

March 11, 1995 - Volume 32 - Number 26 - Edition 1052 - ISSN 899 - 9732

# HAPPY BIRTHDAY IRCA

**NEW MEMBER:** Edward Trower of Alhambra CA. **RENEWALS:** Ron Musco of Poquonock CT, Timothy Noonan of Madison WI, David Reitz of Louisville KY, Albert Gordon of Del Mar CA, Wes Weathers of Lancaster CA. Welcome To Edward And Thank You All Very Much. You make it go.....

**IN THIS ISSUE:** DX Test.....2, DX Worldwide West.....3, DX Worldwide West Extra.....4, DX Worldwide East.....5, Western DX Roundup.....6, Central DX Roundup.....9, Eastern DX Roundup.....11, Western DX Forum.....15, Chiapas Libre.....17 (take a look at this item), Eastern DX Forum.....18, Verification Signers.....22, Sportschannels IRCA.....23, Technical - Ultralinear Amplifiers.....26, Back Page.....

**FROM THE DESK OF THE PUBLISHER:** The copy center has been having trouble running the colored front page, to much moisture in the air. No members address list in this issue I did not have time to finish it. Down the road two or three issues you will have an address list. Get ready for the election of officers in the IRCA. All the information will be published in the March 25th DXM. Be sure to choose wisely and be sure to vote. I noticed from a item in the March issue of ASWLC that the Danish Shortwave Club is having money problems. It looks like the publishers may need to do more of the work. Paying the printer to do all the work could put you out of business which it has done. The IRCA is in decent shape with no dues increase for the rest of this volume. The folks that run the postal service are going to raise international rates soon, lets keep our fingers crossed that it is only a few pennies. I guess it is ok to put an intro here - Joined the IRCA in the late 60's, dropped out of club for 3 or 4 years in the 80's. Main receivers here are a modified NRD - 525, Collins 51J - 4, HQ - 180, 2010, and a few others. Antennas - 80 foot noise cancelling longwire. Cannot use my box loop because I live in a mobile home. That will change soon when I build my all wood DX shack with a 16 foot long 4 foot wide bench and a very nice 36 inch box loop on top of the shack controlled from inside the shack. Sounds good. Happy Birthday IRCA. 73 Ralph the Pub.....

**KNZR NEWS RADIO**  
**1560AM**

# DX TEST BULLETIN

**\*\* DX TESTS ARRANGED BY IRCA & NRC \*\***

MONDAY, MARCH 13, 1995 - KWOC-930, POPLAR BLUFF, MO WILL CONDUCT A DX TEST BETWEEN 2:00 & 2:30 AM EST. THE TEST WILL INCLUDE MORSE CODE ID'S, VOICE ID'S & POSSIBLY SOME "SPECIAL" MUSIC. THE FIRST 15 MINUTES OF THE TEST WILL BE CONDUCTED ON A 5 KW DAYTIME PATTERN, AND THE LAST 15 MINUTES OF THE TEST WILL BE CONDUCTED ON A 5 KW NIGHTTIME PATTERN. RECEPTION REPORTS MAY BE SENT TO: MR. DAVE OBERGOENNER - DIRECTOR OF ENGINEERING, c/o KZIM-AM RADIO, P.O. BOX 1610, CAPE GIRARDEAU, MO 63702. (ARRANGED BY J.D. STEPHENS FOR THE IRCA CPC)

MONDAY, MARCH 13, 1995 - WMTT-620, 162 WEST BROADWAY, LOUISVILLE, KY 40202 WILL CONDUCT A DX TEST BETWEEN 1:00 & 1:30 AM EST. THE TEST WILL INCLUDE MORSE CODE ID'S, VOICE ID'S, TEST TONES & POLKAS. RECEPTION REPORTS MAY BE SENT TO: MR. A. DEAN TAYLOR (KD4MDN) - PROGRAM DIRECTOR. (ARRANGED BY J.D. STEPHENS FOR THE IRCA CPC)

MONDAY, MARCH 20, 1995 - KSIM-1400, SIKESTON, MO WILL CONDUCT A DX TEST BETWEEN 1:00 & 1:30 AM EST. THE TEST WILL INCLUDE MORSE CODE ID'S, VOICE ID'S & POSSIBLY SOME "SPECIAL" MUSIC. RECEPTION REPORTS MAY BE SENT TO: MR. DAVE OBERGOENNER - DIRECTOR OF ENGINEERING, c/o KZIM-AM RADIO, P.O. BOX 1610, CAPE GIRARDEAU, MO 63702. (ARRANGED BY J.D. STEPHENS FOR THE IRCA CPC)

MONDAY, MARCH 20, 1995 - WZEP-1460, P.O. BOX 627, DEFUNIAK SPRINGS, FL 32433 WILL CONDUCT A DX TEST BETWEEN 4:00 & 4:45 AM EST. THE TEST WILL INCLUDE TEST TONES, MORSE CODE ID'S, VOICE ID'S & POSSIBLY SOME MUSIC. FROM 4:00 TO 4:30 AM, POWER WILL BE 5 KW NONDIRECTIONAL, AND FROM 4:30 TO 4:45, POWER WILL BE 186 WATTS. RECEPTION REPORTS MAY BE SENT TO: MR. ART DEES - OWNER & GENERAL MANAGER. (ARRANGED BY LEE FRESHWATER FOR THE IRCA CPC)

SATURDAY, MARCH 25, 1995 - KVAK-1230, P.O. BOX 367, VALDEZ, AK 99686 WILL CONDUCT A DX TEST BETWEEN 4:30 & 5:00 AM EST. THE TEST WILL INCLUDE TEST TONES, MORSE CODE ID'S, AND VOICE ID'S. RECEPTION REPORTS MAY BE SENT TO: MR. PAT LYNN - GENERAL MANAGER. (ARRANGED BY J.D. STEPHENS FOR THE IRCA CPC)

SATURDAY, APRIL 1, 1995 - RADIO VISION CRISTIANA-535, SOUTH CAICOS, TURKS AND CAICOS ISLANDS WILL CONDUCT A RESCHEDULED DX TEST BETWEEN 2:00 & 4:00 AM EST. THE TEST WILL INCLUDE BOTH CONTEMPORARY AND JAZZ MUSIC, MORSE CODE, TEST TONES, AND VOICE ID'S. RECEPTION REPORTS MAY BE SENT TO: MR. BOB JANNEY (KA4NYO) - CHIEF ENGINEER, c/o WWRV-AM, P.O. BOX 2908, PATERSON, NJ 07509-2908. (ARRANGED BY J.D. STEPHENS FOR THE IRCA CPC)

MONDAY, APRIL 3, 1995 - KWEY-1590, P.O. BOX 587, WEATHERFORD, OK 73096 WILL CONDUCT A RESCHEDULED DX TEST BETWEEN 1:00 & 1:30 AM EST. THE TEST WILL INCLUDE MORSE CODE, VOICE ID'S, AND AN UNSPECIFIED SELECTION OF MUSIC. RECEPTION REPORTS MAY BE SENT TO: MR. RAY BAGBY - CHIEF ENGINEER. (ARRANGED BY J.D. STEPHENS FOR THE IRCA CPC)

SATURDAY, APRIL 8, 1995 - WWOL-780, 1263 WEST MAIN, FOREST CITY, NC 28043 WILL CONDUCT A RESCHEDULED DX TEST BETWEEN 3:00 & 4:00 AM EST. THE TEST WILL INCLUDE VOICE ID'S, MORSE CODE ID'S, & MARCH MUSIC. POWER WILL BE 10 KW USING A NONDIRECTIONAL ANTENNA PATTERN. RECEPTION REPORTS MAY BE SENT TO: MR. JULIUS BLANTON ENGINEER. (ARRANGED BY J.D. STEPHENS FOR THE IRCA CPC)

MONDAY, APRIL 10, 1995 - KGYN-1210, P.O. BOX 130, GUYMON, OK 73942 WILL CONDUCT A RESCHEDULED DX TEST BETWEEN 2:00 & 2:30 AM EST. THE TEST WILL INCLUDE VOICE ID'S AND MORSE CODE ID'S. POWER WILL BE 10 KW. RECEPTION REPORTS MAY BE SENT TO: MR. BILL WELDON. (ARRANGED BY J.D. STEPHENS FOR THE IRCA CPC)

## IRCA Almanac Updaters 5.6 and 5.7 Are Now Available!

Two new updaters to the IRCA AM-FM ALMANAC are now available from the IRCA Bookstore

Updater 5.6 features the most complete listing of Travelers Information Stations (TIS) ever produced. The 32-page listing includes every known TIS station in the US and Canada between 530 and 1710 kHz and even some on FM. Updater 5.6 also includes the FCC Allotment List for stations assigned to the new expanded AM band, 1610 to 1700 kHz. Stations are listed by new frequency, old frequency, and city/state. Those who DX the band from 1600-1710 kHz will find this reference indispensable.

Updater 5.7 features a complete 42-page AM and FM station slogan list, plus current station lists for the Tom Leykis, David Brenner, Pat Buchanan, and Larry King talk shows.

Special prices for these two updaters: \$3 each in the US and Canada, \$4 elsewhere. Order either or both updaters from the IRCA Bookstore, by sending the correct amount (in US funds) to

**IRCA Bookstore, 9705 Mary N.W., Seattle, WA 98117-2334. Thank you!**



# DX Worldwide - West

PAT MARTIN PO BOX 843 SEASIDE, OR 97138

Time: UTC

Phone (503) 861-3185

DEADLINE: MONDAYS

HAPPY ANNIVERSARY IRCA!!! Another year older and doing great! Had a great time on my vacation to LA. I even picked up a QSL on the way back! Reports this week from Jack Woods, Shawn Axelrod, and Larry Godwin. So away we go.

## PAN-AMERICAN DX ROUNDUP

- 540 MEXICO, Monterrey-XEWA IDed in EE at 0822 2/11. Woman gave call ID along with one for at least one other station and added "We are the kings of the road." (LG-MT)
- 640 CUBA, Habana-Radio Reloj 2/19 usual format w/good signals, format of nx and RR Morse Code Beeps at 1047. (VAL-DX)
- MEXICO, Fresnillo-XEYQ 2/19 0420 fair signals with lots of XE fast paced mx and many ments of Fresnillo. New for both of us. (VAL-DX)
- 770 MEXICO, Fresnillo-XEIH-2/19 at 0540 fair to good signals, no sign of Colombian at all this night, hrd with Ranchero mx and lots of Laser Bursts between songs and SS talk. New for both of us. (VAL-DX)
- 1060 MEXICO, Mexico DF-XEEP 2/19 0541 Good signals on top of all stations w/Clas. mx and SS talk. (VAL-DX)
- 1560 MEXICO, UNID, prob. XEFAJ-Mexico DF-tearing up Bakersfield and WPAD with Latin mx, alot of SS talk, but no IDs. at 0410 2/16. (PM)
- 1685 COLOMBIA, Mercaderes-MER beacon very strong w/Morse Code at 0825 2/11. This one will get out even after the expanded band fills up. (LG-MT)
- 1700 BRAZIL, Carajas-CRJ beacon weak w/Morse Code ID at 2259 2/7. (LG-MT)

## TRANS-PACIFIC DX ROUNDUP

- 153 RUSSIA, Komsomolsk-FE 2/6 1306 poor w/man and woman in RR, apparently nx (JW-OR)
- 180 TRUSSIA, Petropavlosk-FE fair het, some audio, not readable at 1108 2/9. (JW-OR)
- 234 RUSSIA, Arman-FE poor w/RR talk //153 at 1308 2/6. (JW-OR)
- 550 HAWAII, Wailuku-KMVI fair to good w/Top 40, ID on the hour into CNN Radio nx 2/13 1200. (JW-OR)
- 850 HAWAII, Hilo-KHLO-2/12 1110-good w/C&W over KOA talk (JW-OR)
- 594 JAPAN, Tokyo-JOAK 2/6 1404 fair w/man in nx in JJ (JW-OR)
- 657 NORTH KOREA, Kangnam-2/10 1231 poor to fair w/man in Asian lang. presumed KK w/1500 KW per WRTH. (JW-OR)

## UNIDS

- 183 Station 2/19 0620 w/very poor signals, w/traces of audio, but could not make out language. This is not a normal freq. an image maybe? (VAL-DX)

## THANKS TO THESE REPORTERS

- VAL-DX SHAWN AXELROD-30 BECONTREE BAY-WINNIPEG MB R2N 2X9 (CANADA)  
Dxing with Wayne McRae at Valhalla Beach, MB w/2 ICOM R70s,  
filter mods and plam boards-9 LWs or Beverages.
- LG-MT LARRY GODWIN-2390 CLYDES DALE LANE-MISSOULA, MT 59801  
Hammarlund HQ-150, Sanserino air-core box loop
- JW-OR JACK WOODS-POST OFFICE BOX 1003-WALDPORT, OR 97394  
Lowe HF-225 w/ALN-1 outdoor untuned loop
- PM-OR YOUR EDITOR  
Drake R8 w/1500' East Beverage, Ground system, TUN4 unit

reports from Jack Woods and Stephen Jarvis were received at the last minute. The report from Stephen Jarvis is from his yearly trip to Oahu, Hawaii.

TRANS-PACIFIC DX ROUNDUP

- 153 RUSSIA, Komsomolsk, FE 2/25 at 1241. Poor w/Inst. mx, woman speaking in RR (JW-OR)
- 189 RUSSIA, Belogursk-2/25 at 1245. Poor w/Inst. mx // 153 (JW-OR)
- 234 RUSSIA, Arman-2/23 1142. Poor w/RR talk (JW-OR)
- 540 WESTERN SAMOA, Apia-2AP 2/15 at 0832 mx program w/good signal(SV-HI)
- 612 AUSTRALIA, Brisbane-4QR? 2/15 at 1015 EE Pop mx w/ancr that was hard to make out, but sounded EE, some KIPA splash, bad het. (SJ-HI)
- 657 JAPAN, Obihiro-JOOG?-2/15 1020 Asian mx that was Opera style, sounded JJ, not sure. (SJ-HI) (Stephen: JOOG is on 603. What you probably hrd was N. Korea, which is common here. PM)
- 693 JAPAN, Tokyo-JOAB 2/23 1148 Good w/man speaking JJ (JW-OR)
- 702 JAPAN, NHK synchros JOFB/JOKD 2/16 at 1009, opera type solos w/JJ talk, alot of interference. (SJ-HI)
- 711 PHILIPPINES, Asian talk faded up for a couple of minutes, sounded Tagalog, very weak. (SJ-HI)
- 729 JAPAN, Nagoya-JOCK 2/16 at 1007 weak JJ lang (SJ-HI)
- 738 TAHITI, Papeete-2/15 at 1036 FF lang. talk program w/2 men and one woman, occ. pop mx in FF. Time pips on hr, news and ads?, signal was weak but clear. (SJ-HI)
- 747 JAPAN, Sapporo-JOIB 2/16 at 1003 w/EE lang. lessons, strong (SJ-HI)  
+Also noted 2/23 1207 Fair w/woman in JJ //693 (JW-OR)
- WESTERN SAMOA, Apia-2AP 2/15 at 0835 Pop mx program 2 w/sign off in EE and anthem at 0850, very strong (SJ-HI)
- 774 JAPAN, Akita-JOUB 2/15 at 0855, EE lang lesson at hour after time pips. Signal medium and clear (SJ-HI)
- 846 JAPAN, 2/15 at 0911 Asian lang. station that I could not make out under KHLO splash. Signal was fairly strong, asian talk (SJ-HI)
- 954 JAPAN, Tokyo-JOKR 2/24 1231 Fair w/fast JJ talk-Commercial stat.(JW)
- 1017 TONGA, very strong with woman ancr in presumed Tonga, Island mx at 0910 on 2/27. (PM-OR)
- 1242 JAPAN, Tokyo-JOLF 2/15 at 1100 time pips and talk in JJ by two men, medium signal, bad static. Also 2/16 at 0818 JJ talk and mx voice overs poss. ads, weak (SJ-HI)
- 1260 JAPAN, Sendai-JOIR-2/15 at 0930, JJ DJs w/US and JJ pops,ads, jingles signal medium and clear. (SJ-HI)
- 1332 AUSTRALIA?, 2/15 at 1001 talk in accented EE w/nx, very weak Tokyo ment. (SJ-HI)
- 1440 JAPAN, Sapporo-JOWF-2/16 at 0937, JJ commercial station w/talk and occasional pop song and canned jingle and ID? at 0949, Time pips on the hr. YL DJ (SJ-HI)
- 1449 UNID, 2/16 at 0935 man in EE w/end of program went off the air at 0937. (SJ-HI) (Micronesia?PM)
- 1476 RUSSIA, Vladivostok-2/16 0912 Pop mx and local program w/canned ads and jingles in RR. YL DJ w/program info at 0922/0930 (SJ-HI)
- 1548 AUSTRALIA, Emerald-4QD 2/15 at 1108 accented EE w/interview already hrd on last trip, also 2/16 at 1026 w/talk show and ABC News. Weak in and out. (SJ-HI)
- 1557 MARSHALL ISLANDS, 2/16 at 0838 pop mx and talk over and under another station on freq. Again w/mx at 1023, very weak and hard to understand. (SJ-HI)
- 1593 JAPAN, NHK Synchros-JOQB or JOTB 2/16 at 0855 w/EE lang. lessons at hr. Medium signal. (SJ-HI)
- 1602 JAPAN 2/16 0907 low powered station w/good signal and language lessons, not sure of what station listed in WRTH. As strong as 1593 station. (SJ-HI)

THANKS TO THESE REPORTERS

SJ-HI STEPHEN JARVIS-133 PARK #4-LONG BEACH, CA 90803  
DXing with Sony 2010 ,at beach at Makaha, Oahu, Hawaii

JW-OR JACK WOODS-PO BOX 1003-WALDPORT, OR 97394  
Lowe Europa receiver, ALN-1 Outdoor Loop

PM-OR YOUR EDITOR  
Drake R8, term. 200' SW wire, Ground system

4



# DX WORLDWIDE EAST

EDITOR: Jim Hall, 3176 Cheltenham Ct., Gibsonia PA 15044-8435 USA

A very small offering this week; thanks to Randy there is a column this issue. Last week's absence of DXW-E was due to no reports by the deadline. Randy commented that conditions have been pretty lousy for foreign DX of late, with only snort-skip being viable. Here is Randy's lone interesting entry this time:

## P A N - A M E R I C A N A   D X

957.0 CUBA R. Reloj 0250 2/13 Guantanamo outlet from 960 presumed the one off-freq. w/usual Reloj clock-ticks-and-SS-nxcasters format //760. Instead of usual "R-R" in Morse code each minute, there was a 3 or 4-note melody on a gong. This was gone (back on freq?) when checked two days later. New one for me. (Stewart-MO)

## CREDIT:

(Stewart-MO) RANDY STEWART 4225 W. La Casa, Springfield, Missouri 65802-5625  
(Yaesu FRG-100B & 15' Sanserino box loop)



THE  
DX'PEDITION  
HANDBOOK

## *The DX'pedition Handbook ...*

is simply all you need to plan your next DX'pedition. \$8.95 to NRC/IRCA members, \$12.95 to non-members.

Order from NRC Publications - Box 164 - Mannsville, NY 13661. NY orders, please add sales tax.

## **IRCA Almanac Updaters 5.6 and 5.7 Are Now Available!**

Two new updaters to the IRCA AM-FM ALMANAC are now available from the IRCA Bookstore

Updater 5.6 features the most complete listing of Travelers Information Stations (TIS) ever produced. The 32-page listing includes every known TIS station in the US and Canada between 530 and 1710 kHz and even some on FM. Updater 5.6 also includes the FCC Allotment List for stations assigned to the new expanded AM band, 1610 to 1700 kHz. Stations are listed by new frequency, old frequency, and city/state. Those who DX the band from 1600-1710 kHz will find this reference indispensable.

Updater 5.7 features a complete 42-page AM and FM station slogan list, plus current station lists for the Tom Levkis, David Brenner, Pat Buchanan, and Larry King talk shows.

Special prices for these two updaters - \$3 each in the US and Canada, \$4 elsewhere. Order either or both updaters from the IRCA Bookstore, by sending the correct amount (in US funds) to

**IRCA Bookstore, 9705 Mary N.W., Seattle, WA 98117-2334. Thank you!**



## WESTERN DX ROUNDUP

Nancy Hardy  
2301 Pacific Avenue  
Aberdeen, WA 98520-4527

★ PRODIGY  
FMFT21B

Electronic Mail: 73201.2263@CompuServe.com, Prodigy FMFT21B, or  
NancyHardy@AOL.com. E-Mail deadline: 6pm Mondays.

WDXR DEADLINES: Mon. March 20, Mon. April 3, Mon. April 24, Mon. May 22, Mon. June 26,  
Mon. July 24. Please use Eastern Time.

### REPORTERS FOR THIS ANNIVERSARY ISSUE:

- (FA) Frank Aden-4096 Marcia Place-Boise, ID 83704  
Modified Yaesu FRG-7, modified Radio Shack TRF, Sony SRF-42 AM stereo  
Walkman, 45' longwire N-S, 180' L-longwire, 4 foot box loop
- (LG) Larry Godwin-2390 Clydes Dale Lane-Missoula, MT 59801  
Hammarlund HQ-150, Sanserino air-core box loop & KIWA loop
- (HLH) Harry Helms-7445 Andasol St.-San Diego, CA 92126  
Drake R8, Hammarlund HQ150, two-foot Sanserino loop
- (GJ) Gary Jackson-7735 Center Parkway-Sacramento, CA 95823  
FRG 8800, KIWA loop
- (PM) Patrick Martin-P.O. Box 843-Seaside, OR 97138-0843  
Drake R8, 2000' NNW Beverage, 1500' E Beverage, terminated 200' SW wire
- (CM) Curtis McMenamin-667 Corte Castro-Vacaville, CA 95688  
Sony ICF-2010, Radio West loop
- (RJO) Rod O'Connor-P.O. Box 3488-Kodiak, AK 99615-3488  
GE Superadio with 4' loop
- (AWP) Art Peterson-851 31st Street-Richmond, CA 94804  
FRG-7 with mech. filters, Bendix MN-26C, Radio West loop
- (MS) Mike Sanburn-P.O. Box 1256-Bellflower, CA 90707  
GE Superadio  
(MS-CA1) DX'ing from Palm Springs, CA
- (DS) Dan Sys-27423 32nd Avenue-Aldergrove, BC V4W 3J3
- (PT) Pete Taylor-2614 Jackson St.-San Francisco, CA 94115-1123  
(PT-CA1) Vacationing in Brockway, CA (North Shore, Lake Tahoe)  
Sony ICF-2010 and Palomar loop
- (RW) Robert Wien-1309 Dentwood Dr.-San Jose, CA 95118  
GE Superadio II, GE long-range portable, SM-2

### OF SPECIAL INTEREST

- 1090 KINF WA, Seattle 2/19 1100 noted with new calls, no change in format ID "The News Station...News 1090 KINF." Into AP network news. Ex-KING (DS-BC)
- 1250 KQYN CA, Twentynine Palms 2/11 1305 ex-KDHI, noted with Q-Rock slogans. Rock music by Eagles, Aerosmith, Doobie Brothers, Eric Clapton etc. Spot for Sears ID at 1328: "The Morongo Basin's only Quality Rock, Q-Rock 1250 AM" (MS-CA1)
- 610 KRTA OR, Medford 2/5 0400 good signal mixing with KFRC with Spanish programming Ex-KYJC. (DS-BC)
- 620 KOTK OR, Portland 2/6 2230 discovered new calls and new talk format, ex-KINK. (DS) +2/20 0800 ex-KINK in with call ID, per tip in DXM. (LG-MT)
- 700 KVRG CA, Soledad ex-KSUR was the one I reported in error as KGRV in 2/18/95 WDXR. 2/20 strong with Spanish program then ID by man "KBRG-FM Seaside, KVRG-AM Soledad, estaciones de la Cadena Super-estrella" (LG-MT)

b

- 830 KPLS CA Orange 2/8 0720 good signal with "Radio Aahs" programming, local weather, newscast at 0730 read by a kid. Lost to CKKY. (DS-BC)
- 950 KMTX MT. Helena 2/19 0945 fair in KJR null. Noted with new satellite C&W format ID's "America's Best Country on AM 95 KMTX" & "The New 95". This is obviously my "unID" station mentioned in the 2/18 WDXF. Ex-adult standards. (DS-BC)
- KJR WA. Seattle 2/16 0800 about even with KMTX while trying for KKFN. Program on Sports Fan Radio Network ended, and man said "For all your sports, the Northwest sports leader...KJR..." (LG-MT)
- 970 KNUU NV. Paradise 2/19 1030 a rarity in my logs, with good ID. (PT-CA1)
- 1000 KKIM NM. Albuquerque 2/17 1000 ended relig. program and man said "AM 1000. KKIM, Albuquerque-Santa Fe." Fair signal. (LG-MT)
- 1110 KRCX CA. Roseville 2/11 2300 this "normally rare" station has been totally dominating the frequency lately. Has there been an increase in night power or is someone forgetting to flick the switch? (DS-BC)
- 1190 KXBT CA. Vallejo 2/4 2015 fair signal, no sign of KEX. ID as "KXBT Classic Soul." R&B oldies. (DS-BC)
- 1260 KICN ID. Idaho Falls 2/12 2000 fair signal in CFRN null running CNN news programming. Legal ID heard which also mentioned KECN Blackfoot. ID. (DS-BC)
- KPOW WY. Powell 2/20 2050 poor signal under KICN with C&W. ID "Your Favourite Country 7 days a week, 1260 Country KPOW." (DS-BC)
- CFRN AB. Edmonton 2/19 2030 noted with new adult standards format. Back to using call letters again after a two year stint as "The Music Machine." ID "Great Songs, Great Memories AM 1260 CFRN." Ex-oldies. (DS-BC)
- 1270 KNWZ CA. Thousand Palms 2/20 1015 with car dealer ad and ID. (GJ-CA)
- KTFI ID. Twin Falls 2/20 2005 poor in CHWK null with adult standards. ID "KTFI Radio 1270." (DS-BC)
- KAJO OR. Grants Pass 2/20 1010 in strong with news. (GJ-CA)
- 1310 KEIN MT. Great Falls 2/6 0730 poor signal under KLIX with satellite C&W, ID "America's best country KEIN." (DS-BC)
- 1350 CKEG BC. Nanaimo 2/22 0800 popped up with ID as "CKEG, 1570, Nanaimo," new for me. I phoned station; will simulcast through 3/31. (LG-MT)
- 1360 KFIV CA. Modesto 2/4 1945 good signal under/over KKMO with NHL play by play (San Jose Sharks vs Winnipeg Jets). (DS-BC)
- 1370 KPCO CA. Quincy 2/14 2005 good signal all alone, with CBS news, ID, local news, into adult standards. (DS-BC)
- 1390 KCDR CA. Turlock KMIX C&W is no longer. Strong Spanish noted 2/18 2130. Spanish noted intermittently over the next two days, but country noted too, so I wasn't sure. Slogan is "Fiesta Mexicana." Change took place 2/8. (PT-CA1)
- 1460 KRRS CA. Santa Rosa 2/18 and 2/20 2200 two very loud and clear English ID's amid Spanish programming. How does this thing get out so well with 30 watts, or are we having Power Reduction Playtime? (PT-CA1)
- 1480 KRXR ID. Gooding 2/20 1930 fair signal over/under KTMA with Satellite Oldies, local ads, ID "Good time, great oldies, 1480 KRXR." (DS-BC)
- 1490 KRKC CA. King City 2/4 2005 briefly on top of frequency with tail end of CBS news, KRKC ID, and mentions of high school basketball coverage on KRKC. (DS-BC)
- 1580/ KHIT NV. Reno pretty grim spurs noted on the first adjacents several times over the 1600 2/19-21 weekend. (PT-CA1)
- 1700 TIS CA. San Diego 2/20 0804 weak but all alone with Chargers Stadium announcement. (LG-MT)

#### DX TESTS

- 750 KERR MT. Polson 2/20 0200-0230 clearly heard code and voice ID's, mentioned 1-800 number and called at end of test. Good signal, about equal with KXL. (FA-ID)
- +2/20 0200-0230 logged at fair to good levels through KOAL & KANA with many code ID's. Voice ID "This is 750 KERR Polson, MT on the air at 50,000 watts for an equipment test." Country songs "Young Love" and "18 Wheels and a Dozen Roses." Gave toll free number to call, 1-800-750-5377. Report sent. (MS-CA)
- +2/20 0201 strong with code and voice ID's for DX test. (GJ-CA)

- +2/20 0202 great signal with voice & code ID's. C&W music. announced 50kw some KCBS-740 splash (nulled) and strong to nil QRM from KXL-750 (AWP)
- +2/20 code ID at 0203. another code ID followed by voice ID 0210 and female country song. Atop normally dominant KOAL at times. some unID Spanish QRM. Thanks J. D. Stephens & Tom Bryant! (HLH-CA)
- +2/20 0210-0220 fair on DX test under KXL/KOAL with code ID's and country music. Not needed. (RW-CA)
- ?KERR?+1/20 KFQD pretty much on top, but got KXL in very tight SE null. 0202-0203 copied very weak tones, "ER" a couple of times then gone beneath KXL. 0221 very weak female vocal song then gone again. Recheck at 0230 with only KXL/KFQD. "Tentative." (RJO-AK)
- 780 (WWOL) NC. Forest City 2/11 0200-0400 nothing heard, not expected. (FA-ID)  
+2/11 0200-0400 DX test not heard. (MS-CA)
- 850 (KICY) AK. Nome 1/21 0530-0600 nothing heard except KOA dominating frequency. (CM-CA)
- 910 (KIYU) AK. Galena 2/6 0500-0530 nothing heard, had high hopes for this one. (FA-ID)
- 920 CFRY MB. Portage La Prairie 1/30 0100-0130 Morse code ID coming in fair to poor at times. Also thought I might have heard some test tones. Heard Canada mentioned several times. New, MB #2. (CM-CA)  
+1/30 0117-0125 weak code at times, disappointingly poor overall. (AWP-CA)
- 930 KIUP CO. Durango 1/7 0715 voice & code ID, fair under KKHJ. (AWP-CA)
- 1010 KSYG AR. Little Rock 1/23 0315-0330 heard Morse code coming in fair to good. Also tones heard coming in good. Poor voice ID as KSYG. New state for me. (CM-CA)
- 1090 KTNS CA. Oakhurst 1/9 0812 weak code ID's in heavy XEPRS QRM plus splash from local KFAF-1100. (AWP-CA)
- 1100 KNZZ CO. Grand Junction 2/12 0300-0330 poor with Morse code under hard to null out KFAF. Also heard lady DJ mention something about 12:30 usual time, unID talk station under KFAF. (CM-CA)  
(KNZZ) +2/12 0300-0330 nothing heard that sounded like a test, this is usually a regular, was the test on? (FA-ID)
- 1210 KGYN OK. Guymon 2/13 0200-0230 heard Morse code coming in poor with also one voice ID heard poorly. KGYN one of my most wanted stations from OK. (CM-CA)  
+2/13 0200-0230 heard often dominant above KONY & KPRZ with Tri-State forecast, ID: "KGYN Guymon, the information station for the Tri-State region." Typical IRN programming, but no code or test announcement noted. Was it run? (MS-CA)
- 1250 WREN KS. Topeka 2/14 0100-0200 heard Morse code coming in fair to poor at times. Heard also "WR" mention, but poorly heard. New state for me. (CM-CA)  
+2/14 0100-0200 clearly heard code ID's in mess, fair signal. (FA-ID)
- 1320 (WAMR) FL. Venice 1/30 0130-0200 not heard, too much KCTC Sacramento. (CM-CA)
- 1570 ?KUAU? HI. Haiku 1/15 0508 tentatively heard faint code, QRM from CKTA and intermittent splash from local KPIX-1550. (AWP-CA)

#### UNIDS

- 920 1/30 0105 during CFRY DX test heard man mention something about Des Moir es. Any ideas? (CM-CA)
- 920 KWND? 2/19 1030 unknown calls mixing with KQLO. (PT-CA1)
- 1280 2/20 2145-2155 "Radio Latina" with good peaks (and vicious fades) noted. Noting I could hook on to for ID purposes, but presume KDOL Henderson, supposedly with 28 watts of raw, unadulterated power. (PT-CA1)

Thanks to all the WDXR reporters this week. We all owe a big thank you to all the people who volunteer hours of their time to help make DXM the great DX bulletin that it is. Happy birthday, IRCA!



# Central DX Roundup



Editor: John C. Johnson  
Happy Anniversary

## FOR THE RECORD

ADDRESS YOUR REPORTS TO:

E-MAIL: JOHNJ53816@AOL.COM

SNAIL-MAIL: 979 NEPTUNE BLVD., BILLINGS, MT 59105-2129

AMERICA ON LINE: JOHNJ53816

COMPU SERVE: 74444,3075

PRODIGY: MPNN49A

REPORT ALL TIMES AS EASTERN.

DEADLINES: 3/25, 4/8, 4/29, 5/27, 7/1, 7/29, 8/18, 9/2.

## RIDING GAIN

- [MB-MO] **Michael Bay**, 4615 Fairmount, Kansas City, MO 64112-1112  
E-Mail: internet: michael.bay@kcgene.com  
Sangean ATS-803A, Drake R-8, 1-meter box loop, 66' longwire.
- [JWC-SK] **John W. Cairns**, 1706 Arlington Avenue, Saskatoon, SK S7H 2Y7  
Sony ICF-7600.
- [TMJ-IL] **Tom Jasinski**, 419 North Raven, Shorewood, Illinois 60435-9640  
FRG-7 with Quantum loop, R390A with 2½ foot loop, Sharp QT50.
- [GK-AB] **George Kesteven**, 247 Senic Way NW, Calgary, AB T3L 1B6  
E-mail: Kesteven@FreeNet.Calgary.ab.ca  
FRG-7 with modifications, 4-foot box loop.
- [TN-WI] **Tim Noonan**, 4609 Crescent Road, Apt. 5, Madison, WI 53711-4672  
Drake SW-4A, "Radio West" loop.  
E-Mail: Internet: tnoonan@macc.wisc.edu Bitnet: tnoonan@wiscmacc
- [JJR-WI] **John J. Rieger**, 801 Sherman Avenue, South Milwaukee, WI 53172  
FRG-100 with MFJ959B filter, Kiwa loop.

## SPECIAL INTEREST

- 600 CFQC **SK**, Saskatoon. 2/6 was final day on AM as adult contemporary/oldies. 71 years on AM for CFQC came to an end with "From the Hits 600 Newsroom, I'm Easton Wayman." Then morning DJs Denny Carr and Rod Kitter played a country tune and announced the station was now "Country 600 CJWW." The CFQC calls popped up an hour later on 92.9 as "Hot 93 FM" and a new format as "Today's hottest country." [JWC-SK]
- 750 CJWW **SK**, Saskatoon. 2/6 was simulcast on both 600 and 750 during the morning: now no longer operating on 750. Tape running on 750 telling listeners the station has moved to 600. [JWC-SK]

## DOWN THE DIAL

- 540 CBK **SK**, Regina. 2/6 strongest reception ever for this station. 0059 with jazz. [MB-MO]
- 580 WIBW **KS**, Topeka. 2/7 good. 2329 with news, weather, ID. [MB-MO]
- 920 KARN **AR**, Little Rock. 2/8 good. 0227 with Bohanon show, brief news, ID. [MB-MO]
- 1010 CBR **AB**, Calgary. 2/6 fair, but tough to separate from CFRB. 0120 with jazz. [MB-MO]
- CFRB **ON**, Toronto. 2/6 very strong. 0113 with financial topics. [MB-MO]
- 1060 WNOE **LA**, New Orleans. 2/20 good. 0138 with country music. [EB-MO]
- 1070 KNX **CA**, Los Angeles. 2/6 fair. 0209 with news, IDs. [MB-MO]
- WDIA **TN**, Memphis. 2/20 weak. 0144 with ethnic music, ID. [MB-MO]
- 1080 KRLD **TX**, Dallas. 2/6 good. 0226 with Texas Overnight call-in show. [MB-MO]
- 1100 WWWE **OH**, Cincinnati. 2/20 good. 0125 with talk. [MB-MO]
- 1260 KWYR **SD**, Winner. 2/22 good. 0125 with country music, spots, weather. [MB-MO]
- 1280 WWOK **IN**, Evansville. 2/23 good. 2349 with easy listening music. [MB-MO]

CDXR Continued.....

- 1340 **WLBC** IN, Muncie. 2/13 poor in mess. Local WLZR off the air. 2200 with full ID into CBS News. Satellite fed country format. New logging for me. [JJR-WI]
- 1420 **CJVR** SK, Melfort. 1/24 0005-0200 and again 1/28 0155. In good with country music. Spot for Five Mile Auto Wreckers on Hiway 2, & Rainbow Appliance in Melfort. [TMJ-IL]
- 1430 **KRGI** NE, Grand Island. 2/11 in brief opening o/mess of WRTH, WMYS, WEIR, and CJCL. 2300 heard call letters. KRGI used to be a regular here years ago. WCMY appears to be either off the air at night or running very low power. They are not heard here at night anymore. [TMJ-IL]
- WEIR** WV, Weirton. 2/7 in and out w/CJCL, a weak WCMY, and others. WCMY may have been off the air tonight. 0059 with call letters and mention of Steubenville, OH. WCMY popped back up to normal level at 0657. [TMJ-IL]
- 1550 **WBSC** SC, Bennettsville. 2/4 good in WCSJ null. 0000 with sign off info after SSB! Anyone needing SC out west should try for this one. Note SSB first, then sign off. A regular here. [TMJ-IL]
- WKBA** VA, Vinton. 2/7 in o/mess w/WCSJ nulled. 0717 with call letters and mention of Roanoke. Only heard once before. [TMJ-IL]
- 1600 **KLEB** LA, Golden Meadow. 1/26 fair to poor on tip mess. 0555-0630 with French-Cajun music. EE female announcer with accent. She mentioned that they are taking requests, but that she did not speak fluent French and that the requests must be in English! [TMJ-IL]
- WWRL** NY, New York. 2/1 very good o/WCGO and KCRG. 2300 with ID "Radio Sixteen, WWRL New York." [TMJ-IL]
- 1610 **WPF400** IL, Bloomington. 2/18 with weak unID under. This TIS heard while visiting the area. Taped loop with local info. Range of several miles. [TMJ-IL]

#### DX TESTS

- 750 **KERR** MT, Polson. 2/20 poor w/WSB Signal stronger at the beginning, gradually got weaker. 0200-0230 DX Test. 0202, 0209, 0217, 0225 and 0230 heard code message. [TMJ-IL]  
+2/20 DX Test weak in null of a very strong WSB. 0226 heard clear code. Also noted country music and voice IDs. [TN-WI]  
+2/20 DX Test in here like a ton of bricks, overriding KXL and the usual CHQR-750 slop. Station called, said they got a call from Alabama. They were excited. [GK-AB]
- 920 **CFRY** MB, Portage La Prairie. 1/30 DX Test in with good signal. 0100-0130 with code ID strings that included calls and city. Not needed, heard and verified on RS. [TMJ-IL]
- 1250 **WREN** KS, Topeka. 2/14 DX Test. Only heard code IDs on this one. [GK-AB]
- 1320(WAMR) FL, Vencie. 1/30 DX Test not heard. Only WKAN. [TMJ-IL]
- 1590(WXRS) GA, Swainsboro. 1/23 DX Test not heard here. [TMJ-IL]

#### 25 YEARS AGO

March 14, 1970 issue of IRCA's "DX Monitor"...The 6th Anniversary issue contained forum reports from 57 members....Rick Evans of Gary, IN said his totals were 940/484....Bill Nittler of Englewood, CO said he has 2434 veries and started DXing in 1950....Pat Martin of Warrenton, OR received veries from VS21-844, JOKP-1190, and KPRT-540....Bruce Portzer of Seattle, WA said he was 18 and his totals were 761/235....Richard E. Wood of Honolulu, HI added state number 38, Indiana....Gred Zimmerman of Omaha, NE added WWVA for state #36.

#### OPEN MIKE

If we learn for each success, and each failure, and improve ourselves through this process, then, at the end, we will have fulfilled our potential and performed well. A big CDXR welcome to George Kesteven v no is reporting DX via internet. And a welcome back to John Cairns. Clearing up some misunderstanding, CDXR and all columns have an "outdated tips" policy of not including those over a month old. CDXR will include all tips that are current, all unIDs that are current, and all local station changes that are of interest to others such as call changes or major format changes. If you have questions, please ask. If you want changes, submit a proposal to the Board to consider! Happy Anniversary, IRCA! 1995 will bring many changes to the IRCA, some you already know about, others you will learn about very soon. We are at a major turning point for the IRCA and for me personally. See you in Boise in July. It will be nice to renew friendships and bain new ones. There will be a lot of surprises for everyone to talk about. 73, John-John.



# Eastern DX Roundup

Editor: Mark McMillan  
91 Hollis Avenue #2  
North Quincy, MA 02171

## RADIO ACTIVE INPUT

- (MB-ON) Mike Brooker, 99 Wychrest Ave., Toronto, ON M6G 3X8  
Panasonic RF-2200, RFB-45
- (MB-MA) Mike Brooker, DXing at the Kripalu Center for Yoga and Health  
in Lenox, Ma Panasonic RFB-45
- (TF-CT) Tony Fitzherbert, 356 Jackman Ave., Fairfield, CT 06432  
Sanagean ATS-803A atop a Lazy Susan for instant nulling
- (LF-FL) Lee Freshwater KE4QLK 414 S.E.3RD ST Ocala, FL 35806  
E-Mail:LFreshwater@aol Hammarland HQ 145A Patomic FIM-41  
100'lw,N.S. IRCA loop
- (MM-MA) Mark McMillan editor using Kenwood TS-440S and G5RV
- (JD-AL) J.D.Stephens 1155 Old Monrovia,#3E Huntsville,Al 35806  
Panasonic RF-2600,Sony ICF-2001,several lw ants.

## IN THE LOG

- 570 WWNC NC, Ashville 2/3 1731 W/weak sig for a few minutes w/C&W mx  
Live call in's good ID. (LF-FL)
- 570 KLIF TX, Dallas 2/3 0434 W/wx, Talk Pgm "570 KLIF"&"?Talk" (LF-FL)
- 610 WDAF MO, Kansas City, 2/17 w/C&W mx, local sports,local PSA and wx  
.."30 degrees on Signal Hill 61 Country WDAF.." (LF-FL)
- 630 KJSL MO, St. Louis 2/17 0114 w/'Right here on KJSL It's 11 1/2  
after 6 on KJSL" Turned out to be a promo for the morning guy  
(a long promo) into perhaps a talk show..losts of QRM. (LF-  
FL)
- 630 CHLT PQ, Sherbrook 2/2 2115 French mx,way atop the freq. (TF-CT)
- 640 WGOE TN, Blountsville 2/17 0145 W/C&W mx,"On the Top country, WGOE  
.." Weak but readable..might be a semi regular when semi-  
local WHOF is off. (LF-FL)
- 670 WIEZ PA, Lewistown 2/5 1740 Oldie mx,"Weather every fifteen min  
on AM 670, WIEZ", gone under WFAN QRM.. (TF-CT)
- 690 WOKV FL, Jacksonville, 2/10 1715 Pr u/CBF w/anct "WOKV news time  
is 5:15", into local traffic report. My 27th state heard  
from Kripalu. (MB-MA)
- 730 WOHS NC, Shelby 2/9 1950 w/local spot mentioning downtown Shelby  
Capitol sports net w/GA.Tech & Duke BB, good ID @ 1958 for  
"WGNC-Gastonia?WC??-ville/WOHS-Shelby & WLON-Lincolnton.  
(LF-FL)
- 740 CBL ON, Toronto 2/9 2104 w/CBC radio news, wx for "Metro Toron-  
to" ID as CBC-740 Toronto" (LF-FL)
- +ON, Toronto 2/10 1104 fr on daytime gnd wave w/CBC nx (MB-MA)
- 740 KRMG OK, Tulsa 2/22 0506 w/local wx "at KRMG" tough due to WWNZ-  
Orlando. (LF-FL)
- 780 WZZX AL, Lineville 2/11 0200-0207 While looking for WWOL test,  
caught this one on w/ Flash flood & other wx warnings for  
Clay county and surrounding area. Off w/ canned s/off anncet.  
(JD-AL)
- 790 WQSV TN, Ashland City 2/17 1847-1900. Popped up w/ country gospel,  
solgan w/ ment of "Cumberland" & "The Sycamore", spot for  
Mexican rest in Ashland City. Off w/SSB by The Gatlin  
Brothers. (JD-AL)
- 800 CKLW ON, Winsor 2/22 0511 Agn 2/23 0505 w/local nx/wx m/f morn-  
ing team. (LF-FL)
- 800 WOHS AL, Decatur 2/9 2120 w/C&W mx "Country Favorites on 102.1  
WDRM" (LF-FL)

- 800 WDEH TN, Sweetwater 2/10 2000 Caught ID into nx "98.3 FM & Clear Channel 800 AM..WDEH Sweetwater.." (LF-FL)
- 850 WNIS VA, Norfolk 2/10 1734 fr o/WEEI w/local wx, right-wing homophobic talk show slamming Gay Pride festival in Norfolk. Phone number anncet: 640-8585. (MB-MA)
- 850 WEEI MA, Boston 2/10 1735 Gd w/tlk on the Celtics. Ex-590. (MB-MA)
- 890 WFKJ PA, Cashtown 2/29 1740 Gospel mx abruptly cut off by vocal SSB, most of s/off message cut off by WCBS splash, not hrd here before. (TF-CT)
- 900 WINF VA, Staunton 2/10 1700 fr in CKTS null w/ID as "News 900 WINF, Charlottesville-Staunton, News all the time" , into AP Network nx. (MB-MA)
- 920 WMNI OH, Columbus 1/30 0107 fr o/WHJJ, noted while looking for CFRY test w/"AM 920 WMNI Top Ten Country Countdown"promo into C&W mx. (MB-ON)
- 920 WIRD NY, Lake Placid 1/26 1745-1750 fr in dogfight w/WHJJ, non ID as "Radio Lake Placid, the Voive of the Adirondacks", ads for Tangier Furniture and Tri-lakes Ford/Mercury in Lake Placid,promo for a dance at the Lake Placid Hilton,promo for Rush Limbaugh show.Urged listeners to send \$5.00 to Radio Lake Placid,Box 821, Lake Placid NY 12946 to help keep Rush on the air! Signal lost to WHJJ by 1750 (MB-ON)
- 930 WRRF NC, Washington 2/10 1730 pr o/WZNN w/AD Council PSA against drunk driving,non-ID as "Full service radio" followed by "WRRF" jingle (MB-MA)
- 960 WPRT KY, Prestonburg 1/30 2255-2310 Good at times w/ oldies light rock (Andy Gibb, Cristopher Gray,ect)local wx "Solid Gold WXKZ" slogans //FM (JD-AL)
- 980 WCAP MA, Lowell 2/11 Poor in WTRY null w/PSA for planting trees, ID as "Talk radio 980 WCAP, its 6 o'clock". (MB-MA)
- 1000 WRNJ NJ, Hackettstown 2/18 1725 Atop w/AC mx "RJ 1000",noted on the air that address is PO Box 1000, not hrd here before. (TF-CT)
- 1000 WIOO PA, Carlisle 2/19 1803-1812 Way atop freq w/ABC nx,local bulletin board, "Your hometown favorite, 100 Am, WIOO, ABC sports, promo for Tradio to buy,sell and swap each week day noon on WIOO,lost to WMVP, not hrd before,hope they verie. (TF-CT)
- 1000 KTOK OK, Oklahoma City 2/9 2215 Very poor in jumble w/relay of Chuck Harder F.T.P....stuck with it and got a good ID at 2230 "24HRS a Day...turn to News/talk 1000 KTOK Oklahomas Information Station.." (LF-FL)
- 1050 WPBS GA, Conyers 2/21 0415 w/local community calendar poor sig w/XEG?? (LF-FL)
- 1060 WGSB NC, Mebane 2/10 1720 O/KYW w/ eith church community calendar funeral schedules (I'LL be there!),faded. (TF-CT)
- 1060 WCOK NC, Sparta 2/10 1707 Farm prices,country mx, commercials, weak signal o/KYW, call to station's amazed receptionist ("You are hering us WHERE???)verified that it was indeed them, lost to WGSB. (TF-CT)
- 1080 WEEP PA, Pittsburgh 2/19 1746 C&W under local WTIC's talk about the UConn Huskies BB Team (What else??) ID by female at 1755 some commercials, gone by 1802. (TF-CT)
- 1120 WADN MA, Concord 2/19 1720 Folk mx female announcer, commercial for Carmen's Veranda in Sudbury,way atop freq. (TF-CT)
- 1170 WKPE MA, Orleans 2/17 1755 "Oldies mx, "Oldies 104" ID, promo for a Platters contest, way o/WWVA. (TF-CT)
- 1220 WKNR OH, Cleveland 1/30 2330-2345 Very strong w/"Sports Byline" show,"Sports radio 1220 WKNR"slogans. Strongest ever here. Usually mostly wiped out by splash from 1230 local.Day pattern left on?? (JD-AL)
- 1230 WIGS NY, Gouverneur 2/11 0714 fr w/promo for "Winter Blast"winter carnival in Gouverneur, into local nx w/lead story being the number of deportable aliens caught attempting to cross the border in Ogdensburg and Massena thus far in 1995. (MB-MA)

12



- 1230 WKIM GA, Augusta 2/14 1825 Up from the Graveyard junk long enough for call letters to come though....very poor. (LF-FL)
- 1240 WLSC SC, Loris 2/20 0245 w/C&W mx up long enough for an ID.. "On ? country,WLSC.." (LF-FL)
- 1250 CBGA PQ, Matane 2/11 0718 fr o/WARE w/FF talk about Ce'line Dion into song from her "Colour of My Love" album. (MB-MA)
- 1260 CIHI NB, Predictrion 2/11 0728 Fr-good w/"Walking on Sunshine" by Katrina and the Waves, followed by "See-high" ID, local wx,promo for advertising on CIHI. (MB-MA)
- 1270 WTMC FL, Ocala 2/17 0100 Caught them using full power of 5KW. also on 2/20 @ 0300.. A former employee says they lower power at night "If someone decides to stop by the x-mitter and push a button.." They run CNN Headline News..log this one before the commission shuts them down!! (LF-FL)
- 1310 WGH VA, Newport News 2/15 2110 Poor w/Nascar Pgm, local promos for Speedweek, on "The Score & more 1310 & Eagle 97 FM.." (LF-FL)
- 1310 WISE NC, Ashville 2/22 1815 w/local wx, news items "On WISE-Ashville". (LF-FL)
- 1320 WARA MA, Attleboro 2/17 1817 BRN Financial Hour, promo for "Health Talk" each morning on 1320 WARA, sponsored by the Rhode Island Memorial Hospital, way atop for 20 min, lost to regular WATR, hope that this holdout veries! (TF-CT)
- 1350 CKDO ON, Oshawa 2/10 1802 fr w/anct "CKDO News time is 6:02" into Toronto stock exchange report. (MB-MA)
- 1390 WHMA AL, Anniston 2/15 1938 w/promo for TV-44,Buster Miles car dealer.."AM 1390 & FM 100.5..Alabama's ? #1.." into C&W mx. (LF-FL)
- 1400 WMMZ SC, Spartansburg 2/23 0500 Freq all of a sudden quiet then "CNN News is next on your station for wonderful memories AM 14 WMMZ"(New call as of last Nov.. WMMZ used to be a local call here.) (LF-FL)
- 1410 WHLN KY, Harlan 2/14 1857 U/WING w/s/off very poor,but readable.. I was a little unsure so I called station to confirm.
- 1420 WVOT NC, Wilson 2/10 1819 w/promo for WRAL TV-5 news "Only on 1410 WVOT.." (LF-FL)
- 1480 WHBC OH, Canton 2/14 1740 w/Jim Croce tune "Here on WHBC.."Didn't last long, very poor. (LF-FL)
- 1480 WHBC OH, Canton 2/26 1926 Nos mx w/ID u/WSAR (MM-MA)
- 1490 WSFB GA, Quitman 2/23 up from the mud end of poss mx,hrd "All right WSFB" into local wx then gone. Freq a real mess (LF-FL)
- 1490 WVGW SC, Beaufort 2/24 1809-1830 in for almost 30 min fair sig, but hvy fading mixed w/WEAG..local spots/blk mx mixutre of blk jazz and/or oldies.Intersting mix. (LF-FL)
- 1520 WINW OH, Canton 2/16 000 had hrd easy type mx and waited for ID at 0000 hrd w/WWKB at WINW Canton..I show as a daytimer..waited after news hrd more easy mx and several ID's as "WINW" "Your Listing to WINW-1520.." very poor mixing w/WWKB & WOOC (LF-FL)
- 1520 WZMG AL, Opelika 2/10 1830 Very poor in mess w/s/off (LF-FL)
- 1520 WKZQ SC, Myrtle Beach 2/10 2105 w/rock mx "WKZQ 101.7" ID's local wx "at Rock Radio".. "The Beaches best rock" I show them as daytime??? Another case of x-mitter being left on?? (LF-FL)
- 1540 WMYF NH, Exeter 2/5 1707 In like a local, "AM 154C,WMYF". Mark Avery is SMN DJ, adult standards including Arn Murray record gone at 1715, I understand that this one is difficult to verie!? (TF-CT)
- 1550 WKBA VA, Vinton 2/11 1757 fr o/CBE w/country-gospel mx, local wx and anct "thats going to do it for this broadcasting day on WKBA" .(MB-MA)
- 1550 WBSC SC, Bennettsville 2/10 1745 pr w/promo for local high school BB game to be aired on WBSC,into local wx (MB-MA)
- 1580 WPGC MD, Morningside 1/28 0830-0900 noted w/most radical format change, from bussiness nx to Urban Contemporary/rap! Rap mx w/Flavor 1580 ID's, female DJ w/432-1580 request line #. Finally hrd a legal ID at 0900: "Flavor 1580 WPGC Morningside Washington, DC". (MB-ON)
- 1580 WOXR AL, Oxford 2/9 1833 w/promo for salvation Pgm "Every Sunday on WOXR", Local PSA's good sig for 60 sec. (LF-FL)

13

1580 WBBE KY, Georgetown 2/9 1834 Followed WOXR in w/easy mx on "Easy 1580-WBBE." My "WBBB"unid from 1/7 gone at 1835. Suspect pattern change (LF-FL)

1580 WDAB SC, Traverlars Rest 2/9 1836 Followed above stations to the channel with the usual CNN news. A real pest here at SSS. (LF-FL)

1590 WPWA PA, Chester 2/11 1754 Fr-good w/"Unforgettable 1590 WPWA" ID into "Volare" by Frankie Avalon. (MB-MA)

1600 WWRL NY, New York 2/5 1800 Good o/usual dom pest CHNR w/promo for "Drive Time Dialogue" AM drive pgm on "Radio 16 WWRL"into USA radioi nx. (MB-ON)

1620 ???? ?? Pirate Radio 2/21 2130-2145 Black sole or gospel mx off abruptly at 2145 leaving channel open! (MM-MA)

790 UNID ??, 2/21 0552 "News Talk W S C X" or WXCS not sure, signal up for just a second or two.. (LF-FL)

+++++  
DX TESTING

730 KWRE MO, Warrenton 2/18 0100-0130. IRCA dx test.This test was nix-ed by the GM after I Publicized it. Thus, a no show. (JD-AL)

780 WWOL NC, Forest City 2/11 0200--400 IRCA test another no-show (JD-AL)

910 KIYU AK, Galena 2/6 0500-0530 IRCA DX TEST not hrd. (JD-AL)

920 CFRY MB, Portage La Prairie. 1/30 0100-0130 IRCA test hrd weak w/2 definite CID new,MB#3. (JD-AL)  
+ 1/30 Poor in mess u/dom WHJJ w/CID's noted at 0122 and 0131, no C&W mx noted except from WMNI (q.v.) (MB-ON)

1210 KGYN OK, Guymon 2/12 0200-0230 IRCA DX TEST another no-show has been rescheduled. (JD-AL)

1250 WREN KS, Topeka 2/14 0100-0200 IRCA DX TEST HRD WELL W/many CID's VID's mentioning IRCA, Phone and fax # mentioned,gospel mx (JD-AL)

1320 WAMR FL, Venice 1/30 0130-0200 IRCA Test Hrd well at times w/sweep tones,CID's and VID's (JD-AL)

+++++  
EXTRA INFO

530 CIAO ON, Brampton Still on 530, and won't be moving to 1430 although the 1995 WRTH has them on 1430! Either the CRTC vetoed their application to move to 1430 or they just like the great groundwave on 530! (MB-ON)

590 CJCL ON, Toronto Moved from 1430 on 2/6 at 1200. They now non-ID as "Fan 590" and "Canada's first all-sports superstation". "Superstation" is debatable. I would only call a 50 KW clear channel blowtorch like WFAN or KMOX a "sports superstation"! (MB-ON)

1430 CKYC ON, Toronto ex 590 as of 2/6 to my surprise, they did not go off the air but moved to 1430 in an even-up freq swap.Automated-sounding C&W, w/non-ID's as "Country Music Radio" and frequent annct to tune to 590 if you're looking for the fan. So much for my dream of having 1430 clear and 1410, 1420 and 1440 free of slop. (MB-ON)

+++++  
Thanks to Tony, Mike, Lee and JD. for the input. Remember I am now on the internet. My adr is MarkN7EIJ@aol.

## IRCA Foreign Logs

The IRCA has published nine volumes of the IRCA Foreign log Each volume contains the several hundred actual tips that were reported to the DXWW sections during an entire year, compiled and retyped in a book format In addition, special features include articles on foreign DXing (volumes 6, 7 and 8), utility lists (volumes 7 and 8), shortwave parallels (volume 8) and BCB propagation (volumes 6, 7 and 8) The IRCA Bookstore still has volumes 3, 4, 6, 7 and 8 of the IRCA Foreign Log available for \$2 50 each (overseas airmail add \$2 50/book)

Order from the IRCA Bookstore, by sending the correct amount (in US funds) to

**IRCA Bookstore, 9705 Mary N.W., Seattle, WA 98117-2334. Thank you!**



# Western DX Forum ★ ★ ★ ★ ★

Reid Wheeler 5910 Boulevard Loop SE Olympia, WA 98501

Deadline: Saturday 2 weeks before publication

\*\*\*\* ANNIVERSARY ISSUE \*\*\*\*

## Gary Larson, 2806 Lincoln, Burbank CA 91504

Hello - re-intro time. I've been a member for years and have had an interest in radio since about 1963. I'm single, working in security currently days at a Van Nuys location. I'm also a runner since late 60s and average 4 mi. a day. I have both GE Superdials I and II plus use car radio to dx at various times. Happy Birthday IRCA.

## Art Peterson, 851 31st St, Richmond CA 94804

Happy Anniversary, IRCA! By way of re-introduction. I am age 50, single, have been DXing since 1960, and work as a consulting forester. I joined the IRCA near its second anniversary and have been a member ever since; member of the Longwave Club since 1981. Receivers in use: a modified Yaesu FRG-7 (general coverage plus LW through a converter) and a WWII surplus Bendix MN-26C (150 to 1600 khz). Antennas in use: R. West loop and 300 feet of longwire strung around the periphery of my lot. At various times I tune LW beacons, MW, SWBC, and utilities. I have verified all states (43 on MW), all provinces (9 on MW), and 81 countries (56 on MW). Other interests include long distance bicycle touring, photography, snow skiing, and personal computers. I am the author of the GCD program for MS-DOS computers that computes great circle distances and bearings. GCD has been well received by those who have used it and is available w/full registration for \$20. See the ad in 12/17 DXM for more info. Thanks to JD Stephens, I've bagged some rare "W" calls this season -- thanks, JD! 73 and good DX to all.

## John C. Johnson, 979 Neptune Blvd, Billings MT 59105-2129

406-259-9210 E-Mail: JohnJ53816@aol.com

Happy Anniversary, IRCA! It is a great feeling to be once again writing a forum report for an anniversary issue! 1995 will see some major changes for the IRCA. It sure looks like the IRCA will continue publishing for many years to come. There will be some major changes in my personal life too, those changes will unfold before your eyes over the next few weeks. Many of you know I am a charter member of the IRCA. I work for KTVQ, channel 2, here in Billings. I've been with KTVQ since May of 1972! My main job is master control operator, but I also TD two newscasts nightly. I've been DXing since 1962, and my current totals are 1345 heard, 988 verified. This does include call changes. I'm looking forward to the Boise convention in July. I hope many of you will be able to attend. All those attending will have plenty to talk about. 73, John-John.

## Larry Godwin, 2390 Clydes Dale Ln, Missoula MT 59801

Greetings, and Happy Anniversary, everyone! It's been another good year for the club, with many fruitful CPC programs arranged; an abundance of valuable tips reported in the DXR and DXWW columns; and an excellent, well-attended convention in Aberdeen. I'm lucky that I was active during the formation of the IRCA, and am happy that I've had the privilege of serving the club in all three elective capacities: President, Secretary-Treasurer, and (currently) Director on the Board. Actually I started DXing in 1957 from Amarillo, Texas, and the following year, bought the Hammarlund HQ-150, still my primary receiver. Since then, I've DXed from Boulder and Denver, CO; Berkely, CA; Corvallis, OR; and Durango, CO. I was inactive and let my club membership lapse while I lived in Santa Rosa, CA during the mid- and late-80's before moving to Missoula in 1990. From this location, I've heard 680 stations from 17 countries, 35 U.S. states, and 5 Canadian provinces. I'm 52 years old. On to current events: I received a prompt, friendly verie from KSYG-1010 for the test J.D. arranged. I'm still trying to track down my mystery oldies station in the EST zone on 820; do any of you eastern members know what that could be? See you in Boise this summer!

15

**Patrick Martin, PO Box 843, Seaside OR 97138**

HAPPY ANNIVERSARY, IRCA!! A reintro is in order. I am 45 and have been DXing since about 1962 when I lived in Seward, Alaska. I started collecting QSLs in 65 and today have 2250 plus MW veries. I enjoy serving on the BoD and editing DXWW-West. As a professional, I own and run a Locksmith business, which my father started about 28 years ago. Mostly, I enjoy DXing Foreign stations, but when conditions are good for Domestics I DX that also. Some of my better QSLs through the years: ZK2ZC-630 khz - Cook Is. - 500 watts; 7SH-1584 khz - St. Helens, Tasmania - 100w; Nepal 792 & 576 khz; India - 864 khz; Bangladesh - 558 khz, and others. I am fortunate enough to live in an area with few locals and little noise. I currently use a Drake R8 and Hammarlund SP-600 receivers. For antennas I use a 1500' Eastern Beverage, a 2000' NNW beverage, a terminated 200' SW wire for the Pacific and Asian DX. Being a member is very enjoyable and I try to attend as many conventions that I can. May IRCA be around for many years to come. Good DX to all. 73s Patrick

**Dale Park, PO Box 22778, Honolulu HI 96823**

Anniversary time already? All right, it's probably because I don't forum enough. Anyway, I first discovered DXing about 20 years ago when I found out I could hear "American Top 40 with Casey Kasem" on Neighbor Island radio stations. It took a few years before I learned I could hear Mainland stations, the term "DXing," and the existence of clubs. I've been a member of IRCA on and off since the mid-1980's. I'm also in NRC, NASWA and (the now defunct) SPEEDX. I've also edited IRCA SportsCentre, its sequel Sportchannels IRCA, and Focus on Formats for DX Monitor. I'm also compiling the sportsradio section of the upcoming IRCA Almanac. As for me, I'm in my early thirties, was a classical music DJ for four years at KTUH-FM, the University of Hawai'i station (I had the last classical show...blame Arbitron, hi). I don't think I will attend either the Boise or Denver conventions but I send my thanks and best wishes to everyone I met in Billings and Merrimack. Aloha and support your club.

**Bill Hardy, 2301 Pacific Ave, Aberdeen WA 98520-4527**

(E-Mail: 73201.2263@CompuServe.com, FMFT21A@prodigy.com or BillHardy@AOL.com) Happy Anniversary, IRCA!! This should be a most interesting year here. On Sept. 14, when I complete my two-year term as IRCA President, I will have already pasted up the first two issues of Volume 33 of DX Monitor. Being President was hectic enough. Becoming Editor-in-Chief will be like going from the frying pan into the fire!! I hope we'll soon be able to name the city where DXM will be published. Thanks to everybody who answered my request for printing bids around \$100. And I hope to be able to complete the latest IRCA AM-FM Almanac this year. Hardly any time to DX with all this activity! Let me keep with the Anniversary Issue tradition and re-introduce myself. I'm 48, a DXer since 1960 here in Aberdeen, with about 1050 stations heard, mostly domestic from 41 states and 5 provinces. Primary receiver is a Yaesu FRG-7 with a Radio West Loop. I'd sure like to add the portable Sony ICF-2010 to the den in the next year! As most of you know, I've been married to Western DX Roundup editor Nancy for nearly 21 years. Watch for us plus our two kids at the Boise convention this July 14-15-16. Boise should be the most interesting IRCA convention yet! Make your room reservations now. Happy Anniversary, IRCA!

**Frank Aden, Jr., 4096 Marcia Place, Boise ID 83704**

Happy Anniversary IRCA from Convention City! The Convention is progressing nicely. We are still working on getting some guest speakers and have since got some tour requests. A few items have already come in for the auction. For those of you who are not familiar with me, I am 41 and work for the State of Idaho, Boise State University, Bookstore. There I do a combination of accounting, merchandising and customer service. Have a BS in Telecommunications from the University of Oregon. I and Mark Campbell are working on an updated BOISE NIGHTTIME BANDSCAN that will go into the Convention Booklet. DXing for that and looking for DX tests is where most of my BCB DXing is centered right now. I have been teaching a Community Education Class on Short-wave Radio. It appears most of the students are also interested in BCB so I have passed some sample bulletins out. Maybe we will get a new member or two! Mark and I have scouted out an area for the Beverage site for the Convention; it is a few miles south of town, off I-84. It is right on the OREGON TRAIL. 73 and see you in BOISE!

**Shawn Axelrod and Wayne McRae, Winnipeg MB**

Well another successful DX'pedition to Valhalla Beach has been completed. We had a great time once again and with the improved insulation of our converted or should I say still being converted school bus we were warm even with temps dropping to -20 or so. A couple of other trips were canceled due to temps a round



the -30 range making leaving the car outside for 12 hours not advisable. The walk of about 1500-1600 feet was a bit of a hike due to snow that was ankle to knee deep. Of course the snow was waist deep near the bus just to insure we had a good work out. I suppose hauling about 100 plus pounds of radios, food, batteries, etc. behind you on a toboggan could help slow a guy down. But on the other hand we are CANADIAN DX'ERS and that would never stop us. We did manage to get a few new ones and ended up with some mystery stations such as two beacons on 1641 and 1680. Then there was the logging of KQRS on 1700 which still has us scratching our heads. We figured we had gotten the first new station in the expanded band until we found out they have not asked to move. It is loggings like that which keep us going. That is it for now. We have to get some of you Southern DX'ers up here one winter for a DX'pedition. Bring your radios and your warmest clothes (if you have REAL WARM clothes) and we will let the DX flow. Remember the colder the weather and the harder the walk, the better the DX will be. You never get cold walking and working hard in the snow!! 73 Shawn and Wayne.

Nancy Hardy, 2301 Pacific Ave, Aberdeen WA 98520

It's time again for the annual re-intro for IRCA members. I can't believe it, but I have been an IRCA member for 24 years, 20 of which I've been WDXR editor. Bill and I met through the club when I lived in Fredonia, NY, 22 years ago. We have two children, Billy near 9 years old and Melanie who is 5. Last August we had the honor of hosting the annual IRCA convention here in Aberdeen-Hoquiam. I hope to arrange my schedule to permit more DX'ing time in the next year. The next year will be an important one for IRCA, and it will be interesting to see exactly what will happen. By the way, we have a big surprise for those of you who will be attending the IRCA convention in Boise in July. This will be even bigger than the surprise birthday party for Larry Godwin at last year's convention. I hope to see many of you in Boise. Happy birthday, IRCA! 73/88

-----32-26-----

**LA VOZ DE CHIAPAS LIBRE & LA VOZ DE GUATAMELAN MAYAN**

The two interchangeable tropical/AM band outlets are soon to begin portable operations, either in Northwestern Guatemala or Northwestern Chiapas, or Northcentral Chiapas. Because these mobile Spanish language programs will depend on battery power, the maximum hours of operation will be 1200-0300 GMT, due to both power limitations and the need to circumvent both nations monitoring of these propagandists [from Guatemala, San Cristobel, Los Ceses, Turtle Gutierrez and the Tebescan capital of Ville Hermosa] hours will be irregular. In deference to radio hobbyists worldwide, we will attempt some special DX programmes that would include an EE cassette prepared by a DX hobbyist active in the National Radio Club [NRC] and International Radio Club of America [IRCA] in the early 70's and through the 60's from both California and Arizona. He will act as a radio hobbyist and philatelic mail drop and work in conjunction with the anticipated International Hacker Exposition to coincide with the California Computer Expo [formerly the the San Diego Computer Fair] slated for August 17 - 20 1995 at the Waterfront San Diego Convention Center, California [his telephone line is (619) 573-0617; the hackers plan no voice line, but assure that a full internet forum will be forthcoming, variously indexed as Frente Segundo and or Chiapas].

Please notify philatelic listeners/readers that Chiapas Libre is now planning postal stamp issues, in the tradition of Estado Issues of the Mexico Civil War [1914-1920] that came from Sonora, Oaxaca, and Baja California Sur.

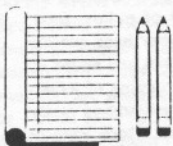
Starting February 1, 1995 reception reports are solicited for both Voz and SS supply data/voice utility broadcasts as troops in both Chiapas and Guatemala and less-badly governed but equally nationalist Tabasco and Yucatan. Unless president Zedillo and interior Minister Mactezuma get very aware very quickly, they can expect Mayan refugees in such centers as Tijuana, Mexico and Los Angeles to raise havoc with their computers and modems in what will prove the worlds first revolution largely fought on the internet system.

Several Frente Segundo activists based in Tijuana, B.C.N. with visas permitting them to cross to San Diego, California have asked our philatelic consultant, Jay Murley of San Diego 92143-4106 to handle all QSL requests.

In turn, he urges DX clubs to count Chiapas Libre and Mayan Guatemala (as opposed to Hispanic Guatemala City, etc) as separate reception countries. There are no amateur radio prospects anticipated (approved in Tijuana Centro, B.C.N., Mexico 1/16/95)

The above item from the Feb ASWLC bulletin. There is suppose to be a BCB out let. All you older IRCA members check the person who is handling the QSL's. The mis-spelled words belong to ASWLC.....Pub.

17



# Eastern DX Forum

Richard C. Evans  
P.O. Box 21883  
Milwaukee, WI 53221-0883  
Phone: 414-Atlantic 2-9035

DEADLINES: 3/11, 3/25, 4/8, 4/29, 5/27, 7/1, 7/29.

## HAPPY ANNIVERSARY

Mike Hardester, 3118 Gaitway Ct., Jacksonville, North Carolina 28546-6973  
Internet: Mike\_Hardester@ZAPBBS.COM HAPPY ANNIVERSARY, IRCA, and Best Wishes for Many More Years!! As is the custom, a reintroduction is in order. At 45, I'm married, and have a daughter almost on her way to college. I've been an IRCA member since 1969, having entered this fantastic hobby of ours in 1968. At present, I have an ICOM R-70 (in need of repairs), and SONY 2010 (stand-by). Also, I use a Radio West 22" Ferrite Loop which has assisted in some most welcome logs, including the HCJB test last December.

Karl J. Zuk, 154 Old Post Road North, Croton-on-Hudson, New York 10520-1932  
Happy anniversary, IRCA! Now 41 years old, I have served as IRCA President and editor of EDXR, and have been with the club since 1981. By day, I am a broadcast engineer for ABC Television in New York City; and a writer for Monitoring Times. I am a casual medium wave DXer, not really concerned about QSLs and career logging totals. I keep a logbook of stations I find interesting, and QSL pirate and other oddball stations. Out of the hundreds of stations I have heard, I may have a dozen QSL letters. I use an R-390A/URR with a very long wire strung from tree to tree, and a ground system for the long haul stuff. I also use a GE Superadio, but my favorite sets of all are my "All-American Fives" and my analog Delco car radios. I've been using a five tube GE Model 400 (circa 1949), found discarded on a roadside in upstate New York. After a complete restoration, it has become my primary receiver. I couple my outdoor antennae and ground to it with a home made racetrack coil that greatly resembles its built in loop antenna. With it, I can phase out signals and catch more DX than you would ever believe! I listen for fun, especially enjoying the stations that still play music. One favorite is the Saturday Night Jamboree on WWVA, Wheeling, West Virginia on 1170 kcs. I have been enjoying this country music show since I was about 3 years old, listening on a two transistor radio in the Berkshire mountains of Massachusetts on summer vacation. back then, the show would be followed by endless amounts of bluegrass music that continued deep into the night. It was corny as Kansas in August! The radio was our only link to civilization, and after the local station, WHNB (now WNAW) signed off at dusk, you had no choice but to string out your antenna wire and hope for the exotic. I also loved Top 40 on WKBW, WOWO, and CKLW. That feeling of fun has never left me, and I enjoy AM radio more than ever. It doesn't picket-fence like FM, and can be heard in basements and other foreboding places. It travels for thousands of miles, and can be picked up with the simplest of equipment. If I can pick up Canada on a crystal radio, anything is possible! By writing, word-of-mouth, and free hand-outs, I have tried to promote the hobby of DXing; to share the fun with the rest of the world. I encourage you to do the same! Congratulations to a wonderful group of people: You!

Richard W. Turner, 286 Hixville Road, North Dartmouth, Massachusetts 02747  
Hello everyone. Thought I would check in with a quick introduction. I'm forty years old, married with no children, and work as

18

a shoe salesman for JC Penney in nearby Taunton, MA. I was once a member of both the NRC and the IRCA back in the late 70s and early 80s, but drifted away. Back in December, I caught the bug again and decided to rejoin. I currently am using a Radio Shack STA-785, a DX-390 and an old TRF which was the only thing to have survived from fifteen years ago. Combined with a Select-A-Tenna Loop, I hope to get back into the swing of things soon. For those of you who are interested, my telephone number is 508-996-2948 (no collect calls, please), and my E-mail address is DUAH32B. 73s de Rick.

John J. Rieger, 801 Sherman Avenue, South Milwaukee, Wisconsin 53172  
Well, time for a long overdue re-intro. I'm 41 and started DX'ing in 1967. I drive for Milwaukee County Transit, though dealing with the public has taken a toll on me, hi! Back in 1967, I could remember making lists of the Top 40 stations I heard. I can still remember Jack Armstrong on 1100-WKYC Cleveland. I can still remember the excitement the first time I heard NY or Canada! Back then 920-WOKY and 1340-WRIT were the Top 40 giants in Milwaukee. Through the years, I've added a few other hobbies including travelling, collecting beer cans, record sc's, jingles, air checks, and bus skeds from other cities, but DX'ing has always been #1! Without a doubt, the dumbest thing I ever did was throw 250+ QSL cards/letters and years of WOKY/WRIT sc's which had been collected weekly for years! I thought I had outgrown the hobby, and hobbies were for kids! Not-hi! Luckily I never threw the logbooks out. As the years went by, radio has always fascinated me. My shack consists of 9 radios with the newest being a Drake SW8, Yaesu FRG 100 plus an MFJ 9598 antenna tuner/preamp and KIWA loop. I hadn't bought a new receiver since 1982. Buying a house in 1985 took a little saving, hi! My hope for the future is that AM and FM radio are not replaced by satellite dishes. So much of the locality of radio is gone! Also, I want to thank everyone who puts anything into the IRCA. It is an EXCELLENT club and I appreciate your efforts. You go through a lot of sacrifice. Also, it's nice seeing some new names lately. Good luck & 73's to all!

Ernest Cooper, 5 Anthony Street, Provincetown, Massachusetts 02657  
It was a little over 62 years ago that I began in the grand old hobby, DXing. My first-ever verie was a v/q from WFIW-940, Hopkinsville, KY, and the second one was from the then 50-watt WEXL, Royal Oak, MI. I DXed from Brooklyn, NY where I was born until 12/16/74 when I retired (early) and moved here to Provincetown "and lived happily ever after". I thought it might be of some interest for me to describe NY radio in the 30s. In those days, WMVA & WNYC shared time on 570. NY's principal stations were WBAF-660 NBC Red network, WOR-710, WJZ-760 NBC Blue, & WABC-860 CBS. On 810 was WPCH, a limited time station, owned by WMCA. The hassle between WMCA and WNYC was solved by deleting WPCH, and assigning WNYC to 810. On 940 was Jersey City's WAAT, a daytimer. Four NY stations shared time on 1010: WHN, WPAP, WRNY & WQAO. On 1100, WLWL had two hours a day, with WPG, Atlantic City using the rest of the day. WOV was daytimer on 1130, as was WGBS, later WINS, on 1180. On then graveyard channel 1210, sharing time was WGNN, WFAS & WJBI, Red Bank, NJ. On 1250 were Newark's WAAM & WGCP, and Paterson's WODA. On 1300 were WFAB, WHAP & WBBK. Then on 1350 were four sharing time: WODA, WKBQ, WBNY & WMSG. WKBQ eventually was sold to the Pillar of Fire who put WAWZ, Zaraphath, NJ on the air. Brooklyn had four stations: on 1400: WBBC, WCGU, WLTH & WSGH, the latter later becoming WFOX, then WCPW. 1450 was a NJ channel with WNJ Newark, WHOM Jersey City, WBMS Hackensack, and WBS Elizabeth. On GY channel 1500 we had WNRRL, WMIL, WMBQ, and WCLB, the first being in Woodside, the next two in Brooklyn, and WCLB in Long Beach. That was a long time ago, and it's possible I may have left one or two out, or confused some of the foregoing. It was a distant female relative who clued me in on sending for verifications. I joined the Globe Circler's DX Club in the mid-30s, and the NRC in 1939. All my 4472 BCE veries were logged in my residence. I did not start over when I moved to Provincetown. It would have meant re-verifying a whole bunch of stations. And I still get a thrill out of each new catch! And I filled a life-long ambition by becoming a broadcaster here on WOHM! Forward - March!

Tim Noonan, 4609 Crescent Road, Apt 5, Madison, Wisconsin 53711-4672  
tnoonan@macc.wisc.edu Happy birthday IRCA! It's time for a reintro. I'm 34, married for 6 1/2 years to Jill, no kids yet, and in the last stages of a dissertation in musicology at the University of Wisconsin. I have been a DXer and radio fan continuously since 1973, though I started in the hobby in 1969 and 1970. I DX mainly with a Drake SW-4A, purchased in 1974, with a Radio West loop, which I bought in 1980. Milwaukee is my home town, and I DXed from there until 1989 when we moved to Madison. Then I started my BCB totals over, and I am up to 517 here (not counting call letter changes). This past fall, especially November, was very productive; a few highlights: #500 in KXXX-790, a clear ID from WQIS-890 in the null of WLS, and a new state in KCKN-1020, which has since verified. I have QSLed about 440 BCB stations--that total carried over when we moved. I was thrilled to receive a QSL from WVW1-1000, especially because my report was quite sketchy (though I did get a positive ID). Lately, I send reports mainly to DX tests. My reports to regular service broadcasts have yielded fewer responses. Well, enough from me. When you DX, remember to support IRCA's great editors!

S.D. Warren, 1026 CR 64 N, New Albany, Mississippi 39652  
Happy Anniversary, IRCA! It's that time again. Time to let everyone know a little about ourselves and remember the good ole' days of DXing. For a brief re-intro, I'm 47 years old and have been a BCB and TV DXer since the late 50's and FM and SW DXer since the mid 60's. BCB totals are approximately 2100 heard from 45 states, 9 provinces and 45 countries. Have verified 14 states and 2 provinces. Since I have always lived in north Mississippi, I don't know what DXing was like in other areas in the 50's, 60's or 70's, but DXing has really changed here in MS since the 60's. In the 60's, SM and MM SP's allowed distant stations to be heard on open or fairly open channels. Hearing 5 kwers from CA was easier then than their 50 kw stations are now. ET's and DX Tests could be heard from most of the U.S. in the clear. It was even possible to hear Australia and New Zealand if cx were right. Back then I had never heard about DX clubs, loops, longwires, or verification cards but DXing was still enjoyable and much simpler than it is today. The main difference today is interference. SM and MM SP's are history. ET's are usually from a nearby state. When I first joined IRCA in 1983, I felt like the best days of BCB DXing were gone. I was surprised that so many people were still interested in BCB DX with so much congestion on the band. I realize now that it's still possible to be a successful BCB DXer but it's not as easy today. It takes better equipment and a knowledge of what can be heard. Being a member of IRCA is very important. Knowing what stations are being heard in a neighboring state can add new stations to the log book. DX Tests make very tough stations cut thru the interference. BCB DXing is still alive and IRCA is doing its part to keep it that way. With stations moving to the expanded band, perhaps we will someday look back and say "Back in '95, I could hear stations from California with 1,000 watts. Now those were the good ole' days". 73 from north Mississippi.

Rick Evans, 4841 South 26th Street, Milwaukee, Wisconsin 53221-2937  
Well, it's been a very interesting year for me, mainly due to non-DX activities. I joined IRCA in March, 1965 and NRC in July, 1965. Back then, I was a 19 year old kid. Now, I'm about to turn 50, with a 24 year old son of my own. Where does the time fly, hi. I've been mostly involved in IRCA as an editor (CDXR 1970-73 and 1975-78, plus EDXF since 1981). I served as club president 1973-77, and several different stints on the BoD, the latest being the current term. I started DXing in Michigan in the early 1960's, moved to Indiana in 1966, back to Michigan in 1974, out to the Philadelphia (PA) area in 1978, and out here in Wisconsin (two locations) in 1987. I've kept a different log at each location, and have a combined log showing a cumulative list overall, but that's a few years behind now. My best location was Gary, Ind/New Buffalo, Mich from 5/1/66 to 3/31/78 when I heard about 1335 stations. A few have been added as new stations have come on the air, and I caught them on the car radio passing thru the area. I have been fairly inactive for the past 18 months here, since the Milwaukee area fellowship group of Transport for Christ was formed in Sept., 1993. It's an international

20



ministry to truck drivers which I've been familiar with for about 30 years, but with the group in this area, I find myself getting more and more active in it, to the point where I am now going down to a mobile chapel south of Rockford, Ill to conduct church services every couple of months as a volunteer chaplain. The decision has just been made to explore the possibility of going full-time with them as a chaplain, which would lead to a move from Milwaukee in a year or so. At least until then, I plan to remain as EDXF editor even if I am not doing a lot of DXing. I still enjoy the hobby and plan to stay with it wherever I land. IRCA is 31 years old this month, may it live to be 62, hi. 73.

## IRCA BOOKSTORE

IRCA AM-FM Almanac, 5th Edition 1991 Updaters are also available from the IRCA Bookstore!

Updater 5.1 - Almanac index, AM slogans Updater 5.2 - Satellite Music Network, Unistar/Transtar, talk updates, BRN, 1991 Baseball Updater 5.3 - updated NFL and college football, NHL Hockey, 530/1610 TIS/Highway Radio update, Rush Limbaugh. Updater 5.4 - updated NBA and college basketball, ABC-AP-UPI-USA network lists, ESPN-SEN sports talk lists, Canadian Music networks and more Updater 5.5 - 1992 baseball, Spanish networks, Interstate Radio Network and AM Slogan list updates

Each IRCA AM-FM Almanac, 5th Edition 1991 Updater is 20 pages. Price \$2.00 US and Canada, \$3.00 elsewhere

(NOTE IRCA Almanac (third and fourth editions) are still available for \$5.00 (overseas airmail add \$2.50))

### A DXers TECHNICAL GUIDE

Now in its 2nd edition, this 120 page book answers questions on receiver and antenna theory (how to improve their performance), how audio filters and loop antennas can improve DX (and hints on their construction), how to build a beverage and phasing unit, and much more. Only \$5.50 for IRCA/NRC members, \$6.50 for non-members (overseas airmail add \$2.50)

### IRCA Mexican Log, 3rd Edition

After months of preparation, IRCA has published the 1994 edition of the IRCA Mexican Log. The log lists all AM stations in Mexico by frequency, including call letters, state, city, day/night power, slogans, schedule in UTC/GMT, formats, networks and notes. In addition, stations that have changed frequency since 1990 are cross-referenced on the old frequency. The call letter index gives call, frequency, city and state. The city index (listed by state, then city) includes frequency, call and day/night power. The log has been completely updated from the 1990 edition and carefully cross-checked by IRCA members in Mexico and the US. This will be an indispensable reference for anyone who hears Mexican radio stations. Size is 8 1/2" x 11" and three hole punched for easy binding (optional). Prices IRCA/NRC members - \$6.00 (US/Canada/Mexico/seamail), \$7.00 (rest of the Americas airmail), \$7.50 (Europe/Asia airmail), \$8.00 (Australia/New Zealand airmail). Non-members add \$2.00 to the above prices.

### An Introduction to Broadcast Band DXing

This tri-folded brochure is ideal for explaining the Broadcast Band DXing hobby and the IRCA. It can be included with reception reports and given to other interested folks. Sub topics include "What is DXing?", "Broadcasting's early years," "The first DXers," "Clubs helped listeners share," "Our hobby today" and "DX clubs still unite listeners." It is two color printed on heavy stock. Price is \$0.35/brochure (US and Canada), \$1.00 (rest of the world). Minimum order is 10.

To order any of the above items from the IRCA Bookstore, send the correct amount (in US funds) to  
**IRCA Bookstore, 9705 Mary N.W., Seattle, WA 98117-2334. Thank you!**

21



# VERIFICATION SIGNERS

Stephen S. Howe  
 9 Warner Drive  
 St. Albans, VT 05478-1575  
 showe@moose.uvm.edu

My deadline is the last Friday of the month, unless indicated otherwise.

### Contributors:

EB Eric Bueneman, 631 Coachway Lane, Hazelwood, MO 63042-1347  
 SSH Your editor  
 GVJ Gary V Jackson, 7735 Center Parkway, Sacramento CA 95823  
 TIR Thomas J Reiser, 9506 S Winchester, Apt 205, Chicago IL 60643-1109; reiser@prairienet.org  
 MS Mike Sanburn, P O Box 1256, Bellflower CA 90707  
 RS Randy Stewart, 4225 W La Casa, Springfield MO 65802-5615

FREQ	CALL	NAME and TITLE	ADDRESS	WHAT	WHEN	WHO
580	WIBW	Ed O'Donnell, CE/OpsM/PD	Box 119 Topeka KS 66601	QB	21	TJR
595		Fred White, AgChiefTech	Dominica Broadcasting Corp Victoria St Roseau, Commonwealth of Dominica	L	36	GVJ
700	CKRD	Elesha Talma, Recep	P O Box 5700 Red Deer AB T4N 6V5	LB+	200	GVJ
830	KPLS	Bruce Barker, PD	1592-1 N Batavia St Orange CA 92667	Lbc+	365	MS
		R Paradise	TBN Engineering Dept 2442 Michelle Dr Tustin CA 92680*	Q	14	RS
873	R Mayak	Mrs Eugenia Stepanova	The Voice of Russia World Service Letters Dept, 113326 Moscow Russia	L+	45	GVJ
885	ZJB	Claude Hogan, InfoOff	Radio Montserrat P O Box 51 Plymouth, Montserrat, BWI	L	21	GVJ
910	WSUI	Dennis Reese	The Univ of Iowa, Broadcasting Serv 3300 Engineering Bldg Iowa City IA 52242-1597	Q+	21	TJR
950	WPET	Stan Thomas, GM	P O Box 16924 Greensboro NC 27416	bc		MS
1000	WVWI	Rick Ricardo, DirOps	P O Box 5678 Charlotte Amalie, St Thomas USVI 00803-5678	L	7	EB
1080	KSCO	Dave Jackson, TechDir	2300 Portola Dr Santa Cruz CA 95062	LMBbc	7	MS
1090	KTNS	Larry W Gamble, GM	40356 Oak Pkwy, P O Box 1912 Oakhurst CA 93644	LBbc	8	MS
1300	WNQM	Adam W Lock Sr, OpsMgr	1300 WWCR Ave Nashville TN 37218	LB+	47	SSH
1340	KTIK	Jeff Caves, GM	5257 Fairview Ave Suite 250 Boise ID 83706	Lbc	11	MS

WHAT was received: L = Letter; Q = QSL card; P = Prepared card supplied by DX'er; R = DX'er's letter returned with statement; F = Verification by FAX; M = Coverage map; B = Bumper or other sticker; bc = Business card; + = Extra goodies

WHEN the reply came: Number of days elapsed; f = Follow-up; n = Return postage not used; r = Return postage returned

NOTES: \* [for this report] = See comment below

Randy indicates that the address he reported for Radio Paradise/TBN (St. Kitts) on 830 kHz is the address he sent his report to and the address printed on TBN's return envelope; the QSL card shows the usual TBN address of Box A, Santa Ana CA 92711, however. This column was prepared on 2/24/95. Happy Anniversary, IRCA! 73, SSH

22

# SPORT IRCA

Date Park  
Box 22778  
Honolulu HI 96823-2778

I ain't gonna DX like dat, ain't gonna DX like dat... Heard about this new league? Well, it plays only 48 games, less than some junior leagues. It has two conferences, with no inter-conference play until the league championship, for something call the Stanley Cup. Hi, there. Yup, the NHL is back, and I hope I got 'em. In the meantime, you can fill in the gap with contributions, like these fine people have...

PLAYERS OF THE WEEK: Eric Buenemann, MO; *DX Monitor*; *M Street Journal*; *UMI Big Eight Handbook 1994-95*; *Popular Communications*; *SRDS Radio Advertising Source*; various newspapers.

UNIVERSAL SYMBOLS: Flagship stations are **highlighted**. (=) AM-FM simulcast. (+) Relays another AM. (\*) Daytimer. (n) Daytimer with nighttime permit. (!) Under 100 watts at night. (p) Partial schedule; dates unknown. (w) Weekends (Sats./Suns.) only. (h) Home games only. (S) In AM stereo. Others explained below.

## COLLEGE BASKETBALL

**U. of Colorado BUFFALOES (via UMI)** UNAVAILABLE  
590 KCSJ-CO 740 KTWK-CO **760 KTLK-CO** 1450\$ KGRE-CO 1490 KBKS-CO  
1410 KCOL-CO

FM: 107.9 KBKL-CO

**Iowa SU CYCLONES (via UMI)** UNAVAILABLE  
540 KWMT-IA 950 KOEL-IA 1170 KJOC-IA 1380 KCIM-IA 1580 !KCHA-IA  
600\$ WMT--IA 1080a \*KCSI=IA 1250 KCFI-IA 1430 !KASI=IA 1590 KWBG-IA  
**940 KTOA-IA** 1130 \*KILJ-IA 1320 KMAQ-IA 1470 KKSC-IA 1600 KLGA-IA  
1370 KLBA-IA

—FM—

92.9 KIDA-IA 95.7 KQWC-IA 103.1 KLKK-IA 105.9 KTLB-IA 107.3 KIOW-IA  
95.3aKCSI=IA 101.1 KXIA-IA 104.9bKLMJ-IA 107.1 KCCQ-IA 107.7 KICD-IA  
101.7 KDLS-IA  
'' KDSN-IA

SYNDICATOR: Diamond-Learfield. NOTES: (a) Formerly KOAK-AM/FM. (b) Formerly KWGG-FM.

**U. of Kansas JAYHAWKS (via UMI)** UNAVAILABLE  
690 KGGF-KS **980\$ KMBZ-MO** 1320 KLWN=KS 1420 KJCK-KS 1540 nKLK=KS  
730 !KLOE-KS 1240 KIUL-KS 1390 !KNCK-KS 1440 KMAJ=KS 1550 !KKLE=KS  
860 KKOW-KS 1280 KSOK-KS 1410 KQAM=KS 1450 KWBW-KS 1600 !KMDO-KS  
1290 KWLS-KS 1470 KYUU-KS

—FM—

93.5 KLKC=KS 98.5 KSAJ-KS 100.7 KHOK-KS 101.7 KEGS-KS 105.9 KLZR=KS  
'' aKWME=KS 99.3 KIKS-KS 101.1 KFNF-KS 103.1 KNDY-KS 106.7 KFXX=KS  
95.9 KQNS-KS 100.3 KQLS-KS 103.7 KEYN=KS 107.7 KMAJ=KS

NOTES: (a) Listed as KZED-FM by media guide.

**Kansas SU WILDCATS (via UMI)** UNAVAILABLE  
**580 WTBW-KS** 1150 KSAL-KS '' KPHN+KS '' \$ KAYS-KS 1490 KKAN=KS  
690 KGGF-KS 1190 \*KVSU-KS 1350\$ !KMAN=KS 1420 KJCK-KS 1510 \*KAN-KS  
860 KKOW-KS 1270 rKSCB-KS 1390 !KNCK=KS '' KULY-KS 1530 KQNS=KS  
990 !KRSL=KS 1320 pKLWN-KS 1400 KVOE-KS 1460 !KKOY=KS 1550 !KKLE=KS  
1030 KBUF-KS 1340 KNHN-KS 1480 KZSN-KS 1590 KVBG-KS

—FM—

92.1 KMZA-KS 94.5 KJCK=KS 95.9 KCAY=KS 100.9 KCLY-KS 105.5 KKOY=KS  
92.5 KQMA=KS 94.5 KSKL-KS 96.7 KQDF-KS 101.5 KMKF=KS 106.1 KSKU-KS  
93.5 KWME=KS 95.3 KSNP-KS 98.1 KYBD-KS 102.5 KKCI-KS 106.7aKQWK=KS  
'' KCKS=KS 103.9 KNZA-KS

SYNDICATOR: Stauffer Communications/Kansas Information Network.

NOTES: (+) Relays 1340 KNHN. (a) Formerly KVVN-FM. (r) May be under 100 watts at night.

**U. of Mississippi REBELS (direct)** David Kellum, Stan Sandron  
570\$ WVMI-MS 1140 \*WAKK-MS 1270 nWLSM-MS 1320 !WRJW-MS 1450\$ WCJU-MS  
580 WELO-MS 1230 WSSO-MS 1290 nWTYL-MS 1400 WJWF-MS '' WMGP-MS  
620\$ WJDS-MS 1240 WQZQ-MS 1430 WNWZ-TN 1490 WHOC-MS

—FM—

**93.7 WOLJ-MS** 94.3 WXRZ-MS 95.3 WAFM-MS 101.1 WBBV-MS 102.3 WIQQ-MS  
'' WTRC-MS 99.1 WYMX-MS '' WKZU-MS

SYNDICATOR: Mississippi Network/TeleSouth Communications Inc.

**U. of Missouri TIGERS (via UMI)**

560	KWTO-MO	900	KFAL-MO	'	KLPW-MO	1350	sKSLO-MO	1450s	WMBH-MO
680	KJEL-MO	930	KWOC-MO	1240	KWOS-MO	1360	!KMRN-MO	'	KWPM-MO
750	*KJEL-MO	1010	!KCHI-MO	1240	KNEM-MO	1360	nKCMG-MO	1490	KDRO-MO
800	KREI-MO	1070	KHMO-MO	1270	nKOZQ-MO	1370	!KWRT-MC	1520	KMPL-MO
810	KCMO-MO	1120s	KMOX-MO	1290	!KALM-MO	1400	KFRU-MO	1550s	!KAPE-MO
830	*KBOA-MO	1150	nKRMS-MO	1300	!KMMO-MO	'	KJCF-MO	1560	*KTUI-MO
870	*KAAN-MO	1220	!KOMC-MO	1340s	KXEO-MO	1420	KBTN-MO	1590	!KMOZ-MO

--FM--

92.3	rKBUG-MO	95.3	KDKD-MO	97.7	KAYQ-MO	102.9	KMMO-MO	104.7	KRES-MO
92.7	KMAL-MO	95.5	KAAN-MO	'	KFBD-MO	103.9	KCHI-MO	105.7	KKXX-MO
95.1	KLGS-MO	96.7	KMEM-MO	100.1	KRLK-MO	104.5	KSLO-MO	106.5	KCMG-MO

SYNDICATOR: Diamond-Learfield Communications/Missourinet.

NOTES: (r) Relays 97.7 KAYQ-FM. (s) May be under 100 watts at night.

**U. of Nebraska CORNHUSKERS (via UMI)**

620	KMNS-IA	1110s	<del>KFAB-NE</del>	1280	nKCNI-NE	1380	nKUVR-NE	'	KLIN-NE
880	KRVN-NE	1230	KHAS-NE	1310	nKGMT-NE	1400	KBRB-NE	1430	KRGI-NE
940	!KVSH-NE	1260	KIMB+NE	1340	KSID-NE	'	KCOW-NE	1450	KWBE-NE
960	KNEB-NE							1510a	*KKOT-NE

Kent Pavelka

--FM--

94.7	KNEN-NE	96.9	KICX-NE	97.1	KELN-NE	98.9	KKPR-NE	105.5	KOCE-NE
------	---------	------	---------	------	---------	------	---------	-------	---------

NOTES: (+) Relays 1340 KSID. (a) Formerly KTTF.

**U. of Oklahoma SOONERS (via UMI)**

710	KGNC-TX	1230	KADA-OK	1300	KAKC-OK	1390	KCRC-OK	1520s	<del>KOMA-OK</del>
750	*KSEO-OK	1240s	KKAJ-OK	1320	KXOL-OK	1450	KGFF-OK	1570sn	KTAT=OK
1150s	KNED-OK	'	KOKL-OK	1350s	rKRHD=OK	1470	nKVLH-OK	1580	!KOKB-OK
1180s	KGOL-TX	1260	KWSH-OK			1490	KBIX-OK	1590	nKWEY-OK

UNAVAILABLE

--FM--

92.5	KPRV-OK	93.5	KRKZ-OK	97.9	KGNC-TX	99.3	KLOR-OK	105.1	KBLP-OK
'	KMOD=OK	95.9	KYBE=OK	98.1a	KIRQ-OK	100.1	KYFM-OK	105.5	KXXK-OK
92.7	KKBS-OK	96.7	KBEL-OK			102.3	KRHD=OK	107.5	KGND-OK

SYNDICATOR: Diamond-Learfield Communications. NOTES: (a) Formerly KKRX-FM. (s) Off the air at press time.

**Oklahoma SU COWBOYS (via UMI)**

740s	<del>KRMG-OK</del>	1050	nKKRX-OK	1240	KBEL-OK	1380	sKMUS-OK	1450	KWHW-OK
780s	*KSPI=OK	1210s	KGYN-OK	1260	KWSH-OK	1400	KTMC-OK	1470	nKVLH-OK
1000	KTOK-OK	1230s	WBBZ-OK	1280	nKPRV-OK	1410	KQAM-KS	1490	KOKC-OK
1020	aKRAD=OK			1350s	nKRHD=OK			1600	!KUSH-OK

UNAVAILABLE

--FM--

93.5	KIMY-OK	96.9	KNID-OK	100.1	KYFM-OK	103.7	KRPT-OK	105.7	KICM-OK
93.7	KSPI-OK	99.3	KGVE-OK	101.1	KWOX-OK	105.1a	KJFK=OK	106.9	KSWR-OK

NOTES: (a) Formerly KASR-AM/FM. (s) Off the air at press time.

**Pennsylvania SU NITTANY LIONS (direct)**

580s	WHP-PA	900	WCPA-PA	1240	WYGL-PA	1330	!WADJ-PA	1430	nWVAM-PA
590	WARM-PA	910	WSBA-PA	1270	WLBR-PA	1340	WTRM-PA	1450	WPSE-PA
670	nWIEZ=PA	930	WCNR-PA	1280	WHVR-PA	1360	WPPA-PA	'	WMAJ-PA
790	WAEB-PA	1020s	KDKA-PA	1310	!WAYC-PA	1390	WRSC-PA	1490	WAZL-PA
800s	WCHA-PA	1150	!WHUN=PA	1320	WGET-PA	1400	WKBI-PA	'	WNTJ-PA
850s	WEEU-PA	1210s	WGMP-PA			'	WRAK=PA	'	WNBT=PA

UNAVAILABLE

--FM--

92.1	WSNU-PA	96.7	WFRM-PA	101.9	WAVT-PA	103.1	WQMU-PA	107.1	WEXC-PA
95.9	WMRF-PA	99.3	WPQR-PA	102.1	WOWQ-PA	103.5	WLAK=PA	107.9	WRAK=PA

SYNDICATOR: Paxson Communications/American Networks Group.

**West Virginia MOUNTAINEERS (direct)**

580	WCHS-WV	1190	*WHYS-VA	1360s	WMOV-WV	1430s	WEIR-WV	1490s	WTCS-WV
800s	WKEE-WV	1240	WDNE-WV	1390	!WKLP-WV	1440	<del>WAJR-WV</del>	'	aWPVO-WV
1050	!WMSG=MD	1290	WVOW=MD	1400	WRON=MD	'	WHIS-WV	1560	nWFSP=MD
		1340	WEPM-WV	'	WVRC=MD	1450	WZAC-WV		

Jack Fleming, Woody O'Hara

(continued)

24




-FM-

91.1 WDEB-MD	94.3 WRLE-WV	95.3 WCEP-WV	<b>101.9 WVAQ-WV</b>	104.7 WDFW-FM
91.5 WDAZ-WV	95.9 WTBZ-WV	96.7 WOVF-WV	WVON-WV	101.9 WDFW-FM
92.7 WPMO-WV	96.1 WKRS-WV	99.1 WRHM-WV	102.3 WSSN-WV	101.1 WRGZ-MD
93.5 WOST-WV	96.5 WZCC-WV	101.7 WELD-WV	102.9 WELC-WV	101.5 WPKM-WV
93.9 WFRF-WV	97.7 WRON-WV		103.9rWVME-WV	101.7 WFSH-FM

SYNDICATOR Metronews Network/MSN Radio

NOTES: (+) Relays 1440 WHIS. (r) Relays 93.9 WRRR-FM. (a) Formerly WAEY

## EAST COAST HOCKEY LEAGUE

690 <b>WJOX-AL</b>	Birmingham BULLS [Fla]		Chris Kerber
610 <b>WRFX-NC</b>	Charlotte CHECKERS [Bos/IHL Chic]		Sam Smith
920 <b>WMNI-OH</b>	Columbus (OH) CHILL [Indpt]		Jim Talamonti
980 <b>WONE-OH</b>	Dayton (OH) BOMBERS [Dal/StLo]		Gary Loc
1400 <b>WLKK-PA</b>	Erie (PA) PANTHERS [Indpt]		Paul Chesnut
1400 <b>WKEW-NC</b>	Greensboro (NC) MONARCHS [Anah/Que]		Brooks Melchior
790 <b>WPAR-VA</b>	Hampton Roads ADMIRALS [Wash](1)		Pete Michaud, Pat Shetler
1420 <b>WTCT-WV</b>	Huntington (WV) BLIZZARD [AHL Worc]		Jim Mirabelle
103.3 <b>WTCT-WV</b>	[Simulcast]		
850 <b>cWJAC-PA</b>	Johnstown (PA) CHIEFS [AHL Hersh]		Greg DeVitto
99.1 <b>WNOX-TN</b>	Knoxville (TN) CHEROKEES [LA/IHL LV/IHL Phx]		Andy Davis
99.7 <b>WWTN-TN</b>	Nashville KNIGHTS [TB/IHL Atl]		Mark Miller
850 <b>SHWLT-NC</b>	Raleigh (NC) ICECAPS [NJ]		Andy Young
92.1 <b>WDYL-VA</b>	Richmond RENEGADES [Hart]		Brian Hamilton
960 <b>cWFIR-VA</b>	Roanoke (VA) EXPRESS [SJ/IHL Minn]		Tim Woodburn
1340 <b>eWOKS-SC</b>	South Carolina STINGRAYS [Buff/Vanc](2)		Dave Davis
104.9 <b>WMLO-FL</b>	Tallahassee (FL) TIGER SHARKS [Islanders/IHL Den](3)		Kyle Schultz
95.7 <b>WYHK-OH</b>	Toledo STORM [Detri]		Jeff Gibbons
100.5 <b>WOMP-OH</b>	Wheeling (WV) THUNDERBIRDS [Edm/Mont]		Dave Goucher

AFFILIATES: (a) 830 WMMO-NC, 920 nWBBB-NC (b) 1230 WLOG-WV, 92.3 WSAC-KY. (c) 1330 WADJ-PA (d) 103.9 WXCF-VA. (e) 980 WAZS-SC, 100.9 WPAL-SC. (f) 1340 WSTV-OH.

NOTES: (g) Formerly WAQS. (h) Formerly WKIX. (i) Formerly WRED-FM. Also: 1 Plays in Norfolk. 2 Plays in North Charleston. 3. Was the Huntsville (AL) BLAST last season. The Louisville ICEHAWKS are sitting out this year. The ECHL began in 1988-89 with five teams, survivors of a failed merger between the Atlantic Coast and All-American Hockey Leagues. The ACHL in turn traced its roots back to the Eastern Hockey League of the 1980's, the North American Hockey League of the 1970's, and the older version of the EHL before that. The ECHL is the biggest minor league and is considered class AA. Note that some of the parent clubs are themselves minor league teams; a few are in tandem with their NHL parents.

## NATIONAL BASKETBALL ASSOCIATION

<b>San Antonio SPURS</b> (via SRDS)	Jay Howard
710 KURV-TX <b>1200 WOAI-TX</b>	1230 KLKE-TX 1300 KLAJ-TX

**POINTS** Another correction to a previous episode—Eric Buenemann says the Atlanta HAWKS and BRAVES have moved to 750 WSB-GA, which has better coverage than 640 WGST. SRDS reports the baseball team (or its replacement, the Fraidycats, hi) will have a Spanish outlet, 1600 WAOS-GA...It's not often that I quote a rival magazine, but according to IRCA's Tim Hendel in *Popular Communications* MW column, 1120 KMOX-MO's Jack Buck is winding down his sportscasting activities in anticipation of retirement. He will only be heard on St. Louis Baseball CARDINALS home games (unless replaced by the Cardinal Sins, hi) and perhaps some CBS Radio coverage. Presumably, son Joe Buck will assume some responsibilities. KMOX is in the running to be the radio flagship of the old Los Angeles RAMS, now in St. Louis...Three national networks are covering college basketball this season. CBS/Host Communications offers a Sunday "Game of the Week," featuring John Roone. Mutual has weekend coverage with announcing teams Joel Meyers & Kyle Macy, and Kevin Harlan & Kevin Grevey. John Tautges is studio host. There's also the Radio Sports Creations network, distributed by The Sports Radio Network, which was the American Sports Radio Network, which was the...

Happy Birthday, IRCA! For those of you with attention deficit, like me, I've been doing a sports column for DXM on and off for about nine years. I'm also working on the sports section of the upcoming IRCA ALMANAC, and I welcome any sports information to help make this book the best guide to radio programming ever! (That's an unsolicited endorsement from me, hi.) Well, gotta get back to research so until next time this has been the unfabulous sports boob saying va-byee...

Dallas Lankford, 8 VI 94

For about a year I have been experimenting with extremely high intercept amplifiers using 2N5109 and 2N3053 bipolar junction transistors (BJT's). These kinds of amplifiers, known as common base transformer feedback (CBTF) amplifiers, and also known as common base noiseless feedback (CBNF) amplifiers, if properly designed and used, offer MW DXers (and SW DXers, though their needs are not as extreme as MW DXers) amplifiers with extremely low levels of 2nd and 3rd order intermodulation distortion (IMD2 and IMD3), which, in turn, offer much higher levels of strong signal handling performance than have been available previously. CBTF amps can provide greatly improved performance for balanced two foot air core loop amps, for low-gain tuned preselector amps, for broadband phasing system amps, and for other similar applications where extremely high 2nd and 3rd order input intercepts (ICP2in and ICP3in) are needed. Appropriately configured, a single BJT CBTF amp can have ICP3in greater than +35 dBm throughout the MW band and ICP2in greater than +46 dBm throughout the MW band. With a pair of BJT CBTF amps configured push-pull, ICP2in greater than +95 dBm can be achieved throughout the MW band. The purpose of this note is to summarize my experiences with CBTF amps using 2N5109 and 2N3053 BJT's, and to provide enough information for other DXers to construct and use these kinds of CBNF amps.

CBNF/CBTF amps were first described by Dr. David E. Norton in his pioneering May 1975 Microwave Journal article, "High dynamic range transistor amplifiers using lossless feedback." The amplifiers were patented (U.S. Patent Nos. 3,426,298; 1969, 3,624,536; 1971, and 3,891,934; 1975), which, perhaps, explains why CBTF amps have not been widely used in the past. According to reliable sources, these patents have expired. However, if you decide to produce and sell such amps, you should obtain legal counsel to verify this information. In that

pioneering article, only transformer turns ratios and corresponding amp gains were given; no information about DC power and biasing was given; see Fig. 1 at left. A theoretical circuit analysis based on simplifying assumptions was given as follows. Assuming that a common base BJT amp has zero input impedance, and infinite output impedance (neither of which is true), and assuming unity current gain (which is approximately true provided the operating frequency

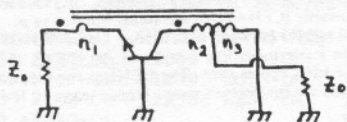


Fig. 1

of the amp is well below the cutoff frequency of the BJT), a two way impedance match to  $Z_0$  will be obtained if the transformer turns ratios  $n_1:n_2:n_3$  satisfy the turns ratio condition  $1:n:m$  where  $n = m^2 - m - 1$ . Permissible ratios include 1:1:2, 1:5:3, 1:11:4, 1:19:5, and so on. Also with the above simplifying assumptions, power gain is  $m^2$ . Thus, a 1:1:2 amp has gain 4, or  $10 \log(4) = 6.02$  dB, a 1:5:3 amp has gain 9, or 9.54 dB, a 1:11:4 amp has gain 16, or 12.04 dB, a 1:19:5 amp has gain 25, or 13.98 dB, and so on. The number of turns of wire on the transformer may be varied to adjust frequency range of the amp as long as the appropriate ratios are maintained. For example, a 1:5:3 amp may have 1:5:3, or 2:10:6, or 3:15:9 turns for  $n_1:n_2:n_3$  and so on. The phasing dots of the transformer in Fig. 1 should be observed. A BJT CBTF amp uses negative feedback, so that reversal of the phasing of the feedback link  $n_1$  would provide positive feedback, which would likely cause the amp to oscillate, and in any case would change amp gain, and degrade IMD performance and two way impedance match to  $Z_0$ .

Although it was not explained in Norton's pioneering article, the meaning of the expression "a two way impedance match to  $Z_0$ " is, apparently, that if one of these BJT CBTF amps works into a load of  $Z_0$  ohms real, then the input impedance of the amp is  $Z_0$  ohms. In other words, the input impedance of a BJT CBTF amp is dependent on the load impedance; namely, the input impedance is equal to the load impedance. But there is more to it than that. The transformer of the BJT CBTF amp is a broadband transformer, with a frequency range which depends on transformer parameters. So the frequency range for which a BJT

26

CBTF amp provides a two way match to  $Z_0$  is, presumably, no greater than the frequency range of the transformer. Also, the frequency range of a particular transformer depends on the source and load impedances of the transformer. This limits the range of values of  $Z_0$  for which a particular transformer will provide a two way impedance match to  $Z_0$  over a given frequency range. based on experiments and measurements with a number of transformers, I have found that if the usual principles of broadband transformer design are adhered to, then a BJT CBTF amp using 2N5109 or 2N3053 BJT's has about the same frequency range as the transformer alone for a given  $Z_0$ . For many applications,  $Z_0 = 50$  ohms, so the usual transformer design for 50 ohms should be used.

The two way impedance match to  $Z_0$  is an ideal characteristic of BJT CBTF amps based on a mathematical derivation which uses simplifying assumptions that are not true for actual common base amps, as pointed out above. Based on measurements with several BJT CBTF amps, I have found that if such an amp works into a load of  $Z_0$  ohms real, then the input impedance tends to be about 60% to 80% of  $Z_0$ . I have not attempted to determine whether a perfect match to input impedance (using a broadband matching transformer) would increase the ICP2in and ICP3in of these BJT CBTF amps because the intercepts are already so high that there seems to be no need to raise them slightly higher by this means. Also, there are other easier means to raise the intercepts higher. For example, a 1:1:4 CBTF amp with appropriate transformer and biasing adjusted for 20 mA collector current and with appropriate bypassing and coupling capacitors has flat power gain of about 12 dB from about 100 KHz to beyond 30 MHz, while the ICP3in is about +38 dBm from 10 MHz to 30 MHz, but falls off slowly below 10 MHz to about +34 dBm at about 1.6 MHz, and to about +27 dBm at about 455 KHz. This decrease of ICP3in as frequency decreases seems to be normal and due to the diode junctions of BJT's. For higher ICP3in within and below the MW band, one may use a 2:1:4 transformer, which has a flat 6 dB power gain, and ICP3in greater than +35 dBm for all frequencies greater than 455 KHz. The two way impedance match of a 2:1:4 transformer is not perfect either, and gives an input impedance of about 160 % of  $Z_0$ . For a 2:1:4 CBTF amp working into a 50 ohms real load, this would be an input impedance of about 80 ohms, which is still a reasonably good match to a 50 ohms source impedance.

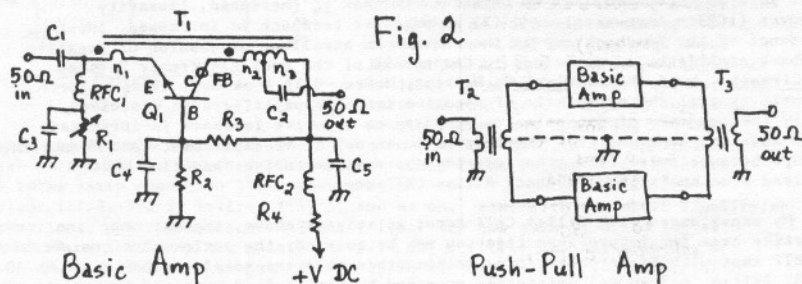
The example of a 2:1:4 CBTF amp above illustrates three of the general principles of negative feedback, namely that (1) as negative feedback is increased, power gain is decreased, (2) as negative feedback is increased, linearity improves (ICP3in increases), and (3) as negative feedback is increased, input impedance of the feedback amp is increased. An excellent discussion of negative feedback amplifiers is contained in Chapter 17 of the book Electronic Devices And Circuits, by J. Millman and C. Halkias, McGraw-Hill Book Co., 1967. There a fourth general characteristic of negative feedback amplifiers is discussed, namely the tendency of amp noise to decrease as negative feedback is increased, but I have not observed this characteristic in any of my experiments and measurements, perhaps because noise from other sources obscured any noise reduction which resulted from the higher feedback 2:1:4 CBTF amp.

My experiences with 2:1:4 CBTF amps, as related above, suggest that a fertile area for future investigation may be to study the performance characteristic of CBTF amps with transformer turns ratios other than the ideal ratios (1:1:2, 1:5:3, 1:1:4, and so on) originally proposed by Norton (and repeated by other writers). For example, it appears that the turns ratios for a near-perfect two way impedance match to  $Z_0$  have yet to be determined for 2N5109 and 2N3053 BJT's, and since such amps have yet to be studied, their power gains and their input intercept characteristics are as yet unknown. And it appears that the only way to develop such amps, if they can be developed, is by trial and error, i.e., by winding transformers with different turns ratios and measuring the closeness of two way impedance match to  $Z_0$ , measuring amp gain, measuring ICP2in and ICP3in for various collector currents, and so on. One could also attempt to develop a more accurate mathematical model of CBTF amps beginning with the usual two-port hybrid models, but the complexity of such a project appears to be considerable.

Relatively little information appears to have been published regarding biasing CBTF amps using common BJT's, such as 2N5109 and 2N3053. The November 1984 Ham Radio column, "VHF/UHF World," by Joe Reisert, W1JR, contains the only biasing information I have found for a 2N5109. The same biasing was also suggested for an NEC NE4163B transistor. Another biasing arrangement,

one for Motorola MRF586 BJT's, requiring +6 VDC and -6 VDC power sources, was discussed by J. Makhinson in his Feb. 1993 QST article, "A high-dynamic-range MF/HF receiver front end." However, the dual polarity power requirement makes Makhinson's approach difficult to implement, and based on experiments I have done, there is no improvement in linearity due to the dual polarity power arrangement. In part 2 of his Dec. 1981 Ham Radio article, "Communications receivers for the year 2000," Dr. Ulrich L. Rohde briefly summarized what Dr. David Norton had already published in 1976, and gave an example (in his Fig. 7) of an elaborate two-stage amplifier using the noiseless feedback concept. The two-stage amp used Siemens BFT66 BJT's, which are not widely available in the U.S.A. Due to the complexity of that two-stage amp, and because of the difficulty of obtaining BFT66 BJT's, it does not seem appropriate for hobbyist or consumer grade applications at MW's and SW's. Another example of CBTF amps was given in Rohde's Nov. 1992 QST article, "Recent advances in shortwave receiver design," namely, the use of an AGC controlled BFT66 CBTF IF amp (Fig. 11 of his article) in a Rohde & Schwarz EK0890 communications receiver.

Two schematics, one for the basic CBTF amp, and the other for a push-pull amp using two matched CBTF amps, are given below in Fig. 2. For MW band use, C1, C2, C3, C4, and C5 should be 0.1 or 0.2 uF, RFC1 should be 1 mH, RFC2 may be 100 uH or greater, up to 1 mH, FB should be an Amidon ferrite bead, type FB-101-64, T1 should be a Amidon FT-50-75 ferrite toroid core with  $n_1 = 1$  turn,  $n_2 = 11$  turns, and  $n_3 = 4$  turns #24 enameled copper wire, and the 75 material core should be wrapped with thick Teflon tape before winding the wire turns, where the wire turns are spaced evenly around the entire circumference of the toroid core,  $R_2 = 1000$  ohms,  $R_3 = 4700$  ohms, and  $R_4 = 10$  ohms for +V DC = +9 volts DC, R1 should be a 100 ohm adjustable pot (I like Spectrol 25 turn 1/2 watt cermet top adjust pots in series with a 10 ohm 1/4 watt fixed resistor, the latter to prevent frying Q1 if the pot is accidentally adjusted to zero ohms), and Q1 may be either a 2N5109 or 2N3053. R1 is adjusted for whatever collector current is desired (up to about 16 mA if Q1 is not heat sunk, and up to about 30 mA if Q1 is heat sunk with a Mouser 567-7-120-BA heat sink rated at 35 degrees C/W ther. res.). The current drain (setting of R1) determines the amp ICP3in and ICP2in. More information about the relationship between current drain and ICP3in and the relationship between current drain and ICP2in will be given below.



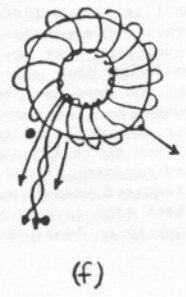
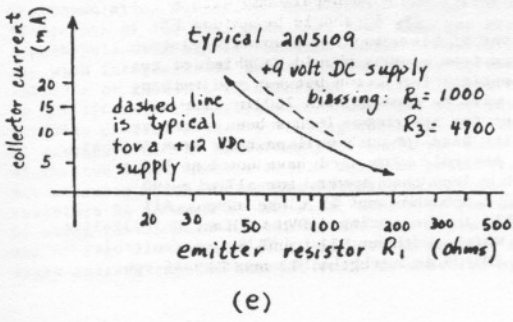
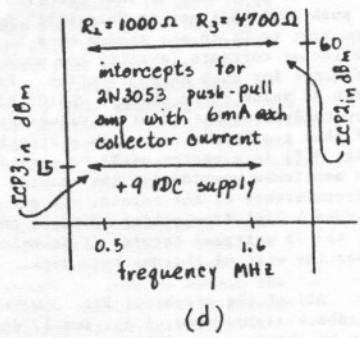
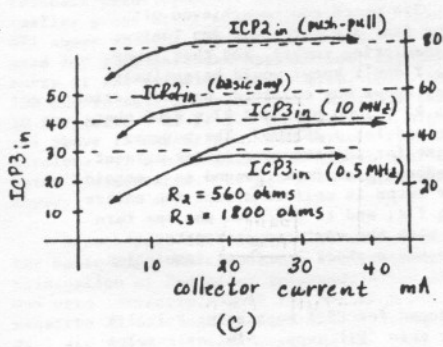
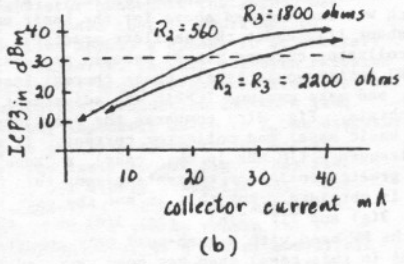
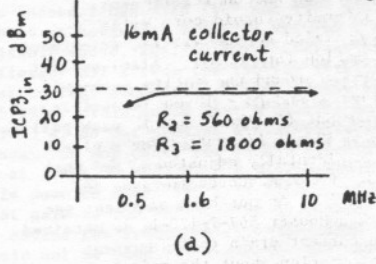
A push-pull (sometimes called balanced) CBTF amp requires a pair of basic amps configured as shown above in Fig. 2. For a push-pull amp with a frequency range of about 100 KHz to beyond 30 MHz, T2 and T3 should be Amidon FT-50-75 ferrite toroid cores, wrapped with thick Teflon tape, and wound with 8 bifilar turns of #24 enameled copper wire. The basic amps should be shielded from each other as shown in Fig. 2; otherwise, interaction between the individual amps may cause instability or degrade the extremely high ICP2in which this kind of push-pull CBTF amp is capable of achieving. It has been written in some publications that the individual amps of a push-pull pair do not need to be matched closely. That may or may not be true. I have not expended much effort to confirm or deny that statement. However, for all of my experiments and measurements I matched the individual basic amps as close as possible with  $h_{FE}$  of the BJT's matched to within 1 digit using a DVM with an  $h_{FE}$  range, all resistors 2% tolerance or less, the transformers T1 wound as identical as possible and with identical as possible lead lengths, T2 and T3 wound as

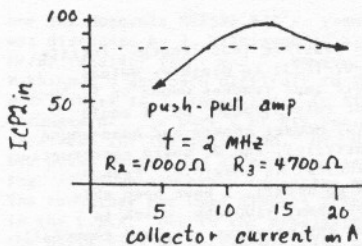


identical as possible and with as identical as possible lead lengths, ferrite magnetic shielded chokes for RFC1 (Mouser 434-02-102J) to minimize mutual inductance coupling between the individual basic amps (chokes wound on FT-50-43 ferrite toroid cores might have been better for this purpose, but I could not detect any difference between the commercial Mouser chokes and hand-wound toroids in prototype amps which I tested extensively), and PC board construction with the individual basic amps laid out as identical as possible. Perhaps as a result of these precautions and attention to detail, I have been able to construct push-pull CBTF amps with ICP2in of about +100 dBm, which is substantially higher than has been reported for any previous amp, and especially for an amp with 12 dB power gain.

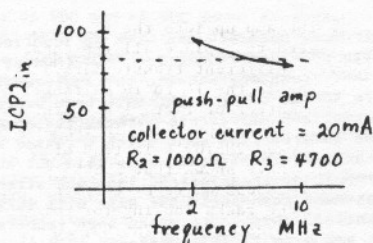
Because so little information was available regarding biasing, the relationship between ICP2in and collector current, the relationship between ICP3in and collector current, the relationship between ICP2in and frequency, the relationship between ICP3in and frequency, and so on, I made extensive studies of these issues and relationships. The results of those measurements are given below in Fig. 3.

Fig. 3





(g)



(h)

Fig. 3(a) shows the tendency for ICP3in to decrease as frequency decreases within and below the MW band. The biasing used there,  $R_2 = 560$  ohms and  $R_3 = 1800$  ohms, was the first biasing I tried. With other biasing, the relationship is different, but similar. Fig. 3(b) shows a feature of biasing: the ratio of  $R_2$  to  $R_3$  should be kept as low as practical to obtain maximal ICP3in with minimal collector current.  $R_2 = 1000$  ohms and  $R_3 = 4700$  ohms, which was recommended above for the basic amp of Fig. 2, provides a ratio of about 1/5, about the smallest practical ratio. For smaller ratios, adjustment of collector current via  $R_1$  becomes progressively more difficult. Also, smaller  $R_2/R_3$  ratios would likely cause thermal instability of ICP2in for the push-pull amp, and make maximum ICP2in via adjustment of  $R_1$  difficult, if not impossible, to obtain. Fig. 3(c) compares the relationships between ICP (2 and 3, push-pull and basic amps) and collector current. It should be observed that for a given SW frequency (10 MHz in this case), a "knee" occurs in the ICP curves, and that for greater collector currents beyond this "knee," little or no increase in ICP is obtained. But this is not the case for ICP2in at lower frequencies; see Fig. 3(g) and Fig. 3(h). Fig. 3(d) shows that much higher ICP2in can be obtained in the MW band with a push-pull CBTf amp drawing very low collector current (6 mA in this case) than has been reported for any other kind of amp. Such an amp might be ideal as a two foot air core balanced MW loop amp. The point I want to make here is that the +100 dBm ICP2in which can be achieved with a push-pull CBTf amp is "overkill" for a two foot air core loop amp (unless you want to DX in the shadow of a 50 KW transmitting tower), and that lower collector currents (exactly how much lower, I don't know) would be entirely adequate for such an application. Fig. 3(e) shows how collector current varies with  $R_1$  value for a typical 2N5109 BJT when  $R_2 = 1000$  ohms and  $R_3 = 4700$  ohms. Typically somewhat lower  $R_1$  values are required for a 2N3053. The purpose of this graph is to give you a starting point for adjusting collector current. Fig. 3(f) is a sketch of T1, a negative feedback transformer wound on a toroid. As mentioned previously, the spacing of the turns is uniform around the entire circumference of the toroid. To get a snug fit, and to preclude the one turn feedback link from making physical contact with the semiconductor material of the 75 material toroid, it is helpful to use a short length of insulation over the wire of the one turn link.

All of the graphs of Fig. 3 were developed for CBTf amps using a 1:11:4 feedback transformer, i.e., for 12 dB power gain CBTf amps. Similar results may be obtained for CBTf amps with other turns ratios, but I have not made exhaustive studies of those cases, merely some spot measurements to determine if the results for those other cases were similar (they were).

Don't let the myriad of variations of biasings, collector currents, and operating frequencies dissuade you from constructing a CBTf amp or two. Even if you don't get the amp quite optimal for your intended application, the chances are that your end result will be considerably better than any other amp you have ever built. Except for the chokes (which can be ordered from Mouser) and the toroid and ferrite bead (which can be ordered from Amidon), the basic amp of Fig. 2 can be built entirely with parts purchased at Radio Shack if you are willing to live with a less than optimal amp. Use a 100 ohm fixed resistor for  $R_1$ , and use  $R_2 = 560$  ohms and  $R_3 = 1800$  ohms. All of the required resistors are available in the resistor package Cat. No. 271-312A. Radio Shack also carries the 2N3053, which, with an  $f_T$  of 100 MHz, is suitable for use up to at least 30 MHz. (The 2N5109 is really only necessary if you

need to scale the amp up into the tens to hundreds of MHz range, and in that case you will need to replace all the capacitors with 1000 pF capacitors, and use entirely different transformers.) With the above biasing, collector current should be in the 14 to 16 mA range, and heat sinking should not be required. As a matter of fact, I used the above biasing for all of my early experiments with CBTF amps, with impressive results which continually astonished me. Although I used 2N5109's instead of 2N3053's, subsequent experiments and measurements have shown that 2N3053's provide virtually identical performance. I discovered the 2N3053 quite by accident one afternoon at Radio Shack while digging through the racks looking for something else. When I spotted the 2N3053, it looked just like a 2N5109, so naturally I plucked one off the rack and read the specs on the back of the package. Except for a lower  $f_T$ , the specs were very similar to a 2N5109. For all I know, the 2N3053 is a 2N5109 which failed the 1.2 GHz  $f_T$  test for a 2N5109. Anyway, I immediately bought a few and hurried home to try out the 2N3053 in place of 2N5109's in amps laying around on my work table. They were fine; same gain, same low noise, and only slightly less collector current (and, thus, slightly lower intercepts) for a given  $R_L$ . To get virtually identical performance to a 2N5109, one only needed to adjust the value of  $R_L$  slightly. This experience led to a curious excursion into old transistor reference books. I was sure that I had searched old handbooks for possible substitutes for the 2N5109 and had found none. And indeed I had. In 1967 and 1969 RCA transistor handbooks the 2N3053 was listed as having an  $f_T$  of 20 MHz, so I had concluded that it would not be suitable above, say, 10 MHz. Current production 2N3053's appear to be entirely different BJT's from the 1967/69 versions. Similarly, further research revealed that current production 2N5109's have entirely different parameters from 1967/69 2N5109's. This could have a bearing on why current production 2N5109's (and 2N3053's) do not provide a near-perfect two way impedance match to  $Z_0$  as discussed above. In any case, the 2N3053 appears to be entirely adequate for use up to at least 30 MHz. With 0.1 uF capacitors, the basic amp of Fig. 2 has flat gain down to about 150 KHz, with gain falling off slowly below 150 KHz. For flat gain to 100 KHz, 0.2 uF capacitors are required. I have not attempted to extend the frequency response below 100 KHz, but I see no reason why it could not be done. I would suggest that each capacitor be a 0.2 uF monolithic ceramic capacitor in parallel with a 2 uF tantalum. All of the turns of the feedback transformer T1 should be doubled, i.e.,  $n_1:n_2:n_3 = 2:22:8$ . Probably smaller gauge wire, namely #26 or #28, will have to be used. If gain falls off above 10 KHz, try 3:33:12 turns. If 12 dB gain is more gain than you need for your intended application, try the 9.5 dB gain version with 2:10:6 turns of #24 enameled copper wire, which should give flat gain from below 100 KHz to well above 30 MHz. A 3:15:9 turn version should be good down to 10 KHz (with 2 uF // 0.2 uF caps), but high frequency gain will begin to fall off above 15 MHz or so. For various reasons I didn't like the 6 dB gain 1:1:2 version. If a 6 dB gain CBTF amp is your cup of tea, try the 2:11:4 version which I discovered. It has much higher ICP3in than the "standard" 1:1:2 version anyway.

A push-pull CBTF amp requires somewhat more careful implementation than the basic amp. Nevertheless, the reward is well worth the effort: complete elimination of 2nd order intermodulation distortion products if implemented and used correctly. With the aid of a DVM, you should be able to obtain the required 2% or closer tolerance resistors from a Radio Shack 271-312A package as I did for my initial experiments. And if memory serves me correctly, I obtained one pair of 2N3053's matched to within one  $f_{FE}$  digit from a batch of five 2N3053's off a Radio Shack rack. Since you probably won't have an intermodulation distortion measurement system capable of measuring 2nd order intercepts of +80 dBm, much less +100 dBm, you probably won't be able to adjust a push-pull CBTF amp for maximum ICP2in. However, you will still have an amp with intercepts of about +80 dBm merely by matching the resistors and 2N5109's or 2N3053's as described above. If you will order some 1% tolerance 10 ohm 1/4 watt resistors from Mouser (or your favorite supplier), you can probably do even better by trying different resistors for one and/or the other  $R_L$  resistors of the basic amp pair until you have made the collector currents of the two basic amps as nearly equal as possible, where collector currents are measured by measuring the voltages across the two 1% tolerance 10 ohm resistors  $R_4$  in each of the basic amps. Or you can simplify this adjustment by using the 25 turn 100 ohm cermet pots recommended previously for the basic amp of Fig. 2. In that case, one pot is set for approximately the current drain desired (again, current drain is measured by measuring the voltage across

the 10 ohm 1% tolerance resistor R4 for that amp), and then adjusting the other pot until both collector currents are equal (as indicated by equal voltages across both resistors R4). If you do have an intermodulation distortion measurement system capable of measuring 2nd order intercepts in excess of +100 dBm (which is unlikely), then you merely adjust the collector current of one of the pairs to whatever value is desired, and while observing a 2nd order product produced by the CBTF amp, adjust the second pot to minimize the 2nd order product. Don't even attempt to adjust the push-pull CBTF amp in this manner unless you are certain you know what you are doing. To the best of my knowledge, there is no other intermodulation distortion measurement system than my own which is capable of accurately and reliably measuring 2nd order intercepts in excess of +100 dBm.

The R1 = 100 ohms, R2 = 560 ohms, R3 = 1800 ohms amps discussed above should have collector currents of about 16 mA (32 mA total for the push-pull), and if they do, then they will not need to be heat sunk. If you decide to operate them at higher collector currents (say, to obtain higher ICP3in), then they should be heat sunk. Many heat sinks are not easy to use, and some are impossible to use. The Mouser 567-7-120-BA heat sink is one of the easier heat sinks to use, but still difficult. The main problem with many heat sinks for TO-39 cases is that the metal material of the heat sink is not flexible enough to make it easy to mount the heat sink on the TO-39 case. I use small screwdrivers as miniature wedges to slowly open up the Mouser heat sinks until at some point a TO-39 case can be slid into the heat sink with the screwdriver still wedged into the top of the heat sink slot, so that when the wedge (screwdriver) is removed, the heat sink fits tightly (and I do mean tightly). I do not try to wedge the heat sink open in one try, but begin with the smallest possible screwdriver, and move up through progressively larger (but still small) screwdrivers until the condition above is achieved. You should not pry on the heat sink with a twisting action of the screwdriver. That will cause deep scratches and metal burrs on the heat sink, which will make it more difficult to use, and perhaps degrade its heat dissipation characteristics. The Mouser heat sink should be adequate for up to about 30 mA continuously. However, there really is no good reason to run a CBTF amp much above 25 mA because, as shown in Fig. 3, with appropriate biasing, the increase in ICP3in above 25 mA is negligible. And if maximum ICP2in is desired, optimal collector current is in the 13 to 15 mA range, where no heat sink is required.



Fig. 4

I already had several kinds of heat sinks on hand (but not the Mouser 567-7-120-BA) when I started operating CBTF amps at higher collector currents (which require heat sinks). But I did not like any of the heat sinks I had at the time, mainly because they were difficult, if not impossible, to adjust for proper tightness of fit. So initially I made my own heat sinks from 0.021 inch thick copper plate, cut into 11/16 inch wide by 2.5 inch long strips, and bent into the shape shown in Fig. 4 using the shank of a 5/16 inch drill bit. The 0.021 copper plate was obtained from my local sheet metal shop. It is the standard copper plate used to make copper gutters locally. I was given scrap pieces free of charge. They would probably have cut it to the 11/16 by 2.5 size, but I did not know what size I wanted when I got the scrap copper plate. I used a nibbling tool to fabricate several sizes for testing. The 11/16 by 2.5 size turned out to be sufficient for heat sinking up to about 25 mA continuous collector current, and up to about 40 mA collector current for brief periods. Wider strips may be used for continuous collector currents above 25 mA. Tightness of fit can be adjusted easily with finger pressure: bend the interior circle together until the circle is almost closed, and it should be difficult (but not impossible) to insert a TO-39 case by hand. Removal of a TO-39 case from this heat sink is best done with the aid of a short piece of 3/16 inch or 1/4 inch hardwood dowel. The collectors of 2N5109's and 2N3053's are connected directly to the cases, so the cases, and, consequently, the heat sinks, are at +V DC volts. That is one reason why tight heat sink fit is required. The heat sink should not move around, and possibly short the DC supply. The other reason for tight heat sink fit is to provide good thermal contact.

The collectors of these kinds of CBTF amps should be at about 49 volts DC. However, with higher collector currents, a single basic amp will be a

32



"battery eater." If you already have a +12 volts DC supply, use dropping resistors in series with the 10 ohm resistors R4 to adjust the collector voltage to about +9 volts DC. It is not necessary to operate the collectors at exactly +9 volts DC. Anything between about +9.0 and +9.5 volts DC is fine. Here is an example of how to estimate the required dropping resistor. Suppose you have a regulate 12 volt DC supply which puts out +12.4 volts with no load. And suppose your target is a single CBTF amp drawing 21 mA collector current. And suppose you decide to run it a +9.1 volts DC collector voltage. You merely plug into Ohms Law ( $V = IR$ ),  $3.3 = 0.021 R$ , and solve for R,  $R = 3.3/0.021 = 157$  ohms. The nearest common standard resistance value is 150 ohms. Reversing the calculation,  $V = 0.021 \times 150 = 3.15$  volts. So when a 150 ohm resistor is used, if the CBTF amp is adjusted for 21 mA, the voltage drop across the 150 ohm resistor is about 3.15 volts. There is an additional voltage drop of  $V = 0.021 \times 10 = 0.21$  volts DC across the 10 ohm resistor, so the collector voltage for the +12.4 volts DC supply should be about  $12.4 - (3.15 + 0.21) = + 9.04$  volts DC. A +12 volts DC supply is actually a better choice than a +9 volts DC supply because the dropping resistor (150 ohms in the discussion above) improves the thermal stability of the CBTF amp (if the amp attempts to draw more current, say, because the amp temperature rises, then the dropping resistor drops more voltage, and the collector voltage would decrease, causing the BJT to draw less current, cool down, and return to its previous operating point). Also, such dropping resistors provide additional isolation of the DC line, and high DC line isolation is important for proper operation of both the basic amp and the push-pull amp.

The discussions above are for CBTF amps with fixed resistors for R1. If you make R1 adjustable, with a 10 ohm fixed resistor in series with a 25 turn 100 ohm cermet pot, then you may omit the dropping resistor (150 ohms in the discussion above) and adjust the collector current(s) for your target value. The DC line isolation will not be quite as high, but it should not matter. I have operated CBTF amps both ways, and I can't find any measurable difference between the two approaches. Russell Scotka has been using a push-pull 12 dB gain (1:11:4) CBTF amp which I sent him several weeks ago as part of a broadband phased antenna system he has been developing, and I set the amp up for operation with a +12.0 volts DC power supply without dropping resistors. Kuss' phasing system is the one described on page 75 of Victor Misek's The Beverage Antenna Handbook, Second Edition. That system uses a VN66AF power FET amp drawing about 90 mA current with a 12 volt DC power supply. With the power FET amp, Russ had several IMD products (all, apparently, 2nd order products). With the push-pull (dual 2N5109) CBTF amp I sent Russ, all IMD products completely disappeared. Russ lives in a high RF urban MW environment in Margate, FL, near Miami, so I doubt there could be a more convincing testament to the effectiveness of a push-pull CBTF amp than the pounding Russ exposed it to. If memory serves me correctly, I set Russ' amp for about 25 mA collector current for each of the basic amps of the push-pull pair, i.e., for a total current drain of about 50 mA. This illustrates an important feature of CBTF amps: you get higher intercepts with rather modest current drains compared to other approaches. Actually, this is not a fair comparison because the power FET amp in Misek's original circuit is not push-pull, and the residual IMD experienced with the power FET amp is, apparently, 2nd order. However, a push-pull version of Misek's amp would require two power FET amps, with a total current drain of about 180 mA. So a push-pull CBTF amp is clearly a better choice for this application based on current drain considerations alone. Also, it is unknown whether a push-pull VN66AF power FET amp would have similar intercepts to a push-pull CBTF amp with the p-p-p FET amp drawing 180 mA.

A free-hand sketch of the bottom view of a PC board layout for a push-pull CBTF amp is shown below in Fig. 5. The sketch was drawn enlarged by 1.5625 so that when Fig. 5 is reduced by 0.64 it will be more-or-less exact size. The sketch in Fig. 5 was also drawn enlarged because it would have been impossible for me to produce an exact size drawing. I produced the PC board with Radio Shack dry-transfers and resist pen. The current dry-transfers available at Radio Shack are virtually useless; they don't stick well, they split, and they tend to wash off while the board is being etched. But if you are determined, like me, you can use them. I should explain certain peculiar features of the PC board layout, namely the unused pads. Some of the unused pads are for paralleling bypass and coupling/blocking capacitors. It is sometimes difficult to obtain monolithic ceramic capacitors with values larger than

0.1 uF, so I allowed for paralleling 0.1 uF capacitors to obtain the required 0.2 uF capacitors for flat gain to 100 KHz. I was also unsure if I should parallel 0.2 and 0.0047 uF capacitors for better bypassing and coupling from 100 KHz to beyond 30 MHz (i.e., to maximize the broadband frequency range).

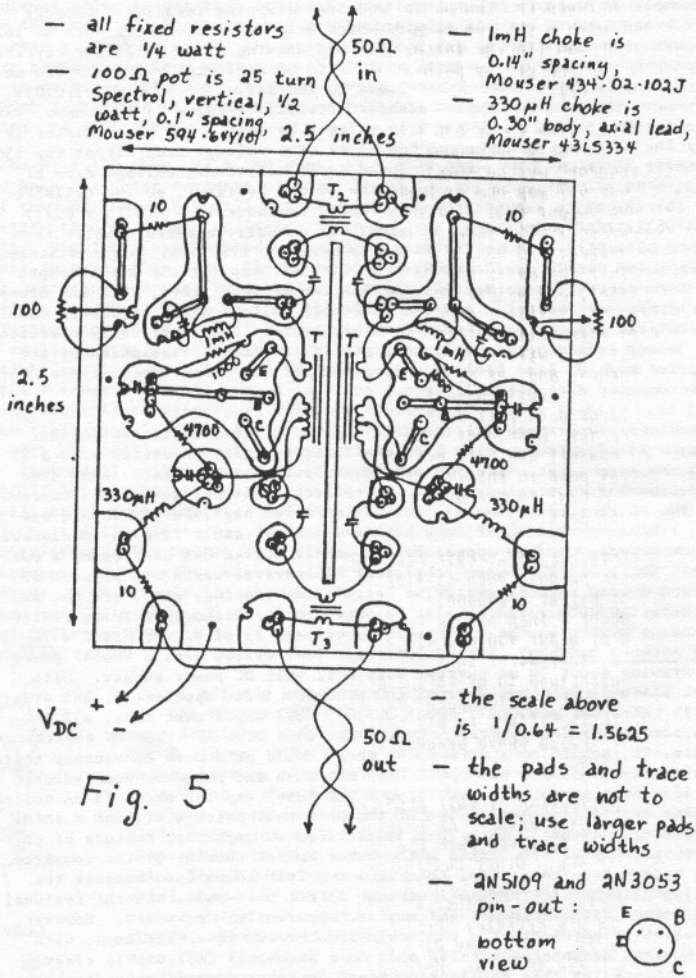


Fig. 5

I also wanted the option of having the collector currents adjustable with Spectrol, 1/2 watt, cermet, vertical, top adjust, 25 turn pots, or fixed (without the Spectrol pots, with fixed 1/4 watt resistors). And finally, I wanted the option of making the input or output push-pull (for example, to interface the push-pull amp directly with a two foot balanced air core loop, or to interface the amp directly with other balanced devices, such as noise reducing antennas, or receivers like the R-390A and HQ-180A with balanced inputs). So you will notice that either the input or output (or both) can be "floated" by removing the ground jumper(s), and that either side of the input and output transformers may be grounded. There are also several dark dots which denote holes drilled in the ground plane for ground pins or chassis tie points, and two for resistor ground points if the 25 turn pots are not used (which enable one to obtain non-standard resistance values by paralleling standard values). The cut-out along the center of the PC board is for a 1.75 inch long by 1.75 inch high rectangle of double sided 1/16 thick PC board which is required as a ground

plane barrier between the two basic amps of the push-pull pair. The slot may be cut out with a thin emory grinder attachment of a Dremel tool, or with a miniature hack saw (in the latter case the slot will have to be started from one end, and the ground path at that end should be re-established with a heavy duty jumper).

If you don't like to or don't want to etch a PC board, you may use the Hayward & Hayward "ugly weekender" method to build the push-pull amp. Generally, the "ugly weekender" method involves using high megohm resistors as insulated standoffs (I use 4.7 meg ohm or higher). You can tack-solder the resistors directly to the copper foil of a piece of PC board, as they did, in which case the copper foil will face up towards the components. Or you can drill holes in the unetched PC board, stick resistor leads through the holes, bend the leads so that the bases of the resistors are flush against the insulated PC board material, and solder the resistor leads, as I do. The unetched PC board provides an excellent ground plane for the circuit, and circuits constructed by this method work well up into the GHz range when RF is routed with miniature hard line coax. You will need a somewhat larger piece of PC board, say 3 inches by 3 inches, and the ground plane barrier between the two basic amps of the push-pull pair will need to be a bit higher, say 3 inches. As a matter of fact, the first push-pull CBTF amp I built with soldered connections used the "ugly weekender" method of construction, and that amp is currently performing flawlessly in Russell Skotka's broadband phased antenna system. I did not use the Spectrol pots in that version, but selected fixed resistor values by hand (using a DVM) to match the collector currents in the two basic amps of the push-pull pair.

At higher frequencies, CBTF amps can be made much smaller using surface mount components because much smaller input, output, and feedback transformers are feasible at higher frequencies. For example, I have built a basic CBTF amp which is about 1 inch square to replace the 45 MHz 1st IF amp in my Drake R8 with ICP3in of about +30 dBm at 45 MHz and about 16 mA collector current. The amp is a key ingredient in a mod which significantly improves the R8 dynamic range, and is described in my recent article, "Drake R8: Increased Dynamic Range, Mod 2," which should appear soon in DX News and DX Monitor. It is really not worth the effort to use surface mount components in the 100 KHz - 30 MHz amp described above because the transformers, chokes, and BJT's take up most of the space.

Another application of CBTF amps, already mentioned above, is to broadband phased wire antenna systems. As pointed out above, Victor Mizek's phasing circuit is greatly improved when the original power FET amp is replaced with a push-pull CBTF amp. Other phasing approaches which require amps, such as Gerry Thomas' (1985 DX News) "Phase One" delay line circuit (adapted from John Webb's SW circuit described in Oct. 1982 QST, and recently revived by Mark Connelly in his article, "DL-1 Delay Line Phasing Unit," DX News, Vol. 61, No. 26, May 23, 1994), may also provide much improved performance when a push-pull CBTF amp is used. Mark recommended against using an amplifier with a delay line phasing circuit in a high RF urban environment, and mentioned amplifier outputs of +20 dBm for strong local stations. But such high outputs are impossible with a 12 dB gain push-pull CBTF amp, reasonable length wire antennas (say, 100 feet long or less), and a phasing circuit (which introduces loss), assuming that the listening location is a reasonable distance away from a 50 KW transmitting tower. I'd say that if you have -10 dBm on your antenna, then either your antenna is too long, or you live too close to the transmitting tower. My 1 KW super-local KRUS puts about -21 dBm on my wire antennas, so that with a 12 dB gain amp, I am looking at about -9 dBm. However, I would not use the 12 dB gain amp unless I had about 12 dB loss in my phasing system. Broadband amps, even ultralinear broadband amps, should only provide enough gain to make up loss, no more. The correct way to use a broadband amp with a phasing circuit is to use a resistive attenuator ahead of the amp with the attenuation selected to exactly equalize signal throughput, i.e., the amp and phasing system combined should have 0 dB gain, or at most 1 or 2 dB gain to overcome any additional noise introduced by the amp.

TO BE CONTINUED:

35

FIRST CLASS  
U.S. POSTAGE  
PAID  
PERRIS CA  
PERMIT NO. 120



**FIRST CLASS MAIL**

32-34  
LEE FRESHWATER  
414 SE 3rd ST  
OCALA FL 34471  
USA

**THE INTERNATIONAL RADIO CLUB OF AMERICA (IRCA)  
PO Box 1831 Perris CA 92572-1831**

The IRCA is a non-profit organization devoted to the hobby of hearing distant stations on the AM Broadcast Band (510 - 1720 khz). **DX Monitor**, the official publication of the IRCA, is published 34 times a year, weekly from October to March, twice in September and April, and monthly from May to August. **DX Monitor** contains members' loggings, articles on radio stations, receiver reviews, technical articles, DX tips, and other material of interest to Broadcast Band DX hobbyists. IRCA is a member of ANARC, the Association of North American Radio Clubs.

**CLUB ADDRESSES AND OFFICERS**

President: Bill Hardy, 2301 Pacific Ave, Aberdeen WA 98520 (360) 532-6827 (proposals)  
Secretary-Treasurer: Ralph Sanserino, PO Box 1831, Perris, CA 92572-1831 (dues/address changes)  
Board of Directors: Shawn M Axelrod, Richard Evans, Larry Godwin, Michael S Hardester, John C Johnson (chairman), Patrick Martin and Robert Wien  
Editor-in-Chief/Publisher: Ralph Sanserino, PO Box 1831, Perris, CA 92572-1831  
Publishing Coordinator: Phil Bytheway, 9705 Mary NW, Seattle, WA 98117

**MEMBERSHIP DUES**

U.S. - \$25.00 per year. Canada - \$27.00. Overseas Surface - \$28.50. Overseas Airmail - \$35.00 (Central America, Caribbean, Colombia and Venezuela), \$38.00 (Europe, North Africa, Middle East), \$41.00 (rest of the world). Trial Membership - \$9.50 (10 issues of **DX Monitor** and a New Member Packet, U.S. / Canada / Mexico only). Installment rate: two payments of 1/2 dues plus \$1.00 (\$13.50/payment for U.S. members). Make checks and money orders payable to IRCA and send all dues (and address changes) to: IRCA, PO Box 1831, Perris, CA 92572-1831. Persons living outside the U.S., please use International Money Order in U.S. funds. Sample copies of **DX Monitor** are 32¢ (40¢ to Canada) and two International Reply Coupons each and are available from: IRCA, PO Box 1831, Perris, CA 92572-1831.

Unless otherwise noted, permission is granted to publish, broadcast, or otherwise reproduce non-copyrighted material appearing in **DX Monitor** provided credit is given to the IRCA and the original contributor. Opinions expressed in **DX Monitor** are those of the original contributors and do not necessarily reflect those of the IRCA, its publishing staff, editors or officers.



34471-2213 54