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HAPPY HOLIDAYS!

Nominations Are Open for the TVA and RHA Awards for 2009/2010

Ted Vasilopoulos Award (TVA)

Ted Vasilopoulos was a charter member of IRCA who died in 1965, and was known for his high DX standards and contributions to the club. This award in his honor is presented to the IRCA member who has contributed the most to IRCA and the DX hobby during the past several years. The following persons have won the TVA in the last five years and are ineligible this year: **Nancy Johnson, Patrick Martin, Nick Hall-Patch, Lee Freshwater, and Doug Pifer.**

Ric Heald Award (RHA)

Ric Heald was an enthusiastic IRCA volunteer and contributor. In 1995, after his passing, the RHA was created to recognize the IRCA member who most benefited the club in a particularly noteworthy way during the previous year. The following persons have won the RHA in the last three years and are ineligible this year: **Gary DeBock, Dan Riordan, and Lynn Hollerman.**

All nominations, including a brief statement supporting the nomination, should be sent to the folks listed below:

TVA Nominations: Nancy Johnson, 265 Waterton Way, Billings MT 59102-7755. E-mail: NancyJohnson@prodigy.net

RHA Nominations: Gary DeBock, P.O. Box 1313, Puyallup, WA 98371. E-mail: d1028gary@aol.com

All nominations must be received by the above no later than **February 1, 2010.**

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WESTERN DX ROUNDUP

Nancy Johnson – 265 Waterton Wy – Billings MT 59102-7755

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WDXR DEADLINES: Each Friday. Please use Eastern Time.

REPORTERS FOR THIS ISSUE:

- (AB) **Art Blair**-730 SW 3rd St.-Fruitland, ID 83619 artblair1937@gmail.com
NRD-515, Kiwa loop
- (BB) **Bill Block**-7716 E. Thelma Drive-Prescott Valley, AZ 86314 billwblock@msn.com
Drake R8B
- (LG) **Larry Godwin**-2390 Clydes Dale Lane-Missoula, MT 59804 lbg@mtwi.net
Receivers: Hammarlund HQ-180, Kchibo D96L and car radio. Antenna: Sanserino air-core box loop
- (GH) **Glen Hansen**-64985 Olson Rd.-Deer Island, OR gbhansen2@q.com
Drake R8B, 700' U-shaped wire antenna 2' above ground
- (PM) **Patrick Martin**-P.O. Box 843-Seaside, OR 97138-0843 mwdxer@webtv.net
Drake R8, 1500' Eastern Beverage
- (CM) **Curtis McMenamin**-153 Calle Tepic-Vacaville, CA 95687-6530 Funkiecurtis@juno.com
Sony ICF-2010, Kiwa loop
- (5P) **Dale Park**-P.O. Box 10640-Honolulu, HI 96816 dxfool@aol.com
Sangean ATS-818CS, Terk AM1000 loop

- (MS) **Mike Sanburn**-P.O. Box 1256-Bellflower, CA mikesanburn@hotmail.com
Ford car radio
 - (MJS) **Mike Stonebridge**-St. Isidore, AB stonbrdg@abnorth.com
AOR 7030+ and a 1000' BOG aimed at 320 degrees
- *****
- 550 KTZN **AK**, Anchorage 12/5 1100 I heard the following ID "If you're not in the Zone, you're not in the game. Alaska's ESPN 550 KTZN Anchorage. This is the Zone." In the clear and alone on the frequency. It took me 4 consecutive nights of sitting on 550 and listening to multiple KARI/KOAC/KFYR ID's to log this one. My second new Alaskan logging this season. (MJS-AB)
 - 570 (KQNG) **HI**, Lihue 11/14 1845 noted off the air due to lightning and thunderstorm. Back on 11/15. (5P-HI)
 - 580 KMJ **CA**, Fresno 12/3 0030 male gave ID into news (I think), very weak and feeble. Big noise and static dominating. (GH-OR)
 - 620 KHNU **HI**, Hilo 11/30 0120 noted with dead air. Thought station was affected by windstorm but heard at 0159 ID, ABC-E news and local commercials before returning to dead air instead of network programming. Barely perceptible English language music heard, probably not KPOJ-OR or XESS. (5P-HI)
 - 710 KIRO **WA**, Seattle 12/10 0759 with "KIRO Seattle," not heard very often. (BB-AZ)
 - 810 KGO **CA**, San Francisco 11/24 0430-0530 noted them off the air leaving just a mix of stations. Back on at 0530 with station announcer mentioning they had been doing maintenance to their tower. Also was on the air on Rays Talley's Show. (CM-CA)
 - 840 WHAS **KY**, Louisville 12/8 local KSWB off tonight, noted with KXNT-NV mix, promo for Rush Limbaugh program, also mentioned "Bank of Louisville" and "News Radio WHAS" ID under/over KXNT at 0430. Haven't logged WHAS in some time. (PM-OR)
 - 960 KOVO **UT**, Provo 11/30 2126 Mexipop music. Gent with "La Favorita" slogan at 2128. Lost after 2130. New. (AB-ID)
 - 1110 KAOI **HI**, Kihei 11/20 now ID'ing at TOH as "KAOI AM Kihei, 11-10 AM and 96-Point-7 FM," meaning station has taken over translator K244DN-FM from sister station KAOI-FM which the following week moved its tower and cut back its power by 96.5 percent. (5P-HI)
 - 1230 KORT **ID**, Grangeville 11/21 ended a country tune at 1959 and ID'd. It typically does ID one minute before the hour. (LG-MT)
 - 1240 KOFE **ID**, St. Maries 11/24 gave ID during basketball game at 2300. (LG-MT)
 - KQEN **OR**, Roseburg 11/28 2330 ID and ad for Huber's Furniture store. Fair for several minutes then back down in the jumble. Heard fairly regularly. (GH-OR)
 - 1250 KHIL **AZ**, Willcox 12/6 2020 coming up over everything including Santa Barbara, CA with numerous spots, K-Hill Country ID's, and C&W music. (MS-CA)
 - 1280 KIT **WA**, Yakima 11/29 0000 old time radio show, ID and news. Fair at times but mostly poor. Not bad for 1000 watts. (GH-OR)
 - 1300 KLER **ID**, Orofino 11/30 1835 gent with "1300 KLER" ID, poor. New. (AB-ID)
 - 1340 KATA **CA**, Arcata 12/2 0900 "KATA" ID and "ESPN Radio." New. (AB-ID)
 - KZNW **WA**, Wenatchee 12/3 0959 gent with KZNW ID. Last logged Nov. 2008. (AB-ID)
 - 1400 KXGF **MT**, Great Falls 11/20 was on top at 2100. A man said "Fisher Communications, we keep it real, Real Country 1400 KXGF." (LG-MT)
 - 1430 KLO **UT**, Ogden 11/29 2230 ad for Rusty Humphries show, ID and national weather report. Mostly poor but fair at times with choppy scratch. (GH-OR)
 - 1540 ?KMPC? **CA**, Los Angeles 11/30 0128 tentative, very poor with very weak KK programming. Local KREA off due to gusty winds, so at least there's still KK on the channel, hi. Also noted off at 0120 due to wind were KWAI-1080, KNDI-1270 and KKEA-1420. Weak signals also noted on 1080, 1270 and 1280. Stations noted back on around 0200. (5P-HI)
 - 1560 KNZR **CA**, Bakersfield 12/1 1504 woman with "1560 KNZR" followed by a spot for a Christian Center, second ID at 1506. Good signal mid-day! (AB-ID)
 - 1590 KLFE **WA**, Seattle 12/1 0000 ID and news, ad for Trinity Debt Management. Really scratchy and sputtering in the static. One UNID far under. Weak. (GH-OR)
 - 1600 KGST **CA**, Fresno 12/3 2143 "ESPN Deportes," two gents talking about sport (soccer) in Mexico, Auto Zone and Future Ford ads, and "KGST" ID at 2200. New. (AB-ID)

DX TEST

1550 (WSRY) MD, Elkton 11/29 0001-0100 tried for the test but no luck. (CM-CA)

UNIDS

- 630 UNID 12/3 0110 soft spoken male reading Bible verses in between religious vocal music. Up fairly strong a couple of times but soon lost. (GH-OR)
- 1210 UNID 11/27 0000-0100 Spanish vocal with breaks at top & bottom of the hour, but no ID in English. KTBK? Big and strong with only a few light fades. Ideas? (GH-OR)

Thanks to all of our WDXR reporters this week. Nancy 12/11 2100

CENTRAL DX ROUNDUP

John C Johnson – 265 Waterton Wy – Billings MT 59102-7755

E-mail: John_Johnson@prodigy.net CDXR reports ONLY: cdxr@ircaonline.org

RIDING GAIN

[EB-MO] **Eric Bueneman**, Hazelwood, MO **N0UIHEric@aol.com**
GE Superadio III, Grundig S350, Worcester Space Magnet II.
[TMJ-IL] **Tom Jasinski**, Shorewood, IL **amdixer@core.com**
Drake R8A and Quantum Loop
[NJ-MT] **Nancy Johnson**, Billings, MT **NancyJohnson@Prodigy.net**
Drake R8B and Kiwa Loop

DOWN THE DIAL

950 WORD SC, Spartanburg. 11-21 fair to poor mixing with other stations. 18:30 noted with college football report. "9-50 and 13-30 AM" slogan mentioned. [EB-MO]
970 KCFO OK, Tulsa. 11-24 good over WGTK, WMAV. 03:01 with spot for Christian web site. "The station you can trust, 9-70 KCFO Tulsa" legal ID. [EB-MO]
1030 WBZ MA, Boston. 12-10 good through nulled and weak KTWO. 22:00 with "WBZ news radio 10-30 and **wbz.com**" followed by WBZ Accu-Weather. New state! [NJ-MT]
1050 WEPN NY, New York. 11-20 fair to poor mixing with others. 21:02 with ESPN sports news. Spots for NY and NJ. [EB-MO]
1190 CFSL SK, Weyburn. 12-8 good to fair with others. 00:45 with country music, local spots, weather, "AM 11-90" slogan. [EB-MO]
KQQZ MO, University City. 12-7 good over KPHN. 17:25 with Classic Country format. This is a city of license and call change. Had been KRFT De Soto, MO. Still with 10kW day / 22 W night DA-2. [EB-MO]
1210 WPHT PA, Philadelphia. 11-20 good to fair through WOAI digital sideband. 19:57 with "The Sounds of Sinatra" with Sid mark. Local spots, call letters. [EB-MO]
1230 KFPW AR, Fort Smith. 11-24 fair to poor mixing with others. 01:30 with local spots, calls in promo. [EB-MO]
1280 WMCP TN, Columbia. 11-20 good to poor mixing with WGBF and digital sidebands from WSDZ-1260. 17:00 with University of Tennessee basketball, local spots. [EB-MO]
1290 WCBL KY, Benton. 11-22 fair to poor mixing with WIRL. 16:10 with oldies, calls and local spots. [EB-MO]
1300 WNQM TN, Nashville. 11-23 good to fair over WFRX. 15:50 with Christian teaching, local spots, "Nashville Quality Ministries" slogan. Legal ID. [EB-MO]
1360 WMOB AL, Mobile. 11-21 good to fair over WSAI. 18:07 with Urban Gospel music, "Mobile Christian Radio WMOB Mobile, WTOF Tower of Faith, Bay Minette" dual legal ID into Christian teaching. Note, tries for WTOF, but too much interference from KMOX-1120. [EB-MO]
1450 KZZJ ND, Rugby. 12-11 poor. 21:00 with promo "...your home for ?? basketball, AM 14-50 KZZJ." [NJ-MT]
1510 WQQW IL, Highland. 12-8 good signal. 11:52 with Classic Country format, "Killer Country 11-90 KQQZ" slogan into CNN news at 11:55. EX-WXOZ. Simulcasts KQQZ 1190 University City, MO. [EB-MO]
1670 CJEU ON, Ottawa. 12-10 good to fair, occasionally on top of 1670, mixing with WTDY and the GA station. First day on the air. 20:00-23:00 with non-stop FF Christmas carols. No call letters or location mentioned, so tentative right now. Some other DXers have reported that is a testing phase. [TMJ-IL]

25 YEARS AGO

December 15, 1984 issue of IRCA's "DX Monitor" ... **Pat Martin** of Seaside, OR mentioned his best TIS logging was the 8 Watt National Bison Range in Montana ... **Ric Heald** of Eureka, CA said he is not moving and would remain in Eureka for awhile ... **Ernest R. Cooper** of Provincetown, MA talked about the Larry King rerun "Best of King" moving to Monday mornings and the new talker on Sunday is Jim Bohannon.

OPEN MIKE

Nancy logged a new state! While a few years ago WBZ-1030 would be a nightly catch, this is the first time she had heard it from Billings. KBSR 1450 Laurel, MT has now been off the air for well over a month. This column was typed 12-12-09. 73, John

EASTERN DX ROUNDUP

Lee J Freshwater – 414 SE 3rd St – Ocala FL 34471

E-mail: lfreshwater@cox.net

Deadlines: Saturdays 8 AM!!

(LF-FL) your editor

STARS OF THE WEEK

Ocala, FL
Drake R-8B, KIWA Loop, Grundig S-800, MFJ Phasor, LF MFJ
616 audio enhancer, BSI Auto Logging Software, Vox Pro E-2
editing software, 75' LW
Manassas, VA
NRD-545 rx w/134' multiband antenna NW to SE.

(KK-VA) **Kraig Krist**

LOGGINGS

550 NY WGR Buffalo 12/4 1855-1935. Mixing with other talk and singing. "Your home for play by play Buffalo Sabres action. WGR Buffalo sports radio five fifty". College baseball pregame show. "WGR sports radio five fifty". (KK-VA)
560 MD WFRB Frostburg 12/4 0747. "Talk radio five sixty dot com". With "Edward Jones in downtown Frostburg". (KK-VA)
1230 GA WFOM Marietta 12/6 2355-0035 EDT. Mixing with singing. At 0000 "WFOM...." (KK-VA)
1340 GA WGAU Atlanta 11/26 1900. Very poor with ID. NEW. (LF-FL)

Well, football season is over for us Gators but it sure was fun while it lasted. Thanks to Kraig this week, as we have a short list to report. Only one new one for me but I am only caught up to 12-1 on the auto DX audio files. I am using the BSI Skimmer to record one freq per week and the Media Touch logger to record 1340... BUT then I have to find time to review the top of the hour files. Lots of re-logs but one in a while a new one will pop up. It's been a ton of fun to DX again. It gives me something to do while I am working on HDXM. Speaking of DXM, we are back on track, so if you are missing any copies, PLEASE email me and I will get you a replacement, I have a couple of spares each week, and if I run out I can print you one here. Best to everyone and HAPPY HOLIDAYS...
fresh 12-12 0945

DX WORLDWIDE – WEST / TROPICAL BAND DX

Patrick Martin – PO Box 843 – Seaside OR 97138

E-mail: mwdxer@webtv.net

all times UTC

TRANS ATLANTIC DX ROUNDUP

963 **FINLAND**, Pori, CRI. 0450 Dec 9. Could hear a woman talking, Russian inflection, followed by children chanting, then a man talking, and it was all followed a few seconds later on a Swedish receiver on GlobalTuners, tuned to 963 (good strong signal). Also heard four of the presumably 6 pips on the hour at 0500 as well. A bit closer to a formal ID than I've had before. (NHP-BC)
1539 **UAE**, Al-Dhabbaya, VOA Radio Aap Ki Duniya. 0117 Dec 11. Man and woman in what sounded like Arabic talk, weak, but // with delayed web stream. (NHP-BC)
1575 **UAE**, Al Dhabiya, Radio Farda. 1620 Dec 10. Middle Eastern sounding mx, then two men talking, followed by more mx; the Farda web stream followed by about 12 seconds. Poor at best, though fairly consistent, and a bit of a surprise considering the otherwise poor conditions this morning. VoA Thailand took over about 10 minutes later. (NHP-BC)

TRANS PACIFIC DX ROUNDUP

855 **CHINA**, CNR2 synchros. 1516 Dec 1. Woman in CC //7245, nil to fair at peaks; no sign on N. Korea except for slight roughness on carrier. (NHP-BC)
1134 **CHINA**, Golmud, CNR1. 1529 Dec 1. Woman and man talking, followed by female vocal mx //5030, poor to fair. Unusual catch on this channel, especially with deteriorating conditions (NHP-BC)
1269 **JAPAN**, Esashi/Obihiro, JOFM/JOHW. 1529 Nov 26. Man talking, nil to poor strength, but seemed // to man talking on JOHR-1287. New at home. (NHP-BC)
1575 **THAILAND**, Ban Phachi, VoA. 1700 Dec 11. Weak but clear w/Voice of America ID and Yankee Doodle IS. Bit of a surprise, as local sunrise was over an hour earlier. (NHP-BC)

THANKS TO THESE REPORTERS

NHP-BC **NICK HALL-PATCH**, 1538 Amphion St., Victoria, BC V8R 4Z6 **nhp@ieee.org**

Drake R8, Dymek DR333; RFSpace SDR-14 running DX Fishbarrel program when not recording; north and west Flag antennas, west corner fed loop, 1m indoor box loop, 14m sloper, DXP-3 phasing unit.

DX FORUM

Richard C Evans – 7416 Hearthstone Wy – Indianapolis IN 46227-7923
E-mail: REvans5435@yahoo.com DEADLINES: Sundays

Deadlines: Saturdays 12/19, 12/26, 1/2, 1/9, 1/16, 1/23, 1/30, 2/6, 2/20 and 3/6

Eric Bueneman (NØUIH), 631 Coachway Lane, Hazelwood, Missouri 63042-1347

One format change in St. Louis has taken one is about to take place. On December 7, KRFT 1190 De Soto, MO became KQQZ University City, MO. KQQZ is the third station to be acquired by Insane Broadcasting Company of Belleville, IL. KQQZ flipped from Sporting News Radio to Classic Country, taking the programming from WWOZ 1510 Highland, IL, which now simulcasts KQQZ under the calls WQQW. The Classic Country format moved to 1510 when Insane acquired KZQZ 1430 from Bonneville International. KQQZ still operates with 10 kW day and 22 watts night; the CP for 6,500 watts at night is not yet on. KATZ-FM 100.3 Alton, IL is broadcasting Christmas music through the end of the year; the station dropped its longtime Hip-Hop/R&B format in November. This is the first station to fall to Arbitron's new PPM technology in St. Louis. Two rumors are being bandied about: one points to the station going to hits from the 1990s, while another points to the station simulcasting the Urban Gospel format of KATZ 1600. The PPM, or Portable People Meter, has also claimed a longtime morning personality; KIHT 96.3 morning DJ J.C. Corcoran was fired in October. In Chicago, for example, the PPM was the downfall of longtime personality Steve Dahl. Three petitions have been filed with the FCC opposing the sale of KFJQ-FM 99.1 Clayton, MO; the station has been St. Louis' Classical music station since 1948. These groups are questioning the finances of the potential buyer of the station, which is still paying for KHZR 97.7 Potosi, MO and KPVR 94.1 Bowling Green, MO; both of which program Contemporary Christian music. As was the case in Atlanta 20 years ago, St. Louis is starting to become oversaturated with Christian radio stations. If 99.1 were to be added, that would make the 15th Christian radio station in St. Louis. Two of those stations, KJSL 630 and KSTL 690, have been for sale for the past few years. Audience research often shows that the audience for Contemporary Christian music is much smaller in urban areas than in the farthest suburbs or rural areas. In St. Louis, for example, there isn't much of an audience for such a format inside the loop that is bordered by Interstates 270 and 255. Atlanta had 17 such stations in 1990; there's only eight of these stations now as the stations that once ran Christian formats now run Spanish, Asian, or Ethnic formats, and in the case of WFOM 1230, various talk formats. The Christian station I worked at in Marietta, WFTD 1080, now broadcasts Ethnic programs. The group that owned the station while I was there sold the station in 1998. One Atlanta DXer, Malcolm Maxwell, noted that at the time, Christian music and teaching was the least expensive format to run, thus the glut of Christian radio stations in that market during the late 1980s and into the 1990s. The only type of Christian programming that is not available in Atlanta is Catholic programming, even though Atlanta is the largest diocese in the Deep South outside of Florida, with the possible exception of Birmingham, where EWTV is based. I've also noted one new station broadcasting in AM Stereo: KXEL 1540 Waterloo, IA. They join an exclusive club in eastern Iowa; KCJJ 1630 Iowa City also broadcasts its mix of talk shows and Hot AC in AM Stereo. KXEL broadcasts mainly News/Talk, but also airs some Spanish programs and segments of Contemporary Christian music. I did log two new stations: WEPN 1050 New York with ESPN Sports Center and ads for New York and New Jersey on November 20 at 2102 ELT. 1050 was a mess that evening; I was lucky to pull it through, even with the digital sidebands from WHO 1040 nulled. Another new one I noted was KCFO 970 Tulsa, OK with an ad for a Christian Web site, legal ID and conservative talk at 0301 on November 24. Normally, I hear either WGTK or WMAV on 970. As of December 10, 2009, my count is now at 1,115 stations. 73 and have a Happy Holiday season!

Mike Sanburn, P. O. Box 1256, Bellflower California 90707-1256 **mikesanburn@hotmail.com**

Greetings. Doesn't seem like three months since the IRCA convention. Christmas is almost here. The past two years at this time I could hear nonstop holiday tunes on KENT 1400 out of Parowan UT. Sadly, they're now gone. I just saw the movie Pirate Radio a couple days ago. It had a few less than savory scenes, but the clandestine broadcasting and 1960s rock music made it a worthwhile film. I'm sure the DVD will end up as a future IRCA auction item. The recent article on Tecsun portables by Gary DeBock was of great interest to me. One can never have too many radios. My Sony M40W seems to be on its last leg. I got it back in 1989 and took it with me to the IRCA convention that year in Rancho Cordova / Sacramento CA. I suppose that I might try to have it fixed at some point. There

are plenty of new ultralights that I can choose from now to be sure. Old Sonys never die, they just fade away. (Or was that Mac Arthur??) I thought it might be nice if Sony would re-release and have a limited run of its 2010 receiver since the year 2010 is upon us. I'm sure the recession won't allow that to happen. If the dollar don't get you, the lack of sunspot activity will. None the less, I hope everyone has a new decade filled with great DX. Merry Christmas and 73.

Richard Evans, 3908 Grand Oak Avenue, Apt. 4, Indianapolis, Indiana 46237-4694

Just a quick note to wish everyone a Merry Christmas and a Happy New Year. I haven't done any DXing in quite some time. The only listening has been to CFZM-740 (on the internet) and sometimes **www.theradio.com**. Most of my time has been work, school (again) and some work with the business cards, with sleep sandwiched in there somehow. I hope to get back to DX again next year but the drive isn't there as it was so many years ago. 73.

SPORTCHANNELS IRCA

Compiled by: Dale Park – PO Box 10640 – Honolulu HI 96816
E-mail: dxfool@aol.com

Aloha and Happy Holidays. Well, the computer is still a bit fritzzy, but I'm working around it. In the meantime, here's the info I have laying around as of 12/12/09—

NATIONAL BASKETBALL ASSOCIATION

790	WQXI-GA	Atlanta HAWKS	Steve Holman
850	WEEI-MA	Boston CELTICS	Sean Grande, Cedric "Cornbread" Maxwell
610	WFNZ-NC	Charlotte BOBCATS	Scott Lauer
1000	WMVP-IL	Chicago BULLS	Chuck Swirsky, Bill Wennington, Steve Kashul-ST
1200	WRTO-IL	(Spanish, 21 home games:)	Omar Ramos, Ozzie Guillen Jr.
1100	WTAM-OH	Cleveland CAVALIERS	Joe Tait, Mike Snyder-ST
103.3	KEPN-TX	Dallas MAVERICKS	Chuck Cooperstein, Bob Ortelgel
1270	KFLC-TX	(Spanish:)	Victor Villalbal, Raúl Saenz
1510	KCKK-CO	Denver NUGGETS	Jerry Schemmel-h, Jason Kosmick-a-STi
97.1	WXYT-MI	Detroit PISTONS	George Blaha/Mark Champion, Rick Mahorn
950	WWJ-MI	(back-up)	
680	KNBR-CA	Golden State WARRIORS	Tim Roye
1050	KTCT-CA	(back-up)	
610	KILT-TX	Houston ROCKETS	Craig Ackerman, Adam Wexler
850	KEYH-TX	(Spanish:)	Adrian Chavarria
1070	WFNI-IN	Indiana PACERS	Mark Boyle, Bobby "Slick" Leonard, Kevin Lee-ST
980	KFWB-CA	Los Angeles CLIPPERS	Ralph Lawler-p, Michael Smith, Brian Sieman
1330	KWKW-CA	(Spanish, 31 home and 17 away games:)	Celso Gaspar
570	KLAC-CA	Los Angeles LAKERS	Spero Dedes, Mychal Thompson
1330	KWKW-CA	(Spanish:)	Fernando González, Pepe Mantilla
103.5	WRBO-TN	Memphis GRIZZLIES	Eric Hasseltine, Hank McDowell, Ken Kincaid-ST
940	WINZ-FL	Miami HEAT	Mike Inglis, John Crotty
1140	WQBA-FL	(Spanish:)	José Pañeda, Joe Pujala
620	WTMJ-WI	Milwaukee BUCKS	Ted Davis, Dennis Krause-h
1130	KFAN-MN	Minnesota TIMBERWOLVES	Alan Horton, John Focke-ST
660	WFAN-NY	New Jersey NETS	Chris Carrino, Tim Capstraw
1130	WBRR-NY	(back-up)	
106.7	KMEZ-LA	New Orleans HORNETS	Sean Kelley, Gerry Vallancourt, Joe Block-ST
1050	WEPN-NY	New York KNICKS	Gus Johnson, John Andariese
1040	WNJE-NJ	(relay)	
107.1	WLIR-NY	(relay)	
1280	WADO-NY	(Spanish:)	Alfredo Bejar, Juan Antonio Cains, Clemson Smith-Muñiz
640	WWLS-OK	Oklahoma City THUNDER	Matt Pinto
98.1	WWLS-OK	(relay)	
	UNAVAILABLE	(Spanish:)	Eleno Ornalas
580	WDBO-FL	Orlando MAGIC	Dennis Neumann, Richie Aduabato, Scott Anez-ST
1030	WONQ-FL	(Spanish:)	Joey Colón, Ramon Rivas-h
610	WIP-PA	Philadelphia 76ERS	Tom McGinnis
950	WPEN-PA	(back-up)	
620	KTAR-AZ	Phoenix SUNS	Al McCoy, Tim Kempton, Jon Bloom-ST, Paul Calvisi-ST
1400	KSUN-AZ	(Spanish:)	Arturo Ochoa, Gerárd Romo
95.5	KXTG-OR	Portland TRAILBLAZERS	Brian Wheeler, Antonio Harvey
1150	KMUZ-OR	(Spanish:)	
1140	KHTK-CA	Sacramento KINGS	Gary Gerrould, Jason Ross-ST, Kayte Christensen-ST

950	KAHI-CA	(network)		
1410	KMYC-CA	(network)		
1200	WOAI-TX	San Antonio SPURS	Bill Schoening	
1350	KCOR-TX	(Spanish:)	Paul Castro	
590	CJCL-ON	Toronto RAPTORS	Paul Jones, Eric Smith	
1320	KFNZ-UT	Utah JAZZ	David Locke	
98.7	KBEE-UT	(co-flagship)		
106.7	WJFK-VA	Washington WIZARDS	Dave Johnson, Glenn Consor	

NATIONAL FOOTBALL LEAGUE

John Murphy, Mark Kelso, Rich Gaenzler-s, Vic Carucci-ST					
—FM—					
590	CJCL-ON	1260	WRIE-PA	96.9	WGRF-NY ce
920	WKRT-NY	1290	WNBF-NY	92.7	WXUR-NY c
920	WYBY-NY ce	1330	WSPQ-NY	93.3	WWSE-NY f
1160	WPIE-NY	1380	WABH-NY	93.5	WOKR-NY e
1180	WHAM-NY ce	1410	WELM-NY	94.1	W231BI-NY re
1240	WGVA-NY ce	1420	WACK-NY ef	95.1	WFXF-NY ef
1240	WJTN-NY ce	1570	WFLR-NY ce	95.7	WPIG-NY
1260	WNSS-NY	1590	WAUB-NY ce	96.5	WBKX-NY

NOTES: c – Listed by **BuffaloBillsradio.com**. e – Listed by team. f – Listed by Wikipedia. If no footnote, station is listed by all three sources.

San Francisco FORTY-NINERS Ted Robinson, Gary Plummer, Rod Brooks-s

—FM—					
670	KPUA-HI	1230	KPRL-CA	1430	KFIG-CA
680	KNBR-CA p	1230	KJFK-NV	1460	KION-CA
730	KEZX-OR	1320	KJCT-CA	1490	KRKC-CA
830	KNCO-CA	1340	KATA-CA	1490	KBLF-CA
970	KESP-CA	1360	KUIK-OR		
1050	KTCT-CA	1400	KKJL-CA		

Seattle SEAHAWKS Josh Lewin, Hank Bauer, Jim Laslavic-s

—FM—					
560	KPQ-WA	1240	KSAM-MT	1490	KWOK-WA
580	KRSA-AK	1240	KTIX-OR	1580	KGAL-OR
610	KONA-WA	1240	KXLE-WA		
700	KBYR-AK	1240	KGW-WA	88.5	K203BY-AK r
710	KIRO-WA	1280	KIT-WA	92.1	KCRK-WA
800	KINY-AK	1310	KZXR-WA g	92.5	K223AZ-WA r
840	KMAX-WA	1400	KEDO-WA	92.7	KNCW-WA
920	KXLY-WA	1420	KUJ-WA	94.9	K235AJ-AK r
930	KTKN-AK	1430	KNBQ-AK	94.9	K235AC-AK r
930	KSEI-ID	1430	KCLK-WA	94.9	K235AD-AK r
1030	KMAS-WA	1430	KBRC-WA	95.1	K236AH-WA r
1040	CKST-BC p	1440	KODL-OR	95.1	K236AE-WA r
1080	KVNI-ID	1450	KLAM-AK	95.5	KXTG-OR
1170	KPUG-WA	1450	KGRZ-MT	96.5	KWLZ-OR i
1230	KRXK-ID r	1450	KONP-WA	97.3	KSHR-OR
1230	KCUP-OR	1470	KBSN-WA	97.3	KIRO-WA
1240	KOFE-ID	1490	KBIS-WA	97.7	K249CV-WA r

NOTES: g – Listed as Spanish by Wikipedia. i – CP for 96.3 MHz j – HD-2 channel.
SYNDICATORS: k – ISP Sports. l – Learfield Sports. m – CBS College Sports Properties.

OVERTIME: Information regarding play-by-play of college bowl games is scant at best. As usual, ESPN Radio will carry all five Bowl Championship Series games, including the Alabama-Texas finale, plus other bowls. The Sports USA Network will do the Las Vegas (Dec 22), Independence (Dec 28), Sun (Dec 31) and Capital One (Jan 1) Bowls. Westwood One does the most bowls, including the Hawai'i (Dec 24), but has no information on the company website on which ones ... The Cincinnati REDS announced that Jim Kelch has been promoted to the WLW radio booth from Triple-A, replacing Thom Brennemann, who will concentrate on TV broadcasts ... Boise SU play-by-play returns to 670 KBOI-ID next fall, with football games simulcasted on 96.9 KKGL-FM....

ABBREVIATIONS USED: a – away games only, b – backup or conflict station, d – daytimer or day games only, h – home games only, n – night games only, p – partial schedule, r – relays another station, s – sideline reporter, ST – studio host, “/” – personnel alternate. In network listings, flagship stations are in **boldface**. College campus stations are in lowercase. Data sources and station cities are available upon request from dxfool@aol.com, as well as updates and corrections to previous columns. Sorry for the sloppy work last time; to those inquiring, the New York RANGERS use the same stations as the KNICKS, the Ottawa SENATORS are on 1200 CFGO-ON, and I have no info on

the Los Angeles KINGS' backup station. More to come next year. Until then, Mele kalikimaka me ka Hauoli Makahiki Hou!

IRCA TECHNICAL COLUMN

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Coupling External Antennas To Portable Receivers

Kevin Schanilec

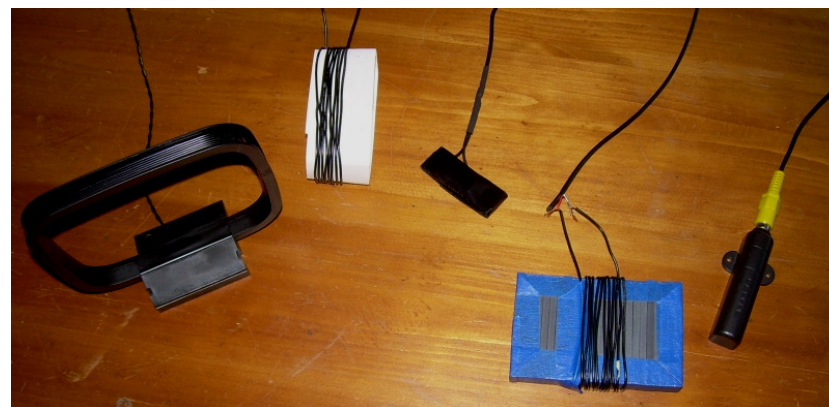
Introduction

Modern portable receivers, such as the Tecsun PL-310 with its DSP filtering and other features, are a major step forward in terms of performance and value. Still, for many DXers with external antennas such as a Beverage, Super Loop or other type, being able to couple these antennas to an Ultralight or other portable receiver is highly desirable. In this article, I compare the effectiveness of various means of coupling antennas to portable receivers.

External antenna coupling can be accomplished in one of two ways. The first method is to wind a coupling coil directly onto the internal ferrite, which is discussed in thorough detail in John Bryant's excellent article "Ultralight – Adding an Antenna Port" which is available at the www.dxer.ca web site. This direct method adds extra circuitry to the radio, and so would take an Ultralight radio out of the "barefoot" class and into the "unlimited" class. At right is what the modification looks like when installed in a Sangean DT-200VX receiver, with the red coupling coil terminated in a standard 1/8" jack.



The other coupling method is to wind some sort of ferrite or air-core coupler, which is either placed near the receiver or around it to passively couple the two. In the testing described below, I used the following couplers, seen from left to right in the picture below:



- A 4x5" air-core loop with 8 turns of wire wound as a solenoid, supplied as an AM antenna for a home stereo, into which a small receiver can be placed. The receiver may also be placed outside of the loop, although with reduced signal transfer. Spiral-wound air-core couplers are also available (discussed below).
- An 8-turn coil of wire, wrapped around a folded index card, which goes directly around each of the radios used. This is equivalent to simply wrapping a few turns of wire around your radio.

- 12 turns of wire around a 2" ferrite bar. As discussed below, the number of turns is not critical, and anything between 8 and 16 turns seems to work equally well.
- 12 turns of wire around 20 ferrite bars, held together in a brick.
- A ferrite coupler from a C Crane Twin-coil antenna, estimated to be 10 turns of wire on a small ferrite rod.

Receivers Used

I was able to borrow two internal coupler-equipped receivers, a Grundig G8 (Tecsun PL-300WT) and a Tecsun PL-310, from John Bryant for this test. I was therefore able to compare them with unmodified versions of the same receiver that I already owned. The direct digital readout of signal strength on these is ideal for coupler testing.



Testing Procedure

Two coupling methods at a time were compared to each other using a splitter, which provided the same signal to each coupler/receiver combination. In this way, I was able to compare direct coupling to the various passive couplers, as well as passive couplers against each other. The two models I was testing (the Tecsun PL-310 and the Tecsun PL-300WT/Grundig G8) responded identically to the couplers, so the results below apply to both models.

Connection to the directly-coupled receivers is easy – just plug in the cable (above, right). To use the 8-turn air core coupler, the receiver was placed inside of the coil (below, left); exact positioning of the receiver was not critical. For the ferrite-based couplers, they were placed on/next to the receiver at the position where signal transfer was observed to be the greatest, generally where the coil of the coupler was closest to (opposite) the coil of the receiver's internal antenna. The picture below (right) shows the C Crane coupler being used.



In general, all of the couplers performed well enough to completely overwhelm the receiver's internal ferrite antenna, such that the normal directional nature of the internal antenna was completely done away with. This was verified by rotating the receiver through 360 degrees and noting that there was no difference in signal strength.

Daytime Testing with an Active Whip

The antenna used for this was an LF Engineering H-900 active antenna, mounted approximately 30 feet up on my roof. I did not switch on the antenna's preamplifier (which produces too many mixing products and images), and the output was fed directly to the input of the splitter.

Using weak signals on 550, 920, 1330 and 1550 kHz, each with steady daytime signal strengths, the direct-coupled receivers experienced severe images and/or overloads from local stations. I live within 15 miles of several 10-50 kilowatt stations, and their daytime patterns are such that mixing products can be found at various places all over the dial. While there were parts of the band which were relatively free of these effects, much of the band was rendered unusable. Interestingly, on problem frequencies the indicated signal strength was steady at 50 dB, with 0 dB signal-noise ratio; it is possible that the receivers became desensitized by the massive input.

With the passive couplers, similar problems resulted if the coupler were touching the receiver. However, by holding the couplers an inch or two away from the receiver, the problem was cured, and the following were the results:

- The 12-turn flat ferrite bar coupler produced the best results, with slightly better signal strength and signal-noise ratio than the 8-turn air core coupler. The 8-turn air-core coupler actually worked best here with the receiver outside, next to the coil, rather than inside the coil.
- The 20-ferrite brick had the same performance as the 12-turn bar, and the custom-wound air core coupler had the same performance as the 8-turn 4x5" coupler. As a result, these two couplers were not used in later tests, since the ferrite brick was cumbersome to use, while the custom-wound coupler made the controls and LCD screen on the receiver inaccessible.
- The C Crane coupler pulled up the rear, with signal strengths down approximately 5 dB compared to the other passive couplers.

To see if the receivers being used were part of the mixing product/image problem, I also tried an Tecsun R1212a analog receiver, and the results were the same: massive mixing products and images when directly placed in/next to the couplers, and satisfactory results with an inch or two of separation. Therefore, it appears that portable radios are often not designed to accept such large broadband antenna signals. Connecting the antenna feed to an Icom R75 communications receiver yielded only the occasional mixing product, normal for daytime conditions here.

Daytime Testing with a Super Loop

I have a 9x10 foot "Super Loop", corner-fed with the new Wellbrook FLG-100 antenna head. The antenna is pointed north, generally away from most of the high-power stations near my home. Unfortunately, there are two local stations within 5 miles of me that nevertheless provide ample RF input, such that they mix with the other (somewhat attenuated) stations up and down the dial.

As a result, coupling the Super Loop to the receiver produced essentially the same results as with the active whip: the directly-coupled receivers were severely overloaded with mixing products and images, while the passive couplers had similar performance relative to each other as with the whip if separated from the receiver an inch or two. The C Crane coupler, the weakest of the passive couplers, could be held directly against the receivers on most frequencies.

To see if lowering the input to the receiver would help, I fed the Wellbrook antenna output to a Quantum Phaser, which has a continuously variable RF gain control. This enabled all of the passive couplers to work well, in that backing off of the gain to certain point resulted in clean reception. I noted that, because of the unique AGC circuitry on the Tecsun radios, if I started out with too much gain, I had to cut the gain all the way to near zero and then gradually increase it until the right level was attained; otherwise, without this "reset" of sorts, the receiver would not readjust if coming down from strong signal levels. Unfortunately, even by carefully adjusting the gain, I could not preclude images and mixing products from swamping the directly-coupled receivers.



Daytime Testing with a Tuned Antenna

After realizing that broadband antennas do not work well here in my RF-rich environment, the next antenna I used was a Quantum Loop based unit mated to a Crate Loop (see picture, right). The construction of this "Active Passive Loop" antenna is discussed in an article available in the files area of the www.dxe.ca website, and also in the 24 October 2009 edition of *DX Monitor*.

By being able to tune the antenna to the desired frequency, the images and mixing products that plagued the broadband antennas above were cured, and I was able to tune to each frequency for

precise measurements. Since the Quantum Loop base unit has an RF output, this was connected to the various couplers.

The results were as follows:

- The directly-coupled receivers were consistently 2-4 dB above the passively-coupled receivers, with no sign of overloads, images or mixing products.
- The 12-turn ferrite bar was the best of the passive couplers, being just a dB or two better than the 8-turn air-core.
- The C Crane coupler again pulled up the rear, consistently being 5-6 dB lower than the 12-turn and 8-turn couplers above (and 7-10 dB behind the directly-coupled arrangement).

The results would have been similar if I had used the stock ferrite head with the Quantum Loop. Also, in listening environments where overloads and mixing products are not an issue, the above results are likely to be typical.

Couplers versus Traditional Passive Coupling

Since the Crate Loop is a traditional air-core loop that can be passively coupled to the receiver without the need to use the coupling devices being tested here, I compared the two methods of transferring signal to the receiver. In virtually every station tested, up and down the dial, connecting the output of the Quantum Loop base unit using the various couplers above was between 5 and 12 dB better than passively coupling the receiver to the Crate Loop itself (i.e., holding the receiver close to the Crate Loop). Therefore, as good as the active/passive Crate Loop is as a passively coupled loop, it performs even better when a coupler is attached to the RF output of the base unit as the feed to the receiver.

Nighttime Testing

Once the sun went down, coupling to a broadband antenna was much more satisfactory. With the directly-coupled receivers, strong locals still required some attenuation in order to prevent problems, although full gain was able to be used on DX stations without any sign of images and mixing problems, even if a strong local was only 10 kHz away.

As expected, the direct-coupled method delivered 2-4 more dB than did the ferrite and air-core couplers, with the C Crane coupler being several dB further down. Since the signals on the receivers were generally well above the receiver's noise floor, there was no real discernible difference in the final result. However, if one were using a weaker antenna (I was using the Wellbrook FLG-100), those extra few dB may or may not make a difference.

Resistance to Noise

In addition to transferring signal to the receiver, the ideal coupler would also be relatively immune to nearby RF noise. In my testing, I used an operating laptop computer, with its prodigious noise from the LCD display and hard drive, over and around each of the receiver/coupler arrangements to see how immune they were to this noise.

- The direct-coupled receivers fared the best, and I could bring the laptop within 4-6 inches of the receiver before significant interference and noise resulted.
- The surprise second place finisher was the 8-turn air core loop, which was just a little bit more susceptible to noise than the directly-coupled receivers. The difference was primarily that the air core picked up more noise when the laptop was in the end-fire of the coupler (i.e., perpendicular to the coil).
- The 12-turn ferrite bar and the C Crane coupler were measurably worse than the air-core coupler, in that the laptop had to be at least 1 or 2 feet away from the coupler to avoid noticeable interference.
- The 20-ferrite brick coupler fared the worst, presumably because its massive ferrite core is much more susceptible to nearby RF noise, especially in the end-fire.



Ergonomic Notes

The directly-coupled method, with the coupling coil wrapped directly around the internal ferrite antenna and a 1/8 jack being used to connect the receiver to the external antenna, is probably the easiest method, and is aesthetically (to my tastes) the most attractive option. However, it does involve a somewhat delicate surgical operation on your radio, one that will permanently change it cosmetically.



forth.

Another form of an air-core coupler is also often supplied as the AM antenna for home electronics equipment (see picture at left). It is available commercially as the Quantum Coupler, and is a spiral-wound coil of perhaps 6-8 turns on an approximately 3x6 inch form. I personally find this style of loop to be more difficult to use, in that the coupling "sweet-spot" is somewhat difficult to find and maintain. Also, the signal transfer is several dB below that of the solenoid-wound coil used above. However, it lies flat and can be attached to the back of the receiver, which may make it a better choice for some.

Summary

Each of the three basic types of couplers has their pluses and minuses, and which one will be the best option for you will likely depend on your particular situation.

Direct Coupling: for pure signal transfer, directly coupling the external antenna to the receiver via a coil around the receiver's ferrite is the optimum choice. However, the extra 2-4 dB over the other couplers may not be noticeable, since the signal is generally well above the receiver's noise floor. Additionally, the direct coupling arrangement may render a broadband antenna useless during the daytime, as it did in my urban location. Also, this may make sunrise listening, such as with trans-pacific DXing, very difficult once strong local stations shift to day power. Those in more rural areas may not experience this issue. As discussed above, this coupling method is, by a modest margin, the most immune to local RF noise sources such as laptop computers. This method will involve making a permanent and somewhat delicate cosmetic change to your receiver, although the ease of connection and use, and the ability to still use the internal ferrite antenna by simply unplugging the external cable, may well be worth it. As discussed earlier, by adding new circuitry, this modification would move an Ultralight radio into the "Unlimited" class. The article describing the procedure, "Ultralight – Adding an Antenna Port", is available in the files area at the www.dxr.ca web site, and it will be updated in the very near future to include how to install the coupling coil into the recent Kchibo and Tecsun DSP receivers.



Ferrite Coupler: this option may be the happy medium. Signal transfer is very good, and the coupler can be separated an inch or two from the receiver in order to use it during the daytime with broadband antennas in urban areas. It is fairly immune to local RF noise, and a small ferrite bar will tuck behind

the receiver nicely. Further, it does not involve making any modifications to your receiver. These are easy to make (see example at right), and if you do make your own, the number of turns is not critical: with the ferrite bar I used, varying the numbers of turns of wire between 8 and 16 turns produced no real difference.

The commercially available C Crane version can be purchased for approximately \$15 from the manufacturer. Another commercial option is the Quantum Stick; I note that its coupling section appears to be designed for high-impedance antenna inputs such as a long wire, since I have not had good success with it when trying to couple a 50-ohm antenna as the input.

Air Core Coupler: while these are rightfully disdained as woefully inadequate antennas, I was surprised at how well they work as a coupler. Signal transfer and immunity to local RF noise are excellent. It may be used with broadband antennas in high-RF daytime conditions, and this ready-made unit does not require any receiver modifications. It will, however, likely require some sort of ergonomic modification in order to keep the receiver from rocking back and forth, and its physical size means that it is the bulkiest option. Still, for \$1.00 at your local thrift shop, it's tough to go wrong! While mine had 8 turns of wire, the number of turns is likely not critical. As discussed above, a spiral-wound air-core loop like the Quantum Coupler, though it has reduced signal transfer and can be difficult to position, lies flat and may be a better choice for some.

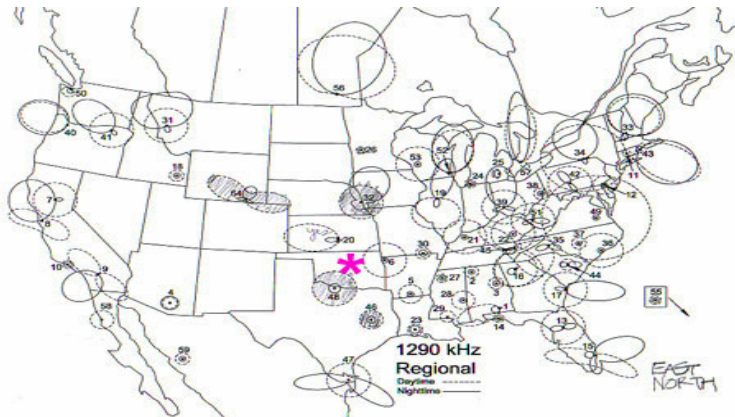
SPECIAL FEATURE

Using the NRC Pattern Book as a Serious DX Tool

John Bryant
December 2009

In truth, I feel a little silly writing a formal article on this subject. However, I cannot help myself; I've owned whatever the "current copy" of the **NRC AM Station Pattern Book** (formerly the *Nighttime Pattern Book*) for many years. I always found it handy to have around to look up a particular channel to try and understand the signals that were floating my way or to look at the patterns to see how various patterns meshed (or sometimes did not) to provide the listening public with good quality radio reception.

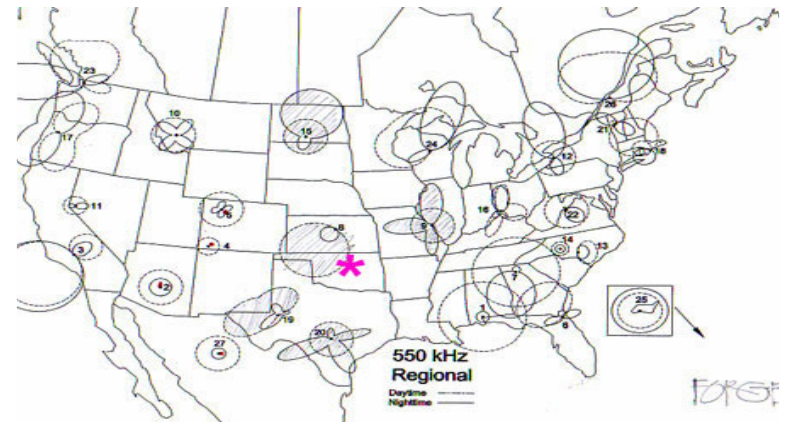
Those two views of the *Pattern Book* are all that I held until I began to get very serious about domestic AM DXing a couple of years ago. As I began keeping a serious logbook, I sort of "hit the wall" at something a bit less than 400 stations heard. I had heard all of the easy and semi-difficult stuff on practically every channel. To add to the log, I had to start playing tricks with listening at various different times, taking a close look at directional antennas and using more sophisticated methods of DX targeting to focus my efforts. The analytical tool that has become a main stay of my DXing was with me all of the time: the *NRC Pattern Book*! It is so simple and so useful that I am ashamed that I did not begin using it sooner. Here is an example of what I did and how it helped me hear even more DX:



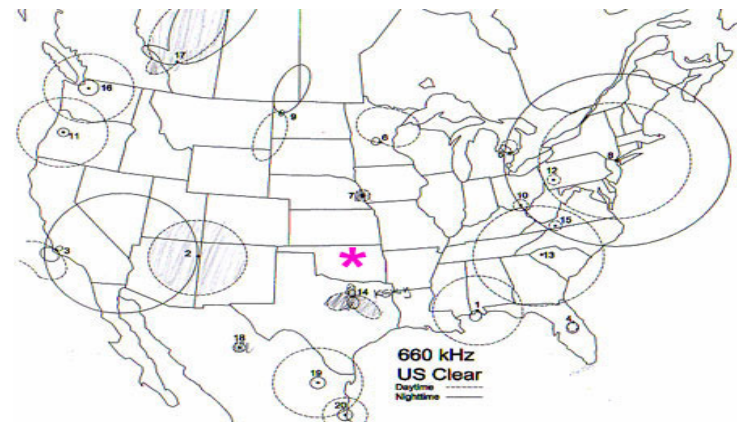
This is the 1290 kHz map page from the *Pattern Book*. All that I did was shade in the patterns of the stations that I had heard. How simple can you get? What followed was what was important. When I

started doing this, all I had was KKAR, Nebraska and KWFS, Texas, the nighttime dominant on the channel. I was using a Wellbrook array which gives me a 180 degree (almost exactly) view of the horizon as my main antenna. The first thing that I did was to point the array South *at dawn* and attempt to catch KIVY in Texas as it boosted to daytime power about 15 minutes before KWFS did. It took me several weeks of checking, but the FCC database gave me the power change times, so, I finally nailed it. From there, I pointed the array to the West and waited for good northerly conditions to catch KOWB in Laramie, Wyoming in their daytime pattern *just at dusk*. It worked like a charm... after a couple of weeks of checking. The future? The whole East is open and rich in targets, but I need a narrow cardioid array antenna; OR, I could go outside, URL barefoot and point the antenna bar to null BOTH Texas and Nebraska and probably work to the East. **Touchdown!**

My note to myself in the lower left hand corner of this map states "FORGET!" and that is the message here on 550. It is less evident on the map than on the dial, but the stations in St. Louis, San Antonio and, especially, Salina, KS simply own my 550 dial space. It was a miracle to hear KCRS in Midland, TX. Someday, I may revisit 550 and try both SE and SW for a few more stations. However, in the meantime, there are much greener pastures.

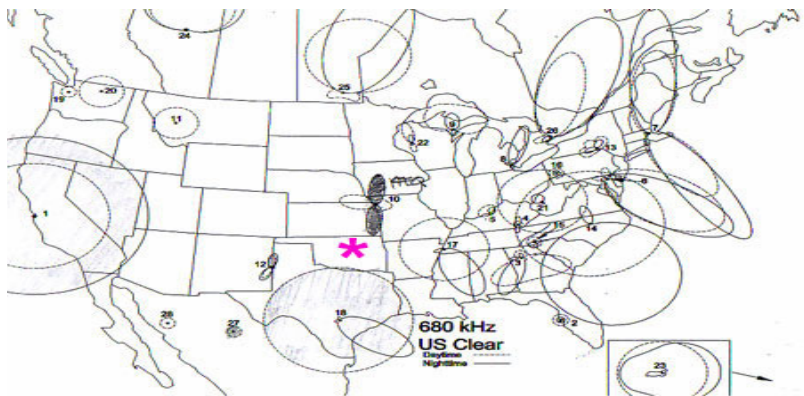


Things are somewhat unusual on 660. KTNN in Window Rock, AZ is just not a problem and KCRO in Omaha is very difficult to hear. Beyond that, things are tougher than they appear. CFFR in Calgary ought to be impossible to hear. In fact, when I can get a null on Dallas, Calgary is almost always there! I'd guess that their actual pattern is more omni-directional than shown. The real problem, though, is KSKY in Dallas, 200 miles to the South – It just bombs in. My main goal on 660 is to somehow throw a null on KSKY and LOOK EAST... first for WFAN in New York.



The 680 channel here is an example of "you can't have too many antennas" and it exposes the main weakness of the first generation of Wellbrook Phased Arrays. KFEQ in St. Joseph, MO is a real

pest here. I'd swear that they are pushing their signal directly at me. I can look straight South, though, and put KFEQ in a null. I've heard San Antonio, TX on a number of occasions and the little Mexican station in Chihuahua is not a problem to hear, either. When I look West, there is little beside KNBR in San Francisco to hear. However, with the 180 degree wide front lobe of the first generation Wellbrook, looking either North or East gives me KFEQ, St. Joseph like I was in their parking lot. Clearly, I need to null KFEQ with a Barefoot ULR, giving the Houston station a partial null, too and then LOOK EAST at evening and morning.



Well, that is about the sum of it. I gray-out each station that I've heard on each channel and then I start analyzing the channel for missed opportunities. That analysis allows me to select the specific antenna that I will use and the probable best direction to point it. In some cases, that analysis along with the FCC files, even tells me the best times to listen.

So, even though the most recent Sixth Edition of NRC's *AM Station Antenna Pattern Book* is dated 2006, it is still an excellent DX tool. Give it a try.... You'll likely be surprised at how much this low tech tool can offer. It is available on-line at <http://www.nrcdxas.org/> at \$16.95 for IRCA/NRC members in North America and \$22.95 for non-members. Outside North America, I believe that the price is \$28.00.



!!! NEW NEW NEW – IRCA Mexican Log, 14th Edition (Winter 2009) – NEW NEW NEW!!!

The IRCA MEXICAN 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. 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 transmitter site index (listed by state, then city) tabulates the latitude and longitude of transmitter sites. This is an indispensable reference for anyone who hears Mexican radio stations. Size is 8 1/2" x 11". Prices: IRCA/NRC members – \$9.50 US/Canada/Mexico/sea mail), \$12.00 (rest of the Americas/Europe airmail), \$12.50 (Australia/Japan/New Zealand airmail). Non-IRCA members – add \$2.00. To order, send the correct amount (in US funds payable to Phil Bytheway) to: IRCA BOOKSTORE, 9705 MARY NW, SEATTLE WA 98117-2334. Or, pay electronically with PayPal (add \$1). Go to www.PayPal.com, then send your funds to phil_tekno@yahoo.com (Phil Bytheway).



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