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**Bulletin Now Weekly** Future bulletins will be Saturday, October 28, and every Saturday thereafter until Saturday, April 7; then April 21, May 5, May 26, June 16, July 14 and August 11, 1990.

**\*\*\*DEADLINES\*\*\*** Please watch editor's deadlines and mail in plenty of time so that information can be kept as fresh as possible. If you are not receiving your bulletin by Monday, two days after the date of issue, please check your address label. HQ has recently received membership records from John Clemmer, previous Sec.-Treas. None of the missing checks have been located. You will be advised if a replacement check is needed. A lot of work is still needed before running current membership lists but all of those who sent a SASE will receive one.

**FOR SALE OR TRADE** Kenwood R-600 general coverage communications rx 150kHz-30MHz AM/SSB (USB/LSB/CW), has noise blanker, RF attenuator, digital readout. Mint cx in box w/manual, little-used. ROYCE 619 40-channel base unit - brand new, mint cx in box w/manual, never used. Includes mike. AC/DC operable. Make cash offer or willing to trade one or both for other rigs, etc. '84 WRTH, good secondary reference for any international listener; free to a DXWW-W or DXWW-E report if you pay postage and need a reference. Will trade Palomar loops HF-1 amplifier (5-15MHz) and 160/80 loop amplifier (covering 1.6-5MHz) for the Palomar BCB plug-in loop. Or will buy used BCB loop outright. If you have LA-1, I will sell both HF-1 and 160/80 for the price of one alone so I can purchase the BCB loop from Palomar Engineers. **WANTED:** Quotes on professional-grade rigs for sale. New or used, modern or pre-solid state (Collins, RACAL, R. L. Drake, Hammarlund, et al).

-J. R. Hall, 240 Byron Road, Pittsburgh, PA 15237-4015

**IRCA Almanac V** Progress is reportedly being made on the 5th edition of IRCA Almanac. However, it is unlikely publication will be earlier than December and it could be later.

**DX WORLDWIDE - WEST**  
continued from Page 2

**THANKS TO THESE REPORTERS:**

- ASL-CA ALBERT S. LOBEL-POST OFFICE BOX 26762-SAN DIEGO, CA. 92126  
DXing with a Matsui MR9099
- NHP-BC NICK HALL-PATCH-1538 AMPHION STREET-VICTORIA, B.C. V8R 4Z6  
DXing with a Homebrew rx, ICF-2010, 3' Box Loop, Shortwires.
- NHP-BC\* NICK HALL-PATCH DXing at Sombrio Beach, same rxers, 2000' Beverage at 260 degrees, 1000' at 300 degrees.
- MR-CA MIKE RIORDAN-POST OFFICE BOX 1195-GOLETA, CA. 93116  
DXing with a CRF-1 (Sony) and R. West Mod., R. West Loop
- RS-CA RALPH SANSERINO-11300 MAGNOLIA #43-RIVERSIDE, CA. 92505  
DXing with Mod. Sangean ATS 803A

# DX Worldwide - West



PAT MARTIN

P.O. BOX 843

SEASIDE, OR 97138

Time: UTC phone (503) 861-3105

DEADLINE: WEDNESDAYS

We have a good turn out this time around too. Conditions seem to be on the rise. Well on with reports:

## PAN-AMERICAN DX ROUNDUP

680 t CUBA?, 9/15 0405, under KNBR while listening to San Francisco Giants Baseball Game on KNBR and San Diego Padres Baseball Game on Pay TV via Southwestern Cable. Cuban National Anthem about equal level with KNBR in not complete null of KNBR. Followed by some talk of Cuba. Listened for three minutes then turned receiver so as not to hear Cuba. (ASL-CA) (Welcome to the DXWW-W column Albert. Nancy sent this a long as foreign DX goes here. Report often. PM)

## TRANS-PACIFIC DX ROUNDUP

- 550 HAWAII, Wailuku-KMVI 0601 9/9. Fair w/KMVI bumper sticker promo under KARI. (NHP-BC\*)
- 612 AUSTRALIA, Brisbane-4QR- 1320 9/24. Poor to fair w/man talking and // 9660. (NHP-BC)
- 621 TUVALU, Fanafuti-T202, 0702 9/9. Poor to fair w/Radio Australia nx //15160. Best signal at 0705. New. (NHP-BC\*)
- 630 AUSTRALIA, Townsville-4QN. 1332 9/9. Poor to fair w/piano mx // 9660. KCIS dominant on channel of course. Wonder why I haven't logged this before? First logging was at the end of August.(NHP-BC\*)
- 738 TAHITI, Papeete-0616 9/9. Poor w/man in FF //6135. Strong carrier but modulation had trouble getting past 730 splatter. (NHP-BC\*)
- 747 JAPAN, Sapporo-JOIB. 1302 9/6. Nil to poor w/JJ talk by man. First time hrd this season, not hrd much since! (NHP-BC)
- 783 UNID, 0654 9/9. Sounded like island talk and mx w/poor strength, although carrier was quite monstrosous at times in the next hour. Not //756, so not likely NZ, but who? (NHP-BC\*) (Still possible NZ, as 783 KHZ does run other programming, not // to 756.PM)
- 828 AUSTRALIA, Sale-3GI. 1400 9/24. Fair w/nx //9660, but leading it by a split second. (NHP-BC)
- JAPAN, Osaka-JOBB 10/1, 1226 and male JJ fading in and out, Big carrier at times, no audio. First hrd 9/9 with readable audio.(RS-CA)
- 891 FIJI, Lautoka-Radio Fiji 0647 9/9, poor w/island mx //774.(NHP-BC\*)
- 972 REPUBLIC OF KOREA, Kimje-HLCA. 1311 9/9. Fair w/man talking //6015 One of the best TPs this season, which isn't saying much! (NHP-BC\*)
- 990 FIJI, Lautoka-0900 9/9. Bruce had taped a Radio Fiji One mention on this channel at 0800, but all I could manage was Radio Australia nx at 0900, which seemed to be cut off, then back to mx. 990 was simply this and KHVH, very odd. At 0917, I heard an ad for a service station in Sigatoka, but didn't seem // with 684 KHZ which was the only other Fiji One channel I could raise at the time. New, of course! (NHP-BC\*)
- 1017 TONGA, Nuku'alofa, A3Z. 0710 9/9. Good to excellent w/Radio Australia nx, followed by local wx. Their new transmitter seems to get out, but SW/5030 was barely hrd. (NHP-BC\*)
- 1098 t MARSHALL ISLANDS, Majuro, WSZO 0824 9/9. Poor w/Unid language, not //1008, so not likely NZ, and cx were favoring the Pacific islands that night. 4940 SW// still seems to be off. (NHP-BC\*)
- 1566 REPUBLIC OF KOREA, Cheju Island-HLAZ, good clear signal from 1315 to SR on 9/23 and 9/25. (MR-CA) (Mike, please list times in UTC, rather than PST. Thx. PM)
- 1593 PAUPA NEW GUINEA, Vanimo-1155 9/9. Poor to fair w/mx, then man in pidgin //3205. Rough, sounding carrier. This one had been percolating in for some time, but we didn't dig out the SW// until this time. New and #3 PNG on MW. (NHP-BC\*) (Good catch,Nick.PM)



# WORLDWIDE EAST



EDITOR: Jim Hall, 240 Byron Rd., Pgh., PA 15237 USA

## IRANS - ATLANTIC DX

- 1224 t SPAIN, 15 synchros. 0434 9/25 : Per cx & time as well as the fact that many other Iberian stn's were being heard at this time I'm confident the TA heard here w/sporadic peaks o/splash was the group of Spaniards. Woman in lang. sounded SS & would be a new Spain freq. for me from W. Pa. (Hall-PA)
- 1503 SPAIN, Pamplona (+7 stn's) 0430 9/25 : SS talk occ audible on quite a strong carrier. (Hall-PA)
- 1521 SPAIN, graveyard(s) 0436 9/25 : Piercing heterodyne on 1520 - even the SP600 separated the SS audio at times as this was very strong this a.m. (Hall-PIT)
- 1539 SPAIN, graveyard(s) 0438 9/25 : Difficult to read with 1540-KXEL providing much QRM. SS talk & musical sections, even an audible het from about 1538.8 which is presumably the off-freq. Spain gy stn as hrd last season. (Hall-PA)
- 1575 SPAIN, synchros. 0431 9/25 : Definate Spanish cutting through in bits & pieces. In difficulty is easy to confuse w/PP from Portugal if not providing enough readable audio. (Hall-PA)
- 1584 SPAIN, graveyards (2) 0440 9/25 : At least two different stn's distinguished here w/separate SS pgm's, in fine openings chan. can become a jumble of TA audios where I've been able to hear several stn's (all Spanish origin). (Hall-PA)
- 1602 SPAIN, graveyard 0443 9/25 : Very poor but at one point by 0445 got the SS that was seemingly //1584. (Hall-PA)
- 1467 FRANCE, Romoules (Radio Monte Carlo w/TWR relay) 2323 10/11 : EE language r1sgs sermon by male w/EE hymns as well. Unbelievable LSS signals w/text occ easily readable. Many other TA freq's throughout the band had signs of TA's but I had an appointment & couldn't tune the others! (Hall-PIT)

## PAN - AMERICANA DX (Wyllie-MA) all

- 680 CUBA, Cienfuegos 0210 9/23 : Gd w/Rebelde pgm behind local WRKO.
- 690 CUBA, Cardenas 0126 9/1 : Seemed to be R. Progreso & was //660, but I thought I hrd R. Rebelde when I checked later.
- 700 JAMAICA, Montego Bay 0330 8/26 - 0423 9/23 : 26th gd w/R. One! ID/classical mx. 9/23 BOOMING IN w/pgm "Sound of Sonic" w/bits on new 45's played & ment a record store in which to buy them. Many "JBC R. One! ID's - best ever hrd.
- 720 VENEZUELA, Porlamar YVQL 0141 9/1 : Strong, end of sporting event into SS mx. ID "R. Vision", CHTN QRM.
- 800 NETH. ANTILLES, Bonaire PJB 0533 9/2 : "Trans World Radio" ID, strong. "A Woman's View".
- 810 BAHAMAS, Freeport ZNS3 0407 9/23 : Fr/gd u/HJ, end of midnight nx rpt & wx for Bahamas Spund. Tlk re. Hurricane Hugo. ID "R. Bahamas" into "Gospel Song Time". 1st Bahamas ever logged for me.
- 820 COLOMBIA, Bogota HJCY 0400 9/22 : Nx, "CARACOL" ID, strong - booming in.
- CUBA, Moron 0243 9/1 : Strong w/R. Progreso, other SS u/possibly other Cuban as caught part of ID "...de la Habana". (I too occ hear both mixing, as well as HJ's and occ an unID that is likely the YV. ed)
- COLOMBIA, Cali HJED 0339 9/22 : Nx on Colombia & "CARACOL" ID.
- 825 ST. KITTS, 0234 9/1 : R. Paradise booming in, no trouble at all. R1gs pgm.
- 830 VENEZUELA, Caracas YVLT 0400 9/1 - 0211 9/9 : 9/1 was strong betw R. Taino breakdowns, caught "R. Seansacion" ID. 9/9 gd w/fast SS mx, ID & many doorbells, just like R. Rumbos used to do. (R. Rumbos still does, Wm. ed)
- 900 CUBA, Cacocum 0236 9/23 : Gd w/SS mx & "R. Progreso" ID.
- 1060 CUBA, Amancio Rodriguez 0150 8/27 : Gd w/sports event & ID during break "Radio VVictoria". 1st time logged.
- 1170 COLOMBIA, Medellin HJDT 0341 8/30 : Nx in SS, ID "R. Nutibara en Colombia" - first time logged.
- COLOMBIA, Cartagena HJNW 0349 8/30 : Gd mixing w/HJDT, seemed to be all news. ID many times as "CARACOL Cartagena. @0456 hrd Colombian NA, ID & more nx. First time logged. (Wm.-CARACOL net is mostly all news w/only occ mx breaks. ed)
- 1620 unID, 0246 8/25 : unID SS stn, SS mx, strong but abruptly cut off. (Who knows who or what, Wm. Let's keep monitoring here. Could either be a pirate or some clandestine stn. in LA but is hard to say. ed)
- WILLIAM WYLLIE, 95 Peck St. Franklin, Massachusetts 02038-2217  
(Fisher 418 @Prudence Is. Rhode Island)
- JIM HALL, addr. 240 Byron Rd., Pittsburgh, Pennsylvania 15237



Nancy Hardy  
2301 Pacific Avenue  
Aberdeen, WA 98520

WDXR DEADLINES FOR TIPS: EACH MONDAY--TIPS NO OLDER THAN TWO WEEKS!  
REPORTERS FOR THIS ISSUE:

- (FA) Frank Aden-DX'ing in Idaho Falls, ID  
(TRH) Tim Hall-350 G St. #F-1-Chula Vista, CA 92010  
(TRH-CA1) DX'ing with Neil Kazaross at San Diego Bev. site  
ICF-2001, 3600' wire aimed NE (52°)  
ICF-2010, 2500' wire aimed E (95°)  
(BH) Bill Hardy-2301 Pacific Ave.-Aberdeen, WA 98520  
FRG-7, Radio West loop  
(BH-WA1) Travelling around Olympia & Tacoma, WA - Delco car rx  
(CK) Chris Knight-598 S. Clarion Drive-Pueblo West, CO 81007  
GE Superadio II, Yaesu FRG-7, Sanserino loop  
(bp) Bruce Portzer-6546 19th Ave. NE-Seattle, WA 98115  
Racal RA-17, Radio West loop  
(MR) Mike Riordan-P.O. Box 1195-Goleta, CA 93116  
Panasonic RF-2200  
(RT) Rich Toebe-2972 Martin Ave.-Pleasanton, CA 94566  
GE Superadio, Sony ICF-2010  
(RW) Robert Wlen-1309 Dentwood Dr.-San Jose, CA 95118  
GE Superadio, GE long-range portable, SM-2  
(RCW) Reid Wheeler-5910 Boulevard Lp. SE-Olympia, WA 98501

\*\*\*\*\*  
OF SPECIAL INTEREST

- 730 KRVC OR, Medford 10/2 0929 ex-KBOY strong in KCBS-740 null with school lunch menus in Medford area, ID as "B-73" (simulcast FM). Per call they are now KRVC. Christian music later on, ID "Christian radio for the 90's." (RW-CA)  
1230 KRNO NV, Reno according to the Reno Gazette-Journal's radio guide of 10/1, now has these calls, // 106.9 FM. Can anyone confirm this to be true? (RT-CA)  
1260 (KTEE) ID, Idaho Falls while in Idaho Falls noted KTEE is off the air again. Their tower is still up. (FA-ID)  
1390 KJME CO, Westminster 9/29 2152 good over KENN, KGER with new Spanish format & "La Jota Mexicana" slogan. Live remote from some sort of cooking show at the "Copacabana." Female DJ in studio, male reporter at the remote site. Ex-KDZR. (TRH-CA1)  
1550 KISK NV, Reno according to the 10/1 Reno Gazette-Journal's radio guide, is on the air with Spanish language programming. Can anyone confirm this? Incidentally, they list 1590's calls as KHIT, with a country & Spanish format. (RT-CA)  
\*\*\*\*\*  
590 KAQQ WA, Spokane 9/25 0136 caught ID & partial slogan "with hits from the 40's, 50's and 60's" under Talknet program. Finally logged this call change, forgot all about it. (RT-CA)  
600 KHTE CA, Redding 9/27 2351 faded up with "Solid Gold 600" slogan, ad for Redding business, call ID. Finally logged this new call, ex-KSX0. (RT-CA)  
630 KWRO OR, Coquille 9/24 2231 under KOH & KXDC with "KWRO AM 63" ID, oldies music. Rarely heard here. (RT-CA)  
680 KLDY WA, Lacey 9/30 1645 noted with tape delay of Larry King on a Saturday afternoon! (BH-WA)  
+10/5 1200 mixed bag of MOR music & talk features. ID on hour used Mutual logo, legal ID, then ABC-Direction news! Mutual feature 1205. Uses Mutual news on half hour. Also promos for Jerry Baker's gardening show Saturday 1005, and KIRO-TV Eyewitness News simulcast 2000! "Great 68" slogan. (BH-WA1)  
740 KATK NM, Carlsbad 9/30 0032 poor under KCBS et al. C&W music, promo which seemed to begin "We are KATK" and end "...better music on KATK Carlsbad." New. (TRH-CA1)  
800 CKST BC, Langley 9/26 1005 o/u KPDQ with news, weather, "Coast" slogan & call ID, into CHR music. Took several tries to finally ID them--signal much weaker than a few years ago as if they have a deeper null this way, estimated ERP is only a few hundred watts towards Seattle. (bp-WA)

- 930 KRTH CA, Los Angeles 10/3 noted today with 100% simulcast of highly rated KRTH-FM 101.1. This supercedes partial simulcast mentioned last issue. No more "Smokin' Oldies." (MR-CA)
- 950 KNFT NM, Bayard 9/29 2248 poor-fair through local XEKAM OC with high school FB (Silver High vs Roswell) sponsored by local athletic supply store. (TRH-CA1)
- KTBR OR, Roseburg 10/2 0918 good with ID "It's always 95 on your AM dial, this is KTBR, Roseburg." Over KAHI-XEKAM-KJR. (RW-CA)
- 970 KTRW WA, Spokane 9/24 0215 ID "Spokane's True Country" slogan after country song. Good in multi-station fight for dominance. Totally new, never before heard. (RT-CA)
- 1000 KVSD CA, Vista 9/30 0445 noted with "Sports Final USA" sports talk // WSLA-1560. Don't know if this means they've dropped American Radio Network talk or simply moved it to another time. (TRH-CA1)
- 1020 KCKN NM, Roswell 9/24 0340 dominant with C&W music and regional weather. (bp-WA)
- 1150 KEZX WA, Seattle 10/5 1425 noted with Business Radio Network. Inserted Seattle news 1428-1430 and 1457-1459, no call IDs, just "Business Radio 1150" slogan. 1500 had KEZX legal ID so calls are unchanged. Newspaper says they also have some play-by-play sports, Notre Dame football, Seattle hockey. Was simulcast of "New Age" type FM. (BH-WA1)
- 1170 KCBQ CA, San Diego 9/29 2100 per anncnt., has apparently switched from SMN "Pure Gold" to SMN "Kool Gold." This satellite junk has actually HELPED the station's ratings--they were recently sold for an obscene amount of money. (TRH-CA1)
- 1210 KBSG WA, Auburn 9/24 0345 under relig. with "K-Best now on AM 12-10, KBSG" ID. Good, on top. Into music by the Doors. Ex-KASY. (RT-CA)
- 1220 KBET CA, Santa Clarita 9/24 0240 male & female bantering, ment. "The Beat" & call ID, into music by The Call, rock music. Faded u/o KCCS in tight KDPC null. New. (RT-CA)
- 1230 KAAA AZ, Kingman 9/30 0002 noted in passing with HS FB. Friendly station, nice verie-letter rcvd. (TRH-CA1)
- 1250 KLLK CA, Willits 9/27 2200 discussion of traffic problems, ID, continued discussion. Haven't heard this in over 4 years, asked someone at the convention if they were still on. Dominant at hour, soon faded away. (RT-CA)
- 1260 ?KIMB? NE, Kimball 9/30 0812 thought I caught the ID as I tuned into this freq. Unfortunately, I'm not sure about it, and the tape wasn't running yet. Have been trying for this one at the Bev. site all year... (TRH-CA1)
- 1270 KZZX NM, Alamogordo 9/30 0522 noted AN tonight, so apparently NSP as I suspected, with SMN Country feed and news on the hour. Fair, but subject to fading. (TRH-CA1)
- 1280 KTOL WA, Lacey 10/5 1202 has dropped Mutual for NBC network. (BH-WA1)
- 1290 KCUB AZ, Tucson 9/13 0436 good over all with "12-90 K-Cub" ID, C&W music. (CK-CO)
- 1310 KZRQ NM, Corrales 9/15 0347 good peak with rock music, "Z-Rock" slogans. New. (CK-CO)
- 1330 KPFH KS, Wichita 9/30 0449 great sigs at first, over KWKW with rock oldies, ID & weather by male DJ. Got enough for a good taped report. New, KS #15. (TRH-CA1)
- 1340 KIKO AZ, Miami 9/29 2355 noted in passing with Miami HS FB. Mixing with another station airing HS FB. (TRH-CA1)
- 1360 KUIK OR, Hillsboro 9/24 0330 heard KUIK calls under mystery oldies station, into Mutual News. Heard ID again 0400. New. (RT-CA)
- 1380 KOTA SD, Rapid City 9/13 0528 loud over all with ID "KOTA Cellular Phone Force," KOTA weather, into Talknet. (CK-CO)
- KTSM TX, El Paso 9/30 0010 yet another station airing HS FB tonight. Mixing with KLPZ, which also had HS FB. (TRH-CA1)
- 1400 KCOW NE, Alliance 9/12 2202 briefly over KRLN with ID "KCOW, Alliance." (CK-CO)
- 1410 KCOL CO, Ft. Collins 9/12 2200 classical music, "... in classical music, KCOL, Ft. Collins," xlnr. (CK-CO)
- KBNP OR, Portland 9/22 1000 o/u CFUN with business news, weather, "... your business connection AM 14-10 KBNP Portland" into Financial News Network news. (bp-WA)
- KRIL TX, Odessa 9/29-30 2204-0106 poor but faded up very nicely at times. Light NOS format with NBC News on the hour. May also have had "Sports Final USA" talk show after 2300. S/off by man at 0105 with no SSB. (TRH-CA1)
- 1450 KONE NV, Reno 9/13 0300 poor on E-W bearing but briefly atop with ID "14-50 KONE," new. (CK-CO)

- 1450 KSGI UT, St. George 9/13 0200 good over all with s/off, full ID, QTH, gave address to write; "KSGI General Manager, AM 14-50, Box 810, St. George, UT 84710," and off. No SSB. (CK-CO)
- 1480 KPHX AZ, Phoenix 9/13 0100 top of hour ID in English "This is KPHX, Phoenix," ID in Spanish also, into Spanish vocals, xlint over all. (CK-CO)
- KRAE WY, Cheyenne 9/12 2130 xlint, alone with MOR-ish music, "Kay-Ray" slogan ID. (CK-CO)
- 1490 KRSN NM, Los Alamos over all briefly with "KRSN Weather" (40% chance of rain) 9/13 0000. (CK-CO)
- 1510 WLAC TN, Nashville 9/30 0020 good signal, practically alone on freq. all night with usual Gospel programming & IDs. (TRH-CA1)
- 1540 KLAU CA, Aptos 9/27 2141 "Cool Gold 15-40 KLAU" carries S.F. Giants baseball according to spot. Good signal in KKHI-1550 null, soon faded leaving KSKQ. (RT-CA)
- 1550 KVAN WA, Vancouver 10/3 2237 alternate fading with KKHI, KNTR. Good signal when up. Now simulcasting KMJK-FM 106.7 (Lake Oswego, OR) only since 10/2 according to phone calls to both KMJK & KVAN. Nite staff at both stations advise that new call letters (prob. KMJK-AM) expected soon. Frequent KDs as "106.7 KMJK" with half-hour station breaks adding "...and KVAN, Vancouver" as a tag to their normal FM station breaks (which are 2-3 minutes late). This may be last chance for KVAN. C.E. is James Boyd (both KMJK FM and KVAN). (RCW-WA)
- +10/5 0047 o/u KKHI with relay of KMJK FM 106.7 Portland, OR (rock format) after getting phone tip from Reid Wheeler the night before. Oddly enough, broke away for Seahawks FB promo "here on AM 15-50" 0053, then resumed KMJK relay. At 0200 had full KMJK ID, then quick "and KVAN Vancouver" insert. (bp-WA)
- 1560 WINV FL, Inverness 9/30 0600 INCREDIBLE signals with detailed s/on by man (no SSB), lots of Citrus County mentions, weather, C&W music. This station REALLY gets out; I urge everyone to try for it! (TRH-CA1)
- WSLA LA, Slidell 9/30 0338-0403 fair mixing with XEFAJ. "Sports Final USA" syndicated sports talk, ID at top-of-the-hour "This is your sports, news, weather & traffic station, WSLA." New. This was my unID last month. (TRH-CA1)
- 1570 CFEZ AB, Taber 10/2 0829 xlint way over CHUB with numerous IDs as "The new 1570 Easy AM," soft rock & instrumentals format, ID at 0925 "Relax, and take it easy, with the new 1570, Easy AM." Per call to station, changed calls on 9/2, so they've been this over a month & I never noticed! Ex-CKTA. (RW-CA)
- 1610 KOP737 AZ, Grand Canyon Nat. Park 9/29 2146 poor with a new loop tape, this one read by a man gave weather info as well as usual park info. Very clear "KOP737" at the end of the tape loop. Noted this while trying for re-log of Mesa Verde TIS. (TRH-CA1)

#### ID\*ing an unID

- 990 My unID 990 with USA Radio Network news in 9/30/89 WDXR is probably KRKS Denver, CO, as I suspected, as they are listed on USA Network in '89 BYB. (RW-CA)
- 990 Robert Wein's USA Network on 990 is KRKS-CO. They're 24h NSP with USA Network & relig. programming, and get out quite well. (TRH-CA)
- 1560 Robert Wein's NBC News on 1560 is likely WTAI on PSA. No other NBC affiliate logical. (TRH-CA)
- 1610 While playing back my tape of last month's KOP737 log, I noted another TIS station underneath. I am now fairly certain that this was Mesa Verde, CO. Tape loop talked about Morefield campground being the only camping site, and that trailers & towed vehicles were not allowed further into the park. Confirmed part of the tape loop with Bill Nittler (Thanks, Bill!), and will be sending a taped report. Date/time of log was 8/27/89 0452-0459 EDT. Not bad, 576 miles at 10 watts! (TRH-CA1)

#### UNIDS

- 1150 10/2 0510 weak in KIIS null with BRN //KSJX-1500, who is this network on 1150? (RW-CA) (See Bill's KEZX tip.--NH)
- 1260 9/30 0834-0843 Texas State Network news & features, no local IDs noted before fade-out. KAYJ, which has been heard here before, is not on my recent Texas State Net list. Possibly needed KTUE at LSR. (TRH-CA1)
- 1400 9/30 0554 unID with American Radio Network talk & "Radio Advertising Bureau" ad. Anyone know who has ARN on this freq.? (TRH-CA1)

In case you missed it on the cover of 9/30 issue, I've been asked to edit out all older tips. Since we are now weekly, this means I'll omit 6 any tips older than two weeks. So, keep tips current! ♡



# CENTRAL DX ROUNDUP

FOR THE RECORD

John Johnson 979 Neptune Blvd  
Billings, Montana 59105-2129

All times are Eastern.  
DEADLINE: Saturdays.  
FAX reports accepted.

## RIDING GAIN

- [RD-IA] = Rick Dau, R.R. 2, Box 64, Oakland, Iowa 51560-9630  
Kenwood R-1000, Radio West Loop.
- [TML-IN] = Tom Laskowski, 1334 East Miner Street, South Bend, Indiana 46617  
GE Superadio II, Sony ICF-2010.
- [JcJ-MT] = Your editor using an ICOM IC-R71A with a 23" ferrite bar loop.

## SPECIAL INTEREST

- 1570 CFEZ AB Taber, EX-CKTA. 10/8 w/Easy listening music (Was C&W as CKTA).  
0200 "CFEZ The New 15-70 E-Z AM" into Broadcast News. 0205 w/a  
brief weather forecast. Numerous "The New 15-70 E-Z AM" promos  
between songs. Thanks to Robert Wien for the tip! [JcJ-MT]

## DOWN THE DIAL

- 560 KLVI TX Beaumont, 9/25 very good. 2301 w/ID during Houston Astros game  
network pause. [RD-IA]
- 690 WPDQ FL Jacksonville, 9/25. 0035 Man with ID "The Mighty 6-90 WPDQ in  
Jacksonville, Florida." Mentioned they were on daytime power  
of 50,000 watts with relief efforts due to Hurricane Hugo  
damage. [TML-IN]
- 910 KAMD AR Camden, 9/27 fair. 2106 w/ID and brief weather forecast during  
St. Louis Cardinals game network pause. [RD-IA]
- 1000 KTOK OK Oklahoma City, 9/29 very good. 2113-2125 w/PBP of Midwest City  
Bombers vs Lawton Wolverines high school football. Spot for  
1st National Bank of Midwest City. Station dominates 1000 at  
night, even WLUP has trouble getting in here. [RD-IA]
- 1030 KFAY AR Farmington, EX-KHOG. 9/24 fair to good. 2022-2025 w/C&W music  
Promo for KFAY Money Machine Contest, then weather. IDing as  
"Arkansas' Best Country, KFAY." [RD-IA]
- 1110 WBT NC Charlotte, 9/25 good. 2200 w/local talk program (discussion  
mainly about Hugo). ID into NBC News. Station was almost even  
with semi-local KFAB since it was on their ND day pattern 24  
hours a day because of Hugo. [RD-IA]
- 1170 WWVA VA Wheeling, 9/24 o/KVOO. 0300 w/ID as "The 50,000 watt voice of  
West Virginia, AM 11-70 WWVA, Wheeling" and then into American  
Country Countdown. First time I've heard this one on its night  
pattern. [RD-IA]
- 1210 WBIU LA Denham Springs, 9/28 very good. 2013 w/Christian music and ID  
"The Power is in the station, we're the Power, AM 12-10 WBIU."  
[RD-IA]
- 1250 KALO TX Port Arthur, 9/19. 2154 w/SBN (Sheridan Broadcasting Network)  
News, spot for the NAACP, weather, ID "Kay-low 1250". [TML-IN]
- 1270 WKBF IL Rock Island, 9/29 fair to good. 2142-2149 with PBP of Alleman  
Pioneers vs East Moline Panthers high school football game.  
Spot for The Rock Island Bank. [RD-IA]
- 1320 WAGY NC Forest City, 9/19 good. 2133 w/C&W or bluegrass music. ID as  
"13-20 WAGY Hot Country Hits." [TML-IN]
- 1330 KRKR LA Lafayette, 9/30 good. 2138 w/halftime of Southwest Louisiana  
vs Northeast Louisiana football game. [RD-IA]
- 1350 KTXJ TX Jasper, 9/23, terrible audio. 0120 with end of Houston Astros  
game, few songs then sign off with mention of 500 watts during  
CH and 5000 watts days. SSB. [TML-IN]
- 1370 WCOA FL Pensacola, 9/19 mixing w/WDEF. 0059 Man w/ID "WCOA" followed  
by SID "WCOA Pensacola" into news. New here. [TML-IN]
- 1410 KTCS AR Fort Smith, 9/23. 0034 w/C&W music, spot for Alma Tire on hwy  
64 between Alma and Van Buren, spot for Midwest Sporting Goods,  
ID "Your.....Country, KTCS." [TML-IN]  
+9/27 atop briefly. 2007 w/ID "More of your favorite country  
music is on 99.9, KTCS." [RD-IA]
- 1440 KDNT TX Denton, 9/29 good. 2234-2252 w/PBP of South Grand Warriors vs  
Denton Broncos high school football game. Noted also that this  
station carries Iowa football. [RD-IA]
- WCDS KY Glasgow, 9/16. 0700 w/ID "AM 1440 WCDS" followed by news and  
local news w/many mentions of KY, Glasgow. New here. [TML-IN]
- 1510 KFNN AZ Mesa, 9/27 fair. 2120 w/sports from BRN, TC, brief weather, ID  
followed by Arizona business news. [RD-IA]
- 1540 KGBC TX Galveston, 9/23. 0155 w/High School football, Texas City vs ??  
Spots for "Bay Area" stores, several IDs. Mentioned Clear Lake  
City. [TML-IN]

1560 WPAD KY Paducah, 9/22 good. 2158-2213 with PBP of Paducah Tillman Big Blue vs Mayfield Cardinals high school football game. Spots for Westwood Fitness Center and The Institute of Electronic Technology, both of Paducah. [RD-IA]

UNIDS

990 unID 9/23. 2043 w/College football McMurray vs Midwestern. Had a power/pattern change at 2043. Might be KGTM?? Any ideas? [TML-IN]

IDING THE UNIDS

[RW-CA] = Robert Wien, San Jose, CA.

[TH-CA] = Tim Hall, Chula Vista, CA.

From the 9/30 issue of CDXR, all [WMC-MB]'s unIDs:

920 unID with IRN is KLMR, they run IRN for a few hours early in the morning. [TH-CA]

1210 unID "Texas" must be KGYN which is near Amarillo. [TH-CA]

1340 unID with BRN program is likely KDEN which just added BRN. [TH-CA]

1350 unID may be WGSW, Greenwood, SC. Sounds like KBSW! [RW-CA]

Thank you, Bob & Tim for your help.

25 YEARS AGO

10/20/1964 issue of DX Monitor...Membership finally reached the 200 mark... Don Erickson sprained his ankle, got to miss a Psych test....KOA-850's daily sign on was at 0700....Bill Nittler was up to 2110 veries.

OPEN MIKE

If you're always waiting for the right thing, you might end up with whatever's left. We're weekly now, keep those reports coming in! 73, John.

EASTERN DX FORUM

continued from Page 11

here, will have checked Chicago out w/fellow IRCAN John Clemmer over Columbus Day weekend, will report on whether the new 1200 kHz has hit the air there yet. (not as of 10/9--rce) More later. 73s. Aloha.

Rick Evans, Apt. 19, 5104 North Lovers Lane, Milwaukee, Wisconsin 53225

I forgot about the no-mail Discovery Day weekend today so I'm hoping this gets to Don on time. The new WOPA-1200 isn't on as I type this, but there does appear to be an open carrier there. While checking for WOPA, I was surprised to realize how weak WOWO-1190 is here during the day. It's audible and listenable, but for 50,000 I would expect a lot more punch from them, especially with about half of their path being over Lake Michigan. I'm finding myself listening more and more to WJJD-1160 Chicago even during drive time in the evening going to work. They're good, even on the car radio, during the day, but at night, they're good only on the south side of Milwaukee. By the time I get up to the northwest side where I live, 1160 is just a jumble. I can remember listening to WJJD when they were rock, then later when they were country. Now it's nostalgia/big band. (Basically, nostalgia is what we used to call "standards" or "middle of the road" back in the '60s.) I was up for a couple of hours Sunday morning and did some random tuning around on the dial. 4 new stations, 3 of which I should have had before, including a new province for me here. In response to Ted's question above on stations relaying TV news, I haven't run into that yet, but local WOKY-920 uses the weathermen and sports people from channel 6 here in town. In addition, they also have the afternoon hourly news done from the channel 6. Using the same people is probably common for stations which are owned by the same company, but as far as I know, WITI-6 and WOKY-920 are not. By the way, I think WOKY/WITI has the best weather forecasts here. Gotta run. 73.

EASTERN DX ROUNDUP

continued from Page 9

1410 WING OH, DAYTON 9/28 2215 F-G o/u mess with OLD and ment of:

"Your oldies station in Dayton, WING." (JL-OH)

1570 WBUX PA, DOYLESTOWN 9/21 0044 Strong over CKLM w/ID as "1570

WBUX" and "Music of the Stars-WBUX County Station." CNN nx at 0100. (WW-MA)

1590 WAKR OH, AKRON 9/29 0555-0559 Fair in stereo w/flutter; cancer

discussion int ad for Whitmer Lighting. (JL-OH)

COMMENTS

Thanks to this week's reporters and welcome to Jeffrey Less as a new contributor to EDXR (last issue + this one)...all of your reports are welcome here! Weekly issues are now in effect so remember to keep the flow of reports coming in...should you miss one week's deadline, I'll include your loggings in the next issue. Cx are improving everywhere so let's crank up those receivers and REPORT NOW! Let's make DX MONITOR a publication to be truly proud of! Till next time, my friends, 73 de DX de Mr. "B"





# Eastern DX Roundup

Ray Bauernhuber  
141-12 243rd Street  
Rosedale, NY 11422

DEADLINE: Saturday's at my QTH for ALL winter issues

- =====  
(WW-MA) William Wyllie, Franklin, MA., Fisher 418/built-in antenna  
DX'ing at Prudence Island, Rhode Island  
(GH-PA) Gary Heisey, Osterburg, PA., GE Superadio  
(JL-OH) Jeffrey Less, Toledo, Ohio, Chrysler car radio,  
TM-125 AM Stereo receiver w/longwire.  
=====
- 680 WPTF NC, RALEIGH 9/21 2212 barely dominating crowded channel w/  
c/w into local wx. DJ then came on w/grim announcement that  
the station would be shifting it's schedule to keep on top of  
the arrival of Hugo. Discussion followed w/local ham radio  
operator about the emergency radio network in place to deal  
w/the storm. (JL-OH)
- 690 WPDQ FL, JACKSONVILLE 9/23 0046-0100 Booming in w/emergency  
broadcast to help survivors of South Carolina after hurricane  
Hugo. Took phone calls and said power was 50,000 watts.  
Stayed in for a good 30 minutes with Cuba in background, but  
after 0100, Canadian CBF took over. (WW-MA)
- 690 WPDQ FL, JACKSONVILLE 9/24 1945 Good w/several IDs. Man asking  
for donations for victims of hurricane Hugo. (GH-PA)
- 690 CBF PQ, MONTREAL 9/29 0447-0451 Good w/classical mx into FF  
talk. (JL-OH)
- 690 WPDQ FL, JACKSONVILLE 9/25 2353-0002 EXCELLENT w/talk show. Host  
mentioned 50 kw night power for aid in hurricane Hugo relief  
efforts in the Carolinas. Caller asked if they could stay  
full power all the time and their reply was negative because  
of protection for Canada, New Orleans, and Cuba. Also  
mentioned a new studio being built. (JL-OH)
- 850 CKVL PQ, VERDUN 9/29 0510-0525 Good and dominating at night the  
last few weeks o/WRMR; FF pop mx and long stretched of talk.  
Broadcast in stereo. (JL-OH)
- 870 WHCU NY, ITHACA 9/15 2215 baseball game and ID as "Newsradio  
WHCU"; fair-good. (WW-MA)
- 980 WONE OH, DAYTON 9/29 0549 Good in stereo w/ c/w into slogan:  
"980-The best country, WONE" (JL-OH)
- 1080 KRLD TX, DALLAS 9/29 0629 F-G w/ment of CBS net, Texas State net,  
and the resources of the KRLD news department. "We're  
Newsradio 1080, KRLD, Fort Worth/Dallas." (JL-OH)
- 1110 WBT NC, CHARLOTTE 9/22 0359 Good noted cutting off and on at  
1-second intervals until complete silence at 0359 as hurricane  
Hugo approached the Charlotte area. At 0545 it was back on  
w/storm reports, school closings, etc. The CE said that two  
of their towers were down! (GH-PA)
- 1130 WCBX NC, EDEN 9/21 1955 Good w/ID by m/ann...back on rock mx,  
local anmts, IDs, Hugo updates. (GH-PA)
- 1200 WOAI TX, SAN ANTONIO 9/29 0616 Weak but all alone w/motor racing  
into ment for the "Texas Open on WOAI, the Sports Voice of the  
Great Southwest." (JL-OH)
- 1260 WNDE IN, INDIANAPOLIS 9/29 0655-0700 Fair w/USA Today ad for News  
Center 13, WTHR-TV into sports nx and wx. Simulcast w/AdCon  
Q-95, WFBQ, 94.7 (JL-OH)
- 1280 WJAY SC, MULLINS 9/21 2228 Good w/ID by m/ann; ran 25 minutes of  
National Wx Service repeats on Hugo then into c/w. No WANS  
here tonight. (GH-PA)
- 1290 CJBK ON, LONDON 9/11 0203 Strong no sign of local WRCP in  
Providence; new and old rock mx and no announcer - heard just  
a chorus singing "CJBK." (WW-MA)
- 1320 CKEC NS, GLASGOW 9/11 0230 Good w/rock song and wx for New  
Glasgow. (WW-MA)
- 1390 WJRM NC, TROY 9/21 2145 Poor, mixing under WADA. Hugo info and  
talk of your Emergency Broadcast Station. Played c/w; IDs by  
m/ann; no WXTC tonight. (GH-PA)



# Western DX Forum

□ ★ ★ ★ ★

"IRCA — The #1 Choice of the Broadcast Band DX'er"

Editor: Ric Heald • 8539 Bellamy Way • Sacramento, CA 95828 USA • (916) 396-8677

DEADLINES — WEEKLY ON TUESDAY 11 DAYS PRIOR TO PUBLICATION DATE

□   □   □   □   □   □   □   □   □   □

GARY LARSON, 2806 LINCOLN, BURBANK, CA 91504

Just saw an article on KKGO about FM going all classical and all jazz on AM. Also mentioned their 25 kw transmitter. I've been hearing AM // to FM days until about 1700 PIT. Really heavy into KVEG 840 with Billy Goodman who mostly deals with UFO's and that type of interest. Lots of WC listeners who can phone in at (702) 451-5834 and for first time callers 451-5655. Currently in search of new living quarters in Burbank area. Kind of tough with limited income; restricts rent. Current phone # of (818) TH3-2460 is unlisted - will be moved to parents residence temporarily. (Last two words guessed as they were abbreviated-RtH.) DX seems to be better now that nights are cooler. Across the street presently from transmitter of LAX TIS on 530 in 3000 block of Hollywood Way. Real strong when on. Believe there's another one on 530 in the Rose Bowl area of Pasadena. Mike Riordan write or call me if you have any questions. Same with anyone else out there. 73.

ROB HARRINGTON, P.O. BOX 22202, DENVER, CO 80222

I'd like to update you on what's been happening in the Denver area. Have been a member for 18 years and married for 3½ years. I'm not very active in BCB DX like I was in the late '70s and early '80s. My big interest these days is computers. I own an IBM XT and a TRS 80 COCO II. I'm active in the SW Echo and ham radio Echo. I'm also a user of Compuserve and Usenet. Messages to me can be sent to USENET/UUCP/UNIX::near/scicom/zebra!rob.COMPUSEVERE::70216.222 in EASYPLEX. FIDO ECHOS::SHORTWAVE RADIO ECHO, HAM RADIO ECHO, PACKET RADIO ECHO, TWITLAND ECHO, ASTRONOMY ECHO, SCIENCE ECHO, SPACE ECHO OR UFO ECHO. I'm also active in local computer boards and also attend local radio listeners (BCB, SW, etc) meetings in the Denver area. Next few meetings are scheduled for 18 November in Westminster and 17 December in Aurora. Contact me at 753-0720. Chris Knight made a few comments in his last forum about wanting a column for DXR and DXF in the Mountain area. But there aren't enough members. I think it should continue with members in the Pacific and Mountain zones to report to WDXR and WDXF, Eastern zone to EDXR and EDXF and Central zone to CDXR and CDXF. Is this the way it now reads. (NO. If you've been a member for 18 years you'd know there hasn't been a CDXF for at least 10 years, DXR is NOT by time zones, otherwise the editor of CDXF wouldn't be in Billings, MT. Read your By-Laws, or write the Goodie Factory for a copy. Discussion closed-RtH.) 73 de Rob Harrington.

RIC HEALD, 8539 BELLAMY WAY, SACRAMENTO, CA 95828

Howdy! I've had a couple calls and postcards from Ralph urging DX and hobby related material in the forums, so let's get going everyone. The Sacramento Airport TIS seems to have increased power. At 23 miles they're coming in at 30 db o/S/9. Noticed that while once again trying for KPUP 540. I'm beginning to think my only chance will be during the upcoming season when KVIP powers down before Carmel Valley. And speaking of that, Reid Wheeler and I noticed a strong signal dominating 1330 well after sunset carrying Monday Night Football. Breaks were filled with national spots and PSA's. Pouring through logs and the Almanac only logical choice was WY, then finally a local spot and I recognized the address as being in Redding. KRDG should have been on their funky low power long before this, but an ID a few minutes later confirmed KRDG. About less than 10 minutes later during the play-by-play KRDG suddenly disappeared, obviously to their low power and KUPL became the dominant as should be. FCC rules have changed so many times I've lost track. Are former daytimers now allowed to operate on full power well past local sunset before going to their 80 or whatever watts, or did someone simply forget to change power? New logging for Reid and first time with new calls for me. Although it'll be history by the time this reaches everyone's mailbox - we've waited a long time for a Bay Bridge World Series. The A's will decimate the Giants, hi. Best of DX and see you in 7. 73 de RtH. .

# EASTERN DX FORUM

Richard C. Evans  
5104 N. Lovers Lane  
Milwaukee, WI 53225

Deadlines: Saturdays

Ted Benchik, 322 East 2nd Street, Apt. 9, Bloomington, Indiana 47401  
Greetings from the rolling hills of southern Indiana. As the newest member of IRCA, I'd like to take this opportunity to introduce myself. I've been a DXer for about 8 years. I started on SW, but have moved into MW as the challenges and rewards of that band proved more satisfying. For almost the entire time I've used a Panasonic RF-2200 with homebrew loop. After completing my undergraduate work at Notre Dame, I entered Indiana University Law School where I am currently in my second year. Still waiting for my first TA, but 48 states may be a little more realistic. I need to hear 10 more and anyone west of the Alleghenies can probably guess which ones they are. While no one will confuse south central Indiana with New York or L.A. when it comes to media developments, I have noticed a practice which may or may not evolve into a more national trend. WTHR channel 13 in Indianapolis is being relayed by a small network of approx. 6 or 7 stns during its local 1800 news broadcast. WNDE-1260 is the most widely heard of the stns, the rest of which are mostly daytimers or GYers in small remote towns. Two other stns on the net are WSAL-1230 and WCSI-1010. Is this practice becoming more widespread in other parts of the country? In other local news, WIRE-1430 has dropped CWM in favor of an EZL-Light vocal format. WIRE is also the flagship station for the Indiana Univ. football and basketball net. So far, I'm pressed with the clun and I especially look forward to some of the winter bulletins. (Welcome to IRCA, Ted, and please report often. No trouble with your typing, but please double-space, thanks.--rce)

Gary Siegel, 2728 - 106th Street, Toledo, Ohio 43611

It's about time for me to send in another forum so here goes. I've noted in recent times concern by IRCans and many AM radio DXers about the survivability of our hobby and of AM radio itself. While it is true that some things have changed and are changing I think there will be a gradual shift and stabilization of listeners to AM radio. Many say that stereo for AM will not save it but to those I say get a good AM Stereo radio in your car and your mind will change. As years pass more and more cars and more and more stations will have stereo reception capability which will interest many on edge listeners. Furthermore with the greatly increased advertising blocks on FM more people will tune the FMs out much like they did the AMs in the late 60s and early 70s. I did note in a recent bulletin that the AM listenership erosion has finally leveled off for the first time in 15 years at 24%. I expect this to remain constant and then see a gradual upturn in the AM stations favor with the AMers finally settling in at 30-35% of the audience by the year 2000 and leveling off there. So now you all have my prediction for the 90s. I also make this prediction based on another important premise and that is how important AM radio can be in times of emergencies, as anyone in the Carolinas could tell you, or any DXer in the Eastern half of the United States or Canada know, who was listening for such broadcasts, is aware of the tremendous job WPDQ (ex-WAPE) 690 in Jacksonville, Fla did in the great hour of need for those hurricane victims in the Southeast. Their effort at WPDQ was nothing short of heroic and it is important to note that NO FM station anywhere could deliver so reliable and so crucial a service to so many in such a vast area. AM radio dead-hardly! I am not in the ad business but anyone who takes our hobby seriously should not be without the M Street Radio Directory. I recently got mine and what a fine up to date publication it is. It contains not only station lists and info but also addresses and formats as well as phone numbers for every station. Perhaps in reflecting the current status of AM radio in recent weeks I've found the following area stations off at one time or another for varying lengths of time overnights ...CKLW-800, WLUP-1000, WOWO-1190, WOHO-1470, WLQV-1500 and WNOI-1520. New ones received due to this bonanza were WHOS-800, CMGE-1470 Cuba, WKIZ-1500. CKLW was off 9/17 near sundown for at least 1/2 hour, nothing new as a result, WVOI-1520 was off till at least 0700 on 9/18. 9/18 was also the morning all but CKLW was off re the overnight silent periods, made me think it was old times again. That was a very auroral morning as evidenced by the 1470 & 1500 catches. Well just about time for me to zip outta



## A Splitter Transformer for the Beverage DXer

DXpeditions using Beverage antennas can be the high point of a serious DXer's year. And taking part in such an expedition can be an occasion for DXers to be sociable in what can be an unsociable hobby. But...you and a friend have set up a really good antenna and want to run it to both your receivers. Then you find that one receiver hogs most of the signals, leaving the other one sounding strangely insensitive. It's clear that something is wrong with the hookup. Luckily, there is a simple fix, and with a few parts, you can tie the two rigs to any wire antenna with minimum loss. But first, let's look at what is happening with our unaided set-up.

Generally, the offending receiver has a tuned RF amplifier in its front end, such as the FRG-7, SPR-4, or virtually any of the vacuum tube receivers. A tuned front end helps a receiver handle signals well, but it will suck signal away from other receivers, especially many of the newer ones with broadband antenna inputs. Why is this? Most of these tuned RF input receivers are rated at 50 ohms input impedance (especially above 2 MHz), just as the more recent broadband receivers are, so one would expect both types of set to share a signal fairly equally. But it doesn't happen that way.

Figure A shows a simplified typical tuned circuit found at the input of a receiver like the FRG-7 or the SPR-4. The tuned circuit secondary has a very high impedance at the frequency it is tuned to, and through the nature of transformer windings, this high impedance looks like, say 50 ohms, in the primary, at the tuned frequency. Parallel tuned circuits have their highest impedance at resonance (the desired frequency). If this impedance is 100,000 ohms, then the impedance ratio of the transformer would be 100,000:50, that is 2000:1. But if our circuit is tuned to 2.5 MHz, then at 1 MHz, the circuit has a much lower impedance, perhaps only 40,000 ohms, which means the primary winding looks more like 20 ohms (primary  $Z = 1/2000 \times 40,000$ ). At 1 MHz, more antenna current will flow in the lower impedance input, thereby starving the higher impedance input of signal (Figure B). Only when both receivers are tuned to the same frequency will antenna current divide with relative equality.

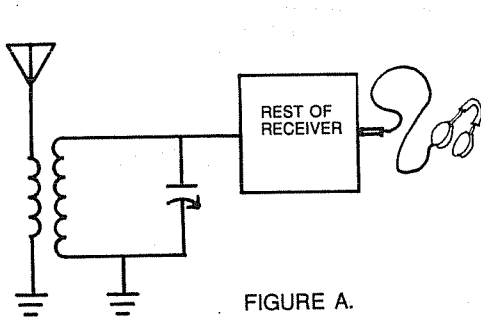


FIGURE A.

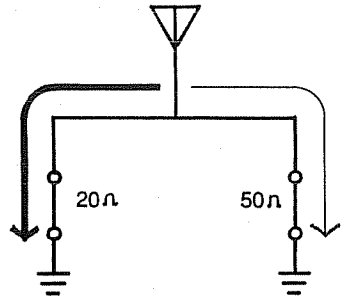


FIGURE B.

One could use separate antennas to avoid this problem, but that's not always feasible; or one could put a 50 ohm resistor in series between the antenna and the receiver with the tuned RF input. That will leave the other receiver with a "more level playing field", but will always knock down the first receiver's signal by 6 dB or so. What we really need is something that will split the available signal between receivers.

About five years ago, Sam Dellitt of DX Australia described such a device in his club's bulletin, and the article was reprinted in the July 1984 issue of CIXD Messenger. The 2-way 50 ohm splitter used a "balun core", a piece of ferrite with 2 holes in it which looks like an oversized ferrite bead. With a few turns of wire, it is a transformer with one input from the antenna and two outputs to the receivers. A 3.6 dB loss was apparently noted from 300 kHz to 30 MHz using the device, but the loss was approximately equal in the two receivers.

I built this splitter last year for use on a DXpedition, but found 8 or 9 dB loss at MW frequencies, which really wasn't acceptable. So the transformer was rewound with 12 turns on the primary and 16 turns on the secondary as noted in Figure C (the original design used a 3 turn primary and 4 turn secondary).

Winding a balun core is not too difficult, and Figure D should convey how it is done, using a view of the core split lengthways along the two holes. For simplicity, only one input winding turn is shown, and two output windings. The holes shown in Figure D are much wider than they really are in relation to the core, for the sake of clarity. The core used is a BLN-73-202 from Amidon Associates, 12033 Otsego St., North Hollywood, CA 91607, at a cost of around 65¢ each. There is a minimum shipping charge of \$2. Write to Amidon for recent prices. The core specified in Dellitt's article hasn't been available, but this seems like a good substitute. The wire used was #30 varnished magnet wire, which requires a delicate touch, but larger sizes won't fit through the holes when more than a few turns are used.

FIGURE C.

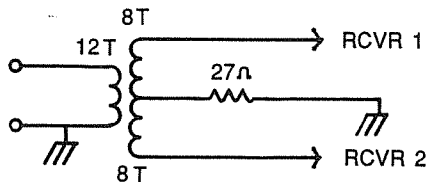
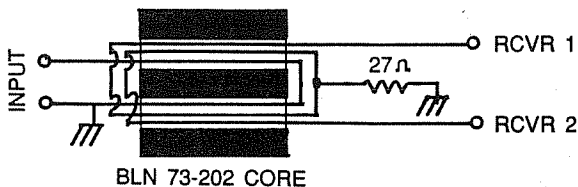


FIGURE D.



This splitter works very well, as does one with an 8 turn center tapped secondary and a 6 turn primary which I also built. There is about 3 dB observed loss at MW and tropical SW frequencies, increasing somewhat past 10 MHz. Three dB loss is not really noticeable by ear, but there may be DX situations where it will mean losing an ID while using a quiet Beverage antenna. The quick solution is to disconnect the splitter and use one receiver on those occasions. A professional set-up would use a low-noise, broadbanded, overload resistant preamplifier between the antenna and the splitter to make up the loss. Such an amplifier is described in Dellitt's article, but is beyond our scope here.

It's important to remember that the input to the splitter is 50 ohm impedance. The Beverage antenna is more like 500 ohm impedance, so a matching transformer should be used between a Beverage and this splitter. See the IRCA Technical Column in DX Monitor, Feb 18 and 25, 1989 or Proceedings 1988, pp. A3, 1-10 for such a transformer. Figure E shows the ideal two DXer set-up:

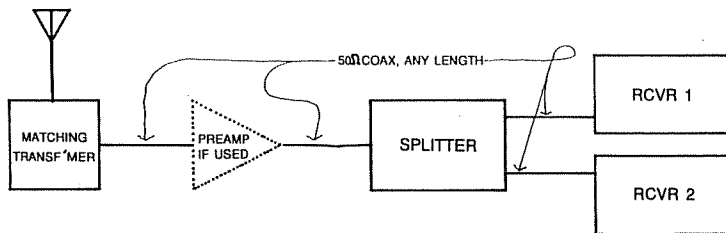
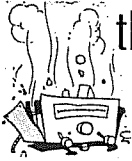


FIGURE E.

For permanent use, the splitter transformer should be securely mounted in a suitable box, as the wire used is easily broken when flexed. I prefer metal boxes for such devices, as they are strong and provide shielding. A small aluminum mini-box should be fine, though I used a little "tin" box formerly containing mustard powder; no wonder it is such a hot performer! The core itself was set in a big glob of silicone seal, and the transformer leads were run to solder lugs or BNC connectors; see Figure F. Mounting isn't critical, just make sure it is solid. Good DX to both of you! --NHP

(the above was originally penned for fine tuning's Proceedings 1989, and as such, was worked over by its editor--a chastening experience for another editor--with illustrations kindly provided by John Bryant)



## Phase Noise in Communications Receivers

by Steve Ratzlaff

Oscillators are an essential part of any communications receiver. An ideal oscillator would have all its energy centered on the fundamental frequency, but in the real world, such is not the case. Oscillators have energy on either side of the fundamental frequency; these undesired noise sidebands are oscillator phase noise, and are usually strongest close to the oscillator's fundamental frequency. If this phase noise is excessive, receiver performance can be adversely affected under some conditions.

In the "old" days of vacuum tube receivers, oscillator phase noise was rarely mentioned since vacuum tube oscillators generally had low phase noise (quiet oscillators) and didn't degrade receiver performance. It has only been in recent times, with the introduction of the synthesized receiver, that phase noise problems have been an area of concern.

In a receiver, a desired signal from the antenna is mixed with a local oscillator signal to produce an intermediate frequency which is then filtered, amplified and detected. For example, a DX signal on 1476 kHz might be mixed with a local oscillator signal of 1931 kHz to produce an IF signal at 455 kHz ( $1931 - 1476 = 455$ ). The problem a receiver with a noisy oscillator would experience is known as "reciprocal mixing", when undesired out-of-band signals mix with oscillator phase noise to produce in-band noise that degrades receiver sensitivity and dynamic range. In our example above, the local oscillator, tuned to 1931 kHz, might be producing noise sidebands at 1935 kHz, which will then mix with an undesired signal or noise on 1480 kHz to produce 455 kHz ( $1935 - 1480 = 455$ ), so the 1480 signal will interfere directly with the 1476 signal in the IF filter. So the noise level or interference level of the receiver rises, depending on how far away in frequency the out-of-band signals are. The closer you tune to the undesired signals, the louder the noise level becomes, until the undesired signals become the dominant signal in the output.

A receiver's overall phase noise performance is dependent on both the oscillator phase noise and any filters used in the receiver before the mixer. As a result, receiver phase noise performance is very much affected by the frequency offset from the desired frequency. A communications receiver's phase noise might be specified at offsets of 100 Hz, 1 kHz, 10 kHz, and 100 kHz.

It is important to remember that transmitters use oscillators too, and therefore are subject to the same potential phase noise problems as receivers. Phase noise on a transmitted signal from nearby causes the same effects as phase noise generated in a receiver. The oscillator with poorest phase noise limits the performance of the system.

Oscillator phase noise is generally specified as the noise on one side of the fundamental signal, that is the Single Sideband (SSB) phase noise. It is measured in units of dBc/Hz (this means the power in decibels of the noise relative to the power of the carrier, measured in a one Hertz bandwidth). As mentioned above, an offset frequency from the fundamental carrier is used. An offset of 1 kHz means that the phase noise is measured 1 kHz from the carrier. Usually phase noise is plotted on a logarithmic scale graph, from which you can determine the phase noise at any offset desired, up to the maximum on the graph (usually 1 MHz or so).

Actually measuring phase noise of an oscillator generally involves expensive equipment that only a design laboratory might be able to justify purchasing. On the other hand, experimenters can construct equipment capable of measuring overall receiver phase noise. This information is contained in the 1989 ARRL Handbook (pp. 10-18 through 10-24; originally appeared in *QST* in March and April 1988), and I highly recommend it if you're interested in determining your receiver's overall phase noise performance, or if you're wanting to find out more about phase noise problems in depth.

I've been fortunate in having access to lab-grade equipment to test receivers. Over the past several years I have collected performance data on various brands of HF communications equipment, including blocking and reciprocal mixing performance. Some receivers have been multi-kilobuck units, while others have been lower-priced general-coverage receivers and

transceivers available to the hobbyist. It has been fascinating to note that in some cases the hobby-grade equipment has surpassed the exotic commercial grade units. In particular, ICOM radios have been leading the low-noise synthesizer field of hobby-grade equipment.

In the following list of equipment tests (Table 1), selected models are representative of that manufacturer's emphasis on low-noise synthesizer design. Some units, such as the Cubic and Racal receivers, use late 1970's technology which was not generally noted for low phase noise performance. All units except the Drake DSR-2 have synthesizers; the Drake has an analog VFO in a partial-synthesis design.

Table 1 - Reciprocal Mixing Test Results

<u>Unit</u>	<u>Reciprocal Mixing Level</u>
ICOM R71A receiver	-23 dBm
Japan Radio NRD-525 receiver	-32 dBm
Drake DSR-2 receiver	-37 dBm
Racal 6790 receiver	-37 dBm
Yaesu FT-980 transceiver	-46 dBm
Cubic HF-1030 receiver	-47 dBm

NOTE: Units listed in order of lowest phase noise

Reciprocal mixing tests were done using one signal generator and an AC voltmeter. I set the signal generator 20 kHz away from the receiver's frequency, and measured the signal generator level which caused the receiver noise output to rise by 3 dB. The level in Table 1 is the signal generator output level; a higher level indicates a lower phase noise receiver. In other words, it takes a larger undesired signal to produce the same reciprocal mixing level. As you can see, the ICOM radio was able to tolerate a larger signal before being affected by reciprocal mixing than most of the other radios, indicating that the ICOM radio had a lower phase noise synthesizer. Other factors being equal, lower phase noise equals a better-performing radio. Noisy oscillators seem to be the limiting factor in a radio's large signal performance. Even with high quality, steep skirted IF filters used in expensive industrial receivers, poor phase noise performance negated the filter's ability to reject strong out-of-band signals.

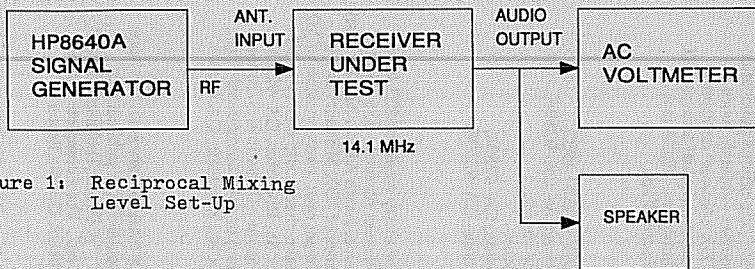


Figure 1: Reciprocal Mixing Level Set-Up

---continued from Page 13---

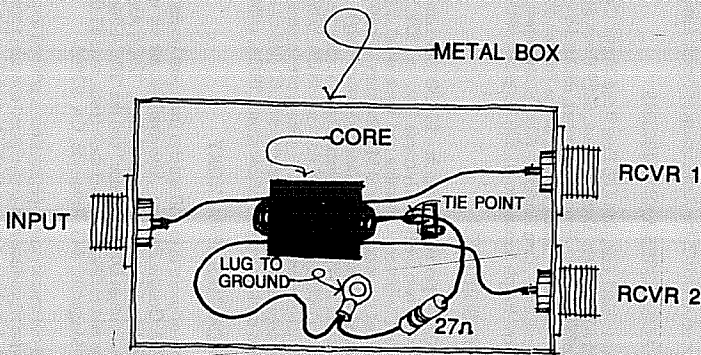


FIGURE F.

## THE INTERNATIONAL RADIO CLUB OF AMERICA (IRCA)

The IRCA is a non-profit organization devoted to the hobby of hearing distant stations on the AM Broadcast Band (510 - 1630 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.

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