL LAKE - 7/4 2200 weak with late sign-off under KQA (RD-IA) MN DULUTH - 6/25 2153 fair with GOS mx, ID & promo for Sat. morning show We've Got The Power on the Christian Voice for the Northlands (RD-IA)
- PA CASHTOWN 5/13 1959 poor, with The uncompromising word of God, 880 WFKJ, 890 AM in Cashtown (TC-NY)
- 920 WMMN WV FAIRMONT - 6/18 2219 fair+ with The Tri-Cities' choice, WMMN & The fun's back on WMMN; MOR/POP Oldies; promo for Passport Jackpot
- SD ABERDEEN 6/19 1534 weak with ID & wx after ABC Nx (RD-IA) 930 KSDN
- SD WATERTOWN ~ 6/28 2210 fair with Twins BB (RD-IA) 850 KWAT
- 970 WNIV GA ATLANTA - 6/10 2150 with EZL REL mx & annot WNIV, the stn that plays your favorite Christian artists; mixing with another GA stn. Stereo Country, WVOP (CR-ON)
- WAZS SC SUMMERVILLE 6/13 2138 with TC, ad for Summerville Aviation+ 980 Tanya Tucker song; hrd with CFPL nulled & no sign of usual 2 & 3, WONE/WWRC (CR-ON)
- MN MONTICELLO 6/28 2200 over/under KFDI with Twins BB; ID during 1070 KMOM network pause; stn isn't listed on Twins '89 list, so I'm glad they IDd (RD-IA)
- 1190 KWMB MN WABASHA - 6/22 2158 weak with sign-off under KKOJ's sign-off (RD-IA)
- 1200 WBZY PA NEW CASTLE 5/2 2328 with We're in the middle of 12 in a row at your home for the hits, WB2Y, New Castle, PA; EZL OLD (HF-MI)
 - TX SAN ANTONIO 6/20 2236 with Astros BB & The sports leader of the great Southwest annot (HF-MI)
- 1270 WHLD NY NIAGARA FALLS - 6/7 2040 weak, with You've found the best place for great country songs (TC-NY)
- 1280 KSOK KS ARKANSAS CITY - 6/15 2214 fair with Royals BB (RD-IA)
- IL PEORIA 7/3 2239 good in KOIL null with AC mx & promo for Paul 1290 Harvey on the only one for wax memories, AM 1290, WIRL (RD-IA)
- 1350 PA YORK - 6/12 2129-2206 well over WNLK with Oldies 1350, WOYK (TC-NY)
- 1360 MN BEMIDJI - 6/25 2214 good under KSCJ with ad for Ozzie's Auto Salvage+C&W mx; hrd KK Country ID later (RD-IA)
- 1380 WNRI RI WOONSOCKET 6/9 2035-2045 ?18 watts; all alone; Pawtucket Red Sox IL game (TC-NY)
- 1440 KQRS MN GOLDEN VALLEY 6/28 2119-2125 with mx by Van Halen & Guns and Roses+KQ-92 ID: fair under Talknet (RD-IA)
 - TX DENTON 6/15 2303 good with Astros BB; ID during network pause: This is the sports voice for north Texas, KDNT, Denton-Dallas-Ft Worth (RD-TA)

- 1450 KYNT SD YANKTON 7/2 2021-2029 fair+goodin KWBE null with mx by Kiss & Heart → ID & wx (RD-IA)
- KY HARLAN 6/12 2055 with WOHO nulled; with C&W mx & Domino's Pizza ad; 1470 WFSR non-IDs as 1470 Country, WFSR; a super-strong WHLN-1410 gave me the incentive to try for this one, and it paid off (CR-ON)
- 1490 KTTR MO ROLLA 5/30 2258 fair with local ads in wx for Rolla & area + ID (SA-MB)
- 1500 WOLY MI BATTLE CREEK 6/2 2115 full-info sign-off concluding with an invite to join us tomorrow for another great day of Christian music and ministry on WOLY; was over WLQV, with WTOP in 3rd place
- 1560 WSLA LA SLIDELL 6/20 2359 fair with Astros vs Giants BB. legal ID: WSLA, Slidell, AM 1560, your New Orleans source for Houston Astros baseball; not a peep out of WQXR, but some splash from CHLO-1570; CBE-1550 with soft CLA was no problem (CR-ON)
- WI CHILTON 6/4 1324-1330 very poor in WHIT splash with NOS, ad 1530 WMBE for record offer in care of WMBE Radio (DS-WI)
- ON ST THOMAS 6/17 2323 with MoYL; All day, all night, we've got 1570 CHLO the MoYL on 1570 CHLO; ads for Great Lakes Ford-Hercury dlrs, Skinner's Clothing, & The Great Canadian Radio Caper; usually mixing with CFOR here (HF-MI)
 - ON ST THOMAS ~ 6/22 2223 fair with Toronto-Oakland BB (RD-IA)
- MI COLDWATER 6/18 2205 OLD/MoYL+ABC nx @ :05; ID:16-TVB; 1590 WTVB over/under WAKR, WONX there too; poor (HF-MI)
- ON SIMCOE 6/18 2138 poor, with MOR POP mx; under/equal with WAAM 1600 CHNR (HF-MI)

REPORTERS:

DOUG SHITH//Madison, WI//Superadio II DS-WI TONY CASAMASSIMA//Carmel, NY//Zenith portable with Palomar Loop

TC-NY SHAWN AXELROD//Winnipeg, MB//R-70 + 3' loop, 100' LW, TUN-3

SA-MB WILLIAM WYLLIE//Prudence Island, RI//Fisher 418 barefoot

WAW-RI CHARLES REH//Leamington, ON//R-380A, S-40A, Sanserino loop & Pioneer CT-90 taper CR-ON

HAROLD FRODGE//Midland, MI//ICOM R71A + Trap Dipole HF-MI

MIKE HARDESTER//Portsmouth, VA//ICOM R-70 + 20' random wire MH-VA

HANK HOLBROOK//Dunkirk, MD//SP-800 with Colgrove loop HH-MD1

HANK HOLBROOK//Dunkirk, MD//SP-600 with 50' LW

HANK HOLBROOK//McLean, VA//'81 Toyota Rx + whip HH-VA

RICK DAU//Oakland, IA//R-1000 + RW Loop RD-IA

SOME ABBREVIATIONS & SPECIAL SYMBOLS USED IN DDXD-E

TT:test tones OC:open carrier TC:time check RS:regular schedule QRM:interference QTH:location SID:singing ID CID:code ID jx:jingle mx:music nx:news wx:weather sps: sports HS:high school FB:football BB:baseball HKY:hockey BKB:basketball :00: on the hour diparallel with -ito or into distereo SSiSpanish FFiFrench EEiEnglish POLi political GOS:gospel REL:religion or religious AC:adult contemporary BBD:big band OLDioldies ROKirock 'n' roll CHRicontemporary hit radio ContChricontemporary Christian C&Wicountry & western EZLieasy listening UCiurban contemporary LKiLarry King AP:Associated Press Radio UPI:United Press International MBS:Mutual Broadcasting System USRN:United Stns Radio Net NPR: National Public Radio MRN:Motor Racing Net MCRNiMusic Country Radio Net IRNiInterstate Radio Net LSRilocal sunrise SRS:sunrise skip LSS:local sunset SSS:sunset skip SSB:Star Spangled Banner



Domestic DX Nancy Hardy 2301 Pacific Avenue Digest - West Aberdeen, WA 98520 DX Catches in the Western U.S. and Canada, with 24-hr. ELT

As you may have read in the last issue of DXM, I will soon be stepping down as DDXD-W editor. In September I'm going to have another baby: In 1986 it was difficult to edit & type two DX columns and take care of a newborn too. This time there will be an active three year old to watch also. As a result, I find it necessary to pass along the DIXD-W editorship. If you are interested, contact Paul. I'll continue to edit the column until a replacement is found. The next deadline is Aug. 12.

SPECTAL

1220 KBET CA SANTA CLARITA - 6/22 0241 & around the same time on subsequent nights. Fair signal under KDFC. 70's & 80's AdCon music, DJ Maggie McKay, lots of "12-20 AM Stereo" slogans. Although Canyon Country was mentioned in a counter of IDs. the legal ID was for the real city of Santa Clarita. Sounded like RS, but quick s/off at 0308 said "that concludes our testing for this evening ... ". Thought this one would be

hard to hear, but now looks as if it will be a pest.(TRH)
1460 KZXR CA SALINAS - 5/10 0239 Bullitt Boys' "Money Money Money." station promo & DJ played slogans like "Not just another backwards rock and roll radio station" and "14-60 KZXR. your Rock of the Nineties." Testimonial from ex-KMBY-FM listener, back into the mush with unID metal music, Ex-KDON, Fair to very poor. (5P-HT2)

1610 WNPF405 CA SAN DIEGO - Tu 6/6 0106 new TIS station signed on today (6/5) with tourist info for San Diego's Balboa Park. Taped messages updated each weekday morning list park events and predict parking availability. Also gives two phone numbers for park info--(619)236-5717 and (619)239-9628. Messages always begin with "This is the Balboa Park Travelers Information system, AM 16-10" and end with a call letter ID (95% sure of calls--the "F" could be an "S"). Male annor some days. female annor. others. They REALLY get out. (TRH)

UNIDS

6/7 0700 unID with relig. looping north, noted a couple of 660 ----

times since. Has KGDP gone 24 hours? (TRH-CA) 1170 ---- --

6/7 0600 unID during KCBQ SP with C&W music. USRN news on the hour. I don't show either KVOO or WWVA as having USRN news. ID garbled, but seems to have a "WW" in it. Maybe much-wanted WWVA. Rats! (TRH-CA)

1180 ---- --6/10 0623 unID with BBD/NOS music. No ID heard. (TRH-CA) 1220 --- -- 6/21 0312 unID with GOS, seemed to loop ENE. Way under KDFC.
May be much needed KTSJ, but this will be hard to track

down with KBET coming on. (TRH-CA) 1360 5/13 0413 someone running Ray Briem underneath BBD outlet

(KPOP?). Very poor. (5P-HI))
6/29 0722-0744 unID with entire album sides of 1980's 1500 ---- --AdCon, under KSJX-KUMU-XEAI mix. Maybe one of the Texas stations with a format change? Female DJ. (TRH-CA)

MIDDAY TO MIDNIGHT

570 KQNG HI LIHUE - 6/25 1800 per DJ, station was being moved at this moment to the new QTH at 4271 Hale Nani Street, Lihue, 96766. (5P-HI)

MIDNIGHT TO MIDDAY

- 540 KNAK UT DELTA Tu 6/20 0455 this is my unID with Larry King Show. ID "Providing Central Utah with music, information, and more, we are KNAK Delta." Into Mutual News. Not heard in some time due to XEWA's recent surge in signal strength. (TRH-CA)
- 570 WNAX SD YANKTON - 6/6 0117 extended weather forecast for SD. ND. IA & NE, then ID. Excellent. (DDM-AB)
- 790 KABC CA LOS ANGELES 6/12 0804 ABC News, net ads, jingle, "Dodger Replay" with Ross Porter (highlights of yesterday's game with Cincinnati), Blue Cross of Southern Calif. ad. Fair
 - then very poor, faint SS and het cochannel, local QRM. (5P-HI5) KGHL MT BILLINGS - 6/2 0133 excellent, ID, way over KJRB, no sign of CFCw. (DDM-AB)
- MODESTO 6/12 0657 C&W song, female DJ with *8-60 KTRB and 860 KTRB CA here's some Linda Ronstadt doin' some old Hank tune, " before fading into a Mexican station. New. Poor to very poor. (5P-HIS)
- 890 CJDC BC DAWSON CREEK - 6/28 0145 in clear with ID, no sign of WLS. (RA-MCC)
- 950 KYGO CO DENVER - Sa 6/24 0330 on top of the channel tonight with usual IRN. Local XEGM/XEKAM, which continues to broadcast 2(1) satellite feeds on 3(1) frequencies (890/950/1010) took a short SP. (TRH-CA)
- CALGARY 5/13 0302 rising from the QRM with Canadian news, 1010 CBR ID. provincial weather 0305. ID with xmtr site & address plus invitation to tune in to CBC Stereo, NA and off 0308.

- New, AB #2. Very poor to poor. (5P-HI3)
 1020 KTNQ CA LOS ANGELES Sa 6/10 0320 totally off, leaving KYXE on top of KWIQ & KDKA. This station seems to take SP's on just about any night EXCEPT MM's! Returned about 0545. (TRH-CA)
 - ROSWELL Sa 6/10 0320 also totally off, GREAT timing!
 - Returned at 0509. (TRH-CA)
 PITTSBURGH Sa 6/10 0354 poor with local talk show hosted by man -- topic was Pittsburgh's new city council. Phone number sounded like 333-9096. Several weather forecasts & a
 - rounder sounded like jjj-yuyo. Several weather forecasts & a few IDs. Not enough for a report. New. PA #3. (TRH-CA)

 KWIQ WA MOSES LAKE Sa 6/10 0447 noted briefly under KYXE/KDKA mix with usual / FM. Male DJ. Very rare here, follow-up report still needed. (TRH-CA) (I just noticed this was listed as "Moses Lake." It should be "Moses Lake North."--NH)
 - KYXE WA SELAH Sa 6/10 0327-0507 on top of channel, fair-good signal at times with usual Larry King. IDs. and "Kicksey Country" slogans. Also Sa 6/24 0340 fair, level with KTNQ in KCKN null. Surprising to hear them with KTNQ & KCKN both
- on. (TRH-CA) DISHMAN - MM 6/5 0157-0226 fair with XED. Old radio drama 1050 KEYF WA hour, recorded ID by woman "KEYF Dishman-Spokane" on the hour, into ABC-E news. MYL/NOS/BBD music, lots of "Key AM 10-50" slogans, also "all day every day, we play the classic hits." (TRH-CA)
- CALGARY 5/10 0338 Eddie Money rock tune, DJ Dave Martin with non-ID "AM 1-0-6," local ads, CHR music by 38 Special, Tone Loc. Weather 0354 before XTC song, Fair, tent. KPAY 1060 CFCN AB 11/ underneath. New. AB #1. (5P-HI1)
- LOS ANGELES MM 6/26 0420 LOUD TT's. Didn't help me, since 1070 KNX XEPRS-1090 was slopping from 1030 to 1130 tonight. (TRH-CA)
- 1110 KRLA CA PASADENA - MM 6/5 0310 totally off, leaving XEVS/KFAB mix. (TRH-CA)
- EUGENE-SPRINGFIELD 5/13 0309 old AdCon music. ment. "Mike 1120 KPNW OR Harvey's SuperGold" is aired Sat. nights. Fair-very poor,
- unID underneath with variety show, KMOX? (5P-HI3)
 SALT LAKE CITY 6/12 065? "Best of King," net ad, ID over
 music "11-60 KSL Salt Lake City" & CBS News, "Morning 1160 KSL Information Crew" show with Tim Hughes, state & regional news from Ron King "on 11-60 KSL Information Radio." Very poor to fair, local QRM, deep fades. (5P-HI5) SAN DIEGO - 6/7 0558 totally off, perhaps only the first or
- 1170 KCBQ CA second SP they've taken since picking up SMN a year or two ago. Unfortunately returned at 0604. (TRH-CA)
- 1210 KGYN OK GUYMON 6/7 0630 SEEMS to be the one here with IRN/Fred Sanders, unless I heard their ID on top of the IRN of another station. Now 24h operation? (TRH-CA)
- LAS VEGAS 6/11 0525 looks like another format change here. Now Spanish "radio exitos," devotes much of its schedule 1230 KLAV NV to English lessons & tips on how to gain U.S. citizenship! Ex-C&W, EZL, OLD, BBD/MYL. (TRH-CA)
- MONTEREY 5/13 0244 delayed L.A. Lakers EKB halftime show (probably pushed back by A's baseball), local ads, one for 1240 KNRY CA print shop mentioning KNRY. Back to game, into second half.
- New. Very poor to fair over mess. (5P-HI3) CHICO 5/13 0410 PSA for children's event in town of 1290 KHSL CA Paradise "from the Community Board from KHSL Chico, " local ads. into C&W music. Very poor, local QRM. (5P-HI3)
- SEATTLE 6/7 0623 not bad mixing with KYNO. C&W music // FM 1300 KMPS WA
- 94. KAZN who? hi. (TRH-CA)
 ARCATA 5/10 0355 Fifth Dimension & George Harrison songs, 1340 KATAt CA 0403 slogan "The Oldies Channel" // KIKI-830, but local ID missed, Black oldie, then blip ID "13-40 K???." Lonnie Mack and Bee Gees tunes, 0413 blip ID & DJ talk. Poor-fair over/ under mess. (5P-HII)
- SANTA ROSA 5/13 0402 NBC News, KSRO News with Consumer 1350 KSRO CA Wire report, back to Ray Briem at 0407. Fair to poor, o/u C&W, also co-channel whine with tones of high pitch (an ET?). (5P-HI3)
- SAN DIEGO 6/29 0620 finally heard some Transtar "AM Only" 1360 KPOP CA NOS music here (used to run Talknet at this time). Have been listed as a Transtar affiliate for months, but have not
- been using the service. // KMFI-1470. (TRH-CA) BUTTE 6/6 0132 good. Local weather, ID, then Larry King. 1370 KXTL MT (DDM-AB)
- 1400 KBFN CA BERKELEY - 5/10 0320 noted in passing with Business News format over mush. Didn't check KMNY-1600 for //. Was logged as KELX & KRE. Poor. (5P-HI1)
 - VISALIA MM 6/5 0300 poor-fair with slogan/ID: "Smokin" Oldies for the South Valley, 14-K, KHTZ, Visalia, " into CBS

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1440	******		News. Rare here, KEZC usually on top. (TRH-CA)
1440	KUHL	CA	
1450	KTIP		Grover City, " back to Talknet. Very poor, local QRM. (5P-HI4)
1450	KTIP	CA	PORTERVILLE - MM 6/5 0252 with MYL & slogan "The music of
			your life on AM 14-5-Oh." Pairly rare, semi-local KOWA has
			dominated the past year after several years of KEST owning the channel. (TRH-CA)
1470	TOV O A	O 4	
1470	KXOA	CA	SACRAMENTO - 6/29 0625-0707 poor, fading under KMFI & XERCN OC. BRN feed // KSJX-1500 including news, sports, and a
			weather forecast for all the cities with BRN affiliates!
			Several IDs & "Business Radio 14-70" slogans. New, CA #211.
			Have been after this one for a long time. (TRH-CA)
	KWSL	ΙA	SIOUX FALLS - 6/2 0112 annet. of upcoming program. ID.
	VMOT	IV	Good. (DDM-AB)
	KBSN	WA	MOSES LAKE - 6/3 0155 excellent. Sports, ID. then "Country
	KDDII	***	West Scrapbook" (C&W music program) at 0200. (DDM-AB)
1490	KMET	CA	BANNING - MM 6/5 0244 fair with usual KBAS/KDB mix. Noted
	1111111	011	EZL/OLD format & slogans "1-49, music you remember, making
			your day just a little bit brighter." Although only 90 mi.
			away, this station is rare KBAS usually on top. (TRH-CA)
	CJSN	SK	SHAUNAVON - 6/3 0200 BN News, sports, then C&W music and
			PSA. ID. // to CKSW-570, CHRB-1280, CHAT-1270 (Country West
			Network). (DDM-AB)
1510	KGA	WA	SPOKANE - 5/13 0336 DJ with outro "on 15-10 KGA" and ment.
			it was Bea Arthur's birthday. ID, into Glen Campbell song,
			and key ring promo with U Haul. Not heard in several years
			here. Very poor, KUMU-1500 splatter. (5P-HI3)
1520	KSGO	OR	OREGON CITY - 6/28 0215 rock oldies, ID. Good. (DDM-AB)
1530	KFBK	CA	SACRAMENTO - 6/10 0427 with BADLY distorted signal all night.
			They must have hired an engineer from XEGM. Problem was
			fixed the next night. (TRH-CA)
1550	KKHIt	CA	SAN FRANCISCO - 6/12 0747 12 min. of classical guitar with
			orchestra. Finally at 0759 annot. of selection then ad for
			Perfect Strings, "Northern Calif.'s largest singles club."
			More classical guitar. No ID given but certainly KKHI from
			the format. Pair to very poor. Mixing with SS station &
4 5 70	G	70	co-channel het, KNZS-1540 slop. (5P-HI5)
1570	CHUB	BC	NANAIMO - 6/28 0200 good in CKTA null. BN News, sports,
1600	2/14/20	00	local sports at 0205. (DDM-AB) LAKEWOOD - 6/28 0157 ID as "Y-108" & "KRXY" (i.e. KRXY-107.5)
1000	KMVP	CO	at 0200. Good. (DDM-AB) (Deane, didn't this one return to
			KRXY calls?NH)
A T.A.S	TIMIN TO	TE F	T.ASH TIP

A LAST MINUTE FLASH TIP

540 KPUP CA SALINAS - 7/9 0900 first s/on, first day of regular operation.

ABC News, then "Hound Dog" by Elvis. Format is a mix of
country & oldies. Spotty here with KSF0-560 slop. Night
signal not heard. Is stereo. Legal ID for "Salinas" instead
of previously listed Carmel Valley. (PT-CA)

REPORTERS
TRH-CA/Tim Hall, Chula Vista, CA/ICF-2010, Radio West loop
DDM-AB/Deane McIntyre, Calgary, AB/Superadio
5P-HI1/Dale Park, DX'ing from Kailua, HI/Sangean ATS-803
5P-HI2/Dale Park, DX'ing from Kahalu'u, HI/ATS-803
5P-HI3/Dale Park, DX'ing from Waimanalo Beach, HI/ATS-803, Delco ETR car

5P-HI4/Dale Park, DX'ing from La'ie, HI/ATS-803 5P-HI5/Dale Park, DX'ing from Kane'ohe, HI/ATS-803 PT-CA/Pete Taylor, San Francisco, CA/Sony ICF-2010



The Answer Man

Got a question about radio? Send it to Russ Edmunds - 753 Valley Rd. - Blue Bell, PA 19422-2052. No question is a dumb question, and Russ will answer all, from basic to highly technical. Watch for the answer in DX News!

AM Pioneers May Homestead New Frequencies

--via Jerry Starr

aytime AM broadcasters may soon get special FCC "homesteading rights" to pioneer new frequencies. Speaking Monday (4/10) at the BFMA Dallas convention, NAB General Counsel Jeff Baumann said the Commission plans to give first dibs on the expanded 1605-1705 kHz band to daytimers with state-of-the-art transmission facilities. Stations would simultaneously broadcast on both old and new frequencies until the new band catches on.

Bauman predicted the new policy would be announced just before the NAB's Las Vegas convention, but FCC Mass Media chief Lex Felker called that timetable premature. Felker said homesteading rights are "under consideration and there are some commissioners interested in that idea."

International DX Digest

Chuck Hutton

983 St. Charles Ave., #1 Atlanta, GA 30306 (404) 892-6211, before 2300 ELT

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

Got a little note from Brian Vernon in which he says that the mine in Elsa, Yukon Territory has closed down and he has now migrated to Hinton, Alberta. The last of the veries are: Norway 630 local card for local pgm, Cuba 1160 R. Taino with lewtter in SS, no freq mentioned, Vietnam 1010 QSL from Overseas Service, report was for EE pgm, did not verie report for CC service, USSR 171 Yakutsk QSL card in RR, don't know if its a confirmation or not, report was for local pgm written in RR using a EE-RR dictionary. First local Russian QSL. Also USSR Moscow EE service QSL cards for 1215/1431 KHz.

Oh yeah, Russell Scotka alertly points out that 1260 Miami is ID'ing as Radio Suave sometimes and that recent R. Suave logs could be either Miami or YV.

153 ALGERIA 4/16 0151 best LW signal tonight, AA mx and talk to good peaks. (Connelly)

ALGERIA Oran/Les Trembles 4/16 0203 het, bits of AA audio. (Con)

600 COLOMBIA R. Libertad 0535-0623 fair to strong during absence of usually omnipresent Rebelde. Pgm of upbeat LA mx, male DJ Miguel, numerous TC's "en Colombia". 0620 TC as "la hora en Colombia es la uno y viente uno.." into annct during which the phone began to ring and Miguel hurriedly fired up a cart for "Diario Libertad" to answer it. Later "... la sintonia en Barranquilla, la costa Colombia, del mundo". Recheck at 0655 had Rebelde back on the air. (Scotka)

630 PUERTO RICO WQBS 5/29 0522-0533 good signal of salsa, latin pops, mentions of Puerto Rico, ID's as "La Gran Cadena" and enthusias-tic "Q-B-S", both by SS male, jingles. (Scotka)

670 CUBA CM?? 0350 6/9 SS talk, noted R. Rebelde ID. Good signal // 600.(Wyllie)

670 CUBA CM?? 4/29 0406 R. Rebelde with sports event, good signal and was parallel with 600 KHz. (Wyllie)

700 JAMAICA Montego Bay 4/29 0328 reggae music, accented EE annor, strong, well over WLW. (Wyllie)

820 CUBA CMJT Moron 6/10 0449 with Radio Progreso ID, fair sig. (WW)

830 CUBA CM?? R. Taino 0445 6/9 very strong signal, SS pgm at the time. (Wyllie) 5/20 0453 very strong signal on 830. SS/EE ID at midnight but did not sign off at this time. "Radio Taino, Tour Radio in Havana" ID. Also noted // on 1040 KHz with WBZ splash and on 1160 KHz. Fair to poor on 1160. (Wyllie)

891 ALGERIA Algiers 4/16 0210 fair w/woman in AA. (Connelly)

999 UNID (Morocco or Spain?) 4/16 0215 het on CKBW-1000. (Connelly)

1044 MOROCCO Sebaa Aioun 4/16 0221 female AA vocal, low audio level on good carrier. (Connelly)

1100 CUBA R. Reloj 5/26 0155 strong, apparently replacing the Cadena Habana outlet here from the same xmtr site w/same pwr. Angulo weak in background presumably from Banes still. No other shifts of Cadena Habana noted as of 6/1 w/1120 as best signal. (Scotka)

1100 CUBA previous log noting change from Cadena Habana to Reloj should be disregarded. As of weekend of 6/10, Cadena Habana is back though power appears diminished though this could be related to conditions. (Scotka)

1386 UNID African? 4/27 0144 wildly fading carrier hitting good peaks, little usable audio. Few other TA's in at the time. (Connelly)

1521 SAUDI ARABIA Duba 4/27 0138 like a local! Loudest TA by a wide margin; annihilating WWKB. AA a-capella chant, AA talk. (Con)

1539 UNID 6/9 0424 noted with strong peaks with AA chanting. Long strange chants with low and high pitched voices singing. Over WPTR and CHIN at times. (Wyllie)

1593 WEST GERMANY Langenberg 4/27 0142 man in GG, very fluttery sig. (Connelly)

1610 ANGUILLA The Valley 5/21 0515 "The Caribbean Beacon" ID. Ad for restaurant in Anguilla. Strong one minute, weak others. (Wyllie)

Mark Connelly - . Yarmouth, MA Russell Scotka - Margate, FL William Wyllie - Prudence Island, RI

ICF2010, MWT2 tuner, phased LW's HQ180A, Kowalski loop Fisher 418

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Eric Bueneman

5002 Cross Ridge Ct. Woodstock, GA 30188-4380

DX on the FM band, from April through September

E-SKIP HOT IN JERSEY

Joseph Fela, 150 Robert Place, South Plainfield, NJ 07080

Recent DX (all times ELT): May 18 (Es) 2100 WRMB-89.3 Boynton Beach, FL w/ID and REL, May 19, trop (Tr) very strong to Providence and Cape Cod, fair to Boston plus 2048 CBAF-30 107.3 Yarmouth, NS with CBC French net; 2304 CIOO-100.1 Halifax, NS ending British ROK program, used call as well as "C-100" non-ID, 2306 CBHM-106.5 Middleton, NS ending CBC news, into detailed Maritime weather. May 20 (Es) 1850 KYEZ-93.7 Salina, KS with "KY-94" and CWM; 1923 unID-92.1 with Satellite ROK, no local ads, "Foxy 92" non-ID, KFXI Marlowe, OK? (Call fits, it's a definite possibility-eb); 1931 KKNG-92.5 Oklahoma City, OK with ID and BFL; 1950 KADA 96.7 Ada, OK with ID, 1951 KISR-93.7 Fort Smith, AR (had KMAG-99.1 by trop-eb) with call plus "Kisser 93" non-ID; 2045 KBEZ-92.9 Tulsa, OK (This one was heard via trop in St. Louis-eb) with ID and BBD Saturday Night. May 30 (Es) 2043 KTGL-92.9 Beatrice, NE, call plus "The Eagle" ID, CHR, ex KWBE-FM, ex-KMAZ; (no time) KOAK-95.3 Red Oak, IA (Rick Dau country) with ID and ads; 2055 KQMA-92.5 Phillipsburg, KS with ID and PSA-didn't this one change call to KKAN-FM? I have a tape from last year where they were giving both the KQMA and KKAN calls as their ID! (What actually happened was is that KKAN-1490 bought KQMA and sold KKAN-FM 95.3 to a college, this per Bruce Elving-eb); 2100 KUMR-88.5 Rolla, MO (This used to top the channel, still does at times now that WSIE-88.7 is 24 hours with a non-directional antenna-eb) with a promo and ID; 2111 KINB-107.3 Poteau, OK with station contest and ID: (no time) WJBD-FM 100.1 Salem, IL ID with AM 1350/100.1 FM; 2127 KXUS-97.3 Springfield, MO with "US-97" non-ID; 2124 KEOK-101.7 Talequah, OK with ID and ROK; KRAV-96.5 Tulsa, OK with ID and ROK; 2141 KFDI-FM 101.3 Wichita, KS with ads and calls; 2153 KHLT-FM 94.1 Little Rock, AR with PSA, calls, "K-Lite 94" non-ID //KHLT-1010, ex-KEZQ (KEZQ now 100.3-eb). June 4 (GW/Tr) 1400 new WAAI-100.9 Hurlock, MD with ID and CWM, thanks to a Dave Schmidt (ex DDXD-East editor) tip. June 8 (Es) 1100 KIWR-89.7 Council Bluffs, IA with ID and CLA; 1125 KJJY-92.5 Ankeny, IA (ex-106.3) with ID, ads and CWM //KJJY-1390; 1133 KKRL-93.7 Carroll, IA with ID; 1232 KQKQ-98.5 Council Bluffs, IA with ID and ROK. Totals now stand at 1381 plus 344 call changes. WANTED: Canadian stamps for return postage. Will either buy or trade for U.S. stamps. I made this request in another club's bulletin TWICE without a response, to my dismay. Hopefully, NRCers are a lot friendlier and more helpful! By the way, the receiver here is a McIntosh MR-78. Feeding it are a pair of Channel Master Stereo Probe 9s, with rotor. Hoping to add a second MR-78 very soon. (I might need one, as WCHK-105.7 is five miles from me, hi!-eb) 73, Joe.

MARCHING IN WITH CAPE COD DX

Ernest Cooper, 5 Anthony St., Provincetown, MA 02657 (508) 487-9337



Thank you, Eric, for this fine new FM column, and to Mike and Paul for authorizing it! (You came up with the idea in '86, I didn't!-eb) The first E-Skip noted here was on May 13, with unneeded WJIS-88.1-FL in at 1230. Then, a newie in WFCH-88.5-SC in from 1234 to 1253, end of opening. Friday May 19-Good trops to the NE: CIOK-100.5 NB in solid 1034-1051, knocking out the usual WRCH-CT. Tuesday May 30-Thanks to a call from Joe Fela, I was alerted to a dandy opening. KABF-88.3-AR in good with Southern Gospel, 2041-2058. Then, a second Little Rocker in KLRE-90.5 at 2101 with short talk on helioseismology, followed by a concert by the National Symphony Orchestra. Then, into the commercial band and to 93.9 where I heard the St. Louis Cardinals baseball game, with many local ads, from KSPQ-MO (ex KWPM-FM). On 93.7, heavy rocker KISR "Kisser" was pounding in for a report. On 94.3, a station IDing as "Kizmo" figured to be KZMO-MO, so a tentative to them, heard 2120-2156. Four "K" calls in one hour! The last logging on this date was WXID-94.7 Mayfield, KY, 2138-2143. On May 31, a strange opening, only one frequency affected-92.1! There, I had excellent reception from KTTN-FM Trenton, MO with Minnesota vs. Kansas City baseball, and 'tween innings, commercials, PLUS A RAIN DELAY. Tuesday June 6-Good Trops to the New York-New Jersey-Long Island area, plus the logging of WIOF-104.1 CT in local WBCN null, 0222-0259. Thursday June 8-Again, a Joe Fela call pointed my way to more E-Skip. KKFI-90.1-MO at 1107-1118 with a telephone call-in program. An unID REL on 88.5 (likely WGCA-eb) with Dr. James Dobson going off (Focus on The Family-eb) at 1129, then Southern Cospel. Then, one day after I purchased my airline tickets to Topeka (Going on Braniff?-eb), lo and behold, don't I pick up a Topeka FMer in KJTY-88.3, 1149-1231! I hope we visit this station on station tours. WGCA-88.5-IL heard, but not enough for a report, 1120. That's the latest DX from here; veries in from KSPQ and WXID, for a total of 520. Local stuff: New WFXR-93.5 Harwich Port, MA is on the air, another rocker, and another ANer, commercial FM #11 on Cape Cod. WBLQ-99.3 Block Island, RI is also on, and is also a rocker, on the milder side. And WFHN-107.1 North Dartmouth, MA is on, and is a heavy metal noise machine, and, of course, 24 hours a day. So, bye bye to 93.5 and 107.1 Class A good DX frequencies; also to 92.1 as WLNG-92.1 has gone AN NSP also. They're

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(Cooper, continued) easily recognizable by their echo on voice at all times. It would seem that this is going to be a good E-Skip season from the start-up-let's hope so, and hear from all you other FM DXers here, what say? Forward-March!

MORE FROM THE GREAT WHITE NORTH

Morris Sorensen, P.O. Box 422, Port Carling, ON, Canada PØB 1JØ (6/21/89)

Since my last report, I've logged the following (new catches underlined); May 30 (Es) WGPH 91.5 Vidalia, GA at 2106, WMSF-98.1 Andalusia, AL ("98-Surf") at 2120, WHMA-FM 100.5 Anniston, AL at 2128, WFPM-107.9 Panama City, FL at 2130, WHMY-FM 101.9 Montgomery, AL ("Y-102") at 2134, WKRG-FM 99.9 Mobile, AL at 2135, WKSJ 94.9 Mobile, AL at 2152, WSGY 100.3 Tifton, GA at 2154, WABB-FM 97.5 Mobile, AL at 2156, WMSV-91.9 Dixon's Mills, AL at 2200, WQID 93.7 Biloxi, MS at 2218. June 4 (Tr) CJBC-4 99.3 London, ON at 2004, CIGM-92.7 Sudbury, ON at 2044 with Blue Jays baseball, WBLK-93.7 De Pew, NY at 2051, WMJQ-102.5 Buffalo, NY (ex-WBEN-FM) at 2100, CKAT-FM 101.9 North Bay, ON at 2114 with Blue Jays baseball, WDCX-99.5 Buffalo, NY at 2128, WRMM 101.3 Rochester, NY ("Warm 101.3") at 2244. June 12 (Es) CBTL 90.1 Millertown, NF at 1859. Receivers used were a Sony ICF-2010, a Sharp FV-610 and a G.E. Superadio with various indoor antennas. 73, Morris Sorensen.

WE NOW GO TO BROOKLYN

Stephen J. Cunningham, 159 Gelston Ave., Brooklyn, NY 11209

I thought I would drop a line to report some FM DX catches from a good Tropo opening on the East Coast on May 20, 1989. Glad to see the FMDXD back. (A BIG Lloyd Lindsay Young Thank You, Stephen!-eb) I haven't had any real AM DX in over 10 years. (Try Sunset Skip DX-eb) WCXL-100.7 Wildwood, NJ at 0205 with "South Jersey's Rock and Roll", WRFY-102.5 Reading, PA at 0135 with "Y-102 FM" non-ID and Adult Contemporary, WDRC-FM 102.9 Hartford, CT at 0026 with a "Big D-103" non-ID into OLDies (Solid Gold Rock and Roll), and 104.7 WKPE-FM Orleans, MA at 0053 with strong signal over WSPK with "The Number One Hit Music Station, WKPE-FM and AM Orleans/Hyannis, Cape-104" ID. Equipment used; ICOM IC-R7000 with AH-7000 omni antenna. Thank you and good DX, Stephen J. Cunningham-MDXZRPC.

MORE BEANTOWN DX

William Wyllie, 95 Peck Street, Franklin, MA 02038-2217

FM E-Skip, all heard May 30, 1989 around 2137: KWTO-FM 98.7 Springfield, MO at 2200 noted "Top Nine at Nine". First noted ID at 2137 as "The Ozarks' Only Hit Music Station", with good but abrupt fades in and out. WHOP-FM 98.7 Hopkinsville, KY noted giving station address and CWM. 98.9 KTMO Kennett, MO noted with ID and CWM. Hard to pick this station out from WHOP as they were both fading in and out at each other, both with CWM. (For this, you had to switch between 98.7 and 98.9. Also, KTMO is the FM side of KBOA-830-eb) KTUX-98.9 Carthage, TX at 2200 (or so) with ROK, ad for a local high school, with many mentions of Watertown (not sure if it is the name of the high school or what), noted "Tux-99" slogan (thanks FM Atlas), first FM in Texas ever. All FM stations were heard at Franklin, MA on my Realistic Modulaire 2200 with indoor

LIVE FROM THE IOWA CORNFIELDS

Rick Dau, Rural Route 2, Box 64, Oakland, IA 51560-9630 (712) 483-2230

How are things in the land of peaches? (Fine, pal-eb) The FM column you're editing looks interesting, so I thought I would contribute some of my recent FM DX here, although I haven't dope too much yet this summer.

95.7	tr	KHUM	KS	MIDNIGHT-MIDDAY OTTAWA-5/14 0952 good with "FM 95.7 KHUM Topeka- Lawrence" ID, then song by CSNY (Crosby, Stills,
				Nash and Young).
90.9	tr	KIINI	TΔ	MIDNIGHT-MIDDAY CEDAR FALLS-6/16 2330 fair with song by 10,000
50.5		110.11		Maniacs, then ID and frequencies on which KUNI
				could be heard in Dubuque and Davenport.
93.1	tr	KKYA	SD	YANKTON-6/12 2329 fair with ID and promo for a
				contest to name the best restaurant in Yankton.
96.9	tr	KR I T'	IΑ	1 1
00.1		IZT TINE	17.0	Bryan Adams.
98.1	tr	KUDL	KS	KANSAS CITY-6/20 2224 fair with "Peg" by Steely Dan, ID by YL DJ.
104.5	tr	KNOD	IA	HARLAN-6/20 2310 excellent with sign-off.

(Dau, continued) (Rick also notes an unID on 99.5 with OLD by The Toys and heard something like "KKMA", will have to check my FM Station Address Book-eb) Coming to the convention in Topeka this year? (Nope, but I will be in St. Louis at the end of August-eb) Anyway, I'll close for now, and wish you good DX, though I imagine most of it will be done on the FM side (Most of my DX has been on the AM side this summer, see my entry-eb). 73s.

DX AND MEMORIES FROM MICHIGAN

Tom Sanders, 11953 Juniper Way, #1121, Grand Blanc, MI 48439



On Sunday evening, May 14, I heard two E-Skip stations between 2300 and 2340 EDT. They were KGNZ-88.1 Abilene, TX (snagged this one via E-Skip before KDHX came on in St. Louis-eb), a Contemporary Christian with music and promos for things like "Focus on The Family", and KOIP-96.9 Odessa, TX (more Texas radio and the big beat, as Jim Morrison (of The Doors fame) said) with a satellite Oldies format and NO call letter IDs. Fortunately, I heard a local scot right before I lost them. They ID as "97 Gold". I had two FM radios going, one on each frequency where there was some skip, and on the set I was recording from, I'd switch to the station that was the strongest. Naturally, my signal meter was going wild! Both stations would peg the meter for a few seconds in local-quality Stereo before fading, and bouncing back again, and so on.

I still have a C-90 (cassette) of Florida FM skip from June 7, 1982. Does anyone recall this memorable date in the history of FM DX? It's always a kick to read recent reports from hundreds of miles away for the same stations I heard at the same times. I wonder if anyone's FM logs go back to 1982. Good reception, Tom.

FOURTH OF JULY FIREWORKS IN GEORGIA

Bill Alisauskas, 7553 Hillside Dr., Douglasville, GA 30134-3332

Major Northeast opening on July 4. Per a tip from Joe Fela in South Plainfield, NJ, he was getting B-98.5 FM (WSB-FM Atlanta), I followed it with: 1720 WPLM-FM 99.1 Plymouth, MA way atop; 1730 WQRC-99.9 Barnstable, MA with many local ads and legal ID; WJRZ-100.1 Manahawkin, NJ-amazed this made it!; 1750 WEAZ-101.1 Philadelphia, PA way atop with many "Easy 101" IDs, local ads //WFIL-560, also I think WCBS-FM 101.1 New York, NY right under!; 1808 WKNE-103.7 Keene, NH-blew me away! Of all places, weak, but no doubt with local ads and non-IDs; 1815 WTHT-102.9 Portland, ME (ex-WGAN-FM) with "FM 103" non-ID's, blew me away!; 1828 WQCR-98.9 Burlington, VT "Serving Vermont, New York and Canada", and held for the ID; 1832 WHP-FM 97.3 Harrisburg, PA with legal ID and local ads (right next to local WFOX!), 1838 WWMJ-95.7 Ellsworth, ME way atop with OLD; 1848 CFLX-95.5 Sherbrooke, PQ with French language; 1857 WROW-FM 95.5 Albany, NY with beautiful ID, weather and local ads, no WPLJ; 1901 CBV-FM 95.3 Québec, PQ with French language talk (This one is on the CBC French Network-eb); Finally, at 7:20 p.m. WKXZ-93.9 Norwich, NY with CHR, alone and nice (next to local WOXI-FM)-AMAZING! This is the best opening since moving down here two years ago! Have a great summer. Regards, Bill Alisauskas.

FM-FM SIMULCAST BEGINS

Eric Bueneman, 5002 Cross Ridge Ct., Woodstock, GA 30188-4380 (404) 924-7780 (prepaid)

WEKS-104.1 La Grange, GA is now a thing of the past. The station was traded for an AM-FM combination in Massachusetts. 104.1's new owners, New City Communications, also owns WYAY-106.7 in Gainesville, GA. Under new FCC rules, you can simulcast an FM station on another FM frequency if the stations are licensed to towns on the opposite sides of a large city. Since La Grange is southwest of Atlanta, and Gainesville is northeast of Atlanta, the FM-FM simulcast may take place. On June 30, WEKS became WYAI with C&W, and "Y-104" non-IDs. Two other FMs have come on; WALR-104.7 (ex-WAGQ) Athens, GA came on July 1 with an Adult Contemporary format and "Musicradio 104.7" non-IDs. This is the FM side of all-news WCNN-680 North Atlanta. Only two live DJs are on in drive times, otherwise it is automated. They are letting people decide what they want to air on WALR, similar to what KSTZ-105.7 Ste. Genevieve, MO did eighteen months ago. WCHK-FM moved to 105.7 on May 28, and it has killed FM DX here, to the point of buying an attenuator! WCHK-FM's transmitter site is on Old State Road 5 near Holly Springs, GA, and is easily seen from Interstate 575. Holly Springs is halfway between Woodstock and Canton. In St. Louis, KLTH-97.1 has dropped Jazz/New Age for CHR under new calls. More next month. I will have gone to St. Louis and have already looked at the KXEN-1010 facilities by the time you read this. Rumor has it that KSD-93.7 is planning to drop Classic Rock, stay tuned. 73 from KDXØSTL/4.

NRC AM Radio Log

The most up-to-date listing of domestic MW stations available, anywhere! 200 pages, three-hole punched.\$12.95 each, to U. S. NRC members; \$13.95 Canadian NRC members; others write. Send orders to Publications Center

Domestic DX Achievements

Donald Erickson

6059 Essex Street Riverside, CA 92504

Domestic DX totals listed periodically in different categories

TO CLAN			-		
YR Up Name. Location	TDH	SH PH	TDT	ST PT	TDY SY PY
69 78 Richard Noel Allen, nc OK	350	38 7	3	2 1	41 13 7
23 78 Gene Allen, vic. San Francisco, CA	3013	49 8			2509 49 8
73 Mike Anderson, Louisville, KY	600	38 x 5	120	29 x 2	33 22 1
38 78 Roger Anderson, metro Washington, DC	1017	48 x 9			1017 48 x 9
64 78 Kelly Andrews, NC & VA	925 E	45 x 9			692 44 x 7
63 89 Ray Arruda, nr Boston, MA	1292	47 x 9			972 47 x 9
62 78 Gary Atkins, Louisville, KY	1360	49 x 7	102	36 1	260 41 x 4
74 82 Bill Bergadano, New York City, NY	719	38 5	250	- 4	105 37 4
24 78 Steve Bezilla, central PA	3000E	48 8		_	50E 45 4
73 78 Philip Boersma, western MI	520	41 6			50 24 3
62 78 Jerry Bond, Rochester, NY	785	43 x 8	50E	10 2	00 24 0
26 79 Joe Brauner, westcentral PA	5519	50 x 10	3015	10 2	3659 50 x 9
	374	35 x 7	100	36 x 6	43 26 x 3
		47	108	36 x 6	
, ,	2000E				
	249		200	44 E	148 38 x 3
	591	43 x 6	360	41 x 5	1 1 0
81 89 Eric Bueneman, metro St. Louis, MO	315	38 x 5			233 34 x 5
88 89 Eric Bueneman, Woodstock, GA	100	25 x 3			43 16 x 2
81 89 Eric Bueneman, MO & GA	415	39 x 5			276 34 x 5
YR Up Name. Location	TDH	SH PH	TDT	ST PT	TIDY SY PY
73 78 Lynn Burke, tidewater VA	650	36 x 6			18 7 1
76 82 Brian Bursack, Columbus, OH	320	34 x 5	19	15 2	6 6 0
74 82 Rick Carr, Austin, TX	1213	43 x 7			1199 43 x 7
45 78 Ken Chatterton, northern NY	1845	50 x 10			1101 50 x 10
70 78 Weldon Childers, nw AL	587	32 x 3			
31 84 Peter Clarius, nr Elizabeth City, NJ		48 10			1449 48 10
75 82 John Clemmer, Peoria, IL	500	37 x 3	4	4	10 8
58 78 Bill Coleman, Rocky Mount, NC	2105	46 12	4	7	
32 78 Ernest Cooper, Cape Cod, MA					
	36017	48Vx 10V	100		3601 48 x 10
	580	39 x 3	10E	4 4	410 35 x 2
78 79 Mike Deitz, tidewater VA	615	38 x 5			
55 78 G. Harley DeLeurere, Hendricks, WV	59	48 x 10			59 48 x 10
62 86 Marc DeLorenzo, eastern MA	1117	45 x 9			
67 82 Rich Eddie, Saint Louis, MO	1726	50 x 9			1538 50 x 9
62 81 R. J. Edmunds, nc NJ	1545	47 x 9	806	41 x 8	263 42 x 6
61 89 Donald Erickson, Riverside, CA	508	36 6			247 31 5
72 78 Eric Fader, New York City, NY	800E	38 x 9	100E	23 x 4	20E 7 2
61 78 Joseph Fela, central NJ	1861	49 x 10	400E	40 x 7	1045E 48 x 9
81 81 Jon Fimmel, westcentral ND	101	29 04			
YR Up Name, Location	TDH	SH PH	TDT	ST PT	TDY SY PY
70 78 Karl Forth, vic Chicago, IL	1771	48 x 10	1077	48 x 10	1088 48 x 10
57 78 Robert Foxworth, Long Island, NY	1000E	49 x 10	400E	44 x 9	270E 48 x 7
70 86 Stephen Francis, ne TN	2247	46 x 7			43 42 x 0
57 78 Art Fregeau, Northford, CT	803	45 x 10N			214 41 x 7
63 78 Ed Gehringer, W. Lafayette, IN	300E	36 7	30E	10 5	
to to be man a got, ii. beta, cooc, iii	334				
		33 x 8	6	3 1	8 5 0
76 87 Steve Goozovat, Binghamton, NY	535	36 x 7			
75 Dan Gradin, nr Gresham, OR	589	39 6			16 15 1
62 78 Ira Green, Cincinnati, OH	193	34 x 4			2 2 0
72 78 Warren Greenberg, vic Boston, MA	125E	27 x 6			99 26 x 6
60 84 George Greene, Akron, OH	743	45 x 7			119 29 3
73 78 Brett Hanavan, vic San Diego, CA	663	39 5	221	29 4	99 33 2
21 78 Ross Hansch, southern WI	1247	50 10			75 40 1
64 78 Greg Hardison, Atlanta, GA	900E	36 6			42 19 5
60 84 Bill Hardy, coastal WA	846	40 5	W		5 3 0
69 84 Nancy Hardy, coastal WA	778	40 5	VVI		3 2 0
82 88 Bob Harrison, northeastern NJ	721	35 x 7	DEL	IVERS	386 34 x 7
64 77 John Hathaway, central IL	666	42 5	DEL	IVENS	309 40 5
70 82 Harry J. Hayes, ne PA	1100	41 x 9	502	39 x 9	102 27 2
to or learly of layer, no in	1100	41 X J	302	03 X 3	102 27 2
YR Up Name, Location	TDH	SH PH	TOT	ST PT	TOV SY PY
64 84 Wayne Heinen, Colorado	1105	49 x 9			998 49 x 9
81 86 John Herman, Vinita, OK	763	37 x 5			234 35 4
74 86 Jim Hilliker, Anaheim, CA	525	35 5	300E	35 5	181 31 5
69 84 Mike Hogan, vic Chicago, IL	722	45 10	302		41 24 1
46 89 Hank Holbrook, Annapolis, MD	2161V	50Vx 10V	=		2161 50 x 10
,					

20						
31 85 Geo. Holland, Jr., vic. Albany, NY 76 86 Dave Holten, eastern WA 77 79 John Hoogerheide, Louisville, KY 72 78 Jim Hopkins, southern NJ 75 81 Gary Houdek, northcentral KS 63 79 Chuck Hutton, Atlanta, GA	828 221 1083 850E 294 949	49 x 9 22 4 42 4 44 x 7 34 3 46 6	12 [P.O		828 26 671 455E 31	49 x 9 18 3 42 4 43 7 21 1
69 84 Karl Jeter, Atlanta, GA 78 81 Michael Jeziorski, IL	1574 948	44 x 6 .42 6	The second secon		1193 26	44 x 6 16 1
78 78 Bob Jinkerson, vic Saint Louis, MO 31 81 Frank S. Johnson, Belfast, ME	366 714	33 2 48 10	(306) 56	69-1300	9 129	8 1 28 9
69-78 Bob Karchevski, San Francisco, CA 69 78 Rob Keeney, nr Kansas City, KS	249 990	36 5 49 8	197	35 5	198 419	36 5 49 8
78 81 Rich Kenneally, Cincinnati, OH 65 82 Terry Klasek, St. Louis, MO	958 584	43 x 6 50 9	958	43 x 6	6 5 4 1	6 0 50 9
YR Up Name, Location 78 84 Mike Knitter, Cambridge, WI	TDH 936	SH PH 44 6	TDT 933	ST PT 44 6	TTDY 31	SY PY 16 0
76 78 Dave Korinek, nr San Diego, CA 70 84 Robert Kramer, Chicago, IL	385 3071	38 x 5 50 x 10	30E 2164	20 3 49 x 9	230E 2038	34 x 5 49 x 10
50 78 Ed Kreiny, vic Cleveland, OH 71 86 Rick Krzemien, vic Chicago, IL	2456 197	49 x 10 47 x 9	2104	40 X 3	2141 131	49 x 10 45 x 8
79 Bryan Lee, Brooklyn, CT	516	36 7			49	21 3
70 85 Marshall Lillie, Erie, PA 80 Eric Loy, Mahomet, IL 84 Dan Lutz, vic Lexington, KY	170 424 827	26 x 2 37 x 4 39 4	2	1 1	135 53	22 x 1 22 2
60 81 Don Lynch, Chelmsford, MA 35 79 Norm Maguire, Albuquerque & CT	1142 2701	45 x 8 50 x 10			2702	39 x 4 50 x 10
70 87 John Malicky, Pittsburgh, PA	1461	40 x 7	1184	40 x 6	2702 902	38 x 7
77 78 Charles McHarg, vic Seattle, WA 77 84 Bob Mielcarek, Milwaukee, WI 52 87 Box Millon vic Seattle	199 1130	42 x 5			154 154	3 0 39 5
52 87 Roy Millar, vic Seattle, WA 74 78 Roger Morby, Albany, NY	2000E 716	50 x 10N 38 x 8	320E	32 x 8	1647 21	50 x 10N 14 1
78 86 Paul Mount, southeast OH 73 86 Paul Mount, northeast NJ	390 489	36 x 3	60 199	25 1 26 x 5	3 22 4	3 0 33 x 6
73 78 Wayne Murphy, Louisville, KY	1417	47 x 7	740	45 x 6	7	7 0
YR Up Name. Location 62 89 Ron Musco, vic Hartford, CT	TDH 1252	SH PH 46Yx 9	TDT 105	ST PT 28 3	TDY 1129	<u>SY</u> <u>PY</u> 46 x 9
74 85 Patrick O'Connor, Hinsdale, NH 66 84 Ken Onyschuk, near Chicago, IL	234 900E	28 x 5 43 x 5	2	1 0	164 16	28 x 5 13 0
82 84 Hurley Parkhurst, Nenana, AK 81 82 Neal Perdue, Falkville, AL	37 552	29 8 34 -			20	20 0
68 84 Dennis Pimper, nr Brigham City, UT 39 84 Dennis Pimper, ne NE & Br Cy, UT	1375 2015	45 7 47 7	651 651	40 5 40 5	400 400	45 6 45 6
75 86 Stephen Ponder, Bossier City, LA 64 78 Bruce Portzer, Seattle, WA	682 1233	38 x 5	10E 256	4 4 41 7	669 471	38 x 5
33 86 William J. Prater, KY 76 89 Jim Renfrew, Rochester, NY	3446 950	50 x 9 43 x 9	68E	27E 5E	3446	50 x 9
78 89 Jim Renfrew, Raleigh, NC 71 89 Jim Renfrew, Severna Park, MD	329 553	27 x 2 36 x 5	OOL	21E 3E	161	37 x 6 8 1
67 89 Jim Renfrew, New Canaan, CT	721	39 x 8			15 2 4 7	8 1 35 x 7
78 89 Jim Renfrew, New York, NY 84 89 Jim Renfrew, San Diego, CA	242 164	32 x 2 17 3	140	07 7	1070	47 10
60 89 Andy Rugg, Montreal, FQ 60 89 Andy Rugg, Montreal & sc Ontario	1290 1458	47 x 10 47 x 10	142 142	27 x 7 27 x 7	1270 1434	47 x 10 47 x 10
70 82 Konstantine Rychalsky, c CT	370	33 x 6			315	32 x 6
YR Up Name, Location 60 78 John Sampson, Hutchinson, MN	TDH 336	SH PH 42 6	TDT	ST PT	TDY 336	<u>SV PV</u> 42 6
66 78 John Sampson, Cupertino, CA 65 78 John Sampson, metro New York City,	258 181	17 3 33 x 6			258 181	17 3 33 x 6
68 78 John Sampson, Winston-Salem, NC 54 78 John Sampson, Omaha, NE	450 912	30 x 1 45 x 6			450 912	30 x 1N 45 x 6
65 79 Dave Schmidt, se PA/n DE 75 79 Walt Sharp, sc NJ near Philadelphia	1250E 174	48 8 32 x 3	400E 35	40 4 19 x 1	1006 37	48 8 26 2
66 86 Gary Slegel, Toledo, CH 74 85 Sharon Skowera, Enfield, CT	2536 970	49 x 10 40 x 8	60 370	22 6 38 x 6	6 2 4 7	4 1 40 x 8
82 89 Bob Smolarek, nc NJ 54 86 Jerry Starr, Youngstown, OH	817 2159	36 5 50 x 10N	78 1055	16 5 50 x 10N	7 1610	7 0 50 x 10N
31 89 Sid Steele, eastern IL 75 78 Tex Stout, Okoloma, KY	3300E 477	49 x 10 32 x 4	15	50 A 10H	2946 9	49 x 10 7
64 81 Elliot Straus, vic NYC, NY 72 81 Mark Strickert, Chicago, IL	1278 554	44 x 9 39 x 6	90E	20 4	734	40 x 8
75 82 Paul Swearingen, se KS	795	43 x 6	434	20 4 4 0 x 5	55	23 2

	Phil Tallman, Ardmore, OK	520	40		4	14	11		0	397	37		4
	Peter Taylor, Durham, NC	250	40	х	6					205	38	х	6
59 88	Peter Taylor, San Francisco, CA	307	32		7	1	1		0	263	32		7
YR Up	Name, Location	TDH	SH		PH	TDT	ST		PΤ	YCT	SY		PY
	Peter Taylor, Miami, FL	174	29							132	27	х	3
	Randy Tomer, nw CA	500E								20E			
	Dick Truax, Louisville, KY	935	46	х	6	120	35	х	5	20	17		3
	Richard Turner, se MA	187	29	х	6								
87 89	Jeff Tynan, Parker, CO	674	36		5					128	27		5
	Bob Walker, nr Louisville, KY	503	35	х	6	218	31		4	168	33		4
69 78	Jim Wallace, Columbus, OH	795	41	х	7					137	36	х	3
78 81	George Walton, Easton, PA	542	36	х	8	264	36	х	6	16	11		2
58 78	Ernie Wesolowski, Omaha, NE	2050	49	х	9					1950	49		9
85	Dave Whatmough, Hamilton, Ont.	1724	49	х	10					967	49		
30 87	Frank Wheeler, nw PA	2486	50	х	9	231	34	х	3	1698	50	х	9
69 78	Bill Whitacre, Lansing, MI	800	49		7	500 E	49		6	250	49		7
68 89	Thomas White, nr Washington, DC	964	39	х	7					243	38	х	7
22 87	Harold Whittier, vic Boston, MA	2003E	42		10					330E			
76 78	Robert Wien, San Jose, CA	666	40		6					349	38		6
	Bruce Winkelman, Greensboro, NC	686			4								
56 88	Roger Winsor, Hobart, IN	3018			10					1193	50		
	Niel Wolfish, vic Toronto, Ontario	1080			10	402	39		6	550	42	х	
85 87	Niel Wolfish, Winnipeg, Manitoba	722	40		6	113	10		4	220	35		6
77 78	Donald Woods, w Los Angeles, CA	139	21		1								
	Jack Woods, western OR	194	26		4					25	18		0
58 78	William Wurtzel, New York City, NY	236	30							126	22	х	4
	Dave Yocis, Bridgeport, CT	428	38			22	6		0	5	5		0
61 78	Neil G. Zank, Lincoln, NE	1100	46		9					535	4 5		9

YR = Year Started BCB DXing UP = Year of last UPdate (see note below) Location can be anything you want but preferably including a state or province and occupying, along with your name, no more than 35 spaces. ALL listings should include a count of only U.S. and Canadian stations including Alaska, Hawaii, and, at your option, Puerto Rico, etc. TDH = Total Domestics Heard SH = States Heard PH = Provinces Heard TDT = Total Domestics Taped TDV = .. Verified E = estimated x = Washington, DC N = Northwest Territories Y = Yukon Terr. V following totals in the heard columns represent that verified totals have been used.

This listing features all records on the computer including former and deceased members. Unless there is a groundswell of support for doing so, this will be the first and last such listing. 5 requests is a groundswell; 10 is an earthquake! Apologies to Ray Arruda & Ron Musco for apparently losing Ron's previous update & misplacing Ray's with Xmas cards. At Bob Harrison's suggestion, those with no entry in Heard listings are being given listings followed by "V" to represent that the totals are simply transferred from the Verified columns so that the computer doesn't sort as "0". As a variation of Bob's suggestion, starting last listing, the YR of update is included. If the YR started is followed by a -, the year of UPdate is the final year in which DX was done from that location. And in reply to the request for more frequent listings in NEWS, please note the VERY few who have updated during even the past 5 years. Future columns can and will appear just as frequently as requested/instructed by Paul Swearingen. It takes only minutes to run the column but I hesitate to send it in just to see my name in print. What kind of bribe would persuade some of you to update or more of you to participate? A raffle for a free 1990 WRTH? All suggestions will be considered. 714-687-5910 3AM-5AM ELT.

WBNS-AM tries to build The Columbus Dispatch via Harley Ryan

Tom Stewart, vice president and general manager of WBNS radio, has a theory about AM vs. FM listeners.

People pick a radio station for the music - whether it's rock or classical - and they're going to listen to music on FM because it's in stereo

"It's the high fidelity,"
Stewart said. "Nearly 78 percent
of the total audience listens to the FM side of the dial. So with AM, you have to go with the things where fidelity isn't a factor - news, weather, traffic and sports."

It's the fourth component that Stewart wanted to emphasize on WBNS (1460 AM). He recently signed a deal that further strengthened WBNS' sports profile.

Beginning Aug. 11, WBNS will be affiliated with the CBS Radio Network. WCOL is the current local affiliate.

"We had been a longtime

Zan Hale

CBS affiliate - back to the days sports reports. of Arthur Godfrey - until the mid-70s, when we went with ABC," Stewart said. "Late last year, CBS came to us and asked us to consider returning.

"The decision was mine. The thought behind it was they have excellent news coverage and also tremendous sports opportunities. It's no secret WBNS wants to build its programming around sports.

Here's what CBS offers

sportswise: Monday night games, the play-offs, Super Bowl and Pro Bowl.

· Major league baseball, beginning in 1990, including the game of the week, All-Star Game, playoffs and World Se ries. WCOL will maintain CBS' baseball package through this

NCAA basketball, including

men's and women's postseason

tournaments.

• Brent Musburger's daily

Added to what WBNS already offers - Ohio State foothall and basketball, the Cleveland Browns and the Columbus Clippers - and it's clear WBNS is the sports leader in central Ohio.

WCOL (1230 AM) has the Cincinnati Reds and will carry the Columbus Horizon of the Continental Basketball Association when it starts later this year. WTVN (610 AM) has the Cincinnati Bengals. WOSU (820 • Forty NFL games, including AM) carries some Ohio State women's basketball games, OSU weekend baseball games and Sportsline, a call-in talk show that airs from 6:30 to 8 week-

"I've always thought sports should be a mainstay on AM ra-

WBNS FM97

21

770 TWIN RIVERS DRIVE • PO BOX 1010 COLUMBUS OHIO 43216

dio," Stewart said.

Station Profile

Tony Fitzherbert

356 Jackman Avenue Fairfield, CT 06430

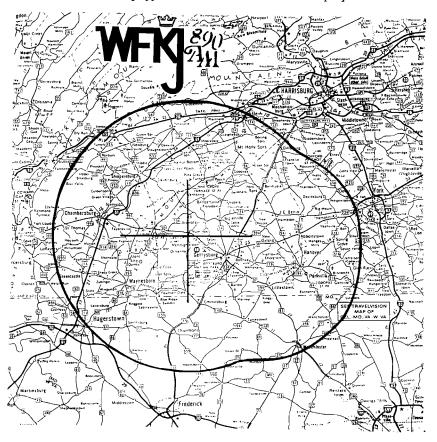
A special feature concerning a unique station

STATION PROFILE: WFKJ - 890, Cashtown, Pa.

"Working for King Jesus"

A labor of love, and five years of planning and engineering came to fruition at 10:00Am on December 7, 1988, when America's newest Christian radio station, WKFJ, was signed on the air by Pastor Michael Yeager. WKFJ, at 890 khz, licensed to Cashtown, Pa, near Gettysburg, is the radio voice of the Jesus is Lord Ministries, International. The call sign means "Working for King Jesus", and the station carries many teaching programs, as well as contemporary Christian music.

The station transmits from sunrise to sunset using 890 watts' (!) power fed into a single 85 foot high tower, one of the shortest of such of the country. The tower is located in a marsh, allowing for excellent grounding. The non-directional signal covers much of central Pennsylvania and north central Maryland. WFKJ uses a 1953 model RCA BTA-1MX that has been reconditioned. The studio is equipped with Gates-Harris solid state remote consoles, and a vintage Gates RDC-10C relay type remote control. The studio is equipped with cassette decks and CD players.



Much of the construction of the studio building and the transmitter site was done by volunteer labor from the church's congregation. A professional engineer, Bryan Simmers, was employed at the end of October to handle the hookup and rehabilitation of the broadcasting equipment.

The FCC granted the license at the beginning of December. At that time, Pastor Yeager signed his radio ministry on the air, bringing quality Christian broadcasting to the Gettysburg area.

Since signing on the air, WFKJ's signal regularly can be heard in Central Maryland, Northern Virginia, and eastern portions of West Virginia.

Thanks are extended to William Cooley, a member of the NRC, and resident of Hagerstown, MD, who forwarded information on WFKJ to the editor, and to WFKJ CE Bryan Simmers who put the information together on the building of his station.

WBEE All Jazz Radio

FCC RULE PRIMER

JOHN D. BOWKER, 14 CANDE BROOK DRIVE, PRINCETON JCT., NJ 08550

VI. STATION LOCATION AND IDENTIFICATION

In past installments, this series has dealt with some of the technical regulations contronting the AM broadcaster. This installment will deal more with non-technical issues, and will quote directly from selected Rule Sections The following comes from Rule Part 73:

73.1120 Station Location

"Each AM broadcast station will be licensed to the principal community or other political subdivision which it primarily serves. This principal community (city, town or other political subdivision) will be considered to be the geographical station location."

73.1125 Station Main Studio Location

"Each AM broadcast station shall maintain a main studio within the station's 5 millivolt-per-meter contour (or other as described elsewhere in the Rules, Ed.), except AM Stations listed as synchronous amplifier transmitters ("AM Boosters")"

This does not mean, necessarily, that the station's signal must be heard without interference at the station's main studio. Among the exceptions to the Rule is one recognizing that it may be necessary to reduce power so much in some cases that, at the far side of town from the transmitter, the signals may not be well received. There are well known cases of this in Toledo, OH and Trenton, NJ among others.

73.1201 Station Identification

- "(a) When regularly required. Broadcast station identification announcements shall be made: (1) At the beginning and ending of each time of operation, and (2) hourly as close to the hour as feasible, at a natural break in program offerings.
- (b) Content. (1) Official station identification shall consist of the station's call letters immediately followed by the community or communities specified in its license as the station's location: Provided, That the name of the licensee or the station's frequency, or both, as stated on the station's license may be inserted between the call letters and station location. No other insertion is permissible."
- "(c)(2) Simultaneous AM-FM broadcasts. If the same licensee operates an FM broadcast station and an AM broadcasts that ion and simultaneously broadcasts the same programs over the facilities of both such stations, station identification announcements may be made jointly for both stations for periods of such simultaneous operation. If the call letters of the FM station do not clearly reveal that it is an FM station, the joint announcement shall so identify it."

- 0 -

The next installment of this series will be a reprint of the table of contents of FCC Rule Part 73 as it deals with AM radio broadcasting. Following that we will print the Table of Contents of Rule Part 74. Readers are asked to advise Headquarters of other Rule Sections not covered to date in this series in DX News that may be of interest.

HEAVEN'S PEACE PLAN - RADIO LOG

The following is a revised list of stations carrying the program Heaven's Peace Plan which is hosted by Fr. Nicholas Gruner. This list was edited from one that appears in the Fatima Crusader magazine. The list in the magazine is arranged by state and province and shows the stations which can be received in each location. As a result, stations such as WWL, KXEL, WWVA & KRVN were listed dozens of times. Also, in the original, the schedules are given in the local time for each location. To make it more useful for DXers, I have rearranged the list by frequency and have converted all times to ELT. Stations carrying the program on FM and SW have been omitted.

_			,, ,,		Deen omice
	FREQ	CALL	CITY	<u>Time</u>	DAY
	540	WYLO WYLO	Jackson WI	1530 - 1545	Mon - Fri
	730	WACE	Jackson WI Chicopee - Springfield MA	1830 - 1830 1230 - 1300 0915 - 0930 1530 - 1600 2030 - 2100	Saturday Sunday
	770	WACE	Chicopee - Springfield MA	0915 - 0930 1530 - 1600	Mon - Fri Sunday
	έóŏ	WSHO	New Orleans LA	2030 - 2100	Sunday
		WSHO CKLW	New Orleans LA Windsor ON	2000 - 2030 0700 - 0730	Mon - Fri Sunday
	810	CKJS CKJS	NIVERDANK CA New Orleans LA New Orleans LA Windsor ON Winnipeg MB Winnipeg MB Largo FL Glendale CA New Orleans LA Lexington NE Conroe TX Louisville KY El Calon CA Smithfield VA Boston MA Boston MA Boston MA	1300 - 1330	Sundaý
	820 870	WRFA	Largo FL	1230 - 1245 1000 - 1015	Mon - Fri Mon - Fri
	870	KIEV WWL	Glendale CA	1900 - 1930 2300 - 2315	Sunday Mon - Fri
	880	KRVN	Lexington NE	2330 - 2345	Mon - Fri
	900	KIKR WFIA	Conroe TX Louisville KY	0930 - 1000 0930 - 1000	Sunday
	910	KMJC	El Cajon CA	2300 - 2315	Sunday Mon - Fri
	940 950	WKGM WROL	Smithfield VA Boston MA	1730 - 1800 0845 - 0900	Sunday Saturday
		WROL WROL	Boston MA	1230 - 1300	Sunday
	1010	KXEN	Festus - St. Louis MO	1100 - 1115 1445 - 1500	Mon - Fri Mon - Fri
	1030	WMIN	Maplewood MN	0900 - 0930 1115 - 1130	Sunday Mon - Fri
	1090	KAAY	Little Rock AR	2145 - 2200	Mon - Fri
	1110	KAAY WTIS	Little Rock Ak Tampa FL	0530 - 0600 1330 - 1400	Saturday Sunday
	$\frac{1160}{1170}$	WJJD WWVA	Chicago IL	0930 - 1000 1830 - 1900	Sunday Sunday
		WWVA	Wheeling WV	2030 - 2100	Mon - Fri
	1190° 1220	CJMR WRIB	Mississauga ON Providence RI	1215 - 1230 1400 - 1430	Mon - Fri Sunday
	1220 1250 1270	CHWO	Oakville ON	0900 - 0930	Sundav
	1330	WASA	Havre de Grace MD	1015 - 1030 0745 - 0800	Mon - Fri Mon - Fri
	1410	CFMB CJOI	Montreal PQ	0730 - 0800 0045 - 0100	Sunday Tue - Sat
		CJOI	Wetaskiwin AB	1730 - 1800	Sunday
	1450 1470	KEST CJVB	San Francisco CA Vancouver BC	1345 - 1400 1600 - 1630	Mon - Fri Mon - Fri
	1480 1510	WLEA KGA	Hornell NY	0830 - 0900 0130 - 0200	Sunday ^a
	1520 1530	WWKB	Buffalo NY	0730 - 0800	Monday Sunday
	1530 1540	WCKY	Cincinnati OH	0730 - 0800 2200 - 2230	Sunday Sunday
		KXEL	Waterloo IA	2330 - 2400	Mon - Fri
	1560	KLNG WCNW WPLW	Council Bluffs IA Fairfield OH	1900 - 1915 1645 - 1700	Mon - Fri Mon - Fri
	1590 1600	WPLW WWRL	Carnegie PA	1600 - 1630	Sunday
	1000	WWRL	Boston MA Boston MA Boston MA Festus - St. Louis MO Maplewood MN Maplewood MN Little Rock AR Little Rock AR Little Rock AR Chicago IL Wheeling WV Wheeling WV Wheeling WV Mississauga ON Providence RI Oakville ON Niagara Falls NY Havre de Grace MD Montreal PQ Wetaskiwin AB Boan Francisco CA Vancouver BC Hornell NY Spokane WA Buffalo NY Cincinnati OH Waterloo IA Waterloo IA Council Bluffs IA Fairfield OH Carnegie PA New York NY	1500 - 1530 0630 - 0645	Sunday Mon - Fri

INTERNATIONAL AM STATIONS

LILLY	MANE / COUNTRI	OCH BDOUB
819 963 1098 1377 ⁸ 1610	Radio 819 - Int. Waters (England) ABC Radio - Republic of Ireland Hanila, Philippines Swazi Radio - Swaziland Caribbean Beacon - Anguilla	2000 GMT Sun - Fri 1845 GMT Sun - Fri 1130 GMT Sun - Fri 2245 GMT Sun - Fri 0015 GMT Tue - Sat
<u>notes</u> :	**WWL also shown as 2345 - 2400 Mon **CJMR has a CP for 1320 kHz. **WLEA carries the program every ot **Magazine has two questionable end the program as the	her Sunday.

Brazil-1525 is probably misprint of 15265 SW.
Indonesia-1110 is likely a misprint of a SW freq.
Original list shows this as 1400 kHz. WRTH '89 says 1377.



PREC

"SIGNS OF OUR TIMES" A Vision for the Church ON RADIO Pastor of METROPOLITAN UNITED CHURCH PREACHING



THE PROTESTANT HOUR

UNITED METHODIST SERIES

WAMP / COURTDY

WJR/766AM WLQV/1500AM WEXL/1346AM (Mot.) \$30 a.m. 1 10:30 a.m. (Hat) \$:00 a.m. (Hat) \$:30 a.m. WABJ/1490AM WATZ/1490AM WLEW/1840AM 7:39 a.m. 3:69 a.m. 8:20 a.m. 9:20 a.m. 8:20 a.m. WAUS/MATEM WDOW/L440AM & 92.1FM WDBC/MMAM

WCSR/1246AM & 91.17M
WJQ/90.27M
WCCT/1490AM
WMVN/970AM
WEHM/970AM
WEMI/1340AM
WJIM/1240AM 249 p.m. 849 s.m. 849 s.m. 349 s.m. 749 s.m. WELA/144AM WQXO/144AM WHLS/145AM WDEE/1560 WBAR/S9.1FM & KTGG/1566AM WLEM/1816 Three Riv. Traverse C. 11:06 a.m. 6:00 p.m.

CCUPDIII P

WYCM/686AM **HEARD SUNDAYS**

Collins R390A, The World's Best Receiver? ... by G. S. Maynard

Designed by Collins for the US military, this set is a cost reduced yet improved version of their original R390-URR. It gained Signal Corps approval during 1953 and most were made before 1967, first by Collins and then under licence by several famous American equipment manufacturers. A few are still on forces inventories, though most have been scrapped or released for sale, with adverts such as the "World's best receiver"; page 33, WRTH 1981.

This 26 valve, 0.5 to 32.0MHz, PTO tuned, double/triple superhet is an excellent monitoring receiver, one that instills user confidence and makes stations stand nobly pillar like and clear from the surrounding grass of background noises. It must not however, be thought of as an ideal receiver. It lacks fine tuning accuracy, frequency agility, h.f. sensitivity, switchable sidebands and FM facilities, and could easily disappoint those who are used to modern and compact ergonomic designs.

The 390-A offers six text book shaped i.f. passbands, 0.1 and 1.0kHz by single crystal, and 2,4,8 and 16kHz by individual electromechanical filters; the 2 and 4 are particularly steep skirted with side slopes sharper than 60db per kHz. It has a rear 455kHz i.f. output and two independently controlled a.f. stages -500mW ph/spkr and balanced 600 ohm line, also, two calibrated signal meters - 0 to 100dB carrier input reference 2uV (60dB = S9) and a switchable -30 to +13Vu line output reference 1mW. With a working input range that exceeds 135dB, a narrow band performance that is effective against carriers only 1kHz removed and an overload margin some 15dB above a.g.c., we cannot fail to understand it's capability for weak signal resolution in crowded band

Though good these specifications are only part of the picture, for one must see under the covers to fully appreciate why a 390-A is sought after and retains good second-hand values. It is a real Collins, with eighteen crystals, twenty-six permeability tuned circuits and a digital dial, all simultaneously switched and driven by two large knobs; MHz to select one of 32 megahertz bands, and kHz for tuning. Gears and cam racks accurately track the - (a) single tuned antenna, (b) double tuned r.f. stage bandpass, (c) triple tuned first variable i.f., (d) triple tuned second variable i.f., (e) the main, high stability, permeability tuned local oscillator - PTO, and (f) the odometer like O to 32MHz, 20ft per Milz, 200Hz graduated Veeder Root dial, within a sophisticated WCMR/WFRN mechanism that will not be manufactured again. Elkhart, IN 46515

This engineering masterpiece is often forgiven for it's 100kHz per turn heavy feel tuning, it's clickety-clacking dial, it's size $10\frac{1}{2}$ h x 19w x 15d (6U rack height), weight 75lbs and power consumption 150/220W, but seldom for it's hard and strident audio. Many 390-A users end up with ringing ears or headaches and they quickly determine that something must be done. Soft sounding headphones or loudspeakers help to make listening more comfortable but are not the real answer.

Nost problems centre on the demodulator and a.g.c. circuitry. Firstly, the simple diode cannot proprly cope with the passband phase changes and AM sideband amplitude increases introduced by resonant discs within many examples of the mechanical filters. Later filters were much better. Peaks and transients overcome the carrier or b.f.o. re-insertion and demodulation gives rise to serious distortion with harmonics and uncomfortably clicky sound, especially on weak and fading signals. Secondly, the 390-A was designed before SSB communications became established, and while it demodulates, of a fashion, internal arrangements are far from ideal: - one is obliged to tune and BFO resolve with the left hand while the right constantly rides RF Gain. Collins later introduced SSB converters that run from 390 series IF Output sockets.

An intending 390-A owner would be wise to check the prospective purchase before buying, some "well used" and rough looking examples can outperform unmarked but earlier models. Remove all covers and watch cam rack operation as the MHz knob is turned through O to 32. Set MHz to O and turn the kHz knob, other racks will move, look for lost movement between the kHz knob and the rightmost front cam, gear 86 may be worn. See that the kHz knob is not too stiff and has overtravel beyond 00.000 and 01.000 with a "-" or "+" sign

showing. On signal, use the carrier meter to check that all mechanical filters have correct bandwidths and similar transmission levels, passband ripple is often seen but individual responses must be symmetrical. Check the mechanical zero adjust arrangement and for a working BFO, also AGC, MANual and CALibrate functions. Using the 16kHz bandwidth zero beat to calibrate at 500kHz, then listen for audio frequency deviations as you switch through every MHz band, notes that differ greatly, or are missing, indicate a deteriorated crystal for that band or it s heterodyne range. Spares are available but often take considerable time to locate, so be sure that you get a manual and are happy with the set.

To get the best out of a 390-A we should be aware of it s requirements and characteristics. The first point of attention must be the power supply - it is made to operate from 115V or 230V a.c. lines. Valves, ovens and components will survive longer if the receiver is not stressed by running directly from our 240V a.c. mains, especially when the thermionic rectifiers have been replaced by semiconductor devices. To reduce the mains try a 12V 1A transformer behind the PTO with it s secondary connected in series antiphase, or, supply 115V sets with a 110V isolating or autotransformer. Fit a 1A AS 230V (2A AS 115V) fuse in holder F101. Caution! Supply potentials are present as long as power is connected, the receiver switch does not isolate.

Antennas are best connected to the 390's isolated input winding via it s twin co-axial socket. If two pin plugs or adapters are not available then move internal leads and use the large co-axial socket. This is a simple US Navy modification that brings the antenna coil protection device into operation. At the antenna relay change over jumpers J105 and J106 in sockets P205 and F206, and short J107 inner to chassis. The local output stage is at 600 ohms so some form of matching is necessary for use with modern 4 to 8 ohm headphones or loudspeakers. Simple transformer solutions are 100V Line to 8W/8ohm, or 110-120V to 9-15V a.c.

Next we can go through the valves - one need not buy new to get good results from a 390-A. Select 5749/6BA6W valves for noise; temporarily remove V501 and swap valves to try each in position V502 observing Vu meter reading and hiss after two minutes warm up with RF Gain at maximum. Use the quietest as V501 and the second most quiet as V502. Try all three 6AK6's in V504 socket; after each has had a full two minutes warm up time observe carrier meter deflection the higher the reading the better the valve - use the best in V504. second V603, third V604. Similarly with V201 temporarily removed, the 6C4's may be selected for noise in position V202 and then used in order V202, V203 V204. V701 could be an example that drifts little, while V505 may be selected to produce the largest diode voltage with BFO on. Valve sheilds were of shiny metal on early sets; to extend valve life these should be put aside, and if you can, fit a set of the black conductive push on types supplied to later contracts.

Further improvements are possible by making simple valve changes. A 6AH6 for V508 extends the a.g.c. range and helps BFO SSB resolution by boosting receiver a.g.c. voltage. At medium frequencies some examples of 6DC6, V201, cross modulate in high signal level environments. Here a 6BZ6 produces significant improvement, but has a longer grid base so the 6AH6, V508 above, must be fitted. Another reason for fitting the 6BZ6 is that it produces a more favourable gain distribution and effectively improves signal to noise ratios as receiver gain is backed off. Local audio quality and output is increased by using a 6AQ5 with pin 7 cut off for V603, designers never intended high fidelity performance and, while communications signals are good, an external amplifier is better for music. Line output audio quality is similarly limited. The 6AQ5 can not be used for V604, so tape recorders and amplifiers are better connected via a capacitor to one of the audio gain pots or to the rear diode output terminals via series 220kR+100nF.

The 26Z5 h.t. rectifier valves V801, V802 run quite hot and lose efficiency more quickly than others. Though available they are costly, yet they can easily be replaced by modern semiconductor devices. The 39O-A p.s.u. employs choke smoothing and so high p.i.v. components must be chosen; I use BYXIO's on B9A plugs, one in each socket connected anode to pin I and cathode (banded) to pin 8. The most expensive valve, RT510, is an iron filament current stabiliser for V505 and V701 heaters; it lasts longer when operated in the vertical position, though may be temporarily

substituted by a pair of parallel connected 82R 4W resistors in socket pins 2 and 7. Quality 12AUT/ECC82 types are suitable 5814 substitutes, all other types are commonly available. V605, the 0A2 h.t. stabiliser, should be handled with caution, some have WA marking and contain potentially harmful radioactive gas.

Receiver alignment is unlikely to have drifted unless there has been severe physical mishandling or an internal assault by twiddling fingers. Re-alignment is not difficult, the maintenance manual details full procedure for those capable and possessing the necessary test equipment. Any reasonable 390-A treated as above is likely to be an excellent performer, and yet it's usefulness will still be limited by the detector, a.g.c. and audio limitations mentioned earlier.

This brings us to the field of ancillaries and modifications, where we examine realistic ways of furthering our own work and interests. A summary of possibilities should be worthwhile though we must understand that work involving component or wiring changes or extra holes in the metalwork, could be quite unacceptable to those who appreciate Collins' equipment. One man's mod might be another's headache.

The 390-A is good for general CW, AM and SSB reception. As mentioned above use soft sounding headphones or treble deficient loudspeakers for comfort, or, an external audio filter such as the Datong FL3. The FL3 uses four multipole filters to take the strain out of listening; - one automatic notch filter, one manual notch or peak filter and a pair of independently adjustable high and low pass filters for the removal of a.f. mush. For weak signal work it is recommendable, removing heterodynes and any demodulation harmonics created by the 390-A's mechanical filter/diode detector combination. Simply connect the FL3 into existing ph-spkr leads to obtain an BR/2W ph-spkr output. Input impedance is 5kR, so it may be connected to 600R outputs without a matching transformer. The odd R390-A was fitted with a BFO reduction drive, and a main tuning reduction drive is known; their use is obvious, though experienced fingers can normally cope.

R390-A SSB demodulation is rather basic and either an external chassis or internal modification is necessary to fully utilise it's excellent r.f./i.f. capabilities.

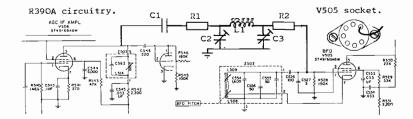
External chassis are generally more versatile. The CV157, 44 valve, rack, 15½"h, 1051bs, offers single or double independent sideband reception; it has three filter, i.f., demodulator and 1.f. lines, one for each sideband and a centre one for automatic servo tuning to compensate for frequency drift within the transmit receive system. CV95, a competent single sideband valve adapter. CV13, valve, also usable. Other manufacturers produce suitable chassis and these may be tried. The R390-A IF Output is nominally 50mV at 50R, 455kHz.

A relatively simple yet effective and well known internal SSB modification is to rewire the 6BA6 BFO oscillator stage to suit a 6BE6 which combines BFO generation and product detection. SSB resolution becomes first class and commensurate with that of current top class receivers, and external filtering adds that final professional touch. The circuit was published and optimised by Commander Paul H. Lee, USNR, W3JHR and is well known in club circles.

In considering AM we must understand that modern broadcasting techniques often involve high modulation levels with a processed (distorted) audio, and that this can cause spurious r.f. radiation and consequential degradation of adjacent channel signal to noise ratios. Good reception now requires more than just an envelope detector and hence we see the increasing popularity of receivers fitted with synchronous demodulation.

Without making any component or wiring changes a 390-A can easily be converted to synchronous reception by using a.g.c. amplifier output to carrier lock the BFO/diode detector combination. This mod gives the 390-A an advantage over most other synchronous receivers in that it's lock has manual frequency adjustment and can not be pulled or captured by stronger carriers within the i.f. passband. Though obviosly not balanced, signal demodulation becomes linear and phase coherent and the harsh distortions caused by (a) mechanical filter disc resonance, (b) adjacent channel

interference, (c) severe propagation disturbance and (d) SSB reception of AM, are minimised.

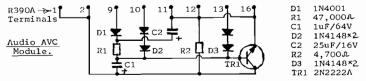


C1 is home made and formed by a simple 8 turn wrapping of 26swg copper wire knotted in place around the middle of V508- 6AH6 (12 turns 6BA6). R1 = R2 = 100kR. L1 is a 250mW sub-miniature choke, 4m7H, available from many sources. C2 = C3 = 5 to 50pF sub-miniature trimmers mounted on stiff wire and grounded by the carrier meter adjust potentiometer nut. The electrical connection to V505 is made by pushing fine stranded wire down hole 1 (first anti-clockwise) on V505 holder and re-inserting the valve.

Connect a d.c. voltmeter between the rear diode and chassis terminals, 14/15 (red) and 16 (black). With the i.f. unaltered and aligned as per the manual, the diode is likely to develop up to -4V with a tuned stable carrier and -12V with the BFO on. With the BFO locked to a tuned carrier these voltages are added, about -16V, but only when C2 and C3 are peak trimmed and T503 tuned with BFO on. Repeat procedure twice to counter interaction.

Once a 390-A has warmed up it s stability is excellent, and whilst this circuit has a clean locking range of only +/- 100Hz there are no drift problems. Some BFO PTO's work better than others, those that have a limited locking range will benefit from lower resistor values; try reducing R1 and R2 down to 47RR or even 22kR. Tune for the best signal with BFO off, then turn it on and zero beat. It is a powerful addition to the broadcast listener's line up and may be used to advantage with the 6BE6 SSB mod for synchronous product detection of extremely poor AM signals.

Many 390-A users note an inadequacy of a.g.c. during SSB or weak signal AM reception. Noise blasts through a.f circuits when carriers are not present and clearly some sort of audio derived a.g.c. is necessary. This is acheived by connecting a receiver powered circuit to the set's rear line audio and r.f. gain terminals. It is powered by the 6.3V a.c. Break In relay supply and thus may be fully controlled from the front panel without upsetting normal receiver operation.



To switch from normal to audio a.g.c. turn Break In ON, rotate RF Gain down to 0 and then advance Line Gain as necessary. about 3 for AN with Slow a.g.c. and 5 for SSB with Fast a.g.c. When used for AM bandscanning or exalted carrier reception this cicuit will supplement normal a.g.c. to prevent excessive noise or distortion in the absence of carriers, it cuts receiver shrieking in the synchronous mode and prevents blasting during severe fades or when suddenly tuning across a powerful signal in slow a.g.c. However, when used for reception of strong SSB this circuit does nothing to help a.g.c. control.

The cure is a single cut and wire resoldering operation within the receiver. Remove the alloy link between rear terminals 1 and 2. Screw the 1+2 circuit board wire to terminal 2 only. Screw a length of insulated wire to terminal 1, run it through the corner crack and inside the receiver to the R.F. Gain potentiometer. Remove the

two white/yellow wires from their potentiometer tag, ensure that they remain connected and insulate, then connect the new wire in their place. This arrangement allows the normal RF Gain control necessary for SSB reception yet with fully adjustable audio a.v.c. limiting for stronger peaks: It is also much better for AM DXing.

Simple product detector, synchronous demodulator and a.g.c. mods do much for 390-A performance, they should also be applicable to other receivers in the 388-392 range. As a broadcast listener I am more than happy with the set and do not covet any other. Many modification articles have already been published and are worth looking out for; contact members of, or subscribers to -

The Collins Owners Club, c/o Bob Ralph, 4, Leam Crescent, Solihul, West Midlands, B92 8FD.

The Hollow State Newsletter, c/o Chris Hansen, P.O. Box 1226, New York, NY 10159.

"The World's Best Receiver" ? Not really a fair question, nor would it be a fair claim.

The Collin's R390A-URR was constructed to a critical military specification; in original form it s limitations were both known and accepted. As a receiver it is capable of quality AM, super DX, high resolution SSB and sharp CW; an outstanding monitor. And indeed, it is highly likely that any 390 now in private hands will serve as an outstanding monitor long beyond the passing of our mere mortal selves.

10th Feb 1989

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More Collins 51J4 Technical Notes

Dallas Lankford, 903 Sherwood Drive, Ruston LA 71270, © 1989

These technical notes are a continuation of my "Collins 51J4 Technical Notes" which appeared in DXN 56, 13 (Dec. 26, 1988). Here I will include information on J4 spurious responses, repairs which I have done and been unable to do on several J4's, and additional information on J4 PTO's.

If you hear it, it's there. That's what Kevin Atkins said about the R-390A in Proceedings 88, referring to immunity from overloading. A J4 has dynamic range figures virtually identical to a 390A, and consequently is similarly free from overloading. However, excellent strong signal handling performance is not sufficient to guarantee that if you hear it, it's there. Images, IF feedthrough, IF harmonics, spurious mixing products, and other phenomena can produce phantom signals where there should be none. A cryptic line in the J4 manual (Section 1.3, Reference Data), "Spurious Frequency Response: down at least 40 db," prompted me to use a URM-25D signal generator to look for specific spurious frequency responses. They were not difficult to find.

With a J4 tuned to various frequencies in band 1 (.5 - 1.5 mHz), spurious responses varying from 55 to 75 db down were found in the 2.5 - 3.5 mHz frequency range. Study of the J4 conversion scheme suggested that band 1 spurs are IF feedthrough to the variable second IF (3.5 - 2.5 mHz), or images of the variable first IF (11.5 - 10.5 mHz) due to a spurious 8 mHz oscillator injection, or both. A loop antenna, which is used by most serious MW DXers, would eliminate any such spurs. Except when using a URM-25D to generate and measure them. I have never heard any band 1 spurs, even with a 85 foot long wire antenna. However, a beverage antenna might produce some detectable MW spurs from the 2.5 - 3.2 mHz frequency range. For bands 2 - 7, all spurs were down about 95 db or more. This means you should never hear a signal on a J4 between 1.5 and 7.5 mHz which is not really there, except with a signal generator in a laboratory setting. For bands 8 - 15, all spurs were down about 70 db or more. This means it is unlikely that you would ever hear a signal on a J4 between 7.5 and 15.5 mHz which is not really there. The spurs for bands 4 - 15 are all images of the variable first IF (even bands: 2.5 - 1.5 mHz, odd bands: 3.5 - 2.5 mHz). In my opinion, the 31 meter band is the only international SW broadcast band where images might be a problem, and then only if you lived next door to a ham who operated a kilowatt transmitter in the 20 meter ham band. I have searched for 20 meter images in the 31 meter band, but have never found any. For hands 16 - 30, the spurs are stronger and more numerous. Not only are there images, like those for bands 4-15 (but stronger), but also there are other strong spurs closer to the fundamental frequency. I did not attempt to determine the causes of the additional spurs, or to measure the levels of all sours for bands 16 - 30. Although some were no more than about 45 db down, I doubt that they will be a problem for DXers in most listening situations because there are few S-meter pinning signals above 15.5 mHz. However, if total freedom from spurious responses in the 15.5 - 30.5 mHs frequency range is an important consideration for you, or if your main MW antennas are beverages, then a J4 may not be adequate for your needs.

The three J4's I have worked on have varied in condition from virtually unrepairable to almost perfect. Granted, a sample of three is not a large sample, and it would be unlikely that I have

encountered all J4 problems. But if the following discussion includes most common problems, then it will have served its purpose.

Let's start with the virtually unrepairable J4. There were two main problems, (1) a PTO with 1 mHz end points 15 kHz wide and a broken slot on the end point adjustment shaft, and (2) an intermittent loss of signal which was traced to the mechanical filter conversion kit (MFC kit). It was determined that moving either of the two tubes in certain ways reproduced the signal loss problem, i.e., caused the signal loss to come and go. The problem also seemed to be associated with the rotary switch which selects the bandwidth (mechanical filter). There is no way to work on a MFC kit in a J4; it must be unsoldered, unbolted, and removed. When I began removal it was obvoius that a previous owner bad attempted repairs because of poor solder work, non-original screws, and missing lock washers. After the MFC kit was removed it was also obvious that whoever did the repair work was incompetent. Instead of removing all necessary screws and disassembling the MFC kit, he had left some of the screws in place and bent some of the metal plates aside in an attempt to gain access to internal parts. It is beyond the scope of this article to describe how to disassemble a J4 MFC kit. Suffice it to say that it can be done, but most DXers and hams do not have the skill, time, determination, and patience to do it. Even after a MFC kit is removed and disassembled some parts are not accessable without unsoldering and removing components. After a thorough visual inspection, including observing how internal parts moved as tubes were moved, I speculated that the intermittent signal loss due to tube movement was caused by a 0.01 disc ceramic bypass capacitor which touched an internal metal plate. Due to component density, there was not much room to move the cap, about 1/16 of an inch, but I thought it would be enough. It was. After reassembly and reinstallation the intermittent signal loss due to tube movement was gone. I could wiggle the tubes around in their sockets with no signal loss. But then the second aspect of the problem became apparent. The bandwidth switch did indeed have a problem. When the bandwidth was changed a signal loss frequently occurred. Although the loss could be eliminated by fiddling with the bandwidth switch, obviously additional repairs were necessary. In my opinion, the only possibility for completely fixing this particular MFC kit would be to completely disassemble it. remove all components, hopefully identify the problem during the process, and rebuild the MFC kit with new resistors and capacitors. Because of the PTO problems (which will be discussed below) and the remaining MFC kit problem, I have advised the owner to scrap this J4 for parts.

The repairable J4 was probably beyond the abilities of most people to repair. There were eight main problems, (1) a 100 kHz calibrator which would not zero beat with WWV, (2) missing top and bottom dust covers, (3) a stiff antenna trimmer, (4) several broken couplers, (5) insensitivity on all bands, (6) additional insensitivity on bands 16 - 30, (7) an intermittent loss of signal on band 1, and (8) modified BFO and mechanical filter switch shafts. Problem (1) was merely a bad 100 kHz crystal. But naturally not any 100 kHz crystal would do. The 51J series 100 kHz crystal is a special type. You either have to find someone with parts willing to sell you one at a reasonable price, or buy another 51J series receiver for parts. Problems (2), (3), and (4) are solved similarly. Problem (3) was identified as normal shaft wear due to a poor capacitor design. I have observed that most 51J series receivers have stiff and (or) rough antenna trimmers. In a J3, J4, or R-388 you can switch the 100 kHz calibrator capacitor, which will have little use and consequently no stiffness or roughness, with the antenna trimmer capacitor. One of the broken couplers caused another problem. I had tuned around various bands before I noticed the bands 4 - 30 gear shaft coupler was broken. Naturally that unsynchronized the band 4 - 30 gears and cams, if the J4 had not been shipped to me in unsynchronized condition. And naturally none of the 51J series manuals state the frequency, about 8.300 mHz, at which the band 4 - 30 cam tips align with the holes in the metal plate behind the gears. It is virtually impossible to align the cam tips precisely with a J4 set to 8.300 mHz, so after they were aligned approximately I still had to do the complete gear synchronization procedure as described in the manual. Problem (5) was traced to a modification. A previous owner had changed R149, originally 680 ohms, to 820 ohms which desensitized the J4. As I have remarked previously in my first technical review article, you should not tamper with R149 unless it has been changed by a previous owner. Decreasing the value of R149 from the original 680 ohms does increase sensitivity slightly, but it also significantly reduces dynamic range, especially on band 1. Problem (6) may also be fairly common in 51J series receivers. Band 16 - 30 insensitivity was traced to a broken wire from the mixer coil to a nearby trimmer capacitor. Tuning a 51J series receiver flexes the front end coils by a small but definite amount. Repeated flexing had caused the coil wire to break from metal fatigue where it exited from a hole in the bakelite collar around the top of the coil. When insensitivity is isolated to a single band (1, 2, or 3) or a sequence of bands (4 - 7, 8 - 15, or 16 - 30) it is likely caused by such a broken wire. Collins should have included a solder lug on the collar for termination of the coil wire and used larger wire from the coil lug to the capacitor lug. The coil wire made two turns through a small hole in the bakelite collar, so I unlaced one turn, and added a home made solder lug made from # 22 tinned solid wire. The repair looks professional and is sturdier than the original. Problem (7) was tentatively traced to a small piece of metal lodged in one of the tube pin holes of the band 1 mixer tube socket. The small piece of metal was removed using the end of a small brass safety pin which had been bent into a hook, but only after considerable effort. Occasional intermittent signal loss remained, probably due to internal damage to the tube pin socket. To cover the possibility of a bad component, when the socket was replaced all components which terminated at the socket were also replaced with new components. Problem (8) was a baffler. Two large holes had been drilled in the thick metal plate behind the front panel, one centered where the smaller BFO and bandswitch shaft hole had been, and the other nearby. The end of PTO shaft had been cut off, a different coupler used in place of the original, a non-mar clamp discarded, and a large brass bushing inserted through the front panel, but not bolted in place. Was it an attempt to "improve" on the Collins design? Or

an attempt to repair previous damage? I'll probably never know. The only correct fix would be to remove the entire gear assembly behind the front panel, replace the thick metal plate with one from another J4, put everything back together, resynchronize the gears, and realign the J4. I have not attempted that. Instead, I redid the modification in an acceptable manner, which required a different coupler, a non-mar oscillator shaft fitting with non-mar clamp from my R-390A parts junk box, and another bushing with nut for the front panel.

The almost perfect J4 has two problems, (1) the crystal filter is too narrow in positions 1 and 2, and (2) the crystal filter phasing shaft causes "static" as the phasing control is rotated. I have not cured either problem yet, although polishing the phasing control shaft and hole in the front panel shaft support plate greatly reduced the static. For all I know, the two problems may also be related. One solution would be to replace the entire crystal filter assembly, but I would rather understand the problems completely and isolate the faulty components or otherwise identify the causes.

Apparently I lead a charmed life because both of my J4's have nearly perfect PTO's with end points off by no more than 1/2 kHz, linearity within 1/2 kHz at each 100 kHz point from end to end, and little warm up drift. In addition, the end point adjustment shaft in both PTO's, though stiff, can be turned with the home made alignment tools I described in my first technical notes article.

The PTO in the virtually unrepairable J4 showed me how lucky I had been. The end points were about 15 kHz off, and when I tried to do an end point adjustment I discovered that the end point adjustment shaft slot had been broben by a previous owner. Since I had a bad PTO with a good end point adjustment coil from a junker R-388 I decided to try to repair the otherwise good PTO. However, in the process of switching end point adjustment coils I noticed that the good coil would not screw in. Something appeared to be stopping it. I backed the shaft out all the way and saw the problem. There was a shaft lock "nut," a small threaded circular piece of metal with two minute slots in it. Then I remembered the Collins PTO end point adjustment tool which is pictured in the J4 manual, and suddenly the peculiarity of that tool (actually two tools) made sense. One tool is like a small screw driver, but with a knurled end rather than a handle. The other tool is hollow, with two thin "blades" on the rim of the hollow tube. The screw driver tool is inserted into the hollow tool and the two are used together to unlock and lock the end point adjustment shaft lock nut, and the hollow tool is used to prevent the lock nut from locking while the shaft is screwed in. Apparently some end point adjustment shafts can be screwed in with the lock nut "locked" (like those in my two J4's) and some cannot (like the one in the J4 with the broken slot). A J4 with an end point adjustment shaft which cannot be screwed in with the shaft locked can still be adjusted by backing the shaft out all the way to access the lock nut, backing the lock nut out all the way, adjusting the end point, backing the shaft out all the way while counting turns, and then by trial and error setting the lock nut at just the right position so that the shaft can be screwed back in the correct number of turns. Good luck! After replacing the broken end point adjustment coil, the end points were still about 10 kHz too wide with the end point adjustment shaft acrewed all the way in. Oh well, I still had a brand new (er, unused) J4 PTO which I had been saving in reserve. But to make a long story short it was bad too, with end points 4 kHz too wide after the end point adjustment shaft was acrewed in all the way. So I got out pencil, paper, and my calculator and applied algebra and calculus to the problem to determine if modification was possible.

In the first case we find that removing 1 turn of L changes L by about 1/15, but a change of 1/50 is actually needed. In the second case we find that the windings of L need to be longer by about 1/50 of the total length of the windings to effect the desired inductance change. The J4 PTO windings are about 1.5 inches long, so we are looking at an increase of about 0.03 inches. This is such a delicate adjustment that it makes me wonder how Collins ever built these PTO's.

There is a potential approach to the end point adjustment problem which I have not tried. The end point adjustment coil is a small 3 turn coil with an inductance range of about 1.75 - 3.75 μH according to the Dec. 1969 Ham Radio article, "New Life For The Collins 51J Receiver VFO," pages 36 - 41. This article describes how to extend the end point adjustment range by removing 1 or 2 turns from the coil. However, removing 2 of the 3 turns allows you to correct only up to 14 kHz of additional end point error (if the end point correction range graph in the article is correct), and greatly reduces the end point correction range. This means that the approach might not work for a PTO with 10 kHz or more excessive end point error. Furthermore, this approach does not seem appropriate for euch PTO's because the fix will not last long enough to make it worthwhile. For example, the HR article mentioned that by 1969 the end points of many 51J series receiver PTO's had expanded beyond the adjustment capacity of the end point adjustment coil. The original end point adjustment range was given as about 30 kHz. If we assume 51J end point spreading per year is uniform, this means the spread rate for such receivers is about 1.5 kHz per year. That is similar to the spread rate I have estimated for the two "bad" J4 PTO's I have examined. The first bad PTO I mentioned above with 10 kHs of excessive spread came from a 1959 J4, which suggests a spread rate of 1.33 kHz per year. So even if removing 2 of the 3 turns on the end point adjustment coil did give 14 kHs of additional end point adjustment range, after 4 years the end points would have expanded beyond the adjustment range again. The second bad PTO I mentioned above with 4 kHs excessive end point error was unused with what appears to be a 1967 date code. That would correspond to a spread rate of about 1.5 kHz per year. If the HR article is correct, removing 2 turns from the end point adjustment coil of that PTO would extend its useful life by about 6 years.

HH

Are there two kinds of 51J series PTO's, those with end point spread rates about 1.5 kHz per year, and those with very slow spread rates? If I knew the answer, I would tell you. My best guess is that there are, but I have not had my two J4's long enough to know. If there are, then there are two inherent categories of 51J series and R-388 receivers, those with "good" PTO's and those with "bad" PTO's. In my opinion a substantial amount of the value of a 51J series receiver is directly proportional to the quality of the PTO. For example, end point spreading of a bad PTO will eventually desensitize the low bands, especially band 1, and in any case accurate frequency determination is one of the primary desirable features of 51J series receivers. Is there any way to tell such 51J series receivers apart without checking the end point adjustment range? I can't think of any. You are probably in the hands of fate when you buy a 51J series receiver.

FCC takes action to close AM-FM fidelity gap

Commission votes to require AM's to follow NRSC-2 RF emission standard

The FCC moved last week to curtail interference in the AM band in the hope of encouraging the production of wideband AM radios and narrowing the fidelity gap between AM and FM that has been partly responsible for the decline of AM over the past two decades.

The agency voted unanimously at last Wednesday's (April 12) open meeting to require AM stations to adhere to the industry-developed NRSC-2 RF emission standard starting June 30, 1990.

As a transitional measure, the FCC ruled that stations implementing the NRSC-1 audio processing standard will be presumed to he in compliance with the NRSC-2 standard until June 30, 1994. After that, it said, stations must meet the NRSC-2 standard.

"I hope that AM licensees will move quickly to comply with the new standard and that receiver manufacturers will get the message and give consumers the option of buying high-quality AM receivers," said FCC Commissioner Patricia Diaz Dennis in a prepared statement.

At the request of Commissioners Dennis and James Quello, the agency deferred action on an unrelated proposal in the same rulemaking to permit AM stations to increase power and to accept interference in the resulting new coverage area. Most broadcasters had opposed the idea, arguing that it would have an overall deleterious effect on AM service.

NRSC-1 and NRSC-2 were developed by the National Radio Systems Committee, a group of broadcasters and receiver manufacturers. Both are aimed at cutting back on second adjacent channel interference among AM stations, which has caused receiver manufacturers to gradually narrow the frequency response or fidelity of AM radio. The poor fidelity of today's narrowband AM radio has contributed to the loss of the music-listening public to FM.

The NRSC-1 standard limits the boosting of the high frequencies in audio and limits the bandwidth of audio to 10 khz prior to modulation and transmission. The NRSC-2 standard limits the emissions during transmission. Each tackles the same problemthe former by controlling the transmission input, the latter by controlling the output

Even if implementation of the standard cleans up second adjacent channel interference as promised, the widehand AM radios will not necessarily fellow. Eb Tingley consumer electronics consultant to the Electronics Industries Association, said whether to manufacture wideband radios is as much a marketing question as a technical one

But broadcasters are hopeful. Charles Morgan, vice president, engineering, Sus-



But broadcasters are hopeful. Charles Morgan, vice president, engineering, Sus- | because it accomplishes the same thing at quehanna Broadcasting, the licensee of sev- far less cost. To monitor emissions to inen AM's, and former chairman of the sure they are in compliance with NRSC-2, NRSC, said the receiver manufacturers broadcasters would have to huy either a have said that if the FCC makes the NRSC mandatory, they will build wideband radios. "That's what they ought to do," he said. "There is no reason for delay

Morgan said the widehand radios are alsaid, such radios "will be in the market and in cars where they count

Once the standards are widely implemented, Morgan said, the wideband radios will produce "good quality AM that is difficult for the average listener to distinguish

Dick Kennedy, a design engineer for Delco Electronics, the General Motors subsidiary that makes radios for GM cars and trucks, said the standards would allow and increase fidelity from 3 khz to 6 khz. "That's a radical step, but it still doesn't sound like FM. he said.

Kennedy had no comment on Delco's plans for wideband radio production.

tempered by its disappointment that the than NRSC-1, which it had argued was other stations easier to implement and more effective than

other step forward in improving the quality sel, in a prepared statement. "In addition, the FCC's decision to presume compliance with NRSC-2 emission limitations for stations employing NRSC-1...will certainty serve as an incentive for stations to utilize

The NRSC issued NRSC-1 as a voluntary standard in January 1987, but the NAB later asked the FCC to make it a federally mandated one. According to NAB, about 1,000 broadcasters (about 20%) have implemented NRSC voluntarily

spectrum analyzer, which cost up to \$20,000, or a specially designed "splatter" monitor. Delta Electronics is marketing a splatter monitor for \$1,800.

By contrast, the Society of Broadcast ready on the drawing board. By 1990, he Engineers, in its comments to the FCC. estimated that it costs between \$400 and \$700 to buy and install the gear for NRSC-

> The FCC cited three reasons for its decision to go with NRSC-2 over NRSC-1: 1) used alone, NRSC-1 "will not be effective in alleviating interference produced by overmodulation or transmission system anomalies"; 2) the NRSC-1 adjustments "can be readily circumvented or abused by adjustments made to other audio processing equipment," and 3) NRSC-1 restricts "the flexibility" of broadcasters in audio pro-

According to Felker, a proposal tabled at the request of Dennis and Quello would The National Association of Broadcast- have allowed AM broadcasters to increase ers' enthusiasm for the FCC action was power and accept interference "at the fringes of their new coverage areas" as FCC decided to adopt the NRSC-2 rather long as they did not cause interference to

On March 23, Felker said the FCC, by a 2-1 vote (Quello dissenting) on circulation, 'Although we are disappointed that the granted WCVH(AM) Chester, Pa., a waiver FCC did not adopt...NRSC-1, the FCC's of the rule prohibiting a station from acadoption today of NRSC-2...is certainly an- cepting interference within its protected contour so that it could increase power from of AM radio," said Jeff Baumann, NAB 11 kw to 50 kw. If adopted, Felker said, the executive vice president and general coun- grant of such power increases in similar circumstances would have become "rou-

> David Donovan, the mass media assisfant to Quello, explained his boss's opposiion. Although the proposal would not alow stations to interfere with others, he aid, it would increase the overall noise in he band, discouraging potential listeners from switching to the AM hand. "You end ip with an island of service in a sea of



News simulcast. Begining May 1, a network of eight radio stations in North and South Carolina will simulcast the 6 p.m. ET edition of Eyeurtness News, seen daily on word to Charlotte, N.C. The television station reported that participating radio stations, which already have newsgathering teams in place, will be given direct access to the Egicientness News room. Woodami Charlotte, N.C., is serving as the flagship station for the metwork, which will also include will class Gastonia, wildnam Eincolnton, wixtami Monroe, winigam) Lenoir, worceam; Statesville, and worseam) Shelby, all North Carolina, and wick(ам) Lancaster S.C. Pictored are members of the Eucentriess News team (i.r.). Harold Johnson. Meg MacDonald, Bill Walker and Bay Boylan.

Veriffication

Wayne Heinen

4131 S. Andes Way Aurora, CO 80013

listing of verification letter signers, contributed by NRC members

	A listing	of verification lette	T sig
Freq.	Call	Verie Signer Contri	buter
216	Monaco	Bernard Poizat	HH
560	WINDmbu	U/U	RV
570	KISNpu	U/U DoE	WH
590	KCSJp	U/U PD	JΤ
610	KSPNpu	U/U CE WI	H/JT
610	WIODlbu	Mitchell D. Wein CE	RV
62 0	WVMTI	Michael Sequin CE	HH
630	WBMQlu	Don Scott PD	HH
640	WJTZI	Mitch Sandidge CE	ERC
690	KOAQI	Lorin McArthur E	WH
710	KBXGl	Robert Exum CE	JΤ
730	KDAZpu	Angie Gonzales VP	WH
730	KIZNpu	Bill Bailey OpM	0W
730	KKDAfu	Paul N. Strickland CE	WH
740	KRMGq	U/U	0W
740	KSSSp	U/U CE	JΤ
820	WCZEpu	John J. Russo CE	0 W
820		Paul Scott VP/GM	RV
820	WQSIlbs	Scott Rogers PD	ERC
850		atrick Murphy OpD (NRC)	RV
870	KPRMpu	U/U CE	0 W
870	KPRMru	U/U	JΤ
880	KRVNqmbz	U/U	JΤ
890	WFKJf	"Dottie" A	HH
900	WSEApu	Terry Dalton CE	HH
930	KSEIpbu	Sandra L. Woodruff COp	0W
1000	KSTApu	Joe Long O	WH
1000	KUSDp	Douglas E. Schlentler CE	JΤ
1010	KPSLlz	Jacque Lee M	JΤ
1020	KRADlu	John D. Deken GM	WH
1050	KMBAlm	Don Davis P	WH
1060	KGFXlbmu	Mark A. Swendsen P/GM	
1120	KANNlu	Tim Hunt CE	0W
1130	WWMOI	Von Heffinger	HH
1140	KRSRplbu	Bob Berzins OpM	0W
1160	WOBMI	Thomas Maclaszek	HH
1160	WOBMlm	Rick St. James EA	ERC
1160	WSKWlmu	Alan W. Anderson P/GM	
1170	WACVIc	Clay Redden COp	HH
1200	CHMGlz	Paul Preston PM	JΤ
1220	WSLMfbmu	Don H. Martin CE	RV
1240	KCLVpbu	L. Patrick Davidson SlsM	0W
1240	KICD	Joe Schloss CE	ŢΤ
1250	KIKZplbu	Carla A. Cook OfM	0W
1260	WCFSlm	William M. DeFelice DoE	ERC
1260	WIBVplu	Wm T Kniesly VP/GM	0W
1260	WKXRI	Ed Swicegood P	HH
1280 1310	WYALpu	Danford R. Williams GM	HH
	KFLAqu	Scott R Anderson GM	0W
1310	WBFDI	Daniel R. Smouse GM	HH
1320	KNIApu	Mel A Suhr GM	0W
1320	WHHOlmu	Ralph Van	RV
1330	KFHp	U/U OpM	JT DV
1330	WESRlu	U/U	RV
1340	KPRKpu	U/U	0W
1340	KVRH1	William J. Murphy GM	JΤ

er	1340	WYCBpu	Kay Jackson	нн
Н	1350	WFLSlbmu	Jim Asker PD	RV
V	1360	WSAIfu	Ray Winters CE	RV
H	1380	WAGSrmu	Emory H. Bedenbaugh GM	RV
•	1390	WEOKlu	David Groth DoE	HH
JΤ	1400	WPAYlbmu	Frank Lewis PD	RV
V	1410	CKSLf	Bill Post DoE	0W
H	1410	KOOQpu	U/U GM	WH
H	1410	KRILlu	Wendy A. Barnes TrfM	0W
RC	1430	KLOlm	U/U	JΤ
Η	I44 0	WRROlmu	James J. Crisan ConD	RV
	1450	WDADlmz	Mary Ann Ballard AdmA	FW
Ή	1490	KRYNlpu	Deli Hubbard Trf/Bkr	WH
٧	1490	KXREL	Dell Hubbard Trf/Bkr	WH
Н	1520	WHRFlu	James D. Fielder Jr. P	нн
٧	1550	KQXIp	Kristi Barlou OfM	JΤ
•	1550	WCCZlm	Debbie Belz O/OfM	ERC
٧	1580	WPMOlb	Stormy Davis	нн
J	1590	KOGOpu	Perry S. Van Houten PD	WH
RC	1590	WWCC1	Edward K. Histed P	ERC
7	1600	WBBDl	Jack Rees CE	RV
٧	1600	WPDCl	John Hess CE	нн

Contributors ...

1620 WIDIlz

Initia	ıl Name	Loc	0W	John Wilkins	со
JT	Jeff Tynan	co	HH	Hank Holbrook	MD
ERC	Ernest R. Coo	perMA	FW	Frank Wheeler	PA
RV	Robert J. Vano	e VA	WH	Wayne Heinen	co

"Dave" CE

Small Letter Meaning.

Bumper or Window Sticker Hand or Typewritten Post card

English Reply Form Letter

Signer is a ham op Coverage Map

Non English Reply Self Prepared Card

200 GATEWAY TOWERS, PITTSBURGH, PA 15222 Pre printed QSL card

DX'ers report returned as the QSL Record Survey

Result of Follow Up report

personal visit . Vague verifcation

Assorted Promo Material

Join the verification game!

Now, you can help out with station tests. Here's how: Send Wayne Heinen - 4131 S. Andes Way - Aurora, CO 80013 two 25¢ stamps per station, and Wayne and Jeff Tynan will print and mail an effective test request letter for you. You can either specify station and time, or just take pot luck. Increase your veries and help other NRC'ers at the same time ... join the verification game!

CPC Report ... Wayne Heinen and Jeff Tynan

Here's a report from the Colorado CPC Mauled. The breakdown for tests was 56 financed by "The Machine" and 35 by other NRC'ers.

To relieve any guilt, there was a self motivating reason behind the numbers mailed by "The log in Colorado, and so it was our target state. Old-time East coast NRC'ers may remember a blitz of hard to hear Graveyards and Regionals ated!

Other DX'ers did offer us target station lists, and we did mail requests to those stations, unless we knew that they either (1) had turned us down in the last two years for a CPC TEST or (2) are currently operating NSP. We would support via stamps and/or stamps and lists feel to contact us and we'll get you started. during this years effort.... Glenn Cooper, Roy Jasinsky. In addition to the tests you've seen credited to those who were lucky enough to get replies, one of Roy Millar's suggestions (WINV-1560) netted a reply from the new owners who have indicated a willingness to test, and we've suggested early next season.

-via Eric Bueneman

Truckers listening to radio

Larry King may be, the best-known all-night radio host in North America, but keep your eye on Fred Sanders. City by city and state by state, the entrepreneurial Sanders is building to a deposite of following building up a devoted following among travelers, truck, drivers, graveyard-shift workers and several million others who enjoy dropping in on his overnight program which mixes sop-country music with infor-mation available in precious few other spots on the radio.

Sanders calls his brainchild the Interstate Radio Network. It's a hookup of nearly 40 stations from coast to coast, many of them 50,000watt powerhouses on the AM dial. From 11 each night until 7 each rrom 11 each again until 7 each morning, Sanders and his cadre. of reporters, personalities, experts and commentators break up the music of Randy Travis and Ronnie Mileap with a stew of info specifically targeted for folks on the road in the

w there we were a 50,000-watt, that tells trunkers where they can

chine. We mailed a total of 91 CPC letters from At present we have a data base of all the stations that October 15 thru February 20. Total responses have been contacted regarding CPC by this computer were approximately 20 with seven tests sched- for the last two seasons. If any other NRC'ers have other such lists and would care to forward those, we can consolidate it as one list and save wasted effort on those stations already contacted.

We have automated our CPC letter writing effort by Machine". Alabama is a very difficult state to the use of powerful "Macros" which truly limit us to the time it takes for the printer to function. The other big time user is targeting and scheduling. For the 1989-1990 DX season we will have in place an easy, from NY and PA stations in 1965 and 1966; fast-paced way of producing CPC letters. The hard many of those were scheduled by Wayne part is targeting what other NRC'ers want to hear! It Heinen, based on the selfish principle that is the most time-consuming effort and costs very says, "If you want to hear a station, write them little! If the members of the NRC WANT a CPC effort a CPC letter". Today this principle still holds that will produce, if nothing else, the volume of letters true for Wayne, and now for Jeff. If only this designed to bring about tests, then it is our hope that kind of "Selfish" behavior could be perpetumany more than a handful of NRC'ers can find a few dollars worth of stamps and a few hours for targeting the stations they would like to see on the air.

Wayne has been the "key pounder" on the tapes and is rather rusty at it, as was evident by some comments in DX NEWS about the quality of some code ID's. So if any other NRC'er wishes to step forward and like to thank the following NRC'ers for their volunteer to make these all important tapes please

Millar, Bob Harrison, Bill Burroughs and Tom We appreciate the many kind words in DX NEWS! To give you an idea of the way "things work around here", Jeff has done the bulk of targeting and typing of the letters into the machine while Wayne supplies letterhead, envelopes and the initial letter template and "Macros" used in the effort. It is a joint effort done for the benefit of ourselves and the members of the NRC.

> station; covered 38 states and half the country — and in no time, we became the No. 1 station in North America in advertising billings on the all-night shift. We always played plenty of music that everybody could get into, but we really pro-grammed ourselves first to truckers

and secondly to other travelers.

"To me, it's a very logical thing to do on all-nights because — let's face it — from midnight to 5 a.m., advertisers are not exactly beatin' down your doors tryin' to buy airtime. Hell, most stations are giving the time away in that timeslot. We figured out that 'narrowcasting' was the way to go, so we aimed at the truckers and travelers and we really scored.

Last year, WMAQ Radio was sold by NBC to Group W, and the new bosses instituted an all-news format 24 hours a day. That put Sanders out

of business, but only temporarily.
Within six months, Fred launched
his own all-night truck-radio network, beaming nightly by satel-lite from the Tribune Tower at the lite from the Tribune Tower at the edge of Chicago's Loop, Today he's not only the principal host of the overnight gig, but also the owner, the general manager, the sales chief and the boss of all operations.

"It's a first-rate information package," Sanders said. "We've got truckers' news throughout the night, of course we have weather with our regretary for this is the both of the course we have weather with our of course we have weather with our of course we have even the without of course we have even the prelains to the legal security of the without of course we have even the prelains to the legal was one without perfusion to the course with the prelains to the legal without of course we have even the without without of course we have even the without of course we have

find loads, we have an outdoor report and we've got a sports guy who does live sportscasts once an

"There's a group of people down in Washington who call us anytime there's a hazardous spill on any highway. And naturally, we get calls from people from all over the country - from Miami to Seattle who tell us what's happening in their area. For the listeners, I think it's kind of a voyeuristic pleasure. And we're now seeing an explosion in cellular telephoues in trucks, especially among our California truckers. A lotta these guys tend to be the old hotrodders who grew up and got trucks - and of course, they have to have all the latest gadgets, so now they're callin' us every night

Sanders and his overnight network are beginning to show a profit, what with blue-chip advertisers like Ford, AT&T, Chevron, Texaco, the Associates and Rand McNally eating up tons of

and Rand McKraily eating up tons or commarcial time.

"My career took a turn in the 1970s when 4 first got involved with the truckers, show." Sanders said.
"Because instead of just being on the air, I got involved with the sales end of it - the business end - and I really learned where the money was buried. That's why I've gone into business for myself now. When you're just another voice on the air, you're very expendable. But when you have advertisers committed to what you're doing, it's a whole different ballgame

Gary Deeb is a syndicated columnist

Graveyard Achievements William Hale

734 Burleson San Marcos, TX 78666

Distance records attained on 1230, 1240, 1340, 1400, 1450, and 1490 kHz

Anyone wishing to submit their lists, please do so. But be sure to indicate which "era" they fall into. Listings MUST be in frequency and alphabetical order by state and city. This is imperative, as I don't have time to sort out call letters vs cities And type or print neatly. Others will be returned. Thank.

Russ Edmunds has submitted his Graveyard lists for the period of time he DXed in Syracuse, NY, and the results appear below.

One new record is noted in bold. A few records were already his, which are not noted. All loggings are in the Post Jan 1, 1960 period.

1230	KHZ	RUSS EDMUND	5	WBAX	P۸	Wilkes-Bar	rre	1450		RUSS EDMUN	
WITH	MD	Baltimore	269				125	MQT.	DC	Washington	290
WNEB	MA	Worcester	228					WHTC	MI	Holland	506
WENY			72	1340	kHz	RUSS EDMU	NDS	WIBM		Jackson	426
WFAS	•••	White Plain		WDCR	NH	Hanover	204	WFPG	NJ	Atlantic Ci	ity
W. N.S		White Figin	187	WMID	NJ	Atlantic	City				269
WCPO	OH	Cincinnati	514				269	WCLI	NY	Corning	83
WBVP		Beaver Falls		WMBO	NY	Auburn	30	WKAL		Rome	40
WDVP	FA	peaver raile	268	WENT		Gloversvi	11. 91				
WKBO		Harrisburg	196	WHAT	PΑ	Philadelpl	nia	1490	kHz	RUSS EDMUNE	95
						·	221	WC55	NY	Amsterdam	101
WCRO		Johns town	236	WKGN	TM	Knoxville	643	WBTA		Batavia	105
WBPZ		Lock Haven	148	WILON		MIONVIII	043	WOLF		Syracuse	5
WJOY	VT	Burlington	179	4 400				WARD		Johnstown	_
WNOR	VA	Norfolk	426	1400		RUSS EDMUI			PA		236
				WOND	NJ	Pleasantv:	111•	WBCB		Levittown	212
1240	kH-z	RUSS EDMUNDS	2				267	CKCR	ON	Kitchener	215
WWCO		Waterbury	190	WJET	PΛ	Erie	209	CHYM		Kitchener	215
	_			WKWK	wv	Wheeling	313	CKBH	PQ	Montaggny	305
WTAX	IL		733	CKCB		Collingwood					
MEAV	NY	Geneva	45	CJFP						·	
WJTN		James town	162	COFP	Pu	Riviere du		4777	77		
WATN		Watertown	65				455	(4.5.E)	24	. •/	
WIST	NC	Charlotte	598					STEREO	AM	1450	

Parker, Colorado is the home of Jeff Tyman, who DXes with an ICF-2002 mounted in a three foot octagonal loop antenna, and has submitted his Graveyard loggings

Out of the 68 total catches on the GY channels, Jeff claims the record distance for five of them, which are indicated in bold. All loggings are from 1987-1989.

		JEFF TYNAN	KXIT TX	Dalhart	261	KODI W	Y Cody 420
KEXO	CO	Grand Junction	KFBC WY	Cheyenne	120		
		193	KTHE	Thermopolis	344	1450 kH	Z JEFF TYNAN
KRMH		Leadville 75					Z Show Low 462
KDZA		Pueblo 94	1340 kHz	JEFF TYNAN			O Alamosa 148
		Steamboat Spgs	KDEN CO	Denver	22	KDMN	Buena Vista 82
		114	KHUB NE	Fremont	453	KGRE	Greeley 69
KSTC		Sterling 118	KSID	Sidney	181		S Hutchinson 360
KHAS	NE	Hastings 354		Aztec	250	KBNW 1	N Breckinridge
KLAV	NM	Las Vegas 604	KKIT	Taos	210		636
		Las Vegas 273	KTOG SD	Rapid City	331	KONE 1	V Reno 807
	SD	Sioux Falls 506				KRZY 1	M Albuquerque 319
KMGR	UT	Murray 374	1400 kHz	JEFF TYNAN		KOBE	Las Cruces 508
KVOC		Casper 249	KSUN AZ		580	KWHW C	K Altus 444
			KRVZ			KSIW	Woodward 348
1240 k	Hz	JEFF TYNAN	KK42	Springervil	444		D Belle Fourche
		Colorado Spgs	KTUC	Tucson	608		362
		41	KRLN CO		72	KYNT	Yenkton 451
KDGO		Durango 227	KDTA	Canon City Delta			T Mosb 274
KSLV		Monte Viste 148	KDTA		186	KEYY	Provo 375
KICD	т.	Spencer 558		Ft Morgan	75		
KIUL			KBZZ	LeJunta	117	WACA A	Y Riverton 318
KODY		Garden City 238 North Platte	KAYS KS		295	1400 60	- IPPE BUNAN
KODI	RE			Alliance	208	1490 kH	
KELK	NV	238 E1ko 592	KLIN	Lincoln	434		Z Prescott 543
KALY				Grants	342		O Boulder 51
	мп	Los Ranchos de	KTRC	Santa Fe	273	KOUC	Sunnison 133
		Albuquerque 319	KGVL TX	Greenville	652	KXRE	Manitou Spgs 31

Our first Graveyard Achievement list from Down Under comes from Lauris Boyer, who DXes from Invercargill and Dunedin, New Zealand.

1230 kHz LAURIE BOYER KCOY

Not all are new records, as Eric McIntoch holds many from Invercargill. New records are in bold. One tie is designated by a "t". All loggings are prior to Jan 1, 1960, unless in Italics, which are in the Jan 1, 1960 to present time frame.

Sants Herie

WHSC SC Herteville 8752

	KHZ	LAURIE BO) I EK	KCUT		Sents Heri		WHSC		Herteville	
	Dune	edin, N2					7040	KRIC	TX	Beeuson t	7911
KXO	CA	ElCantro	7119	KSPA		Santa Paul	a	KCYL		Lampasaas	7781
KERO		Bakerafial	d				7061	KEYY	UT	Provo	7633
			7116	WMGA	GA	Mouitris	8438	KDXU		St George	7410
KGEE		Sakerafial		KPRL		Moscow	7754	KSEH	WA	Hosse Lake	
			7116	KSPT		Sendpoint	7848	WRCO		Rightend Co	
				KFVD		Ft Dodge	8438		~-		8629
KGFJ		Los Angels									
			7077	KYOE		Esporis	8180	KWAL	WY	Riverton	7890
KDZA	CO	Denver	7870	KAOK	LA	Lake Cherl					
KBAR	ID	Surley	7667				7956	1450	kHz	LAURIE BO'	YER
KRXK		Rexburg	7786	WJLB	MI	Datroit	8889	QTH:	Inve	rcargill, 1	NZ
WHCO	TI	Sperte	8448	KXGN	MT	Glandiva	8206	KOLD		Tuesen	7386
KFJB				KWNA		Winnemucca		KOLD		Tucson	7386
WL 10	14	Herahalito					/435	KPAL	~ 4		
			8473	KCHS	MU	Truth or		NPAL	C A	Palm Spring	
KLIC	LA	Monros	6114			Con #8qu					7408
KSLO		Ope ! ouses	8017				7481	WBSR		Pensacola	8358
KLAS	NV	Las Vages	7299	KTNM		Tucumcari	7726	KPIG	ΙA	Cedar Rapid	ds:
KEAK		Gellup	7511	WHCC	NC	Waynaay i I I					8630
KFUN		Les Veges	7682			•	8652	KXXL	MT	Bozeman	8016
				KEYZ	ND	Williston	6292	KLOS		Albuquerqu	
KOTY		Everett	7591					WD05		n. Duque, qu	7703
CFCW	۸B	Camrose	8182	KILE	1 X	Galveston	7850				//43
				KLUF		Galveston	7850				
1240	kHz	LAURIE BO	YER	KÇSU		Provo	7633	<u>1490</u>		LAURIE BO	YER
QTH:	Dune	edin, NZ		KODI	WY	Cody	7940	QTH:	Dune	din, NZ	
KOFA		Yune	7153					KYCA	AZ	Prescott	7330
KHUM		Dinuba	7161	1400	kHz	LAURIE BO	YER	KAIR		Tucson	7278
KHUM		Eureke	7209	QTH:		ercargill,		KICO	CA	Calaxioo	7116
KROY		Secresen to		KXIV			7400	KBLF	•	Red Bluff	7244
					A2	Phoen ix					
KRNO		San Barner		KXIV		Phoenix	7 4 00	KDB		Santa Barba	
			7117	WJET	PΛ	Erie	9141				7037
KSON		San Diego	7052	WJET		Erie	9141t	WAHR	FL	Hismi Basol	h
KSUE		Susenville	7312	KRUN	ΤX	Beilinger	7836				8374
KRDO	CO	Colorado S	onge.			_		KCIL	LA	House	8048
				1450	kHz	LAURTE BO	VER				
HEDC			7841	1450			YER	WTXL		W Springfi	old
WEDC	IL	Chiango	7841 8688	QTH:	Dun	edin, NZ		WTXL	MA	W Springfi	9368
WCEM	IL MD	Chicago Caabridge	7841 8688 9087	QTH:	Dun	Dougles	7294	WTXL WLOX	MA MS	W Springfi	9360 8166
KELK	IL MD NV	Chicago Caabridga Elko	7841 8688	MANT KOPO	Dun	Dougles Tucson	7294 7278	WLOX KBOW	MA MS MT	W Springfic Biloxi Butte	9368 8166 7874
WCEM KELK WBIR	IL MD NV TN	Chicago Caabridga Elko Knoxvilla	7841 8688 9087 7509 8625	MANT KOPO KYOR	Dun	Dougles	7294	WLOX KBOW KRTM	HS HT NH	W Springfic Biloxi Butta Raton	9368 8166 7874 7770
KELK	IL MD NV TN	Chicago Caabridga Elko	7841 8688 9087 7509 8625	MANT KOPO	Dun	Dougles Tucson	7294 7278 719 9	WLOX KBOW KRTM KBIX	MA MS MT NM OK	W Springfi Biloxi Butta Raton Huskogea	9368 8166 7874 7770 8103
WCEM KELK WBIR	IL MD NV TN WA	Chicago Caabridga Elko Knoxvilla Ellanaburg	7641 8686 9087 7509 8625 7651	MANT KOPO KYOR	Dun	Dougles Tucson Blythe	7294 7278 719 9	WLOX KBOW KRTM	MA MS MT NM OK	W Springfic Biloxi Butta Raton	9368 8166 7874 7770 8103
WCEM KELK WBIR KXLE	IL MD NV TN WA	Chicago Caabridga Elko Knoxvilla	7641 8686 9087 7509 8625 7651	MANT KOPO KYOR KPAL	Dun	edin, NZ Douglas Tucson Blythe Palm Sprin	7294 7278 7199 98 7296	WLOX KBOW KRTM KBIX	HS HT NH OK OR	W Springfi Biloxi Butta Raton Huskogea West Salem	9368 8166 7874 7770 8103 7462
WCEM KELK WBIR KXLE KTHE	IL MD NV TN WA WY	Chicago Caabridga Elko Knoxvilla Ellanaburg Tharaopoli	7841 8686 9087 7509 8625 7651	MANT KOPO KYOR	Dun	Dougles Tucson Blythe	7294 7278 7199 98 7296	WLOX KBOW KRTH KBIX KBZY KVOG	HS HT NH OK OR UT	W Springfic Biloxi Butta Raton Muskogea Waat Salem Ogden	9368 8166 7874 7770 8103 7462 7668
WCEM KELK WBIR KXLE	IL MD NV TN WA WY	Chicago Caabridga Elko Knoxvilla Ellanaburg	7841 8688 9087 7509 8625 7651	OTH: KAWT KOPO KYOR KPAL	Dun	Dougles Tucson Blythe Peim Sprin	7294 7278 7199 98 7296	WLOX KBOW KRTM KBIX KBZY KVOG KBRO	HS HT NH OK OR UT	W Springfic Biloxi Butta Raton Muskoges Wast Salem Ogden Bremerton	9368 8166 7874 7770 8103 7462 7668 7601
WCEM KELK WBIR KXLE KTHE	IL MD NV TN WA WY	Chicago Caabridga Elko Knoxvilla Ellanaburg Tharaopoli	7841 8686 9087 7509 8625 7651	MANT KOPO KYOR KPAL	Dun	edin, NZ Douglas Tucson Blythe Palm Sprin	7294 7278 7199 98 7296 0 7151	WLOX KBOW KRTH KBIX KBZY KVOG KBRO KENE	HS HT NH OK OR UT	W Springfic Biloxi Butta Raton Muskogea West Salem Ogden Bremerton Toppenish	9368 8166 7874 7770 8103 7462 7668 7601 7625
WCEM KELK WBIR KXLE KTHE	IL MD NV TN WA WY	Chicago Cambridge Eiko Knoxvilia Ellanaburg Tharaopoli Port Alber	7841 8688 9087 7509 8625 7651 8 7914 ni	OTH: KAWT KOPO KYOR KPAL KTIP	Dun	edin, NZ Dougles Tucson Blythe Pela Sprin Portervill Sen Frenoi	7294 7278 7199 98 7296 7151	WLOX KBOW KRTM KBIX KBZY KVOG KBRO	HS HT NH OK OR UT	W Springfic Biloxi Butta Raton Muskoges Wast Salem Ogden Bremerton	9368 8166 7874 7770 8103 7462 7668 7601 7625
WCEM KELK WBIR KXLE KTHE CJAV	IL MD NV TN WA WY BC	Chicago Cambridge Elko Knoxvilia Ellanaburg Tharaopoii Port Alber LAURIE BO	7841 8688 9087 7509 8625 7651 8 7914 ni	GTH: KAWT KOPO KYOR KPAL KTIP KSAN	Dun	edin, NZ Douglas Tucson Blythe Pela Sprin Portervill Sen Frenci	7294 7278 7199 98 7296 7151 8co 7115 7198	WLOX KBOW KRTM KBIX KBZY KVOG KBRO KENE KTEL	HA HS HT NH OK OR UT WA	W Springfic Biloxi Butts Reton Muskoges West Selem Ogdan Bremerton Toppanish Welle Wells	9368 8166 7874 7770 8103 7462 7668 7601 7625
WCEN KELK WBIR KXLE KTHE CJAV	IL MD NY TN WA WY BC	Chicago Cambridge Elko Knoxvilla Elleneburg Theraopoli Port Alber LAURIE BO edin, NZ	7841 8688 9087 7509 8625 7651 8 7914 7626	MTH: KAWT KOPO KYOR KPAL KTIP KSAN KROY KVEN	Dun	edin, NZ Dougles Tucson Blythe Pela Sprin Portervill Sen Frenoi	7294 7278 7199 98 7296 7151	WTXL WLOX KBOW KRTH KBIX KBZY KVOG KBRO KENE KTEL	HA HS HT NH OK OR UT WA	W Springfic Biloxi Butte Raton Muskogen West Selen Ogden Bremerton Toppenish Welle Wells Beloit	9368 8166 7874 7770 8103 7462 7668 7601 7625
WCEN KELK WBIR KXLE KTHE CJAV	IL MD NY TN WA WY BC	Chicago Cambridge Elko Knoxvilia Ellanaburg Tharaopoii Port Alber LAURIE BO	7841 8688 9087 7509 8625 7651 8 7914 7626	GTH: KAWT KOPO KYOR KPAL KTIP KSAN	AZ CA	edin, NZ Douglas Tucson Blythe Pela Sprin Portervill Sen Frenci	7294 7278 7199 98 7296 7151 8co 7115 7198	WLOX KBOW KRTM KBIX KBZY KVOG KBRO KENE KTEL	HA HS HT NH OK OR UT WA	W Springfic Biloxi Butts Reton Muskoges West Selem Ogdan Bremerton Toppanish Welle Wells	9368 8166 7874 7770 8103 7462 7668 7601 7625
WCEN KELK WBIR KXLE KTHE CJAV	IL MD NY TN WA WY BC	Chicago Cambridge Elko Knoxvilla Elleneburg Theraopoli Port Alber LAURIE BO edin, NZ	7841 8688 9087 7509 8625 7651 8 7914 7626	MTH: KAWT KOPO KYOR KPAL KTIP KSAN KROY KVEN	AZ CA	edin, NZ Douglas Tucson Blythe Pelm Sprin Portervill Sen Frencii Sonors Ventura	7294 7278 7199 88 7296 6 7151 8do 7115 7198 7049	WTXL WLOX KBOW KRTH KBIX KBZY KVOG KBRO KENE KTEL	HA HS HT NH OK OR UT WA	W Springfic Biloxi Butte Raton Muskogen West Selen Ogden Bremerton Toppenish Welle Wells Beloit	9368 8166 7874 7770 8103 7462 7668 7601 7625
WCEM KELK WBIR KXLE KTHE CJAV 1340 QTH: KHUB	IL MD NY TN WA WY BC	Chicago Casbridge Eiko Knoxvilia Eilanaburg Tharaopoli Port Alber LAURIE BO adin, NZ Matmonvili	7841 8686 9087 7509 8625 7651 8 7914 ni 7626	KAWT KOPO KYOR KPAL KTIP KSAN KROY KVEN KOIW KATR	CA CO	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill Sen Frenci: Sonors Ventura Alamoss Grasisy	7294 7278 7199 98 7296 7151 8co 7115 7198 7049 7738 7918	WTXL WLOX KBOW KRTM KBIY KVOG KBRO KENE KTEL WGEZ KGOS	HS HT NH OK OR UT WA	W Springfic Biloxi Butta Raton Muskoges West Salen Ogden Bremerton Toppenish Wells Wells Beloit Torrington	9368 8166 7874 7770 9103 7462 7668 7601 7625 7679 8653 8010
WCEN KELK WBIR KXLE KTHE CJAV	IL MD NY TN WA WY BC	Chicago Cambridge Elko Knoxvilla Elleneburg Theraopoli Port Alber LAURIE BO edin, NZ	7841 8688 9087 7509 8625 7651 8 7914 7626 YER	KAWT KOPO KYOR KPAL KTIP KSAM KROY KVEN KOEN KOEN KATR WWPB	CA CO	edin, NZ Dougles Tucson Blythe Pelm Sprin Portervill Sen Frenci: Sonors Ventura Alamose Graeley Hiemi	7294 7278 7199 7296 7151 8d0 7115 7198 7049 7736 7918	WLOX KBOW KRTM KBIX KBZY KVOG KBNE KTEL WGEZ KGOS	HA HS HT NH OK OR UT WA WI WY	W Springfic Biloxi Butte Raton Muskogen West Selem Ogden Bremerton Toppenish Welle Welli Beloit Torrington LAURIE BO	9368 8166 7074 77770 9103 7462 7668 7601 7625 7679 8653 9010
WCEM KELK WBIR KXLE KTHE CJAV 1340 QTH: KHUB	IL MD NY TN WA WY BC	Chicago Cambridge Elko Knoxvilla Elleneburg Theraopoli Port Alber LAURIE BO adin, NZ Matmonvill	7841 8688 9087 7509 9625 7651 8 7914 ni 7626 YER 8	KAWT KOPO KYOR KPAL KTIP KSAN KROY KVEN KGIW KATR WWPB WSPB	CA CO	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill Sen Frenci Senora Ventura Alamosa Graelay Hisni Sarsote	7294 7278 7199 98 7296 7151 800 7115 7198 7049 7736 7918 8371	WLOX KBOW KRTM KBIX KBZY KYOG KBRO KENE KTEL WGEZ KGOS	HA HS HT NH OK OR UT WA WI WY	W Springfic Biloxi Butta Raton Muskogee West Salem Ogden Bremerton Toppenish Walle Welli Beloit Torrington LAURIE BO ercargill, 1	9368 8166 7974 7770 9103 7462 7601 7625 7679 8653 9010
WCEM KELK WBIR KXLE KTHE CJAV 1340 QTH: KHUB	IL MD NY TN WA WY BC	Chicago Casbridge Eiko Knoxvilia Eilanaburg Tharaopoli Port Alber LAURIE BO adin, NZ Matmonvili	7841 8688 9087 7509 9625 7651 8 7914 ni 7626 YER 8	CTH: KAWT KOPO KYOR KPAL KTIP KSAN KROY KVEN KGIW KATR WYPB WSPB WROW	CA CO	edin, NZ Douglas Tucson Blythe Pala Sprin Portervill Sen Frenci: Sonors Ventura Alamass Graelsy Hismi Serseote Auguste	7294 7278 7199 98 7296 7151 860 7115 7049 7736 7918 8371 8371 8371 8334	WLOX KBOW KRTH KBIX KBZY KVOG KBRO KENE KTEL WGEZ KGOS	MA HS HT NM OK OR UT WA WI WY kHz Inve	W Springfic Biloxi Butta Raton Muskoges West Selen Ogden Bremerton Toppenish Walle Welli Beloit Torrington LAURIE BO' Ercargill, I	9368 8166 7974 7770 9103 7462 7668 7601 7625 8653 8010 YER NZ
WCEM KELK WBIR KXLE KTHE CJAV 1340 QTH: KHUB KIST	IL MD NV TN WA WY BC kHz Dune	Chicago Cambridga Eiko Knoxvilia Eilenaburg Theraopoii Port Alber LAURIE BO adin, NZ Matmonvili Santa Barb	7841 8688 9087 7509 8625 7651 77626 YER 2 7093 878 7093	KAWT KOPO KYOR KPAL KTIP KSAN KROY KVEN KGIW KATR WWPB WSPB	CA CO	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill Sen Frenci Senora Ventura Alamosa Graelay Hisni Sarsote	7294 7278 7199 ge 7296 8 7151 800 7115 7198 7049 7736 7918 8371 8334 8613	WLOX KBOW KRIM KBIX KVOG KBRO KENE KTEL WGEZ KGOS	MA HS HT NM OK OR UT WA WI WY kHz Inve	M Springfic Biloxi Butte Raton Muskogen West Selem Ogden Bremerton Toppenish Welle Welli Beloit Torrington LAURIE BO preargill, i Tucson Syracuse	9368 8166 8167 7674 7770 8103 7462 7668 7601 7625 8653 8010 YER NZ 7336 9348
WCEM KELK WBIR KXLE KTHE CJAV 1340 QTH: KHUB KIST WTAN	IL MD NY TN WA WY BC KHZ Dune	Chicago Cambridga Eiko Knoxvilia Eileneburg Theraopoli Port Alber LAURIE BO adin, NZ Matsonvili Senta Barb Ciserwater LAURIE BO	7841 8688 9087 7509 8625 7651 77626 YER 2 7093 878 7093	GTH: KAWT KOPO KYOR KPAL KTIP KSAN KROY KVEN KGIW KATR WWPB WSPB WRDW WHVG	CA CO	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill Sen Frenci Senora Ventura Alamosa Graelay Hilledgevi	7294 7278 7199 98 7296 7151 860 7115 7049 7736 7918 8374 8613 1118	WLOX KBOW KRTH KBIX KBZY KVOG KBRO KENE KTEL WGEZ KGOS	MA HS HT NM OK OR UT WA WI WY kHz Inve	W Springfic Biloxi Butta Raton Muskoges West Selen Ogden Bremerton Toppenish Walle Welli Beloit Torrington LAURIE BO' Ercargill, I	9368 8166 7974 7770 9103 7462 7668 7601 7625 8653 8010 YER NZ
WCEM KELK WBIR KXLE CJAV 1340 QTH: KHUB KIST WTAN 1400 QTH:	IL MD NY TN WA WY BC KHZ Dune	Chicago Cambridga Eiko Knoxvilia Eilenaburg Theraopoii Port Alber LAURIE BO adin, NZ Matmonvili Santa Barb	7841 8688 9087 7509 8625 7651 77626 YER 2 7093 878 7093	GTH: KAWT KOPO KYON KYAL KTIP KSAN KROY KVEN KGIW KATR WWPB WRDW WHVG	CO PL GA	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill: Sen Frenci: Sonora Ventura Alamasa Graelay Mismi Saraeote Auguste Milledgevi LePayette	7294 7278 7199 98 7296 800 7151 800 7115 7198 7049 7726 7910 8374 8371 8334 8613	WLOX KBOW KRTH KBIX KVOG KBRO KENE KTEL WGEZ KGOS QTH: WOLF WOLF	MA HS HT NM OK OR UT WA WI MY LT Inve	M Springfic Biloxi Butte Raton Muskogee Weet Selem Ogdan Bremerton Toppenieh Walle Walle Beloit Torrington LAURIE BOTTCATGIL, 1 Tucson Syracuse Syracuse	9368 8166 8167 7674 7770 8103 7462 7668 7601 7625 8653 8010 YER NZ 7336 9348
WCEM KELK WBIR KXLE KTHE CJAV 1340 QTH: KHUB KIST WTAN	IL MD NY TN WA WY BC KHZ Dune	Chicago Cambridga Eiko Knoxvilia Eileneburg Theraopoli Port Alber LAURIE BO adin, NZ Matsonvili Senta Barb Ciserwater LAURIE BO	7841 8688 9087 7509 8625 7651 77626 YER 2 7093 878 7093	GTH: KAWT KOPO KYOR KPAL KTIP KSAN KROY KVEN KGIW KATR WWPB WSPB WRDW WHVG	CO PL GA	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill Sen Frenci Senora Ventura Alamosa Graelay Hilledgevi	7294 7278 7199 98 7296 800 7151 800 7115 7198 7049 7726 7910 8374 8371 8334 8613	WLOX KBOW KRTH KBIX KVOG KBRO KENE KTEL WGEZ KGOS QTH: WOLF WOLF	MA HS HT NM OK OR UT WA WI MY LT Inve	M Springfic Biloxi Butte Raton Muskogen West Selem Ogden Bremerton Toppenish Welle Welli Beloit Torrington LAURIE BO preargill, i Tucson Syracuse	9368 8166 8167 7674 7770 8103 7462 7668 7601 7625 8653 8010 YER NZ 7336 9348
WCEM KELK WBIR KXLE CJAV 1340 QTH: KHUB KIST WTAN 1400 QTH:	IL MD NY TN WA WY BC CA	Chicago Cambridge Elko Knoxvilia Elleneburg Theraopoli Port Alber LAURIE BO adin, NZ Matmonvili Santa Barb Cleerwater LAURIE BO edin, NZ	7841 8688 9087 7509 8625 7651 8 7914 ni 7626 YER 8 7093 8rs 9346	GTH: KAWT KOPO KYON KYAL KTIP KSAN KROY KVEN KGIW KATR WWPB WRDW WHVG	CO PL GA	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill: Sen Frenci: Sonora Ventura Alamasa Graelay Mismi Saraeote Auguste Milledgevi LePayette	7294 7278 7199 98 7296 800 7151 800 7115 7198 7049 7726 7910 8374 8371 8334 8613	WLOX KBOW KRTH KBIX KVOG KBRO KERE MGEZ KGOS 1490 QTH: WOLF WOLF N.R.(HA HS HT HM HO OK OR UT WA WI HY WA AZ HY	M Springfice Biloxi Butte Raton Muskogee Weet Selem Ogdan Bremerton Toppenieh Walle Walle Beloit Torrington LAURIE BOTTCATEURI, 1 Tucson Syracuse Syracuse TATIONERY	9368 8166 7074 7770 9103 7462 7668 7601 7625 8010 YER 2388 9348
WCEM KELK WBIR KXLE KTHE CJAV 1340 OTH: KHUB KIST WTAN 1400 OTH: WJLD KCLF	IL MD NY TN WA WY BC CA	Chicago Cambridga Elko Knoxvilia Ellaneburg Theraopoli Port Alber LAURIE BO adin, NZ Matzonvili Senta Barb Claerwater LAURIE BO adin, NZ HOREWOOd Clifton	7841 8688 9087 7509 8625 7651 8 7914 7626 YER 8. 7093 873 8736 8346 YER	GTH: KAWT KOPO KYON KYAL KTIP KSAN KROY KVEN KGIW KATR WWPB WRDW WHVG	CA CO PL GA	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill Sen Frenci Senora Ventura Alamosa Graelay Hilmi Sarasote Augusta Hilledgevi LeFayette Ceder Repic	7294 7278 7199 98 7296 7151 8ac 7115 7949 7748 7918 8371 8371 8371 8371 8613 8613 8613 8613 8614 8616 8616 8616	WLOX KBOW KRTH KBIX KBZY KYOG KBRO KENE KTEL WGEZ KGOS 1490 QTH: KAIR WOLF N.R.C	HA HS HT HM HO OK OR UT WA WI HY AZ HT	Biloxi Butte Raton Muskogen West Selen Ogden Bremerton Toppenish Welle Welle Beloit Torrington LAURIE BOTTCATGILL, I TUCSON Syracuse Syracuse TATIONERY mery with NRC	9368 8166 7074 7770 9103 7462 7668 7601 7625 8010 YER 82 9348 9348
WCEM KELK WBIR KXLE KTHE CJAV 1340 QTH: KHUB KIST WTAN 1400 QTH: WJLD KCLF KTUC	IL MD NY TN WA WY BC CA	Chicago Cambridge Elko Knoxvilia Elleneburg Theraopoli Port Alber LAURIE BO adin, NZ Matmonvili Sente Berb Cleerwater LAURIE BO adin, NZ Homswood Clifton Tuccon	7841 8688 9087 7509 8625 7651 8 7914 ni 7626 YER 8 9346 YER 8395 7387 7278	OTH: KAWT KOPO KYOR KPAL KTIP KSAN KROY KVEN KATR WMPB WRDW WHYG WASK KPIG KSIG	CA CO PL GA	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill: Sen Frenci: Sonora Ventura Alianosa Gracisy Hidai Saracote Auguste Hilladgevi LePsyette Coder Rapid	7294 7278 7199 ga 7296 7151 eaco 7115 7198 7049 77726 7910 9371 9371 9371 9371 9374 9513 111e 9546 9546 9547 7947	WLOX KBOW KRTH KBIX KVOG KBNE KTEL WGEZ KGOS 1490 OTH: KAIR WOLF N.R.C S and he	HA HS HT HS NH OK OR UT WA WI WY AZ HY	Biloxi Butte Raton Muskogee Wast Selen Ogden Bremerton Toppenish Welle Melle Beloit Torrington LAURIE BOY Excargill, I Tucson Syracuse Syracuse Syracuse Syracuse TATIONERY nery with NRC in black ink.	9368 8166 7074 7770 9103 7462 7668 7601 7625 8010 YER 82 9348 9348
WCEM KELK WBIR KXLE KTHE CJAV 1340 QTH: KHUB KIST WTAN 1400 QTH: WJLD KCLF KTUC KYOY	IL MD NY TN WA WY BC CA	Chicago Cambridga Eiko Knoxvilla Eilenaburg Theraopoil Port Alber LAURIE BO adin, NZ Matmonvill Senta Berb Claerwater LAURIE BO adin, NZ Homawood Clifton Tucson Yuma	7841 8688 9087 7509 8625 7651 8 7914 11 7626 YER 8. 7093 8r8 7093 8r8 7036 8346 YER 8395 7387 7278 7153	GTH: KAWT KOPO KYOR KPAL KTIP KSAN KROY KVEN KGIW KATR WMPB WRDW WHYG	CA CO PL GA	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill Sen Frenci Senora Ventura Alamosa Graelay Hilmi Sarasote Augusta Hilledgevi LeFayette Ceder Repic	7294 7278 7199 98 7296 87151 800 7015 7115 7198 7019 8371 8334 8613 118 8546 8016 de 8521 7984	WLOX KBOW KRTH KBIX KVOG KBNE KTEL WGEZ KGOS 1490 OTH: KAIR WOLF N.R.C S and he	HA HS HT HS NH OK OR UT WA WI WY AZ HY	Biloxi Butte Raton Muskogen West Selen Ogden Bremerton Toppenish Welle Welle Beloit Torrington LAURIE BOTTCATGILL, I TUCSON Syracuse Syracuse TATIONERY mery with NRC	9368 8166 7074 7770 9103 7462 7668 7601 7625 8010 YER 82 9348 9348
WCEM KELK WBIR KXLE KTHE CJAV 1340 0TH: KHUB KIST WTAN 1400 0TH: WJLD KCLF KTUC KYNA	IL MD NY TN WA WY BC CA	Chicago Cambridga Eiko Knoxvilia Eileneburg Theraopoii Port Alber LAURIE BO adin, NZ Matsonvili Senta Barb Ciserwater LAURIE BO adin, NZ Homewood Ciifton Tuccon Yuma Yuma	7841 8688 9087 7509 8625 7651 8 7914 7626 YER 8. 7093 878 8793 8795 7387 7278 7153 7153	OTH: KAWT KOPO KYOR KPAL KTIP KSAN KROY KOEIW KATR WWPS WSPS WRDW WHYG WASK KPIG	CA CO PL GA	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill Sen Frenci Senora Ventura Alamosa Graelay Hismi Sarseote Augusta Hilledgevi LeFeyetta Crawley New Orleans	7294 7278 7199 98 7296 7151 800 7115 7909 7736 7918 8371 8371 8371 8371 8613 8613 8613 8613 8613 8613 8613 861	WLOX KBOW KRTH KBIX KVOG KBNE KTEL WGEZ KGOS 1490 OTH: KAIR WOLF N.R.C S and he	HA HS HT HS NH OK OR UT WA WI WY AZ HY	Biloxi Butte Raton Muskogee Wast Selen Ogden Bremerton Toppenish Welle Melle Beloit Torrington LAURIE BOY Excargill, I Tucson Syracuse Syracuse Syracuse Syracuse TATIONERY nery with NRC in black ink.	9368 8166 7074 7770 9103 7462 7668 7601 7625 8010 YER 82 9348 9348
WCEM KELK WBIR KXLE KTHE CJAV 1340 QTH: KHUB KIST WTAN 1400 QTH: WJLD KCLD KYOY KYHA	IL MD NY TN WA WY BC CA	Chicago Cambridga Elko Knovilla Ellanaburg Tharaopoli Port Alber LAURIE BO adin, NZ Matmonvill Senta Barb Claerwater LAURIE BO adin, NZ Homewood Clifton Tucson Yuma Yuma El Dorado	7841 8688 9087 7509 8625 7651 7914 ni 7626 YER 87093 878 7093 878 7093 8795 7153 7153 7153 7153 7153	OTH: KAWT KOPO KYOR KYAL KTIP KSAN KROY KVEN WASK KPIG WASK KPIG WIX WROX	CO PL GA IN IA LA	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill: Sen Frenci: Sonora Ventura Alianosa Graeley Hisni Sarsaote Auguste Hilledgevi LeFeyette Coder Rapid Crowley New Orleand	7294 7278 7199 98 7296 7151 860 7115 7198 7049 7736 7910 9371 9371 9334 8613 1118 8046 80521 7984	WLOX KBOW KRTH KBIX KVOG KBRO KENE KTEL MGEZ KGOS 1490 QTH: KAIR KAIR KAIR NOLP N.R.C and he 100 st	MA HS MT NM OK OR UT WA WI WY AZ STation Eader neets	Biloxi Butte Raton Muskogee West Selem Ogdan Bremerton Toppenish Walle Welle Beloit Torrington LAURIE BOTTCASSILL, 1 TUCSON Syracuse Syracuse FATIONERY nery with NRC in black ink. for \$5.00	9368 8166 7074 7770 9103 7462 7668 7601 7625 8010 YER 82 9348 9348
WCEM KELK WBIR KXLE KTHE CJAV 1340 QTH: KHUB KIST WTAN 1400 QTH: WJLD KCLF KYOY KYHA KELD KRE	IL MD NY TN WA WY BC CA	Chicago Cambridga Eiko Knoxvilia Eilenaburg Theraopoii Port Alber LAURIE BO adin, NZ Matmonvili Santa Barb Claerwater LAURIE BO adin, NZ Homawood Clifton Tucson Yuma El Dorado Berkeley	7841 8688 9087 7509 8625 7651 8 7914 11 7626 YER 8. 7093 818 7093 818 7036 8346 YER 8395 7387 7278 7153 8029 7127	OTH: KAWT KOPO KYOR KPAL KTIP KSAN KROY KGIW KGIW KATR WWPS WSPB WRDW WHYG KSIG KSIG WTIX	CO PL GA IN IA LA HS HT	edin, NZ Douglas Tucson Blythe Pala Sprin Portervill Sen Frenci: Senors Ventura Alamose Graslay Mileni Sersecte Auguste Milliedgevi LeFeyette Coder Repic Crowley New Orleand Clerksdels Bozsaen	7294 7278 7199 98 7296 7151 860 7115 7049 7748 8613 1118 8546 8016 de 8521 7984 8866 8259 7783	WLOX KBOW KRTM KBIX KBZY KYOG KBRO KTEL WGEZ KGOS 1490 GTH: KAIR WOLF N.R.C NRC S and he 100 sh	MA MS MT NM OK OR OR WA WI WY AZ ETY C. ST Statio cader neets R To	Biloxi Butte Raton Muskogee West Selen Ogden Bremerton Toppenish Welle Welle Beloit Torrington LAURIE BOY Procure Syracuse Syracuse TATIONERY mery with NRC in black ink. for \$5.00 day!!	9368 8166 7074 7770 9103 7462 7668 7601 7625 8010 YER 82 9348 9348
WCEM KELK WBIR KXLE KTHE CJAV 1340 QTH: KHUB KIST WTAN 1400 QTH: WJLD KCLD KYOY KYHA	IL MD NY TN WA WY BC CA	Chicago Cambridga Elko Knovilla Ellanaburg Tharaopoli Port Alber LAURIE BO adin, NZ Matmonvill Senta Barb Claerwater LAURIE BO adin, NZ Homewood Clifton Tucson Yuma Yuma El Dorado	7841 8688 9087 7509 8625 7651 8 7914 11 7626 YER 8. 7093 818 7093 818 7036 8346 YER 8395 7387 7278 7153 8029 7127	OTH: KAWT KOPO KYOR KYAL KTIP KSAN KROY KVEN WASK KPIG WASK KPIG WIX WROX	CO PL GA IN IA LA HS HT	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill: Sen Frenci: Sonora Ventura Alianosa Graeley Hisni Sarsaote Auguste Hilledgevi LeFeyette Coder Rapid Crowley New Orleand	7294 7278 7199 98 7296 7151 860 7115 7049 7748 8613 1118 8546 8016 de 8521 7984 8866 8259 7783	WLOX KBOW KRTH KBIX KVOG KBNE KTEL WGEZ KGOS 1490 OTH: KAIR WOLF N.R.C and he 100 st ORDE NRC I	MA MS MT NM OK OR OR WA WI WY AZ MY C. ST Statio cader neets CR To Public	Biloxi Butte Raton Muskogee Wast Salen Ogden Bremerton Toppenish Welle Melle Beloit Torrington LAURIE BOY Excargill, I Tucson Syracuse Syracuse Syracuse Syracuse ATIONERY nery with NRC in black ink. for \$5.00 day!!	9368 8166 7074 7770 9103 7462 7668 7601 7625 8010 YER 82 9348 9348
WCEM KELK WBIR KXLE KTHE CJAV 1340 QTH: KHUB KIST WTAN 1400 QTH: WJLD KCLF KYOY KYHA KELD KRE	IL MD NY TN WA WY BC CA	Chicago Cambridga Eiko Knoxvilia Eilenaburg Theraopoii Port Alber LAURIE BO adin, NZ Matmonvili Santa Barb Claerwater LAURIE BO adin, NZ Homawood Clifton Tucson Yuma El Dorado Berkeley	7841 8688 9087 7509 8625 7651 8 7914 11 7626 YER 8. 7093 818 7093 818 7036 8346 YER 8395 7387 7278 7153 8029 7127	OTH: KAWT KOPO KYOR KPAL KTIP KSAN KROY KVEIW KATR WWPB WROW WHYG WASK KPIG KSIG WTIX WROX KXXL KLOS	CO PL GA IN IA LA HS HT NH	edin, NZ Douglas Tucson Blythe Pala Sprin Portarvill: Sen Frenci: Sonora Ventura Alianosa Graeley Hisni Serseote Auguste Hilliadgevi LeFeyette Coder Replic Crowley New Orleans Clerksdels Bozemen Albuquerque	7294 7278 7199 98 7296 7151 860 7115 7049 7748 8613 1118 8546 8016 de 8521 7984 8866 8259 7783	WLOX KBOW KRTM KBIX KBZY KYOG KBRO KTEL WGEZ KGOS 1490 GTH: KAIR WOLF N.R.C NRC S and he 100 sh	MA MS MT NM OK OR OR WA WI WY AZ MY C. ST Statio cader neets CR To Public	Biloxi Butte Raton Muskogee Wast Salen Ogden Bremerton Toppenish Welle Melle Beloit Torrington LAURIE BOY Excargill, I Tucson Syracuse Syracuse Syracuse Syracuse ATIONERY nery with NRC in black ink. for \$5.00 day!!	9368 8166 7074 7770 9103 7462 7668 7601 7625 8010 YER 82 9348 9348
WCEM KELK WBIR KXLE KTHE CJAV 1340 QTH: KHUB KIST WTAN 1400 QTH: WJLD KCLF KYOY KYHA KELD KRE	IL MD NY TN WA WY BC CA	Chicago Cambridga Eiko Knoxvilia Eilenaburg Theraopoii Port Alber LAURIE BO adin, NZ Matmonvili Santa Barb Claerwater LAURIE BO adin, NZ Homawood Clifton Tucson Yuma El Dorado Berkeley	7841 8688 9087 7509 8625 7651 8 7914 7626 YER 8. 7036 9346 YER 8395 7397 7278 7153 8029 7127	OTH: KAWT KOPO KYOR KPAL KTIP KSAN KROY KGIW KGIW KATR WWPS WSPB WRDW WHYG KSIG KSIG WTIX	CO PL GA IN IA LA HS HT NH	edin, NZ Douglas Tucson Blythe Pala Sprin Portervill Sen Frenci: Senors Ventura Alamose Graslay Mileni Sersecte Auguste Milliedgevi LeFeyette Coder Repic Crowley New Orleand Clerksdels Bozsaen	7294 7278 7199 98 7296 7151 860 7115 7049 7738 7918 8371 8371 8371 8513 1118 8546 8016 de 8521 7984	WLOX KBOW KRTM KBIY KVOG KBNE KTEL WGEZ KGOS 1490 QTH: KAIR WOLF N.R.C NRC S and he 100 sh ORDE NRC F	HA HS HT NH OK OR UT WA WI WY KHZ Inve AZ STatio cader neets CR To Cublic cox 16-0	Biloxi Butte Raton Muskogee Wast Selen Ogden Bremerton Toppenish Welle Melle Beloit Torrington LAURIE BOY Excargill, I Tucson Syracuse Syracuse Syracuse Syracuse (ATIONERY nery with NRC in black ink. for \$5.00 day!!	9368 8166 7074 7770 9103 7462 7668 7601 7625 8010 YER 82 9348 9348

This Graveyard list is from Shewn Axelrod. Many new records have been established, and since Shawn lives in Winnipeg, he has tied Niel Wolfish for many. Those listings in bold type are new records. Ties are indicated by a 't' after the mileage. All loggings are in the Post Jan 1, 1960 ers.

mileage. All loggings are i	n the Post Jan 1, 1960 era.	
1230 kHz SHAWN AXELROD QTH: Winnipeg, MB	1340 kHz SHAWN AXELROD	KWON OK Bartlesville
GTH: Winnipeg, MB KEXO CO Grand Junction	QTH: Winnipeg, MB	WBLQ PA Erie 1019
903	KDEN CO Denver 778	KBJW SD Lemmon 328
KDZA Pueblo 864t	KQIL Grand Junction	WGAP TN Maryville 1198
WJBC IL Bloomington 791	903	KUNO TX Corpus Christi
WMRZ Moline 697 WBOW IN Terre Heute 898	KSGR ID Nampa 966 WHPI IL Herrin 951	1535 KVOP Plainview 1109t
KFJB IA Marshalltown	WJOL Joliet 755	WDUZ WI Green Bay 604
597	KVOS IA Clinton 677	WRDB Reedsburg 589t
WCUZ MI Grand Rapids	KFKF KS Kansas City 767	KODI WY Cody 622t
WSOO Sault Ste Marie	WLAV MI Grand Rapids 780t	CKSQ AB Stettler 650 CKCB ON Collingwood 925
WSOO Sault Ste Marie 684	WWPZ Patoeky 687	CKC8 ON Collingwood 925
KGRS MN International	KVBR/KMBR	QTH: Edmonton, AB
Feile 237	MN Brainerd 308	KCGR BC Golden 214
KMAN Mankato 442 KMRS Morris 318	WEVE Eveleth 313 KROC Rochester 494	QTH: Orlando, FL
KMRS Morrie 318 KTRF Thief River	KROC Rochester 494 KWLM Willmar 363t	WFTL FL Ft Lauderdale
Falls 158	KCAP MT Helena 672	178
KWIX MO Hoberly 775	KGFW NE Kaarney 635	WUEZ Sanford 20
KHAS NE Hastings 643	KSID Sidney 613	WPAS Zephyrhills 63
KDIX ND Dickinson 300 KBSR MT Hardin 518	KDLH ND Devil'e Leke	1450 kHz SHAWN AXELROD
WCOL OH Columbus 1010	KXPO Grafton 114	QTH: Winnipeg, MB
WIRO Ironton 1096	WNCO OH Ashland 987	KATR/KGRE
WBBZ OK Ponce City 912	KTOQ SD Repid City 465	CO Greeley 727
KYKS/KKFN SD Sioux Falls 447	WKEY VA Covington 1229	KEZJ ID Twin Fails 928 KCDR IA Cedar Rapids
KSEY TX Seymour 1129	WKEY VA Covington 1229 WLZR WI Milwaukee 687	631
KPRG UT Hurray 917	WLDY Ladysmith 452	KWBW KS Hutchinson 618
WHBY WI Appleton 602	KWOR WY Worland 582	KATE HN Albert Les 512t
KVOC WY Casper 606	CIBQ AB Brooks 606t	KBUN Bemidji 224
CJOK AB Ft McMurray 708 CJLW Wainwright 581	QTH: Orlando, FL	KBMW Breckenridge 266
CJLB ON Thunder Bay 416	WWFL FL Clermont 20	KCLD/KNSI
		St Cloud 358
QTH: Orlando, FL WONN FL Lakeland 48	QTH: Edmonton, AB CKCR BC Revelstoke 267	KIRX MO Kirksville 730t KUUB/KXXL
WORN FE Lakeland 48	CRCR BC Revelstoke 26/	MT Bozeman 662
QTH: Edmonton, AB CIYR AB Hinton 177		KQDI Great Falls 621
CIYR AB Hinton 177	1400 kHz SHAWN AXELROD	KRBN Red Lodge 602
	QTH: Winnipeg, MB	KVCK Wolf Point 357t
1240 kHz SHAWN AXELROD	QTH: Winnipeg, HB KRLN CO Canon City 863	KVCK Wolf Point 357t KWBE NE Seatrice 668
1240 kHz SHAWN AXELROD GTH: Winnipeg, MB WJIM MI Leneing 813	QTH: Winnipeg, HB KRLN CO Canon City 863 KPLG Deita 911	KVCK Wolf Point 357t KWBE NE Seatrice 668 KGCA/KZZJ
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB WJIM MI Leneing 813 WGGR/WMFG	GTH: Winnipeg, MB KRLN CO Canon City 863 KPLG Deita 911 KART ID Jerome 928 WGIL IL Galamburg 726	KVCK Wolf Point 357t KWBE NE Bestrice 668 KGCA/KZZJ ND Rugby 133 WHOH OH Hamilton 988t
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB WJIM MI Leneing 813 WGGR/WHFG HN Hibbing 310	QTH: Winnipeg, MB KRLN CO Cenen City KPLG Deite 911 KART ID Jerose 928 WGEL IL Geleeburg 726 WBAT IN Marion 958	KVCK Wolf Point 357t KWBE NE Bestrice 668 KGCA/K2ZJ ND Rugby 133 WMOH OH Hamilton 988t KWHW OK Altus 1085t
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB WJIM MI Leneing 813 WGGR/WMFG	QTH: Winnipeg, MB KRLN CO.Csnon City 863 KPLG CD ette 911 KART ID Jerose 928 WGIL IL Gaissburg 728 WBAT IN Marion 958 KCOG IA Centerville 614	KVCK Wolf Point 357t KWBE NE Bestrics 668 KGCA/KZZJ ND Rugby 133 WHOH OH Hemilton 988t KWHW OK Altus 1055t KYNT SD Ymnkton 488t
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB WJIM MI Leneing 813 WGGR/WHFG HN Hibbing 310 WJON St Cloud 358 KUUS MT Billings 555 KLTZ Glasgow 397		KVCK Wolf Point 357t KWBE NE Bestrice 668 KGCA/KZZJ ND Rugby 133 WHOH OH Hamilton 988t KWHW OK Altus 1055t KYNT SD Ymnkton 485t KFIZ WI Fond du Lac 825
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB WJIM HI Leneing 813 WGGR/WHFG HN Hibbing 310 WJON St Cloud 358 KUUS HT Billings 555 KLTZ Glesgow 397 KBLL Helena 872	Winnipeg, HB KRIN CO. Canon City 863 KRIN CO. Canon City 863 KPLG Deite 921 KART ID Jerone 928 W6IL IL Gelseburg 726 W8AT IN Marion 956 KCOG IA Centerville 614 KVFD Ft Dodge 544 KVOE KS Emporia 807t KAYS Hays 768	KVCK Wolf Point 357t KWBE NE Bestrics 668 KGCA/KZZJ ND Rugby 133 WHOH OH Hemilton 988t KWHW OK Altus 1055t KYNT SD Ymnkton 488t
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB WJIM MI Leneing 813 WGGR/WMFG HN Hibbing 310 WJON St Cloud 358 KUUS MT Billings 555 KLTZ Glasgow 397 KBLL Helena 672 KDLR ND Devil's Lake	Winnipeg, MB KRLN CO Cenen City 863 KPLG Co Cenen City 911 KART ID Jerose 928 W6IL IL Geleaburg 726 WBAT IN Marion 956 KCOG IA Centerville 614 KVFD Ft Dodge 544 KVOE KS Emporia 807t KAYS Haya 786 WCCY MI Houghton 473	KVCK Wolf Point 357t KWBE NE Bestrice 568 KGCA/K2ZJ ND Rugby 133 WHOH OH Hamilton 988t KWHW OK Altus 1055t KYNT SD Ymnkton 485t KFIZ WI Fond du Lac 825 WHRY Hurley 4425
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB WJIM HI Leneing 813 WGGR/WHFG HN Hibbing 310 WJON St Cloud 358 KUUS HT Billings 555 KLTZ Glesgow 397 KBLL Helena 872	Winnipeg, HB KRIN CO Canon City 863 KRIN CO Canon City 863 KRIN CO Canon City 863 KRIN CO Color 864 KRIN CO Color 865 KRIN CO Color 865 KRIN CO Color 867 KAYS KS Emporia 807t KAYS KEYL HOUghton 473 KEYL HN Long Prairie	KVCK KWBE NE Seatrice 568 KGCA/KZZJ ND Rugby 133 WHOH OH Hamilton 988t KWHW OK Altus 1055t KYNT SD Ymnkton 485t KFIZ WI Fond du Lac 825 WHRY Hurley 442t WRCO Richland Center 593t
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB WJIM HI Leneing 813 WGGR/WHFG	Winnipeg, MB KRLN CO Canon City 863 KRLK CO Canon City 811 KART ID Jerome 928 Well IL Geleaburg 726 Well KOG IA Centerville 614 KVFD Ft Dodge 544 KVFD KS Emporia 807t KAYS Hays 768 WCCY MI Houghton 473 KEYL MN Long Prairie 312 3	KVCK
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB WJIM HI Leneing 813 WGGR/WHFG HN Hibbing 310 St Cloud 358 KUUS HT Billings 555 KLTZ Glasgow 397 KBLL Helena 672 KDLR ND Devil's Lake KCCR SD Pierre 394 CFAK ON Atikokan 308 GTHE ST ST ST ST ST ST ST S	Winnipeg, MB KRLN CO Canon City 863 KRLN CO Canon City 664 KRLN CO Canon City Co Canon	KVCK
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB MJIM HI Leneing 813 WGGR/WMFG HN Hibbing 310 WJON St Cloud 358 KUUS HT Billings 555 KLTZ Glesgow 397 KBLL Helena 672 KDLR ND Devil's Lake 127 KCCR SD Pierre 394 CFAK ON Atikokan 308 GTH: Swan River, HB	Winnipeg, MB KRLN CO Cenon City 863 KRLK CO Cenon City 811 KRRT ID Jerose 928 KRRT ID Jerose 928 KRT ID Jerose 928 KRT ID Jerose 928 KRT IN Marion 958 KCOG IA Centerville 614 KVFD Ft Dodge 544 KVFD KS Esporia 807t KAYS Hays 768 KCYL HN Long Prairie KMHL Hershall 394 KLBB St Paul 420 WHLB Virginia 292 29	KVCK KWBE NE Bestrice 658 KGCA/KZZJ ND Rugby 133 WHOH OH Hasilton 988t KWHW OK Altus 1088t KYNT SD Yankton 488t KFIZ WI Fond du Lac 825 WHRY Hurley 442t WRCO Richland Center 593t QTH: Edaonton, AB KJUN WA Puyallup 583
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB WJM Hibbing 310 WJON St Cloud 358 KUUS Hibbing 555 KUTZ Glasgow 397 KBLL Helena 672 KDLR ND Devil's Lake CFAK ON Atikokan 308 GTH: Swan River, HB CJAR HB The Pas 129	Winnipeg, HB KRLN CO Canon City 863 KRLN CO Canon City 614 KRLN CO Canon City Co Canon Ci	KVCK KWBE NE Seatrice 568 KGCA/KZZJ ND Rugby 133 WHOH OH Hamilton 988t KWHW OK Altus 1055t KYNT SD Ymnkton 485t KFIZ WI Fond du Lac 825 WHRY Hurley 442t WRCO Richland Center 593t QTH: Edaonton, AB KJUN WA Puyallup 583 QTH: Orland, FL WHFJ FL Daytons Beach
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB HB HB HB HB HB HB HB	Winnipeg, MB KRLN CO Canon City 863 KRLK CO Canon City 811 KRRT ID Jerose 928 West IL Gaiseburg 726 West IN Marion 958 KCOG IA Centerville 614 KVFD Ft Dodge 544 KVFD KS Emporia 807t KAYS Hays 768 WCCY MI Houghton 473 KEYL MN Long Prairie SKYL Mu Horshall 394 KLBB St Paul 420 WHLB Virginia 292 KXGN Glendive 358 St Paul 358 KXGN Glendive 358 St Paul 358 KXGN Glendive 358 St Paul 358 KXGN St Paul 358 KXGN St Paul 358 St Paul 358 KXGN St Paul 358 St Pa	KVCK KWBE NE Bestrice 658 KGCA/KZZJ ND Rugby 133 WHOH OH Hasilton 988t KWHW OK Altus 1088t KYNT SD Yankton 488t KFIZ WI Fond du Lac 825 WHRY Hurley 442t WRCO Richland Center 593t QTH: Edaonton, AB KJUN WA Puyallup 583
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB HB HB HB HB HB HB HB	Winnipeg, MB WRLN CO Canon City 863 KRLN CO Canon City 863 KRC CO Canon Co Canon City Co Canon City	KVCK KWBE NE Seatrice 568 KGCA/KZZJ ND Rugby 133 WHOH OH Hamilton 988t KWHW OK Altus 1055t KYNT SD Ymnkton 485t KFIZ WI Fond du Lac 825 WHRY Hurley 442t WRCO Richland Center 593t QTH: Edaonton, AB KJUN WA Puyallup 583 QTH: Orland, FL WHFJ FL Daytons Beach
1240 kHz SHAWN AXELROD GTH: Winnipeg, HB WJIM HI Leneing 813 WGGR/WHFG MN Hibbing 310 WJON St Cloud 358 KUUS HT Billings 555 KLTZ Glasgow 397 KBLL Helena 672 KDLR ND Devil's Lake 127 KCCR SD Pierre 394 CFAK ON Atikokan 308 GTH: Swan River, HB CJĀR MB The Pas 129 CJNS SK Headow Lake 324 GTH: Orlendo, FL WEUS FL Euetie 30	Winnipeg, MB KRLN CO Canon City 863 KRLK CO Canon City 863 KRCK Co Canon City 664 KRCK Co Canon City Co Canon	KVCK KWBE NE Seatrice 568 KGCA/KZZJ ND Rugby 133 WHOH OH Hamilton 988t KWHW OK Altus 1055t KYNT SD Ymnkton 485t KFIZ WI Fond du Lac 825 WHRY Hurley 442t WRCO Richland Center 593t QTH: Edaonton, AB KJUN WA Puyallup 583 QTH: Orland, FL WHFJ FL Daytons Beach
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Bandscans

Chris Cuomo

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Paul	V. Ze	ecchino
Point	. Judi	ith, RI
R-300	l with	100' wire
11-000	, MICI	1 100 WILE
530	TIS	Horseneck Beach, MA
540	WLIX	Islip, NY
		Danitus link
550	WICE	Pawtucket
560	WHYM	Springfield, MA
570	WMCA	New York, NY Worcester, MA
580	WTAG	Worcester, MA
	WCOP	Poston MA
590		Boston, MA
600	WICC	Bridgeport, CT
610	WSNG	Torrington, CT
		Newark, NJ
		Providence
640	WNNZ	Westfield, MA
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	WFAN	New York, NY
	" 1 111	now lork, hi
670		
680	₩RKO	Boston, MA
690	WADS	Ansonia, CT
700		St. John, NB
710	WOR	New York, NY
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730	WACE	Chicopee, MA
	WGSM	Huntington, NY
750	MHFR	Portsmouth, NH
760	WVNE:	Holden, MA
770	WABC	New York, NY
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-	LILIAT	Daniel de la cons
790	WWAZ	Providence
800	₩LAD	Danbury, CT
	WTMR	Camden, NJ
810	WGY	Schenectady, NY
	#01	bejienectady, Mi
820		
830	WNYC	New York, NY
840	WRYM	New Britain, CT
850	MHDH	Boston, MA
	WILDI	
860	WILL	Philadelphia, PA
870		
880	WCBS	New York, NY
890		
900		
910	WRCQ	
920	₩HJJ	Providence
930	WPAT	Patterson, NJ
940	WGFP	
940		Webster, MA
		Smithfield, VA
950	WROL	Boston, MA
960	WELI	New Haven, CT Hackensack, NJ
970	WWDJ	Hackensack, NJ
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880		Groton, CT
990	WEAN	Providence
1000		A
1010	WINS	New York, NY
1020	KDKA	Pittsburgh, PA
1030	₩BZ	Boston, MA
1040		
	WKSQ	New York, NY
	WTTP	
1070	WKMB	Stirling, NJ
1080	WTIC	Stirling, NJ Hartford, CT
		Boston, MA
		Homestand MV
	WHLI	Hempstead, NY
1110	WHIM	Providence
1120		
1130	WNEW	New York, NY
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1140

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1150 WMEX Boston, MA
     WCNX Middletow, CT
1160 WOBM Tom's River, NJ
1170 WJCC Norfolk, MA
1180 WJJF Hope Vally
1190 WLIB New York, NY
1200 WKOX Framingham, MA
1210 WCAU Philadelphia, PA
1220 WRIB Providence
1230 WERI Westerly
1240 WOCB West Yarmourh, MA
1250 WMTR Morristown, NJ
     WARE Ware, MA
1260 WCFS Westport, CT
     WEZE Boston, MA
1270 WSPR Springfield, MA
1280 WADO New York, NY
1290 WRCP Providence
1300 WAVZ New Haven, CT
1310 WICH Norwich, CT
1320 WARA Attleboro, MA
1330 WNYM New York, NY
1340 WMID Atlantic City, NJ
1350 WINY Putnam, CT
     WNLK Norwalk, CT
1360 WDRC Hartford, CT
1370 WKFD Wickford
1380 WKDM New York, NY
1390 WRIV Riverhead, NY
1400 WALE Fall River, MA
     WILI Wilimantic, CT
1410 WPOP Hartford, CT
1420 WBSM New Bedford, MA
     WLIS Saybrook, CT
1430 WNJR Newark, NJ
     WXKS Everett, MA
1440 WFTQ Worcester, MA
     WNYG Babylon, NY
1450 WKRI West Warwick
     WIIN Atlantic City, NJ
1460 WVOX New Rochelle, NY
1470
1480 WSAR Fall River, MA
1490 WUSS Atlantic City, NJ
1500 WFIF Milford, CT
1510 WNLC New London, CT
1520 WTHE Mineola, NY
1530 WDJZ Bridgeport, CT
1540 WADK Newport
1550 WNTN Newton, MA
1560 WOXR New York, NY
1570 WRHD Riverhead, NY
1580 WLIM Patchogue, NY
1590 WARV Warwick
1600 WLNG Sag Harbor, NY
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                                       1270 WCMR Elkhart, IN
Whitehall, MI
Superadio II
                                       1280 WNAM Neenah/Menasha, WI
                                       1290 WMVP Greenfield, WI
July 5-8, 1988, 9 am - noon
                                       1300 WOOD Grand Rapids
 540 WYLO Jackson, WI
                                       1310
                                       1320
 560 WIND CHICAGO, IL
                                       1330 WHBL Sheboygan, WI
                                       1340 WLAV Grand Rapids, MI
 570 WMAM Marinette, WI
 580 WILL Urbana, IL
                                            WLZR MILWAUKEE, WI
 590 WKZO Kalamazoo
                                       1350
 600
                                       1360 WGEE Green Bay, WI
                                      1370 WGHN Grand Haven
 610
 620 WTMJ MILWAUKEE, WI
                                       1380
 630
                                      1390 WGCI CHICAGO, IL
          WIND RADIO 56
 640
                                      1400 WRJN Racine, WI
 650
                                      1410
 660
                                       1420 WPLY Plymouth, WI
 670 WMAQ CHICAGO, IL
                                       1430
                                       1440 WNFL Green Bay, WI
 680
 690 WLKE Oshkosh, WI
                                       1450 WKLA Ludington
 700 WLW Cincinnati, OH
                                       1460 WBRN Big Rapids, MI
 710
                                       1470 WBKV Big Rapids
 720 WGN CHICAGO, IL
                                       1480 WMAX Grand Rapids
                                       1490 WPBK WHITEHALL, WI
 730
 740
                                       1500
 750 WNDZ Portage, IN
                                      1510
 760 WJR Detroit
                                       1520 WKJR Muskegon Heights
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                                       1530
 780 WBBM CHICAGO, IL
                                      1540
 790 WSGW Saginaw
                                       1550 unid WMIV?
                                      1560 WGLB Port Washington, WI
 800 WDUX Waupaca,
 810 WJPW Rockford
                                      1570
 820 WXEZ CHICAGO, IL
                                       1580
                                       1590 WTRW Two Rivers, WI
 830 WMMI Shepherd
 840
                                       1600 WSNX Muskegon, WI
 850 WKBZ MUSKEGON
 860 WNOV MILWAUKEE, WI
 870 WKAR East Lansing
 880
                                       Doug Smith
 890 WLS CHICAGO, IL
                                       Madison, WI
 900
                                       1-poor, 2-fair, 3-good, 4-v/good
 910 WDOR Sturgeon Bay, WI
 920 WOKY MILWAUKEE, WI
                                        540 KWMT Ft. Dodge, IA
 930 WAUR Sandwich, IL
                                        550
 940 WCSY South Haven, MI
                                        560 WIND Chicago, IL
 950 WKTS Sheboygan, WI
                                        570
     WJPC CHICAGO, IL
                                        580 WILL Urbana, IL
 960 WSBT South Bend, IN
                                        590 WKZO Kalamazoo, MI
 970 WHA Madison, WI
                                        600 WMT Cedar Rapids, IA
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 980 WCUB Two Rivers, WI
                                        610
                                        620 WTMJ Milwaukee
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1000 WLUP CHICAGO, IL
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1010
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1020
                                        650
1030 WNVR Vernon Hills. IL
                                        670 WMAQ Chicago, IL
1050 WLIP Kenosha, WI
                                        680
     WQWM Kaukana. WI
                                        690 WLKE Oshkosh
1060 WHFB Benton Harbor
                                        700 WLW Cincinnati, OH
1070 WTSO Madison, WI
                                        710
                                        720 WGN Chicago, IL
1080
1090 WHUS MUSKEGON
1100
                                        740 WRPQ Baraboo
1110 WMBI CHICAGO, IL
                                        750 WNDZ Portage, IN
1120
                                        760 WJR Detroit, M1
1130 WISN MILWAUKEE, WI
                                        770
1140 WKWM Kentwood
                                        780 WBBM Chicago, IL
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                                        790 WEAQ Eau Claire
1160 WJJD CHICAGO, IL
                                        800 WDUX Waupaca
1170 WLKD Fond du Lac, WI
                                        810 WDMP Dodgeville
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                                        820 WXEZ Chicago, IL
1190 WOWO Ft. Wayne, IN
                                        830 WCCO Minneapolis, MN
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                                        850 WAIT Crystal Lake, IL
1220 WKRS Waukegan, IL
                                        860
1230 WCUZ Grand Rapids
                                        870 WKAR East Lansing, MI
1240 WOMT Manitowoc, WI
                                        880
1250 WEMP Milwaukee, WI
                                        890 WLS Chicago, IL
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920	WOKY	Milwaukee Sandwich, IL	3 3
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1000	WLUP	Chicago, IL	3
1010	₩SPO	Stevens Point	2
1020 1030	WNVR	Vernon Hills, IL	2
1040	₩HO	Des Moines, lA	3
1050	MOMW	Kaukana	1
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1080	#150	IIMP 1 BOH	
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1100	шмът	Chicago II	3
1110	KMOX	Chicago, lL St. Louis, Mü	1
1130	WISN	Milwaukee	3
1140	KNET	Waukon, IA	1
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1170		Davenport, IA	3
1180			
$\frac{1190}{1200}$	WMAD	SUN PRAIRIE	4
1210			
1220	WKRS	Waukegan, 1L	2
1230			3 4
$\frac{1240}{1250}$		POYNETTE	4
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Wayne Heinen Dillon, CO Radio West TRF 12-655 May 9, 1989

530 TIS BRECKENRIDGE 550 KRAI Craig 560 KLZ Denver 600 KIIX Wellington 630 KHOW Denver 650 KUUY Orchard Valley, WY 740 KSSS Colorado Springs 760 KJIM Thornton 800 KLTT Brighton 850 KOA Denver 910 KPOF Denver 930 KRKY GRANBY 950 KYGO Denver 970 KFEL Pueblo 980 KGLN Glenwood Springs 990 KRKS Denver 1000 KKMX Hayden 1040 KKRE Monument 1090 KYBG Aurora 1130 KHTH DILLON 1150 KKZN Englewood 1170 KVVS Windsor 1190 KBCO Boulder 1210 KLDI Laramie, WY 1220 KBNO Denver 1230 KBCR Steamboat Springs 1290 KOWB Laramie, WY 1310 KFKA Greeley 1340 KDEN Denver 1350 KRYT Pueblo 1390 KDRZ Denver 1430 KEZW Aurora 1470 KSIR Estes Park 1510 KDKO Littleton 1550 KQXI Arvada 1600 KRXY Lakewood (Local KSPN-610-Vail was silent)

COMING ATTRACTIONS!

I'll be collecting about six or seven scans for the next issue of the column. 1 am anxious to see what people are hearing over the summer and on vacation. I'll write a scan of my own from Ocean City, MD in late August. I would very muck like to print up bandscans from Canada, the western states, and foreign countries. Keep in mind that nostalgic scans are always more than welcome. Till next time 73s.

Need more information about MW DX? Mail \$1.00 to the NRC Pub Center; ask for the Reprints Catalog

Radio Roundup ... by Pete Kemp

Computerized radio addicts should note that Kenwood now operates a phone BBS service it accepts 300-1200-2400 baud rates and operates from 1700-0800 daily and Friday 1700 to 0800 Monday mornings. All times are P.S.T. They have a number of files containing equipment modifications and related goodies.

Musings of the Members

Mike and Sue Knitter P. O. Box 24

Cambridge, WI 53523-0024 Times are local per Muse.

Thoughts from NRC members ... the opinions expressed in this column are those of the individual writer and do not necessarily reflect those of the editors, publishers, or the National Radio Club, Inc.

August 5th is the next deadline for here, BUT check the front page to see if Paul has made any last minute changes to where you should send your MUSINGS to (Not yet - our new candidate is still in transit -pls). So check it out, then write your thoughts down on paper and send them.

The Credit Card Charge line and NRC HQ Line will be closed from August 18, 1989 11PM Central Time thru August 27th 11PM Central Time and August 31th 11PM Central Time thru September 4th 11PM Central Time. We will have the charge card machine at the Convention.... so save your money and just bring your plastic! See you at the Convention!!!

WALK FM 97.5

On to Musings:

Mark Strickert - 3852 N. Oconto - Chicago, IL 60634

WNVR-1030 is now "Great American Radio" from 9am to sign off. Far as I can tell, the only tie-in with the Great America Amusement Park is that they broadcast from inside the place. Very little info on "Great America", no obvious necessities like traffic and parking news, and the only ads so far seem to be "Business Radio Network" make-goods and 10-second live spots for WGN-720!? Music mix is classic AOR... All Over the Road... with Taylor Dayne followed by marching music, then a kick-butt set with Cher, Carole King, Hugo Montenegro and Steve Earle. Such a "format" (if any) will likely not attract the same demographics as the amusement park does. Down the dial, WOPA-1200 seems to have new owners that have their act together. It's not on as of 6/13, but could be by the time you read this, religion with Spanish language (but format unknown). Seemed to have picked up the calls for their familiarity, for they won't be broadcasting from Oak Park Arms hotel like the old 1490. WLS-890, target of soooo many rumors, still puttering along with the oldies-laced yap. Latest murmerings had them going either all-talk, or "Z-Rock", or some mysterious unknown, by 6/11-12, but can't believe anything until it happens, if even then, at the Crock of Chicago. Turning to Sports... I am in need of anyone in/near the "3M" cities (Minneapolis, Miami or Montreal) who can record stations. Also Monterey, Montego Bay and Market St. (Philly or SF, hi). Are DX get-togethers a thing of the past? Used to be 3-4 a year just around Chicago, and maybe as many in the northeast, but they seem to have become extinct. (Try Topeka, Labor Day weekend! -pls)

Conrad R. Durocher - Rte 1, Box 2245 - Dickinson, TX 77539 - 713-334-2526

Howdy from the Road as I celebrate my 11th year as travelling guitarist for Mickey Gilley. This is Day 9 of a 3-month tour that will take us everywhere except home. Back in November '88, I had to move from my ideal coastal DX site on Galveston Bay, and say Bye-Bye to the 700' longwire. The building got torn down but I managed to keep the roadside mailbox. I'm now slightly inland, about 8 miles closer to Houston. With only a 100 longwire and no winter to speak of, there wasn't much to report. Did manage to catch KTNN-660 Window Rock, AZ as a nightly regular during its U1 operation. I guess I could have done a full day's report on KGBC - Galveston with its dozen or so formats. Trivia: Did you know that the man voicing the WWV announcements is Don Elliott and the woman's voice on WWVH is that of Jane Barbe, both of whom are from Atlanta? And now you know the rest... of the story. Back in March, we did 4 days on Grand Cayman Island, took along a Sony AM-FM Walkman. Except for Cubans everywhere, only EE as R. Caiman, playing same beautiful music on 2 AMs and 1 FM. 1205 covered about 30 kHz. But 1555 was about 1/3 the strength and nullable - very strange. Both had carrier hum and modulation was about 50%. Locally I've tried for KYND-1520 just north of Houston but all I hear Louisiana. Are we sure this one's on? Speaking of Beverage Antennae (weren't we?) - by definition, a Beverage is a single straight length of wire at least one wavelength long, viewed as a feedline. The point being, 600' of wire do not a Beverage make, unless you're DXing at 1639 KHz (183 meters), hardly in the AM band (as of yet). I've just been seeing too many DX'ers listing their longwires as Beverages. Using the formula Feet = Meters x 3.281, the minimum length for 830 KHz (360 meters) = 1181 feet and 530 KHz = 1857 feet. I hope the point is taken in the friendly spirit intended. (Beverage, Rice, and Kellogg found that the end of the antenna distant from the receiver had to be terminated to ground for optimum directivity. Later experiments showed that termination through a resistor of between 500-1000 ohms worked best-pls)Oh, did you know that 547 meters = 547 kHz? It only happens once. Just for fun, I calculated 1/2 wave dipole dimensions for the AM band. The Formula 468/f(mhz) give us 468 at 1000 KHz. Since dipoles have to be at least one wavelength in height to achieve a directional pattern, this one would have to be 936' high or more! 1600 kHz = 292 feet but 530 kHz = 883 feet and the height would be double that! Aren't you glad I saved you all that work? Later.

Chris Cuomo - 670 Third Avenue - Verona, PA 15147-1349

Just a quick Muse. A big thanks to Joseph Fela and Fred Vobbe who sent tapes of pirate radio stations and to Thomas H. White who sent information about WHGC, a pirate radio station from '75 and '76. Also thanks to everyone who sent details on new TIS stations. I am working on getting an early '70 era Panasonic RF-1006 to work, if solely for the SW band. I miss being able to get the A-index off WWV. My Grundig has perhaps the most ridiculously small SW band ever, tuning from 5.85 MHz to 7.3 MHz. Does any one think that they can translate the following into Spanish? I already have the French equivalent of my standard bumper sticker request and am looking for the Spanish. Here goes: Attn: Promotions Director, To whom it may concern; Please send me a W— bumper sticker. (Please send me bumper stickers for W— AM and W— FM.) I have enclosed a self-addressed stamped envelope for your convienence in responding. I am a collector of radio station promotional items. Thank you Sincerely," Muchas Gracias. (I know that much, hi). 73s. (Don't forget to send along the Spanish version of "Guide to DX"; order copies from the Pub Center - pls)

Cesar Objio - Calle Enrique Henriquez 69 - Santo Domingo, Dominican Republic

Hi, friends, how are you all? Here I am again. In the first place, my thanks to PLS (Paul Swearingen) for his kind remarks about my Merengue tape which I hope some of you will order, if only to help me out with my radio fund raiser. Thank you all. I have received some orders from Europe, but not enough for anything, Imean for what I had in mind, or i.e. to buy a new digital reciever. I hope my luck changes with the U.S. DX'ers. The tape is not only music, there is also the history of Merengue. I had to buy books to study the origins and ways of how the Dominican people came to like it and how it became so popular here, also some records had to be bought in order to select the most famous pieces of this music. Finally on Side 2 there are some Merengues just released last year. It is a new and different example of music, even if you don't like it, you will learn something from it. At last! On the other hand I could go to Puerto Rico and pick up my Realistic DX-400 digital receiver from Radio Shack. It is already repaired and in good condition. I am really relieved with this receiver back. Now I can return to really DX'ing. But I am surprised as passenger air fares have increased lately here, it is almost impossible for me to travel, I don't think I can again visit the U.S. as I usually did, and to a Convention, I have to forget it, too expensive for me. I remember the last one I attended: Atlanta 1978, eleven years ago, with my dear friend Ronald Schatz, God bless him. Some time ago, and to be exact, I read in issue 2, dated Oct. 10, 1988, a clipping about the popularity of Polka in a place around Pittsburgh. The clipping mentioned Mike Panjuscsek who has a two-hour program of polkas from 11am to 1pm on WEDO-AM on Sundays. My mentioning here is because I like polkas but they are not heard around here, can anyone, please, tape one hour of this program and send it to me? I am willing to cover expenses to the kind person to do that. In the clipping I read that Mr. Panjuscsek has 1880 records of polkas for his program, that is excellent. Well, dear friends, I'll try to keep in touch with you via IDXD and Musings. 73's to you all, friends.

KCMO RADIO 81

Guy Kudlemyer - 1320 City View, #1 - Eugene, OR 97402

I've not been in the pages of DXN for a while, so it just might be time for my semi-decade Muse, hi. I've been woefully lacking in DX over the last couple of years, but I still try my hand at it every once in a while. Most notably, I was in Seaside, OR over the weekend of May 18-21 for the Northwest Hobby and Craft Fair convention at the Seaside Convention Center. I took along my Sony SRF-M40W which I bought about a year ago for \$45.00 (on the advice of the article/review by Phil Bytheway). I also took along my Select-A-Tenna and did some DXing / lying in the sun on or near the beach during mid-day. Most notable catch was KATA at 11:05am. Was in Honolulu over the week of June 22-29 with my friend Debbie, who lives in Anchorage. It was her first trip to the islands and her first exposure to my DXing hobby which, at the tender age of 23, whe doesn't understand (I'm 33), especially since it's AM. I've been semi-dating this woman for about 5 years (long distance relationships are such a drag...) and we decided we needed to recharge our batteries by lying on the beach in Waikiki. (Sounds reasonable! -pls) Batteries sufficiently recharged (and the band duly scoped-out with the help of my SRF-M40W), I returned to PDX [where?-mk] feeling much stress-relieved. The big kick of the trip (DX wise, anyway) was FM DXing from the plane. With Selectivity set on "DX", the SRF-M40W was able to nail several Honolulu stations abard the L-1011 while we were still about an hour from touchdown, as long as I held the receiver up to the window. On AM, DX was notably absent during this 11:00am-12:00pm (local time) bandscan. On the quick Seattle-Portland return jaunt, I set the receiver for 106.1 to see how far away I could receive my favorite station, KFAT. KRPM dominated (it was 12:30am) until we becan our descent somewhere over Longview, then KFAT's 100,000 watts came blasting in, decimating KRPM's sorry programming. I know the FCC rails on and on about receivers being operated aboard aircraft, but this is not the first time I've tried this little trick. So far, my receiver has not yet caused any commercial aircraft to do the "Exploding Fireball, Plummet 8 Miles To A Violent Fiery Death" routine. In fact, 106.1 will net you some spurious cockpit-to-ground communications if you have the receiver in the right spot and the headphone wires fully extended, wrapped around the perimeter of the window. Try it, but don't tell'em I sent ya, hi! I recently purchased a copy of a computer software program called DX HELPER. It helps you to determine MUF, Gray Line, Great Circle bearings and other things relevant to the DXer, and it runs on the Mac computer. Hope to be able to do a little summation of this piece of software next time I check-in. Till then, see ya! [Don't wait too long before your next Muse -mk].

Niel Wolfish - 178 Florence Ave. - Willowdale, ON M2N 1G4 June 29

Not much being heard on the bands these days aside from one brief E-Skip opening to Tampa on FM two weeks ago. (WMNF on 88.5) I will be travelling through Australia, New Zealand and Fiji over the next two months. I suppose this trip will entitle me to write my own inutile travelogue? Maybe when I return I can muse about the poor market share of the religious stations in Rakiraki! [Can't wait to see your report on them there stations, hi.—mk.] Hope everybody has a good summer. 73.

Rick Dau - RR2, Box 64 - Oakland, IA 51560-9630 - (712)483-2230 July 6th

This Musing marks the start of my 2nd year of membership in the NRC, so a re-intro is in order. I'm 24. single, a former student at the University of Iowa [what the school do? fire ya? -mk] and currently working in Omaha as a telephone operator for a major long distance company (I won't say who, but as a hint, it's not AT&T) [MCI? or Sprint? -mk]. I still live on my parents' farm west of Oakland, but I'm hoping to move into the city (preferably Council Bluffs) by year's end. After being relatively quiet for all of May and the first half of June, the band has come alive with lotsa new stations having arrived since. Several evenings during the final week of June produced good openings into North Dakota and northern Minnesota, and some new catches included KKBJ-1360 Bemidji, MN; KCJB-910 Minot, ND; WWJC-850 Duluth, MN; KQI.X-890 Lisbon, ND; and KMOM-1070 Monticello, MN. Veries now total 59 as new arrivals include KELO-1320, KELO-1320, KDHL-920, WMT-600 and KTCH-1590. Finally received a holdout verie for last July's reception of KRVN-880. Probably the most interesting QSL card I've ever seen. June highlights - from one year ago: New stations included KLWN-1320 Lawrence, KS; WMYD-1090 Rice Lake, WI; and KYCR-1570 Golden Valley, MN — from five years ago: Finally landed my first CA station, KFI-640. July highlights — from one year ago: New stations included WCAZ-990 Carthage, IL and KLDD-570 Dallas, TX — from seven years ago: returned have from vacation on July 31, tuned to WOW-590, and heard... COUNTRY!!! As recently as one week earlier, this had been a great CHR station! Why, oh way, did they do this to me? That's radio, I guess. See you all in Topeka. 73.

G. Harley DeLeurere - P.O.Box 10 - Hendricks, WV 26271-0010

This is just a quick Musing to ask kindly if anyone has the correct address for WIVK (990) of Knoxville, TN. Also yesterday morning I heard the announcement "WIVK-FM", which was followed by other call letters. Thanks. [I guess, Harley, the address in the log is no good huh? That's the latest one we show, also I take it the station is on the air, so delete the "SILENT 8/88" in the schedule column-mk] [This brings up a good point about the accuracy of the log book vs. what you know. We get a lot of letters and calls by you listeners telling us that station so-so has changed info as compared to the log and want to know why we still are printing the old info. Well, folks, if you don't tell us we can't make the changes! So please, let us know when there is a change in the stations you listen to daily or that you catch while DX'ing. Thanks, gang. -mk]

WGHB

Pete Kemp, KZ1Z - P.O. Box 73, Bethel, CT 06801

CHRISTIAN RADIO FOR EASTERN NORTH CAROLINA 1250 AM 5000 WATTS

Greetings all... The Guiness Book of World Records has recognized "Rambling with Gambling", $heard on WOR-610, as the longest-running \ radio \ show \ in \ history, having just completed \ its \ 20,000 th \ broadcast.$ John B. Gambling started the show back in 1926 with John A. taking over the reins in 19598 and John R. joining in, in 1985 ... Garrison Keillor has decided to return to the airwaves in a new show tentatively entitled "American Radio Company of the Air" ... WUTK has joined the 25-affiliate Business Radio Network. The show $will air from New York ... WCAU \ has dropped its morning news block and has gone \ all-talk ... WXKS, in Boston, with the property of the p$ has switched from a '60's-'70's music fare to one focusing on the '30's, '40's, and '50's ... KWW] has signed a three-year contract to carry the Detroit Lions football games ... WLAD's evening talk block is carrying the Sun Radio Network programs ... WNWS is now carrying the Paul Harvey and Sally Jesse Raphael Shows from ABC ... WRCQ-910 has changed its call letters to WNEZ. They are currently programming soft music like their FM sister WRCH-FM. Both stations were to fine tune their formats on July 3, introducing more vocals and popular musical selections to attract a younger audience... Advertisers are taking a much closer look at the programs they are sponsoring. While TV has been subjected to this pressure of late, the ABC Radio Network has recently aired a Barbara Walter's special on the controversial subject of abortion. The advertisers stayed away, but ABC said they would NOT be intimidated airing the show anyway... The White House has put forth the name of Alfred Sikes to be the new FCC Chairman... With recent events in China fresh in our minds, it is interesting to note that during the June 2nd to 11th period the CBS radio Network issued 116 special on-air reports... Lee Coffee has returned to the WEW-AM fold in St. Louis... The oldest affiliate of the NBC radio Network, WGY, in Schenectady, has decided to sever its ties and join up with the CBS radio Network effective September 18th... Jon Bauman, "Bowzer" of ShaNaNa fame, will host a new syndicated 2-hour radio show titled "Bowzer's Golden Oldies Countdown" commencing this October... WGST, in Atlanta, is currently simulcasting on both 920 and its new frequency 640 KHz. That should temporarily boost their ratings... WFIL has dropped its 2-year programming of satellite fed oldies to simulcast its FM sister WEAZ's soft rock format... Loyola University has sold WWL-870 in New Orleans. It is Louisiana's oldest radio station, having gone on the air in 1922... WDGY will be the flagship station for an 80-station net to handle the Minnesota Timber wolves professional basketball team games beginning in the fall... Al Ford, WFLA's Helicopter Traffic Reporter, and a former Tampa Police Officer, reported seeing a UFO while on the air May 4th... WISN's sports director Bob Dolan is hosting a weekday sports-talk show from 6 to 7pm, moving Sally Jesse Raphael to the 7-9 spot... WLZR will carry all 11 Norte Dame's football games in the Milwaukee area... Computerized radio addicts should note that Kenwood now operates a phone BBS service. It accepts 300-1200-2400 baud rates and operates from 1700-0800 daily and Friday 1700 to 0800 Monday mornings. All times are P.S.T. They have a number of files containing equipment modifications and related goodies... So much for now.

Paul Swearingen - Convention City, USA

By accident, I happened to catch the Dick Cavett show on CNBC (Consumer News and Business Channel) on cable TV July 12; for some unknown reason, he allowed Howard Stern to appear on his show. I had only heard brief excerpts of Mr. Stern's show and read a few accounts about him, and I've withheld comment based only on second-hand hearsay. But now that I have viewed, first-hand, Mr. Stern's antics, I can report safely that I discern two differences between Mr. Stern and a maggot: Mr. Stern has a bigger mouth, and a maggot has a smaller ego. Radio does not need the likes of Mr. Stern; dead air would be preferable. Nevertheless, the crowd of young broadcast majors who jammed the studio seemed to hang on to every word from Mr. Stern (Dick Cayett barely managed to interrupt Mr. Stern's monologue for a half-dozen questions during the half-hour show), showing that Shock Radio is indeed profitable for those stations which choose to pander to the lowest common denominator. I'll stick with family-oriented David Lawrence on WDAF-610 mornings, thank you.

Noted KEWI-1440 off 7-15, around 11 pm, but they were back by 11:30. Also noted an apparent offfrequency signal on @682, hetting KFEO. Any ideas? KFH-1330 now seems to simulcast KXLK-105.324 hours. When is my old favorite WLS-890 going to get a programming format? What a sad spectacle ...

The Macintosh Plus and 20 mb hard disk are up and running (anyone want to trade ideas and programs?), but I've discovered that the Mac generates much more QRM on the radio than the Commodore 64 did (until I turned on the printer). Can't see how I'd ever be able to use shortwave receiver-controlling software. But then, no one makes any to run an HO-180, hi.

The convention plans are coming along nicely, thank you. A few suggestions for snacks have been noted, but I still need some trivia questions ... one or two per person would be just fine. But they need not be as esoteric as this one ... What station moved from Lawrence to Topeka? (Answer next issue.) 73.

Increase your accuracy with your slide rule receiver

by Raymond F. Cole

Putting a really super-accurate dial on most receivers with a slide rule type dial is usually a pretty simple matter, now with the newer copying machines available at a lot of quick copy print shops that will reduce or enlarge a copy to suit.

First get a flat centimeter ruler about six inches long, either white or clear. Put it in a copy machine face down and run a copy actual size. This will become your new dial.

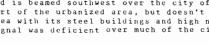
Then run a copy as near 10 percent magnification as you can. Check this against your new dial copy (not the ruler) and see if it shows exactly 10 divisions for every 11 (1.1 centimeters) on your new dial. If not exactly, discard it, adjust the copier and try again. This will be your vernier.

Pry out the plastic radio dial face from the front with a sharply pointed knife tip. Cut your new dial down to a narrow strip just wide enough to show the certimeter numbers and part of the millimeter division lines. Set this in place across the lower part of your old dial with a few spots of rubber cement.

Then cut your vernier about one-eighth inch wide across a little over 12 divisions (no numbers showing) out of the second copy you made. Mark every second division with a very sharp pencil, in tiny numbers, starting from the left hand mark, 10, 8, 6, 4, 2, 0. Put a drop of cement on the front face of it to the right of the 0. With tweezers put this strip in behind the dial pointer so that the 0 line is even with the left edge of the dial pointer. Align it horizontally just a hair above the new dial strip and wait until the glue dries before trying to flatten any curl in the vernier.

Your new dial will split a millimeter into ten divisions. If you are, for example, between 6.2 and 6.3 with the left edge of the pointer, and the vernier line marked 6 is the only one exactly in line with a line on the dial, your reading is 6.26. You will not use the 10 except to verify the left edge of the dial pointer. It will read 4.2 when the pointer reads 5.2.

A rectangular magnifying glass (so you can use both eyes together) saves a lot of squinting if you do a lot of careful loggings. You will find that you can consistently and very easily exactly put your dial right on any previously logged frequency - even in "the graveyard" or high end of the dial - provided no apparent frequency deviations are present. And they will show up instantly, since you will be off a division or two.



After the installation of the booster, KSSA had massive interference

However, the FCC then made the unusual concession of granting the use of the booster transmitter/antenna only during the daytime. This effectively made KSSA a "downtown Dallas" radio station, rather than one located in Plano, which is about 18 miles north of the downtown district. Those of you familiar with Dallas know that the original downtown area is south and east of much of the new growth. KSSA uses a Hispanic format and now reaches well many of the areas where there is a heavy concentration of Hispanic people.

So, currently, the original or "main" transmitter site and equipment is operated only after sunset, synchronized with the booster, which operates both day and night. New rules of the FCC no longer require a 25 mv/m contour over the downtown business area of the city of license, Plano in this instance, so the station was able to substitute the booster as its daytime transmitter. At night, because of the higher night-limit of interference, the Plano transmitter must operate to provide primary coverage of the city of Plano with an interference-free signal. A brilliant piece of legal work in coming up with this strategy by KSSA.

It's interesting to listen to KSSA while driving around in Dallas. Where either the Plano transmitter or the Dallas transmitter is stronger, there is no degradation of the received signal. But, driving laterally through the area where the two signals are nearly equal, a lot of strange sounds come out of your radio! Some of the time, it's like the "picket-fencing" one encounters on FM; at other times, it's a rolling phase distortion that recurs every 3 or 4 seconds. In some cases there is total cancellation and a rough objectionable sound comes out.

For persons who'd be driving north to south, the distortion area might be a few blocks long. But, driving aross the North-Central Expressway, it's not listenable at all.

Special thanks to Alicia Esparza, Operations Manager, KSSA, for helpful information as to the present operations of the station.

In a late development, KSSA has just filed an application with the FCC to change the City of License from Plano, Texas to Cockrell Hill, Texas. Cockrell Hill is a small town of about 3,000 landlocked within the city of Dallas. It is about 8 miles directly west of the "booster" site, and is rectly within the major lobe of KSSA's directional pattern, which consists of narrow lobes north and south, and a fat lobe directly west.

It is assumed that if this move is approved, the Plano "main transmitter" will be dropped altogether and the synchronous booster arrangement will be ended. So, if you wish to hear this unusual system in operation in Dallas, better do it quickly.

When the 'Booster' Becomes the Main Tx ... By Cary Simpson

45

One of the most interesting stations in the country right now is KSSA, Plano-Dallas, Texas, operating on 1600 KHz. Why?

Because KSSA operates a 'little sister" synchronous booster that turns out to be the main station, while the licensed main transmitter and antenna system is used only at night.

KSSA's original installation is northeast of Dallas and east of Plano, and is beamed southwest over the city of Dallas. Its 1,000 watts covers part of the urbanized area, but doesn't penetrate the downtown Dallas area with its steel buildings and high noise level. And at night, the signal was deficient over much of the city of Dallas.

So, they received authorization for a synchronous booster to be located southeast of Dallas, and only about 4 miles from the central business district. This four tower array beams the signal north and northwest over the city of Dallas. It's located about 18 miles south of the orignal site.

problems between the original and the booster installations. However, a locking system was secured so the two oscillators are kept operating on the exact frequency. This ended almost all of the problems except the familiar phase distortion in areas where the received signals are nearly

National Radio Club Topeka DXCon September 1-4, 1989

Make plans now for the most affordable, the most fun, and the most family-

oriented DX vacation you've ever had!

The National Radio Club's 1989 Convention will be held in Kansas' largest convention hotel, the Downtown Topeka Ramada, which has 430 rooms available. The hotel's Executive tower overlooks the city, and rooms surround the Courtyard, the enclosed 14,000 square-foot replica of New Orlean's French Quarter. The Courtyard's two restaurants, Le Flambeau and the Orleans Cafe, set the standard for dining in Topeka, and if Cajun Creole is one of your favorite cuisines, you'll find it here. Many other restaurants, and attractions are within walking distance.

As added attractions, Topeka's famous Railroad Days celebration is held every Labor Day weekend at nearby Forbes field, close to the Combat Air Museum. Parades, races, free entertainment, a carnival, model and full-size trains, an Intertribal Indian Powwow, arts and crafts, and children's activities will fill the weekend. Secondly, Ringling Brothers/Barnum and Baily Circus will be in town that weekend, and thirdly, the new Heartland Race Track will host a Superbike challenge. Of course, other Topeka attractions such as the capitol building, the Kansas Museum of History, the historical Ward-Meade home, the World Famous Topeka Zoo, and many other sights await you and your family during the times that you don't wish to talk DX ... and to help you to get to them, a free bus ticket is part of your convention package. Also, non-Kansans get to participate in the Linger Longer program ... when you stay overnight in a Kansas motel, eat in a registered restaurant (you'll automatically qualify for these), and take in a scenic or historical site, you'll receive a Coleman cooler ... free!

Tentatively, the convention itself will include an antique radio display, local radio personalities, trivia quiz, a station tour, a beverage party, displays, tech talks, free materials, and goodie bags, plus the traditional business meeting,

banquet, auction, and Sunday brunch.

Here's a list of typical expenses you'll need to know about:

Pre-registration: \$26.00 (includes the Saturday-night banquet, @ \$12.30). Deadline: August 17; from August 11-Sept. 2: \$30.00.

Hotel reservation: (1 or 2 in room): \$41.80 per night, including \$38 + all taxes; deadline is August 17.) A reservation card is included in your convention information package, or call (913) 233-8981 and mention "National Radio Club Convention" to obtain this special rate. 24-hour limousine service between the Ramada and Forbes field is available; ground shuttle service from/to KCI Airport is \$20.00. Direct airline service to Forbes field may be a reality by August, as the city is negotiating with American and at least two other airlines; otherwise, air shuttle service is about \$35.00. Both the bus station and railway station are within two blocks.

Sunday Brunch: \$6.95 (senior citizens \$6.25, children \$3.75) plus tax and tip. We have the best spot in the courtyard reserved for 10:30 am. (Pay then.) And that's about it! Snacks and beverages will be provided in the meeting room

(which is twice the size of what you may be used to).

To pre-register, send a check payable to "National Radio Club" for \$26 per person by August 17 (or use the NRC credit card service) to Topeka DXCon '89 - P. O. Box 5711 - Topeka, KS 66605, plus your name, address, phone number, expected time of arrival/mode of transportation, and suggestions for beverages and snacks. (Pay separately for the hotel room and brunch after you arrive.) Also, if you could man the registration table for an hour or so during Friday or Saturday, or present a 15-minute tech (or non-tech) talk, or even include some trivia questions, we'd be grateful. See you there!

NATIONAL RADIO CLUB Inc. VISA/MASTERCARD CREDIT CARD ORDERS

Due to popular demand, the National Radio Club is proud to announce that with the cooperation of a local business the NRC can now accept Visa/Mastercard credit card orders. You may use your credit card for:

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By Phone. (608) 423-4159 7 - 11 pm Eastern Local Time. NO collect calls will be accepted. Calling outside this time period will not necessary guarantee you that someone will take your call in person. And NO, we will not return calls to take your order.

By Mail. When ordering NRC Products or Subscriptions send your credit card order to NRC 11Q, Box 24, Cambridge, WI 53523 0024 and NOT thru the normal channels. This will ensure timely processing of your credit card order.

Credit Card Information

The credit card line will be closed temporarily from August 18, 11 pm, to August 27, 11 pm, and August 31, 11 pm to Sept. 4, 11 pm, CLT Thanks for your patience.

We need your card type (Visa/Mastercard), card number, expiration date, name as it appears on the card, and evening telephone number (in case we have a question or two).

Wisconsin Residents MUST add the appropriate state/county sales taxes.

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○ MasterCard	O VISA
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EXPIRATION DATE	EVENING PHONE NUMBER
NAME AS IT APPEARS ON CARD	
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Send this along with your order/subscription to:

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