



DX MONITOR

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International Radio Club of America

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Once again, no CDXR. Don't forget to vote for TVA/RHA... details in the 4/10 issue. Also, no contributions for the **Verification Signers** column this month, next month's deadline is 5/30 1500 ELT: **Stephen S Howe** – 9 Warner Dr – Saint Albans VT 05478-1575, E-mail: showe@albany.edu. Next issue in 2 weeks! Seattle "DX Monitor" deadline **Monday 5/16 6 PM PLT**.

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NEW IRCA TIS/HAR LIST (Winter 2016)

The IRCA TIS/HAR LIST lists all US and Canadian TIS/HAR stations, by frequency, including call letters, state (province,) city, county, licensee, address, coordinates, expiration date and dates of DXM/DXN reports/sources. It has been updated with FCC data, DXM, DXN and DXer reports, and on-line listings through March 1 2016.

The 2016 IRCA TIS/HAR LIST is posted on the IRCA website for all to download. The link is: http://www.ircaonline.org/TIS_2016.pdf or <http://ircaonline.com/downloads>.

For those preferring a hard copy, one can be ordered from the IRCA. Prices: IRCA/NRC members – \$9.50 (US), \$11.00 (Canada) \$12.50 (México), \$14.00 (rest of the world). Non-IRCA/NRC members – add \$2.00.

To order from the IRCA, send the correct amount (in US funds payable to Phil Bytheway) to: IRCA, 9705 MARY NW, SEATTLE WA 98117-2334. Or, order through PayPal [add \$1.00] to email: phil_tekno@yahoo.com (Phil Bytheway). Please state club affiliation when ordering.

2016 IRCA-NRC-WTFDA-DecalcoMania CONVENTION

The IRCA will join the members of the NRC, WTFDA, and DecalcoMania on September 9-11 2016 in Kansas City MO and other DXers in AM, FM or TV. It will be held at the Hyatt Place Kansas City Airport, 7600 NW 97th Terrace.

HOTEL REGISTRATION: 1-816-891-0871x3. Ask for the Group Rate for the National Radio Club. The group code is: G-NRCC. Reservations will need to be secured by 8/18/16. <http://kansascityairport.place.hyatt.com/en/hotel/home.html?comp>. Rates are \$99.00 per night for 1 to 3 persons per room plus taxes and fees. Plan to arrive on Thursday for 3 nights and ends on Sunday noon. Free airport transfers and breakfast each morning.

Convention registration: \$55 per person which includes a free Friday evening pizza party and Saturday evening banquet. Checks made payable to NATIONAL RADIO CLUB and sent to ERNEST J WESOLOWSKI, 13312 Westwood Lane, Omaha NE 68144-3543. Please mention which clubs you belong to for club treasury info. **Dale Hamm** W5LN and **Ernie** are your host. 73's neerniew@yahoo.com.

A group of record survey collectors will be joining us but not be going on tours. Each member of that club must pay the \$55 Registration Fee and be with us for the Pizza Party and Banquet. They will use the room when we are away on tours. Ernie.

Ernie Wesolowski is now accepting items for the convention auction, send to the above address.

Hotel rooms are filling up fast. Make your reservations now!! A tour of WDAF-TV-4, KCMO-710 and WBH-810 plus the Truman Presidential Library and Museum are planned. Maybe even a Chief's Football Game on Sunday afternoon. See you in Kansas City MO!!

Ernie Wesolowski has 4000 prepared veries on 2 cent postal cards and two 3 ring books of about 150 SW QSL cards. They will be given away to anyone at the Kansas City Gathering this September. They are from deceased members. QSL cards are from the 20's through the 40's including log books. Contact Ernie if interested.



BROADCASTING INFORMATION – **Robert J Wien** – 14051 Belle Chasse Blvd #415 – Laurel MD 20707
E-mail: wienbob@aol.com Phone: 301-477-3733 Column Deadlines: Saturdays

DATE OF COLUMN: April 23 2016, Column data span: April 09-23 2016, Data courtesy of Stationintel.com, FCC database and member contributions.

CALL CHANGES

FREQ	OLD CALL	CITY OF LICENSE	NEW CALL
1240	WNRA	Eufaula, AL	WULA
1270	KFSQ	Thousand Palms, CA	KVGH
1270	WSPR	Springfield, MA	WACM
1490	WACM	West Springfield, MA	WSPR

FORMAT, SLOGAN AND SILENT STATUS CHANGES

NEW INFORMATION

FREQ	CALL	CITY OF LICENSE	NEW INFORMATION
790	KJRB	Spokane, WA	was sports, now adult standards, old slogan: "Fox Sports 790 AM", new: "Magic 790 KJRB"
830	WCRN	Worcester, MA	old slogan: "True Talk 83 WCRN", new: "WCRN News Talk Radio 830"
920	WMPL	Hancock, MI	was Yahoo Sports Radio, now CBS Sports Radio, old slogan: "The Information Station", new: "WMPL 920"
950	KKSE	Parker, CO	was country, now sports, old slogan: "92.5 The Wolf", new: "Altitude Sports 950"
960	KOVO	Provo, UT	old slogan: "ESPN 700 Sports", new: "ESPN 960 Sports"
1090	WTNK	Hartsville, TN	was country, now oldies, old slogan: "Tennessee Country 1090", new: "Fun Radio"
1190	WJPJ	Humboldt, TN	old slogan: "Classics AM 1190", new: "Humboldt's Classics AM 1190"
1220	WREV	Reidsville, NC	now silent
1230	KRUZ	Murray, UT	was silent, back on with CBS Sports Radio
1240	KFBC	Cheyenne, WY	was news/talk, now CBS Sports Radio
	WGCM	Gulfport, MS	old slogan: "Cruisin' 1240", new: "Cruisin' 1240/100.9"
	WULA	Eufaula, AL	was silent, now urban gospel, adds slogan: "The Harbor"
1310	KDLS	Perry, IA	adds slogan: "Yesterday's Music"
	WDTW	Dearborn, MI	was silent, now regional Mexican, adds slogan: "La Mega Detroit 1310 AM"
1340	KOLE	Port Arthur, TX	old slogan: "The UV KOLE 1340", new: "Power 1340"
1360	KELE	Mountain Grove, MO	was silent, now talk, adds slogan: "1360 The Patriot"
1370	WLLN	Lillington, NC	now silent
1390	WMCT	Mountain City, TN	old slogan: "Family Friendly Radio 1390", new: "Today's Country-Country Gold"
1400	KRUN	Ballinger, TX	adds slogan: "Today's Traditional Country"
1510	KGA	Spokane, WA	old slogan: "Sports Radio", new: "N W Sports Talk"
1540	KLKC	Parsons, KS	was classic country, now Fox Sports Radio, old slogan: "Katy Country", new: "Fox Sports Radio"
1550	KMAD	Madill, OK	adds slogan: "Hometown Country Classics"
1600	KMDO	Fort Scott, KS	was oldies, now adult hits
	WMXY	Saltville, VA	now silent

MEMBER CONTRIBUTIONS

David Gordon of Morgan Hill CA passes along the following dated April 12 2016:

KLIV in San Jose is going to drop the news format they had for 30 years and switch to classic country. It's been announced on the air and at www.kliv.com. I guess the oldies music that has been on from midnight to 5 am will go too. KLIV is just trying to save money and its sister station is country KRTY so KLIV is trying to complement KRTY with classic country. KLIV will simulcast KRTY's morning show.

Mike Sanburn of Bellflower CA passes along the following from ABDX Digest dated April 21 2016:

Some folks on ABDX are reporting that KKCL 1550 in Golden CO is back on the air.

Phil Bytheway of Seattle WA adds to the following above from Kit Sage of Arvada CO (via ABDX Digest) dated April 22 2016:

KKCL (formerly KBUD) 1550 Golden, CO is back on the air. They are also on a co-owned translator on 96.9, so the station is collectively now known as "The Cloud." The format is a somewhat eclectic blend of soft adult contemporary without announcers.

The 96.9 translator has been around for a long time, but it was just moved to the KKCL towers. Although it has been and still is licensed to Arvada, the signal didn't even reach Arvada because the translator was located in the Boulder Valley. There is a ridge between there and Arvada, so the signal was always blocked by it. KPOF 910 Westminster tried to buy this translator a year or so ago with the intention to move it to their tower, but it never happened. The fact is, tuning in to 96.9 in Arvada and Westminster produces a strong signal from KCCY 95.9 Pueblo/Colorado Springs. Since the so-called Arvada translator on 96.9 was miles to the north over the ridge in Boulder County, it could not be heard in Arvada. Had KPOF bought it and moved it to their tower, which sits on a high hill in Westminster to the northeast of Arvada, there would have been a big jam on the frequency. A bunch of supposed local listeners of KCCY wrote to the FCC to oppose the planned relocation of the translator to the KPOF tower. I seriously doubt that KCCY has any listeners around here, and the station was most likely behind the letter writing campaign, but it worked and the FCC blocked the move, thus causing KPOF to drop the purchase. Now KKCL owns the translator and they moved it to their towers located between Golden and Boulder, putting it on much higher ground, and yes, it actually does cover Arvada (the COL of the translator) now, but it sure doesn't look like it will become much of a force in Denver radio. The signal in Boulder, which was clear at the original site, is now too scratchy to be functional. Driving down the Boulder Turnpike toward Broomfield and Westminster (and Denver) the signal is marginal. Each time you pass under a bridge, the signal swaps back and forth with KCCY. In Arvada, the signal mixes so badly with KCCY that it is useless. My guess is that KKCL will eventually look for another site for the translator because it sure isn't going to do much for them where it is on their towers. They may end up having to settle for being a Boulder station by moving back to the valley because it doesn't look like they will be able to penetrate the Denver market with the interference from KCCY.

Hope everyone survived their taxes. Taking a trip to Nashville next week for a much-needed vacation, hope to visit WSM, already have tickets to the Grand Ole Opry, driving from Maryland there. Still looking for work but have some promising opportunities. Hope everyone's DX continues to sizzle like our climbing temperatures (in the 80's this week here!). 73's. **Bob Wien**



CANADIAN RADIO NEWS – Dan Sys
E-mail: sysdan@gmail.com

For April 2016 (May 1 2016 – next update June 1 2016)

FORMAT CHANGES

1650 QC MONTREAL CJRS From Hebrew (Radio Shalom) to Christian (CKZW) (French).

NEW STATIONS GRANTED

1220 ON SAINT CATHARINES Commercial. 10,000 watts fulltime. Classic Hits. Sivanesarajah Kandiah. GRAPEVINE RADIO.

DENIALS

1110 ON MISSISSAUGA new Developmental Community. 5 watts. Arabic/Multilingual. Said Afraj. The CRTC felt that the application was not consistent with the provisions for developmental community radio stations.

PROPOSED AM TO FM CONVERSIONS

830 QC LA TUQUE CBVE-1 Move to 101.9 with 265 watts (598 watts Max. ERP).



WESTERN DX ROUNDUP – Nancy Johnson – 2922 S Olivewood – Mesa AZ 85212-2923
E-mail: NancyJohnson@prodigy.net

WDXR DEADLINES: May 13, May 27, June 10, June 24, July 15 and August 12. Please use Eastern Local Time.

REPORTERS FOR THIS ISSUE:

(MF) **Martin Foltz**-Mission Viejo CA martinfoltz@cox.net
Radio Shack TRF 12-655
(GH) **Glen Hansen**-64985 Olson Rd.-Deer Island OR 97054 gbhansen2@outlook.com
Hammarlund HQ 145A, JRC NRD 545, various wires and Kiwa loop
(JCJ) **John Johnson**-2922 S Olivewood, Mesa AZ 85212 John_Johnson@prodigy.net
Icom IC-R75, 75' N-S longwire, 70' E-W longwire
(NJ) **Nancy Johnson**-2922 S Olivewood-Mesa AZ 85212 nancyjohnson@prodigy.net
Drake R8B, 75' N-S longwire, 70' E-W longwire

660 KAPS WA, Mount Vernon 4/16 0100 C&W music in a noisy jumble with UnIDs, poor on NRD 545 with N-S wire. (GH-OR)
950 KNFT NM, Bayard 4/24 over KKSE, may have been on daytime power. 0035 with oldies "Oldies 950" slogan between every song, 0101 "Oldies 950 KNFT Bayard" legal ID. New for me. (JCJ-AZ)
1220 KLDC CO, Denver 4/24 0853 religion, 0900 ID "Listen to Pastor Jerry E. Smith only on Shine 1220, KLDC." Fair, no KOY 1230 slop. (NJ-AZ)
1230 KORT ID, Grangeville 4/21 0020 ID and C&W music way out in the jumble, weak and soon lost in the sputter on 545 with N-S wire. (GH-OR)
1240 KJAA AZ, Globe 4/24 good with ID at 1000 between oldies "KJAA Globe, Jukebox 1240 AM," no KOY 1230 slop. My closest unheard. (NJ-AZ)
KCLV NM, Clovis 4/27 mixing with KRDO and others, 0100 with "AM 1240 KCLV Clovis" legal ID. New for me. (JCJ-AZ)
1340 KWVR OR, Enterprise 4/18 0100 dominant in the jumble and sputter, very weak on 545 with N-S wire. (GH-OR)
1370 KSOP UT, South Salt Lake City 4/11 0100 C&W with ID at ToH. Weak under KXTL on HQ 145A with E-W-wire. New! (GH-OR)
1400 KTUC AZ, Tucson 4/22 weak under KSUN, 0800 with "KTUC Tucson" legal ID. New for me. (JCJ-AZ)
1480 KYOS CA, Merced 4/18 0036 t/in to oldies, IDs between each song mentioning oldies all weekend and news/talk during the week, also Wolfman Jack on Saturday night 7-midnight. Mostly atop local KVNR. (MF-CA)

Thank you for the WDXR reports! – Nancy 4/29 1900



EASTERN DX ROUNDUP – Temp Ed: Phil Bytheway – 9705 Mary Ave NW – Seattle WA 98117-2334
E-mail: phil_tekno@yahoo.com DEADLINES: Sunday noon PLT

TUNING THE DIALS THIS ISSUE:

(KK-VA) **Kraig Krist** (KG4LAC), Manassas VA
Winradio G33DDC software-defined receiver, Wellbrook ALA1530S+ Imperium loop
(PS-ON) **Paul Snider**, Welland ON, Canada
ICOM IC-R75, Pixel RF Pro-1B loop, MFJ-1020C tuner

ACROSS THE DIAL

- 920 WNJE **NJ**, Trenton. 4/26 2316 – Sports talk, various IDs “...all on 920 The Jersey”, “Fox Sports 920, The Jersey” and at 2320 “**920thejersey.com**”. Very poor, mostly under CKNX. (PS-ON)
- WHJJ **RI**, Providence. 4/21 0040 – Ground Zero program, “News Radio 920” ID @ 0054, iHeart Radio mentions, sounded like news at TOH, weather with mention of “News Radio 920”, AARP ad, Coast to Coast AM show, **Reliefactor.com** ad, Vista print ad, Pain Relief Hotline promo, “News Radio 920” ID @ 0118. Poor to very poor mostly under CKNX and mixing with Fox Sports station, either WNJE or WMMN. (PS-ON)
- 940 WCPC **MS**, Houston. 4/14 0046 – Hope for the Heart program with June Hunt, show promos, TOH ID “940 WCPC Houston, Mississippi” (wasn’t expecting that ID), various WCPC mentions, news/sports, Liberty University ad, back to Hope for the Heart. Good to fair mixing with Spanish station, possibly WCND. Probably on day power. (PS-ON)
- 1080 WKGX **NC**, Lenoir. 4/13 2346 – “Bennie and the Jets” by Elton John, more music, ads, “Do Ya Think I’m Sexy” by Rod Stewart, TOH ID “Classic Hits 1080/104.5...”, more music by Harry Chapin, Blondie, The Police, another “Classic Hits 1080/104.5” ID @ 0015, “Don’t Ask Me Why” by Billy Joel, “You’re No Good” by Linda Ronstadt, “Lights” by Journey. Poor to very poor, mostly under WTIC. (PS-ON)
- 1250 WSSP **WI**, Milwaukee. 4/9 0005 – Mention of **Milwaukee.com**, sports/Brewers news, “The Fan” and “105.7 The Fan” IDs, Fan Baseball Post Game Show, “Sports Radio 105.7 The Fan” ID, Chili’s promo, ads (Geico, Smartreach Digital, Menards). Fair at times to poor mixing with CJYE. (PS-ON)
- 1270 WMPM **NC**, Smithfield. 4/8 1825-2105. Mixing with WCBC, WLBR, WLIK, ESPN, singing, oldies and Spanish. 1944 male with WMPM sign-off. “WMPM completes its broadcasting schedule for today....” (KK-VA)
- 1280 WPKZ **MA**, Fitchburg. 4/8 1825-2105. Mixing with WADO, WHVR, WSAT, WJAY, WHTK, WYVE and Spanish. Boston Red Sox vs Blue Jays baseball game on the Red Sox network. Checking the Red Sox website I see this is WPKZ. (KK-VA)
- WHTK **NY**, Rochester. 4/8 1825-2105. Mixing with WADO, WHVR, WSAT, WJAY, WYVE, WPKZ and Spanish. 1933 male “Fox Sports 12-80 Rochester”. (KK-VA)
- WSAT **NC**, Salisbury. 4/8 1825-2105. Mixing with WADO, WHVR, WHTK, WJAY, WYVE, WPKZ and Spanish. 1959 male “...memories 12-80 WSAT Salisbury and 14-10....” (KK-VA)
- WYVE **VA**, Wytheville. 4/8 1825-2105. Mixing with WADO, WHVR, WSAT, WJAY, WHTK, WPKZ and Spanish. 1947 male “Main stream country WYVE”. (KK-VA)
- 1290 WWTX **DE**, Wilmington. 4/8 1825-2105. Mixing with WFBG, WDZY, WNBF, music, Gospel singing and Spanish. 1834 male “The Orioles play here. Fox Sports 12-90”. (KK-VA)
- 1300 WXRL **NY**, Lancaster. 4/15 1825-2105. Mixing with WKCY, WJZ, WGDJ, baseball game and oldies. 1958 ET male “WXRL Lancaster Buffalo”. (KK-VA)
- 1310 WRSB **NY**, Canandaigua. 4/15 1825-2105. Mixing with WDCT, baseball games and singing. 2033 ET male “Your source for all the action. New York Mets baseball all season long. Right here on 105.5 ‘The Team’”. (KK-VA)
- 1330 WRCA **MA**, Watertown. 4/15 1825-2105. Mixing with WBTM, WEBO, WRCA, baseball game and rock and roll songs. WRCA with Spanish programming. 2100 male in English “This is 13-30 WRCA Watertown. A Beasley Media Group station.” (KK-VA)
- WRAA **VA**, Luray. 4/15 1825-2105. Mixing with WBTM, WEBO, WRCA, baseball game and rock and roll songs. WRAA with C&W songs. 1920 female “Rascal 13-30”. Repeated by male. (KK-VA)
- 1340 WLSG **NC**, Wilmington. 4/15 1825-2105. Mixing with WHAP, other preaching, music, and Gospel singing. 1849 male “...97.1... 94.1... this is the Beach Radio”. (KK-VA)
- 1350 WOYK **PA**, York. 4/20 2244 – Sports talk, NBC Sports mention, WOYK ID @ 2246, ads (Rocket Mortgage, **Realtor.com**, Advance Auto Parts, Heritage Lawn Care), “Wherever you are... WOYK” ID, promo for WOYK mobile app, “First in York, First in Sports”. Fair to poor over unknown oldies or nostalgic station. (PS-ON)
- 1360 WYOS **NY**, Binghamton. 4/21 1855-2105. Mixing with WELP, WPPA, WMOB, Yahoo sports, baseball game and Spanish singing. WYOS with typical ESPN radio programming. 2000 female “Binghamton’s ESPN radio 13-60 WYOS Binghamton.” (KK-VA)
- WELP **SC**, Easley. 4/21 1855-2105. Mixing with WYOS, WPPA, WMOB, Yahoo sports, baseball game and Spanish singing. WELP with religious preaching. 1930 male “You’re tuned to 13-60 WELP”. (KK-VA)
- 1370 KDTH **IA**, Dubuque. 4/12 2238 – “Somewhere Over the Rainbow” by Julie Garland, “I’m in the Mood for Love” by Tommy Dorsey, “News, weather, sports and the music you love 1370 KDTH”, Seems Like Old Times program promo “on the voice of the Tri States KDTH”, CIS promo, tri-state weather “on AM 1370 KDTH”, KDTH jingle, “Love or Leave Me” by Eddie Heywood. Poor mixing with WSPD and WTAB. (PS-ON)
- WQLL **MD**, Pikesville. 4/19 2313 – “Philadelphia Freedom” by Elton John, bacon survey results (which US states eat more bacon), ID “...favourite songs are on Q1370”, renter insurance and Home Depot ads, promo for show on “Q1370 and 99.9” @ 2318, ad for coin company (Harvard or Hartford) with 410 area code, more ads (Smile Design Centre, Home Depot, Motel 6, religious service in Baltimore), ID “Q1370, Baltimore’s Greatest Hits”, “Time Won’t Let Me” by The Outsiders. Poor at times to very poor mixing with WSPD, WTAB. // to Tune In Radio app (about 10 seconds behind). (PS-ON)
- WALK **NY**, East Patchogue. 4/25 2315 – Simulcasting 1100 WHLI, Hempstead, NY. Heard “1100 WHLI” ID @ 2324, then lost for a while, then heard “You’ve Got A Friend” by James Taylor, “Oh, What A Night” by The Dells, “Winchester Cathedral” by The New Vaudeville Band, “Hanky Panky” by Tommy James, “Here I Am” by Air Supply. All songs confirmed on **whli.com**. Poor to very poor mixing with WSPD, WTAB and WXXI. (PS-ON)
- WXXI **NY**, Rochester. 4/15 2259 – WXXI disclaimer, NPR promo, TOH ID “This is members supported radio, 1370 WXXI Rochester New York....” Fair to very poor with WSPD, WWCB. (PS-ON)
- 1380 WABH **NY**, Bath. 4/21 1855-2105. Mixing with WKJV, WMLP, WKDM, sports talk and Spanish singing. 2100 male “This is where all the good songs have gone. WABH Bath... WEBA?...” (KK-VA)
- WKJV **NC**, Asheville. 4/21 1855-2105. Mixing with WMLP, WABH, WKDM, sports talk and Spanish singing. 1859 male “WKJV Asheville WKJW Black Mountain North Carolina.” (KK-VA)
- WMLP **PA**, Milton. 4/21 1855-2105. Mixing with WKJV, WABH, WKDM, sports talk and Spanish singing. 1941 male “The biggest names in talk. Talk radio 13-80 WMLP.” (KK-VA)
- 1390 WSPO **SC**, Charleston. 4/16 2300 – Caught TOH ID “This is 1390 WSPO” and then quickly lost to WNIO and others. Very poor. (PS-ON)
- 1510 WMEX **MA**, Boston. 4/18 004 – Talk about Boston traffic by very loud host, WMEX community calendar with station address, weather, lots of Renegade radio references by host. Very poor under WLAC, WRNJ and unknown urban or gospel station. (PS-ON)
- WRNJ **NJ**, Hackettstown. 4/17 2315 – Oldies music, “Let’s Get It On” by Marvin Gaye, “Here I Go Again” by Smokey Robinson and The Miracles, ad for Dimillios (sp?) Restaurant, more ads, maybe news at TOH, lost them for a while and then at 0040 “Tracks of My Tears” by Smokey Robinson, “Nothing Compares to You” by Sinead O’Connor, finally heard an ID at 0046 “Madonna, The Eagles... all here on RNJ”, “Slow Hand” by The Pointer Sisters. Poor to very poor mixing with WLAC dominating, WMEX and unknown urban or gospel station. // to **wrnjradio.com** stream. (PS-ON)
- 1560 WFSP **WV**, Kingswood. 4/24 2215 – Oldies, ID @ 2217 “107.7 The Oldies Channel”, “Twisting The Night Away” by Sam Cooke, mentions of Kingswood and what sounded like a weather report @ 0019, more oldies including “Right Down The Line” by Gerry Rafferty. Poor to very poor mostly under WFME. (PS-ON)

From **Eric**: “I came home from rehab on March 19.... I’m still recovering from a stroke, which I suffered on February 15. I’ll be ready to go when the new volume starts (in August – pb). My left hand is still not up to par.”



DX WORLDWIDE – WEST – Patrick Martin – PO Box 843 – Seaside OR 97138
E-mail: mwdxer@webtv.net all times UTC

Next deadline Monday 5/16 1201 PM PLT. All times UTC/GMT.

TRANS-PACIFIC DX ROUNDUP

- 531 **JAPAN**, JOQG, Morioka, NHK1. General hilarity of men and women //567 1347 3/20, general good spirits making up for the poor strength. Also, man in Japanese //594 1313 4/4, poor. (NHP-BC)
- 558 **REP KOREA**, HLQH, Yeong-il, KBS2. Man in Korean //603 1431 3/4 fair to good; a few minutes later a mess with the Japanese (presumably) ripping it up. Also similar strength 3/5, man in Korean //603 1429; seconds earlier it was a man talking rapidly sounding Japanese. Man in Korean 1347 3/20 //603, also fair to good. Soft music //603, fair to good 1341 3/27. This seems to have had better audio than 603 this spring, and was heard into April with poorer strength when 603 not heard particularly. (NHP-BC)

- 567 **JAPAN**, JOIK, Sapporo, NHK1. Older man in fast paced Japanese 1339 3/11, fair to good; had been parallel with 594 earlier before it rose to this strength, while 594 collapsed. Also, fair to good strength with men and women talking and laughter //594 1347 3/20. (NHP-BC)
- NEW ZEALAND**, Wellington, Radio NZ National. Fair to good with choral music, then woman in DU English 1348 3/19 //675. (NHP-BC)
- 576 **AUSTRALIA**, 2RN, Sydney. Man talking 1349, pretty poor. Music at 1357 seemed //792 which was IDed as 4RN. (NHP-BC)
- 585 **JAPAN**, JOPG, Kushiro, NHK1. Woman talking //594, briefly fading up to poor at best 1437 3/4. (NHP-BC)
- 603 **NEW ZEALAND**, Manukau, Radio Waatea. Man mumbling 1235 4/2 but strong enough to snag // w/765. (NHP-BC)
- REP KOREA**, HLSA, Seoul, KBS2. Big carrier, and fair to good audio, 1347 3/20 with man in Korean //558. Rarely this strong this season. (NHP-BC)
- 612 **AUSTRALIA**, 4QR, Brisbane. Man in DU English 1321 4/3 //702, 774, excellent strength. (NHP-BC)
- JAPAN**, JOLK, Fukuoka, NHK1. 1438 3/5. Japanese woman //594, poor and mixing with another station, a man talking slowly. Also, man talking Japanese //594 1349 3/24, poor strength. (NHP-BC)
- 621 **AUSTRALIA**, 3RN, Melbourne. Man talking, then jazzy piano and clarinet //576, 846 1330 4/3, fair to poor strength; man in DU English 1315 4/13 fair to poor //792 which was weaker. Violin music at 1326 sometimes captured the synchronous detector from a weakened 620! (NHP-BC)
- 639 **AUSTRALIA**, 5CK, Port Pirie. Fair, with man in DU English, 1325 4/7, topic of small SUVs, at 1327 "the latest ABC news" was mentioned, unfortunately faded by 1330. ABC regional radio has audio archives apparently, but you have to go to the specific program to find them. The Nightlife program archive had the same discussion a few minutes before the news on the hour at 11PM (which I didn't hear due to fade out)... but I heard that discussion at 1327, so it wasn't 4MS, which would have had news at 1400. South Australia is 9 1/2 hours ahead of UTC, so 1327 would be just before 11PM local time. The archive can be found at <http://www.abc.net.au/nightlife/> under "Catch Up" for the date, but they only provide the last few days. This is a new logging at home for me. (NHP-BC)
- CHINA**, CNR1. Woman talking 1410 3/4, //945, fair; also fair 3/5 man in Chinese 1420; heard typical CNR1 news sounder at 1432. (NHP-BC)
- 675 **NEW ZEALAND**, Christchurch, Radio NZ National. Choral music creeping through //567 1348 3/19; heard as late as 1406 on this date. (NHP-BC)
- 693 **JAPAN**, JOAB, Tokyo, NHK2. Struggling above 690 splash briefly //702 1218 3/11, English lessons, poor to fair. 1238 3/26 with man in Japanese //774 fair to poor in spite of CBU splash and local noise. (NHP-BC)
- 702 **AUSTRALIA**, 2BL, Sydney. Ponderous vocal music 1328 4/3 //612 and 774, fair to good strength and stronger than either. (NHP-BC)
- JAPAN**, JOKD/JOFB, Kitami/Hiroshima. Man talking //774 1103 3/5 poor. Also poor, man in Japanese //747 1245 3/20. (NHP-BC)
- 738 **AUSTRALIA**, 2NR, Grafton. Female jazz vocal //612 1317 4/13, poor strength. (NHP-BC)
- 756 **NEW ZEALAND**, Auckland, Radio NZ National. Woman talking, poor //675 which was even weaker, 1246 4/23. (NHP-BC)
- 765 **NEW ZEALAND**, Napier-Hastings Radio Kahungunu. Man mumbling 1235 4/2, briefly poor but //603. (NHP-BC)
- 774 **AUSTRALIA**, 3LO, Melbourne. Man in DU English talking to another man about sports? Fair to poor, 1418 3/7, //828. This was assuming that NHK2 has not hired two DU English speakers and put them together, hi. A couple of words were also heard //612, clinching it. Also, laid back male vocal //612 1307 4/9, poor. (NHP-BC)
- JAPAN**, JOUB, Akita, NHK2. S/off chimes 1543 3/4, fair to good, one hour after sunrise; 747 was weaker but there. (NHP-BC)
- 792 **AUSTRALIA**, 4RN, Brisbane, ABC National. Man talking 1301 4/11, poor, but having been completely inaudible at 1300, mimicking Radio Free Murphy, then 612 faded up with news for a nice parallel. (NHP-BC)
- 819 **DPR KOREA**, Pyongyang, KCBS. Martial music //2850 1312 4/7, poor but rare here this season. (NHP-BC)
- 828 **AUSTRALIA**, 3GI, Sale. Woman talking, light music //612 1253 4/23, poor at best. (NHP-BC)
- 837 **JAPAN**, JOQK, Niigata, NHK1. Woman in Japanese //594 1109 3/10, fair. Poor w/man in Japanese //594 1409 3/4; woman and man in Japanese //594 1302 4/5 poor to fair. (NHP-BC)
- 846 **AUSTRALIA**, 2RN, Canberra. Jazzy piano and clarinet //576, 621 at 1330 4/3, poor strength. (NHP-BC)
- JAPAN**, NHK1 synchros. Man talking //567, 1253 4/5, poor strength, a bit of a dig to hear this. (NHP-BC)
- 855 **AUSTRALIA**, 4QO/4QB, Eidsvold/Pialba, ABC. Man mumbling //612 1313, poor. Also, woman talking //612 1238 4/23 poor strength. (NHP-BC)
- 873 **JAPAN**, JOGB, Kumamoto, NHK2. English lessons 1201 3/10 //774 fair strength, but nothing much on the hour. Chinese lessons 1352-3 3/11 fair to poor //828. (NHP-BC)
- 891 **AUSTRALIA**, 5AN, Adelaide. Discussion of divorce 1319 4/10, fair to poor, lined up with on-line archive for Sunday Nights program on ABC. (NHP-BC)
- JAPAN**, JOHK, Sendai, NHK1. Man in Japanese fair 1357 3/10 //594 and stronger. Woman in Japanese //594 1330 3/20, fair strength. Pips, then man mentioning NHK, fair to good //594 which was weaker, 1300-01 4/4. (NHP-BC)
- 945 **CHINA**, Jiaohe, CNR1. Man in Chinese //981, 1356 3/23, fair to good, better on north flag. Also, slow music, man talking 1340 3/27 //6125, fair to good. Also, woman in Chinese //6125 1308 4/7 fair to poor; this is getting late in the season for this one. (NHP-BC)
- 963 **CHINA**, Huaduan, CRI. Man in Russian //1323 1348 3/23 fair to good. Also, man talking 1309 4/12, weak but // similarly weak 1323. (NHP-BC)
- 972 **REP KOREA**, HLLCA, Dangjin, .KBS Hanminjok Bangsong. Man in Korean, good strength 1408 3/23, and of course, pips previously at 1400, but earlier still, 1343 was decidedly odd on this channel. There seemed to be two stations, one with a woman in a harangue didn't quite seem right for HLLCA unless she was calling in to give them a piece of her mind. Then a man and a woman faded up, and by 1344 were dominant, yet they sounded almost Chinese, like a play of some sort, yet by 1348, they seemed to have become Korean (this was also in weakly as late as 1505 this morning). (NHP-BC)
- 981 **CHINA**, CNR1 synchros. Peaking to fair strength 1407 3/4, male ballad, //945 a moment later. Also, man in Chinese 1356 3/23, //6030 and 945; 945 was better than any SW parallel which were quite poor this morning. Also, slow music, man talking 1340 3/27 //6125, fair to good. (NHP-BC)
- 1017 **CHINA**, Changchun, CRI. Chimes and fanfare heard weakly at 1300 4/10, poor strength. (NHP-BC)
- 1044 **CHINA**, Changzhou, CRI. Man and woman talking 1351-2 3/15, Japanese inflection? CRI chimes and fanfare 1400 clinched it, weak, distorted, definite. Also, the surprise of the morning 3/19, only audible Asian at 1400, with CRI chimes and fanfare, poor in the murk. (NHP-BC)
- 1053 **REP KOREA**, jammer. 1327 3/10 fair to good. Also on 3/12 peaking briefly to excellent level 1244; much poorer near sunrise. (NHP-BC)
- 1089 **JAPAN**, JOHB, Sendai, NHK2. Man talking 1316 4/6, weak, but //774. (NHP-BC)
- 1116 **AUSTRALIA**, 4BC, Brisbane. "4-B-C" D by man 1329 4/10, fair to good. (NHP-BC)
- 1134 **JAPAN**, JOQR, Tokyo. Man in Japanese 1338 3/21 fair to good; unusual strength for this one here. (NHP-BC)
- 1206t **CHINA**, Yanbian, PBS. Woman talking, Korean seemed likely, 1211 3/27; poor and off channel. Also, woman in Korean, musical interlude 1240 4/20, fair to poor. Quite late in season for this one, which is not common here at the best of times. (NHP-BC)
- 1224 **JAPAN**, JOJK, Kanazawa, NHK1. Man talking //594 1350 3/14, poor strength. Not a common visitor. (NHP-BC)
- 1269 **JAPAN**, JOFM/JOHW, Esashi/Obihiro. Occasional bits of music //1287 would rise out of the murk 1413 3/13, poor strength at best. (NHP-BC)
- 1287t **JAPAN**, JOHR, Sapporo. Woman in Japanese 1228 3/19 fair strength. Man in Japanese, woman giggling 1245 4/20, fair to good. (NHP-BC)
- 1323 **CHINA**, Shuangyashan, CRI. Woman in Russian 1340 3/23 fair to good strength, IDed a few minutes later //963. Also, chimes and fanfare heard very weakly at 1300 4/11. Also, woman and man in Russian, believe I heard "Kitaya" mentioned a couple of times 1235 4/22. Fair strength; always interesting to see how late this will hold on in the season. (NHP-BC)
- 1377 **INDONESIA**, Toli Toli, RRI. Traces of man talking, woman also, 1410 3/14, over to music 1412, preceding web stream by about one minute, poor signal, but any visit from this one is a good signal. (NHP-BC)
- 1386 **JAPAN**, NHK2. JOQC Morioka most likely? The NHK2 Big Gun at this time, if only briefly, 1354 3/14, Chinese lessons, very good strength, better than the real big guns. (NHP-BC)
- 1422t **JAPAN**, JORF, Yokohama. Woman in Japanese 1351 3/26 followed by slow jazzy vocal, fair to good in splash. (NHP-BC)
- 1503 **JAPAN**, JOUK, Akita, NHK1. Man in Japanese //594 1304 3/10, poor strength. Also, woman laughing 1351 3/20, fair to poor strength //594. (NHP-BC)
- 1566 **REP KOREA**, HLAZ, Jeju, FEBC. 0959 3/4, "HLA-Zee" ID 3 and one pips, man in Korean, fair to good signal. This was also heard very weakly at 1646 with operatic sounding woman singing, so bookended the morning nicely. Also, just generally loud on 3/10. First noted with woman in Chinese at 1156, and many times during the Japanese program, and ending with a flourish with woman and man in Chinese 1358, all at excellent level. Also, Japanese sign on 1230 3/24, "FEBC desu" by man and nice H-L-A-Zeto ID, "Nihongo hoso" ("Japanese language broadcast"; wonderfully efficient language, Japanese). Also at excellent level during Chinese program 1225 4/20, rivalling strength during Japanese program. (NHP-BC)
- 1570 **HAWAII**, KUAU, Haiku. Faded up to full ID just before 1400 3/28, fair to good strength. (NHP-BC)
- 1575 **THAILAND**, Ban Phachi, VoA. Man in SE Asian talk fair to good strength 1359 3/15 VoA fanfare shortly after, then heard a "VoA" jingle 1403. (NHP-BC)
- 1593 **CHINA**, Changzhou, CNR1. Man in Chinese 1418 3/14 fair; IDed earlier //6125 when not as strong. (NHP-BC)
- JAPAN**, JOTB/JOQB, Matsue/Niigata, NHK2. Woman talking //828 1350 3/20, poor. Also, deep voiced man talking //1386 at 1350 3/26. (NHP-BC)

PAN AMERICAN DX ROUNDUP

- 710 **MÉXICO**, XEDP, Ciudad Cuauhtémoc, Chih. 4/17 mixing with or over KNUS. 04:38 XEDP call ID and mention of location. First time heard. (JcJ-AZ)

THANKS TO THESE REPORTERS

JcJ-AZ **JOHN C JOHNSON**, Mesa AZ
Icom IC-R75, 75' N-S and 70' E-W longwires, Kiwa loop
NHP-BC **NICK HALL-PATCH**, Victoria BC nhp@ieee.org
Drake R8, RFSpace NetSDR; RFSpace SDR-14 running DX Fishbarrel program; north FLG-100 antenna, west FLG-100 antenna, 1m indoor box loop, 14m sloper, DXP-3 phasing unit.



DX WORLDWIDE – EAST – Brandon Jordan – PO Box 338 – Rossville TN 38066
E-mail: bdjorda@gmail.com all times UTC

Deadline – Sunday Midnight Central Time.

*** TRANSATLANTIC DX ***

- 531 **ALGERIA** Jil FM, F'kirina Wilaya d'Oum El Bouaghi. APR 6 0158 – Modern Arabic dance rock; fair, better than //549. [Connelly*Y-MA]
603 **SPAIN** RNE Radio 5 synchros. APR 5 2310 – //747, 1305, 1503 with Simple Minds "Don't You Forget About Me"; poor. [Connelly*Y-MA]
612 **MOROCCO** SNRT Al-Idaa al-Watania, Sebaa-Aioun. APR 6 0202 – Male group Arabic vocal; poor. [Connelly*Y-MA]
639 **SPAIN** RNE Radio 1, La Coruña et al. APR 5 2310 – //774, 855 with Spanish teletalk. [Connelly*Y-MA]
684 **SPAIN** RNE Radio 1, Sevilla. APR 6 0158 – Spanish talk by woman; in slop. [Connelly*Y-MA]
702 **UnID?** APR 6 0158 – String mx, man in Arabic; poor. [Connelly*Y-MA]
747 **CANARY ISLANDS** RNE Radio 5 synchros. APR 5 2310 – //603, 1305, 1503 with Simple Minds "Don't You Forget About Me"; fair.
+APR 6 0200 – pips, man and woman in Spanish with news. [Connelly*Y-MA]
774 **SPAIN** RNE Radio 1 synchros. APR 5 2310 – //639, 855 with Spanish teletalk; poor. [Connelly*Y-MA]
837 **CANARY ISLANDS/SPAIN** COPE synchros. APR 5 2310 – Man in Spanish; poor. [Connelly*Y-MA]
855 **SPAIN** RNE Radio 1 synchros. APR 5 2310 – //639, 774 with Spanish teletalk; good, some echo/delay. [Connelly*Y-MA]
891 **ALGERIA** Chaîne 1, Algiers. APR 5 2310 – Upbeat Arabic club-type group vocal, percussion.
+APR 6 0200 – Arabic news by man; fair. [Connelly*Y-MA]
954 **SPAIN** Onda Cero, Madrid. APR 6 0201 – Spanish talk; poor. [Connelly*Y-MA]
1044 **SPAIN** SER synchros. APR 6 0201 – Woman in Spanish with news; good. [Connelly*Y-MA]
1089 **UNITED KINGDOM** TalkSport synchros. APR 6 0201 – Mention of the Prime Minister, Downing Street; to fair peak through WBAL slop. [Connelly*Y-MA]
1215 **UNITED KINGDOM** Absolute Radio synchros. APR 6 0159 – Bed advert, Absolute Radio ID's; fair to good, audio http://www.qsl.net/wa1ion/audio/uk-1215_20160406_0159z.mp3. [Connelly*Y-MA]
1305 **SPAIN** RNE Radio 5 synchros. APR 5 2310 – //603, 747, 1503 with Simple Minds "Don't You Forget About Me"; poor. [Connelly*Y-MA]
1341 **NORTHERN IRELAND** BBC Radio Ulster, Lisnagarvey. APR 6 0158 – Bits of English talk by man; poor. [Connelly*Y-MA]
1422 **ALGERIA** Radio Algerienne, Algiers. APR 5 2310 – Male Arabic vocal; fair to good. [Connelly*Y-MA]
1503 **SPAIN** RNE Radio 5 synchros. APR 5 2310 – //603, 747, 1305 with Simple Minds "Don't You Forget About Me"; to fair peak. [Connelly*Y-MA]
1521 **SAUDI ARABIA** BSKSA, Duba. APR 5 2310 – Woman in Arabic; good.
+APR 6 0158 – Koranic male vocal with reverb; loud. [Connelly*Y-MA]
1575 **UNITED ARAB EMIRATES** Radio Farda, Al Dhabiya. APR 6 0200 – Rhythmic dance music, then Farsi talk by man; to fair peak. [Connelly*Y-MA]

*** PAN-AMERICAN DX ***

- 540 **MÉXICO** XETX, Nuevo Casas Grandes, Chih. APR 22 1145 – Mexican music owns the frequency and in less than a minute, "La Ranchera de Paquimé, 540 AM y 90.5 FM" frequent ID from XETX, Nuevo Casas Grandes, Chihuahua. Just before sunrise here at 1148. [Hauser-OK]
610 **MÉXICO** XEGS, Guasave, Sin. APR 18 1146 – Woman with birthday wishes to people in "Miguel Alemán", which can't refer to the Tamaulipas border Ciudad, as there is no 610 anywhere near there, and this one's loops SW, likely my primary SRS station, XEGS in Guasave, Sinaloa. Later non-ID as "Su Colonia 106.1"; at 1150, "la frecuencia que te mueve". Cantú and IRCA Mexican log confirm that XEGS indeed has an FM on 106.1. Not yet //650 XETNT, which I think will start at 1200 with their shared agropecuaria show, by when 610 has lost out to KCSP. Not sure of "Colonia". Searching on Colonia 106.1 leads to a UStream labeled "FM 106.1 COLONIA ABORIGEN CHACO on USTREAM: FM", but doesn't show where it is, Paraguay?? OTOH, Miguel Alemán may well be the name of a colonia near Guasave. There are bound to be several around the country and there is one in Culiacán, Sinaloa, close enough? [Hauser-OK]
620 **MÉXICO** XEBU, Chihuahua2, Chih. APR 22 1149 – "La Norteña" ID still being used by XEBU, Chihuahua2. Not much else audible lowband from N/W Mexico as the sun is rising here. [Hauser-OK]
660 **MÉXICO** XEEY, Aguascalientes2, Agua. APR 28 1137 – a twist of the wrist holding the DX-398 while hearing KTNN, nulling that, brings in a Spanish partial ID for 102.9 FM, and that leads directly and only to XEEY, Aguascalientes2, 50/10 kW, La Kaliente. [Hauser-OK]

CONTRIBUTORS

[Connelly*Y-MA] **Mark Connelly**, WA1ION, South Yarmouth, Cape Cod MA, USA (GC= 41.6931 N/70.1912 W)(grid FN41vq)
Receiver: Microtelecom Perseus
Antenna: Cardioid-pattern SuperLoop: 11m vert by 30m horiz (peak 80 deg, null 260 deg)
[Hauser-OK] **Glenn Hauser**, Enid OK, USA
DX-398 with internal antenna only or PL-880; NRD-545 with ALA-330S inside E-W or inside random wire N-S; ICR-75 with E-W longwire; FRG-7 with NW-SE short wire

73, Brandon



ULTRALIGHT NEWS – Phil Bytheway – 9705 Mary NW – Seattle WA 98117-2334
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April 2016 Grayland, WA Ultralight DXpedition
Hitting the Beach with a Thrilling Class of Portable DX Chasers
By Gary DeBock, Puyallup WA, USA April 2016



Introduction: As the MW-DXing community eagerly awaits the return of better transoceanic propagation a new kind of modified portable was designed, which hopefully would "bridge the gap" somewhat between mediocre stock portables and table receivers (which are dependent upon large external antennas for DXing success). The idea was to create a modified portable which would provide a lot of transoceanic MW-DXing performance as well as complete portability—a concept which seems lost among the current crop of stock portables. There are portables emphasizing either high sensitivity or sharp DSP selectivity, but not both. Of course for successful transoceanic DXing with a portable (especially on the west coast of North America), you really do need to have both. To succeed in this mission, the 3 inch FSL Tecsun PL-380 models were created last December.

These models feature a lightweight, hard-wired FSL antenna which is transplanted directly in place of the lame stock loopstick. As such, there is no need to peak any variable capacitor for maximum FSL sensitivity whenever a frequency is changed – the radio's Si4734 DSP chip has a self-tuning function which optimizes sensitivity from the high-performance antenna on all MW frequencies from 521 to 1701 kHz. Although the Tecsun PL-380 model is a pocket radio with some congenital limitations, the combination of excellent portable sensitivity and razor-sharp DSP selectivity makes this \$95 modified radio an astonishing performer on an ocean beach.

From April 1-4 a collection of compact Ultralight radios and FSL antennas (both these hard-wired 3" FSL Tecsun PL-380 models and a combination of a 7.5" loopstick C.Crane Skywave and inductively coupled 15" FSL) chased Asian and DU-DX on the flat ocean beach of Grayland, WA. This departure from the usual Oregon ocean cliff DXpedition arrangement was necessitated by the need to stay relatively close to home during the first week of the month. Although the lack of a splatter-reducing cliff was noticeable during a generous DU opening on April 3 the overall TP-DXing results were certainly better than expected for this late-season period, with a nice combination of Asians and DU's. A primary objective of the trip was to test the new hard-wired 3" FSL Tecsun PL-380 models in an ocean beach environment, and these results were very inspiring, both for Asian and DU reception.



The stand-alone 3" FSL PL-380 models proved that they could offer quite a lot of transoceanic DXing fun for their \$95 construction cost and compact size, tracking down several second-tier Asian signals at strong levels. Perhaps their best DX reception was the "one that got away," however – a strong TP signal with exotic-sounding music on 1377 that was not // with CNR1 or NHK2. An interesting UnID TP signal on 1566 temporarily dominant over HLAZ was also received on the same morning, as well as the usual mid-band CRI stations at strong levels. During the regular TP season these tiny little monsters should provide a lot of ocean beach excitement, not to mention their potential for some serious portable DXing fun when the solar conditions improve dramatically in a couple of years.

A potent DU opening on April 3rd resulted in the strongest signal I've ever received from 531-4KZ (now 10 kW, according to its web site), as well as several other vibrant Australians on the 15" FSL antenna and CC Skywave combination. Unlike a typical Rockwork 4 ocean cliff DXpedition the Kiwi signals were few and far between, with only 531-PI and a presumed 603-Waatea showing up along with the Aussies.

Loggings below with an asterisk (*) were received on the C. Crane Skywave + 15" FSL combination, while all others were received on the stand-alone 3" FSL Tecsun PL-380. Recordings which reached an S9 level (on either receiver setup) are identified with a double asterisk (**) symbol after the station name.

- 531 ***AUSTRALIA**, 4KZ**, Innisfail, 5 kW. Huge signal with Queensland weather report and classic pop music after the 1300 TOH on 4/3 <https://app.box.com/s/2wnh3w15foz3o2bs6mgn173xvnlk2znd>. Exact same signal on the stand-alone 3" FSL Tecsun PL-380 model <https://app.box.com/s/1h3jevgs571b6zi43unki66oaes9ay>.
- ***JAPAN**, JOQG, Morioka, 10 kW. Fair level Japanese female speech // 594 over weak UnID (PI?) at 1321 on 4/4 <https://app.box.com/s/cgsqy10bys7gcbq9ttb45h4xborwlu>.
- NEW ZEALAND**, PI, Auckland, 5 kW. Samoan language female speech at fair level, all alone among Asian signals on the 3" FSL PL-380 model at 1226 on 4/1 <https://app.box.com/s/o905gefjdafpgcqm4f4khhmqv53qec8>.
- ***UnID DU**. Strong mix of three DU signals at 1346 on 4/3; the first two minutes feature two DU English signals. Most likely these are 4KZ and 2PM, although the mix is a little too wild for an American English speaker to easily decipher <https://app.box.com/s/7027f7aa0wuh0ozxio245ul42b0kxjr>.
- 558 **REP KOREA**, HLQH, Yeong-il, 250 kW. Very good level Korean pop music and deep-voiced male // 603 at 1315 on 4/1 <https://app.box.com/s/e2kap3xis43fpuf054o384c6p0q962aw>.
- p FIJI**. Distinctive Polynesian choral music at poor to fair level during DU opening at 1330 on 4/3, but pretty much overwhelmed by 560 domestic splatter.
- 567 **JAPAN**, JOIK, Sapporo, NHK1, 100 kW. Japanese female speech at fair level //594 at 1326 on 4/1 <https://app.box.com/s/7o92zhkbc8k8mu36uqgnijmybz6pzlkt>.
- 576 ***AUSTRALIA**, 2RN, Sydney, 50 kW. Jazz music at good level // 792 at 1327 on 4/3 <https://app.box.com/s/qr4ng5skaygnktft2880j120qyww20bl>.
- 585 ***UnID** (Australian). Fairly strong pop music and "T-Max TBB" (?) ID at 1337 on 4/3; not //576 or 603. Most likely 2WEB in Bourke, but no parallels available to confirm this <https://app.box.com/s/2dg03ltk2h132be0q8ea4xuqc1yg1cv>, sound-enhanced ID at <https://app.box.com/s/g6a9sphgc7h7o07o88txgyo23s46fohg>.
- 594 **JAPAN**, JOAK**, Tokyo, NHK1, 300 kW. Japanese female police report at overwhelming level at 1323 on 4/1 <https://app.box.com/s/rsfjddfn07t9zzib9d3pfpdbbex9f8c>.
- 603 ***NEW ZEALAND**, Radio Waatea, Manukau, 5 kW. Presumed the one with Maori-like music mixing with UnID Australian station during DU opening at 1337 on 4/3 <https://app.box.com/s/7mrq8vmv3n3xogqqoidatljcz48ffl>.
- ***REP KOREA**, HLSA, Seoul, 500 kW. American pop music "I Love How You Love Me" at fair to good level //558 at 1321 on 4/2 <https://app.box.com/s/vixfwi4jjhlynlpqsa9z3qavh9ankr2>.
+Korean pop music //558 at fair level on the 3" FSL PL-380 at 1336 on 4/2 <https://app.box.com/s/xikiy7xr0ty04oewdw1urlzx76nuqhw2>.
- ***UnID** (Australian). Weak male monolog under the Maori music during all-DU propagation in the above recording at 1337 on 4/3, but no chance to check parallels.
- 774 **JAPAN**, JOUB** Akita, NHK2, 500 kW. English lessons at excellent level at 1312 on 4/2; consistently the strongest Japanese station <https://app.box.com/s/f2d12kwt7y2zya96wq4nnp0ynl4rfy0>.
- 792 ***AUSTRALIA**, 4RN**, Brisbane, 25 kW. ABC news at potent level //576 at 1401 on 4/3 <https://app.box.com/s/oueggy5xip2t73o2qlcncwdes33eud9>.
- 828 **JAPAN**, JOBB, Osaka, NHK2, 300 kW. Japanese female speech at good level at 1139 on 4/2 <https://app.box.com/s/g1zr99pn25ndkwbfb37fyh7x1kvfokkt>.
- 855 ***AUSTRALIA**, 4QO/4QB, Eidsvold/Pialba, 10 kW/10 kW. Temporarily strong with DU English through splatter at 1317 on 4/3 <https://app.box.com/s/qro77sfz73h6ebppq2o10mz3bnqj4cvdy>.
- 954 **JAPAN**, JOKR, Tokyo, 100 kW. Getting through domestic splatter with fair-level Japanese speech at 1331 on 4/1 <https://app.box.com/s/phhkrq2yjwhdud42hx12xh9qiyqqnqiv>.
- 963 **CHINA**, CRI, Huaduan, 600 kW. Poor to fair level Russian female speech //1323 at 1330 on 4/1 <https://app.box.com/s/6t1tdywybj1qlx307i57uuj154oedkff>.
- 972 **REP KOREA**, HLCA**, Dangjin. Korean pop music at huge level at 1340 <https://app.box.com/s/q28fslccmavducds1tzx5navmvlcuyhw>.
- 1017 **CHINA**, CRI, Changchun. CRI Korean service at very good level at 1255 <https://app.box.com/s/j6d02s36trf95m998a6fv1d2e8yy6j0u>.
- 1035 **REP KOREA**, HLCP, P'ohang, 10 kW. Strong Korean female and male speech in the predawn darkness at 1145 on 4/1 <https://app.box.com/s/4j4dot1gqdsaos5jcgk39kl4ljl5ro85>.

- 1044 **CHINA**, CRI, Changzhou, 300 kW. CRI Japanese service with interval music and female speech at fair level at 1257 on 4/1
<https://app.box.com/s/73oaijknzouzgkce0fsq15rxbqjwi5>.
- 1053 **REP KOREA**, jammer**. Monster jam session at 1210 <https://app.box.com/s/gagyi0afoitp0czfim7aj9sv3x0kgv79>.
- 1143 **UnID** Chinese. Chinese-inflected female speech at weak level at 1309 on 4/1; possibly BEL3, but no 738 // available
<https://app.box.com/s/ec7iaelvuahacvktjt8h604p137ue4zrc>.
- 1206 **CHINA**, CRI**, Yanbian. CRI Korean service at S9 level with male speech at 1206; strongest Chinese station during the DXpedition
<https://app.box.com/s/6jsz4m3yklhvid1vg4sypx3evri7i5ms>.
- 1323 **CHINA**, CRI, Huadian, 600 kW. Russian service female announcer with good strength at 1253
<https://app.box.com/s/sp8rhxkv1f3b1roubkujoldgrhp9yh3r>.
- 1377 **CHINA**, CNR1, Xingyang, 600 kW. Mixing with the UnID-TP in the recording below, with male and female Chinese speech //6125.
UnID-TP. The mystery of the trip – very strong exotic music and a female announcer mixing with CNR1's male Chinese speech (which was //6125) at 1345. The music and female speech weren't //774 (NHK2) either. Around the 50 second point the UnID female speech was the strongest, but I'm certainly no expert in SE Asian languages <https://app.box.com/s/yxrgf37b7va4vjugv2ww8kn2rx90qtlq>.
- 1386 **JAPAN**, NHK2 synchros. Male Japanese speech at weak level //774 at 1248 on 4/1 <https://app.box.com/s/45bqttsrf0z62riddx6h2f6g3qpm1a>.
- 1422 **JAPAN**, JORF, Yokohama, 50 kW. Weak Japanese male speech at 1246 on 4/1 <https://app.box.com/s/49i4ctbn8j3d7swm4s6ingjo5qworeaj>.
- 1566 **REP KOREA**, HLAZ**, Jeju, FEBC. Chinese Christian service female announcer at blowtorch level around 1201
<https://app.box.com/s/o61fcq9y21ngiwv7vpyci7iaa1s14wu3>.
UnID-TP. During a deep fade in HLAZ's Chinese service at 1140 on 4/1 a strange co-channel with chant-type singing comes up to an equal level with HLAZ for a brief period. The singing almost seems like some type of worship music – maybe the 10 kW Islamic station in the Philippines?
<https://app.box.com/s/pwx6t52be3j3h0fap74wc70b2idfj7pv>.
- 1575 **THAILAND**, VOA**, Ban Phachi. Female announcer with overwhelming signal at 1259 <https://app.box.com/s/4vjy1vh8wg1136a4ms7t5mg2ac3x9o85>.
- 73 and Good DX, **Gary DeBock** (in Puyallup WA, USA)
 DXing at the end of Grayland Beach Road, Grayland, WA, USA
 Stand-alone 3" FSL Tecsun PL-380 model http://www.mediafire.com/download/w0gcek56f6aq7kr3_Inch_FSL_Tecsun_PL.doc, 7.5" Loopstick CCrane
 Skywave Ultralight + 15" FSL antenna



GEOMAGNETIC INDIES – Compiled by: Phil Bytheway
 E-mail: phil_tekno@yahoo.com

Geomagnetic Summary April 1 2016 through April 30 2016
 Tabulated from email status daily (K @ 0000 UTC.)

Date	Flux	A	K	Space Wx										
4/ 1	82	3	1	no storms	4/11	117	6	1	no storms	4/21	77	5	2	no storms
2	82	22	6	moderate, G2	12	111	19	5	minor, G1	22	77	13	4	no storms
3	82	15	4	no storms	13	108	26	3	minor, G1	23	79	12	5	minor, G1
4	83	7	1	no storms	14	111	22	3	minor, G1	24	82	11	1	no storms
5	83	5	1	no storms	15	112	9	2	no storms	25	82	5	0	no storms
6	87	7	1	no storms	16	113	12	4	no storms	26	85	6	3	no storms
7	92	17	5	minor, G1	17	102	19	3	no storms	27	93	10	2	no storms
8	98	9	1	minor, G1	18	95	5	1	moderate, R2	28	95	5	1	no storms
9	106	3	0	no storms	19	89	3	1	no storms	29	92	3	1	no storms
4/10	111	7	3	no storms	4/20	83	4	1	no storms	4/30	94	7	3	no storms

Gx – Geomagnetic Storm Level

Rx – Radio Blackouts Level

Sx – Solar Radiation Storm Level



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A Practical Approach To Building and Evaluating a Broadband Active Loop Antenna, looking at the Mobius, Conventional Shielded and Wire Loops
 Everett Sharp N4CY (everettsharp@aol.com)

I have been experimenting with receiving loop antennas now for the last 3 years, building several Ferrite Sleeve Loop antennas, Air Loop antennas and Active Broadband wire loop antennas. Because of some local electrical noise issues here at my location I decided to start looking at some other options. My first experiments had looked at a conventional Coax Shielded Loop, which showed some improvement in the noise situation over that of an active wire loop. However, I wanted to see if I could find something even better, so I decided to also experiment with a Mobius configured shielded loop. It was suggested, in what little information I could find, that the Mobius loop antenna was a very low noise antenna.

There is an article that can be found on the web "Sensor and Simulation Notes VII Characteristics of the Mobius Strip Loop" (<http://ece-research.unm.edu/summa/notes/SSN/notes7.pdf>) written by Dr Carl Baum, and it is the basis of the commercially available Pixel Loop Antenna. This article only covers the theory, but there is another article, posted in the files section of the Yahoo Loop Antenna site, by Chris Trask "Mastering the Art of Shielded Loop Aerials", which also covers the theoretical aspects of the Mobius loop as well as some construction information. Likewise, I could find only a little information about broadband active shielded loop antennas. There is, however, a lot of information about tuned shielded loops.

I purchased an 11' piece of RG11/U 75 ohm coax that had a 98% braided shielded and stranded center conductor. The reason for choosing RG11 over RG8, or RG213, was that 75 ohm coax has a lower capacitance per foot than 50 ohm coax. The RG8, 50 ohm coax, runs around 30 pF per foot and 75 ohm coax runs about 20 pF per foot. Based on what information that I could find, having higher capacitance could limit or degrade the upper frequency range of a Mobius shielded loop antenna, and my goal was to end up with an antenna that would cover LW to 30 MHz.

The RG11/U coax was cut in the middle and I stripped off 1" of the sheath material from each of the two pieces of the coax that I just cut and then cut the braid back 3/4", leaving about a 1/4" to 3/8" of exposed shield. I then removed 3/4" of the center conductor insulation. The center conductors from each side were soldered to the shield on the opposite side, see Figure 1. This contrasts with the conventional shielded loop which has no connection between the shields at the cut in the center of the coax, and leaves the two center conductors connected (see Figures 3 and 4).

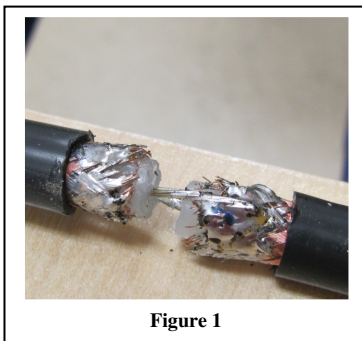


Figure 1

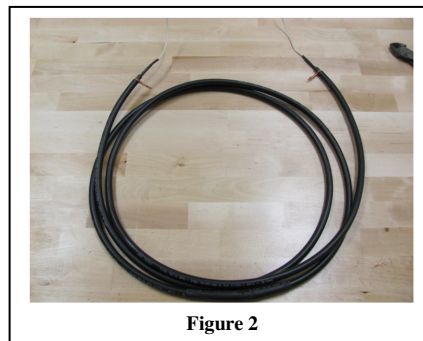
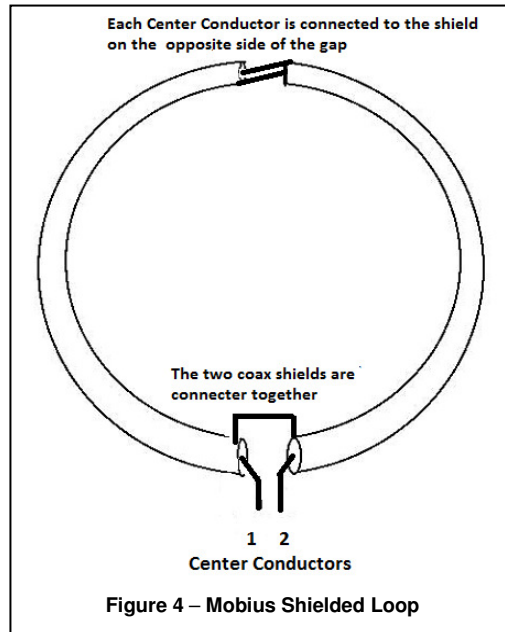
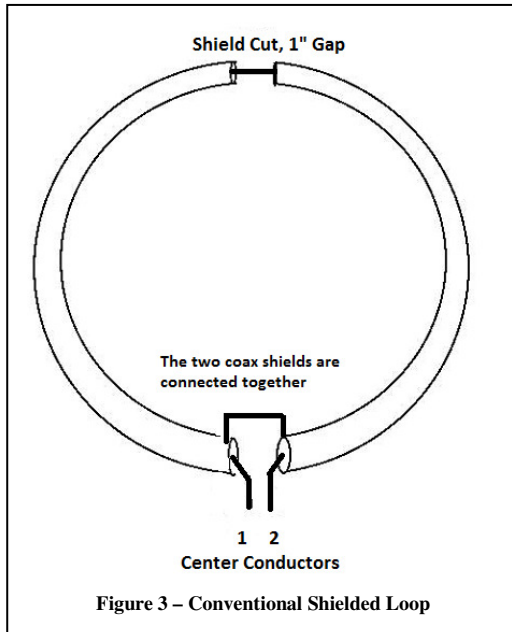


Figure 2

I added two layers of shrink tubing over the joint to strengthen it. You need to measure very carefully from the center of the connection to each end to make sure each end of the coax is the same length, or you may not have equal nulls at 180 degrees. I soldered on some more flexible wires to the center conductors of the coax to make it easier to connect to the various matching transformers and preamplifiers that were being evaluated during my experiments (see Figure 2).

Figures 3 and 4 show both the conventional shielded Loop antenna and the Mobius Shielded loop antennas.

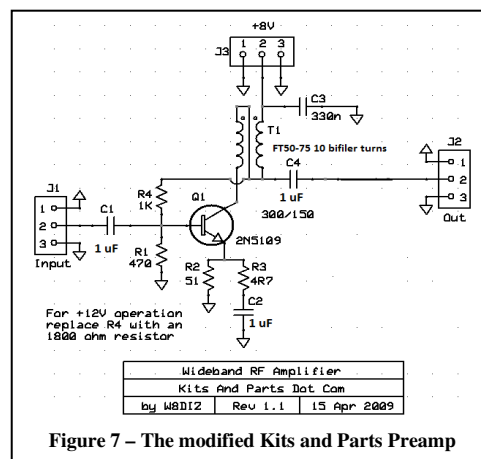
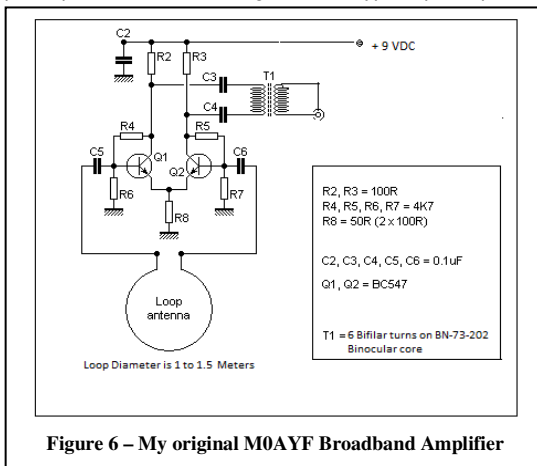


The loops were encased in 3/4" PEX water pipe, which is a polyethylene (PE) material with an OD of 7/8" and ID of 5/8". The pipe can be purchased at Lowe's or Home Depot for about \$6. My piece was 10' long, which gave an ending diameter of 40" (~1 Meter). I used a 4" plastic electrical junction box at the bottom. The holes were too small in the junction box, so I reamed them out with a 7/8" Unibit in order to fit the PEX pipe inside of the holes in the junction box. The PEX pipe was held in place inside the junction box with set screws (similar to Figure 18).

The loop is pictured in Figure 5, which is mounted on a Lazy Susan. I made up two of these loops, so that I would have similar setups for comparison, using an A/B switch between the antennas and the Icom R75 radio that I was using as the receiver.



The amplifiers with which I was experimenting were a simplified MOAYF loop amplifier (original versions at <http://www.pa1m.nl/pa1m/simple-active-receive-loop/> or <http://www.qsl.net/m0ayf/active-loop-receiving-antenna.html>), and a W71UV (I modified one from Kits and Parts, <http://kitsandparts.com/rfamp1.3.php>). I eliminated a lot of the parts that were in the original MOAYF amplifier, which was designed for remote power, because I wanted to keep it simple; I was only going to power it with a battery. I also changed T1 in that amplifier from a toroid to a binocular core. The W71UV amplifier was modified by changing C1, C2 and C4 from 47nF to 1 μF and replacing T1, which used a FT37-43 core, with a FT50-75 core. Figures 6 and 7 show the amplifier schematics. (NOTE: I built two of each of the two preamps, so I would be using the same type of preamp in doing the A/B comparisons)



I made up two sets of the matching transformers for this experiment, using BN73-202 binocular cores, with 1:1, 1:2 and a 1:3 turns ratio (Figure 8). The primary sides of the transformers were all center tapped and would be connected to the loop. Each side of the center tapped winding was to be connected to the coax center conductors from the loop (contacts 1 and 2 in Figures 3 and 4), with the center tap connected to the coax shield.

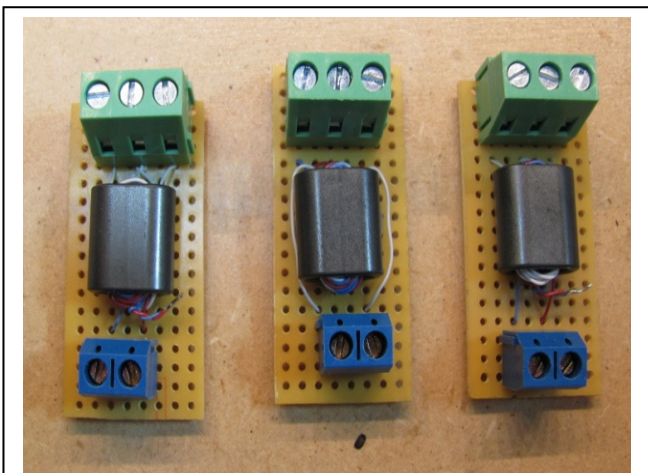


Figure 8 – The matching transformers mounted on perfboard with terminal connectors for easy hookup

- The 1:1 transformer was wound with 6 turns on each side, with one side center tapped at 3 turns. (1:1 impedance ratio, giving 50 ohms/50 ohms)
- The 1:2 transformer was wound with 12 turns on one side and 6 turns on the other side, center tapped. (1:2 turns ratio gives a 1:4 impedance ratio for 12.5 ohms/50 ohms)
- The 1:3 transformer was wound 12 turns one side with 4 turns on the other side, center tapped. (1:3 turns ratio gives a 1:9 impedance ratio for 5.5 ohms/50 ohms)

On each transformer, the winding with the lower number of turns as well as a center tap, was connected to the loop, while the other winding was connected to the amplifier.

I used 9 volt batteries to power both the M0AYF and Kits and Parts preamps as each draws less than 40 mA (see Figures 9 and 10).

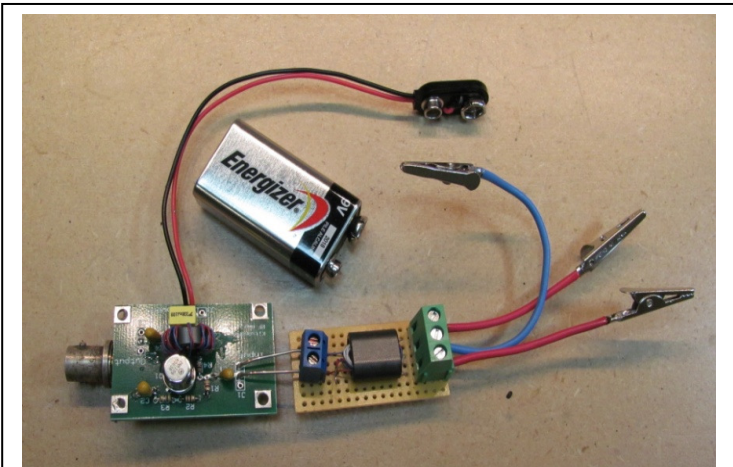


Figure 9 – Kits and Parts preamps that is connected to a matching transformer

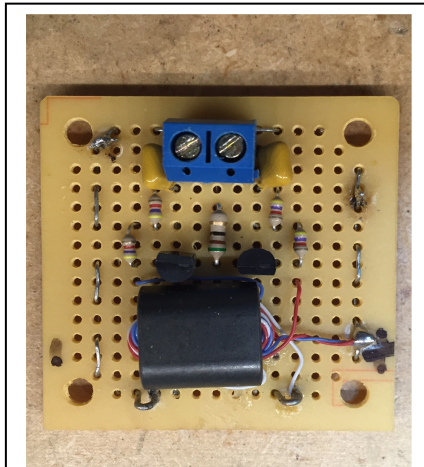


Figure 10 – The M0AYF amplifier

The first experiments were comparing a conventional shielded loop to a wire loop. The shielded loop was made up of RG8X coax that had 1" of shield removed at the top, as pictured in Figure 3, with the two coax shields connected together at the bottom. The two center conductors were each connected to the amplifier. The wire loop antenna was using #14 wire and was the same length and diameter as the shielded loops, but there was no matching transformer used; the loop conductors were connected directly to the amplifier. Each loop had an M0AYF amp connected to it. I then started out on the LW band, moving up band, in steps, to 20 MHz, comparing both loops. I did see lower noise with the shielded loop, but I just did not see good rotational nulls with the shielded loop and I was quite disappointed with the results. From there I decided to look at the Mobius loop, again using the M0AYF amplifier, on both it and the wire loop. I again noticed that the Mobius loop was much quieter than the wire loop but still not performing correctly, as it too, did not seem to give good rotational nulls.

At this point I decided to start looking at the matching transformers that I had made up earlier, trying all 3 of them on both the Mobius and the conventional shielded loops, using the M0AYF amplifier, but they still did not seem to be performing correctly. So I decided to try one of the Kits and Parts preamps, using the matching transformers. After trying all of the matching transformers, I found that the 1:2 performed best on both antennas. This was with the 12 turn side connected to the preamplifier and the 6 turn side connected to contacts 1 and 2 on each of the two shielded loops in Figures 3 and 4, with the winding's center tap connected to the coax shield.

Here are my preliminary findings:

- (1) The Mobius Loop was quieter on LW and MW than the conventional shielded loop, but not by a lot. The Mobius loop gave a little higher S meter readings than did the conventional shielded loop and had a lower noise floor on LW and MW.
- (2) Both the shielded and Mobius loops using the Kits and Parts preamp, did a much better job of reducing most electrical noise, than did the active wire loop using the M0AYF amplifier. The Mobius loop had a very sharp null, much sharper and deeper than the conventional shielded loop. On several local AM radio stations, the Mobius loop gave a 20 to 22 dB nulls, whereas, the conventional shielded loop only gave about 14 to 16 dB nulls. *Update: This was an interim observation. Several months later I modified the M0AYF amplifier further, and with appropriate connection to the matching transformer, was able to get both better nulls and better noise response than with the original amplifier See later in this article for details.*
- (3) My first attempt at the M0AYF amplifier was a very poor performer on both the Mobius and conventional shielded loop, as it did not lower the loop's noise response nearly as well as did the Kits and Parts preamp. The nulls were also not very deep when using the original M0AYF amplifier on either loop. See the updated results using the modified MY0AYF amplifier however.
- (4) Both the Mobius and conventional shielded loops had a much lower output than did the wire loop, with the Mobius having the higher output of the two shielded loops, so if you are using a receiver with a poor front end, or do not have a built-in preamplifier, like the R75 has, then you may need to cascade 2 of the Kits

and Parts preamps to get the desired signal levels. *Further pre-amplification is not required with the later version of the M0AYF amplifier, as it has plenty of output.*

- (5) I replaced the M0AYF amp on the wire loop and tried a Kits and Parts preamp in its place, using a 1:2 matching transformer, and noticed a big improvement on LW with lower noise and stronger signals. I also saw less noise all the way up to 20 MHz. Connecting the loop shield to the amplifier ground as well as to the centre tap of the matching transformer made a world of difference in the noise levels, but did lower the signal output, necessitating the use of cascaded amplifiers to compensate for the low output. *Again, note that this was a preliminary conclusion, and that using the later version of the M0AYF amplifier instead of the Kits and Parts amplifier means that extra ground connections and preamplifiers became unnecessary.*

This was a very costly and time consuming project that went from excitement one moment to disappointment the next moment and then back again.

If you have a noise problem at your location and you want an active broadband loop antenna, then you might want to consider building a conventional shielded loop, or a Mobius configured loop antenna. If you are primarily interested in MW and LW bands, then I would lean more towards the Mobius loop, as it has a lower noise floor.

Parts suppliers

- Kits and Parts has a new SMD version of this amplifier which is \$11. <http://kitsandparts.com/rfamp1.3.php>
- FT50-75 10 for \$5 + shipping <http://www.kitsandparts.com/>
- BN73-202 toroids \$5 for 10 of them + shipping <http://www.kitsandparts.com/>
- Wire for winding Toroid and binocular cores, is Radio Shack #30 Wire Wrap wire, Red, Blue and White, about \$6 each
- RG11/U 22' about \$25 delivered from RF Connection <http://www.therfc.com/> (he has the best wire and the best prices)

I have been in the process of trying to improve on the performance of the Mobius loop from my previous work. One of the shortcomings of the Mobius design is it does not perform as well above 20 MHz as a conventional shielded loop, or as a solid single conductor loop. So, the two areas of interest were to increase the diameter of the loop to generate greater signal output and to try to reduce the overall capacitance of the loop in order to increase the upper frequency response of the loop. The first thing that I did was to review what was available in the way of low capacitance manufactured coax.

I could only find RG-63/QPL, which is 9.7 pF/ft, 0.41 diameter and RG-62A/V, which is 13 pF/ft 0.242 diameter. The RG-63/QPL looks to be difficult to come by unless you want to buy 1000'. The RG-62A/V can be found in small quantities but I was looking for a larger diameter coax, as my goal was to try to lower the capacitance as much as possible; the larger the inside diameter, the more space I would have between the center conductor and the shield, thus lower capacitance.

My only option appeared to be to try to make my own coax in order to reduce the capacitance. I made a trip to Home Depot and looked around the plumbing section to get some ideas, and what I found was some polyethylene (PE) hose. After looking through their inventory, I bought a roll of 1/2" OD X 3/8" ID X 25' and one roll of 5/16" OD X 3/16" ID X 25'. (NOTE: This is the same type material that is used to hook up an icemaker on your refrigerator, only that is 1/4").

I needed some kind of a shield to cover the 1/2" PE hose and I just happened to have some that measured 1/2" wide. I tried to see if I could get it to slip over the 1/2" PE hose and it did without any problem. I had 15' of it on hand, which was a good thing, as it took a lot more than 10' of it to cover 10' of PE hose.

I cut the 1/2" PE hose to 10' 3" and marked the center and measured back 1/2" on each side of the center mark and made a mark around the hose. I drilled a 1/8 hole at each mark, 180 degrees apart. I slipped the shield over the PE hose and pushed it up to the mark and cut off the excess from the other end and did the same on the other side. I removed the braided shield from both sides of the PE hose and soldered a piece of 660/46 Litz wire to the ends of both braids (you could use a #18 stranded wire in place of the Litz wire). The two wires needed to be cut 6' long.

I used 660/46 Litz wire as the center conductor of my first attempt at manufactured coax (though ended up using magnet wire in later versions of my own coax). This is not stiff enough to feed through the hose unaided, so I put a fish wire inside of the 1/2" PE hose to pull the Litz wire through it (see Figure 11)

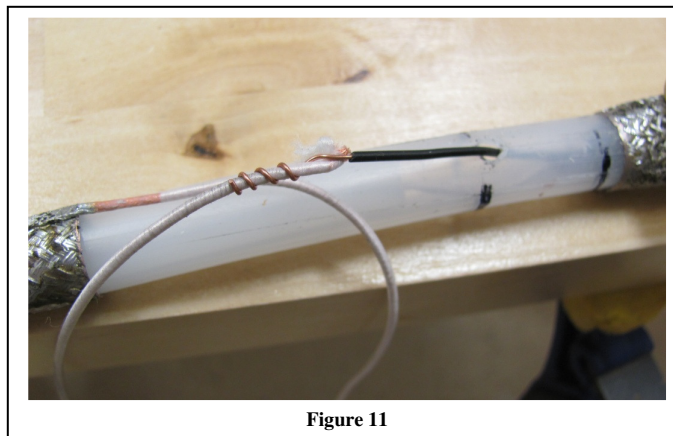


Figure 11

After the Litz wire had been fished through the 1/2" PE hose, then it needed to be fed into the 5/16" PE hose. (The 5/16" hose was being used to give uniform spacing between the Litz wire and the shield, and needed to be cut to two 5' pieces, one for each side.) You should start by feeding the 5/16" hose inside the 1/2" hose, while pulling on the fish wire, trying to move both at the same time (see Figures 12 and 13 for details).

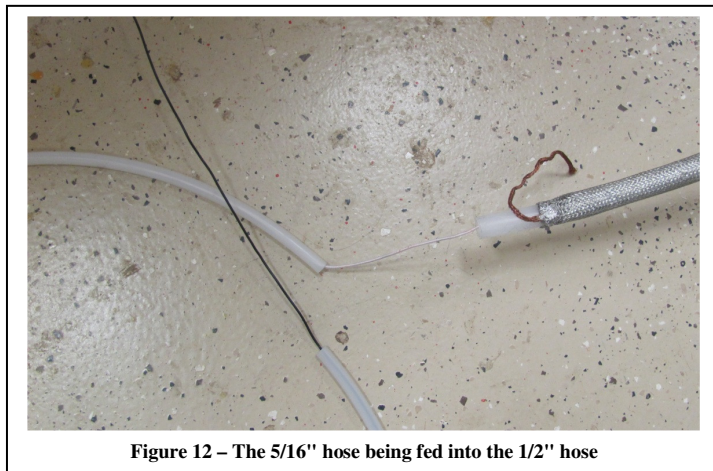


Figure 12 – The 5/16" hose being fed into the 1/2" hose

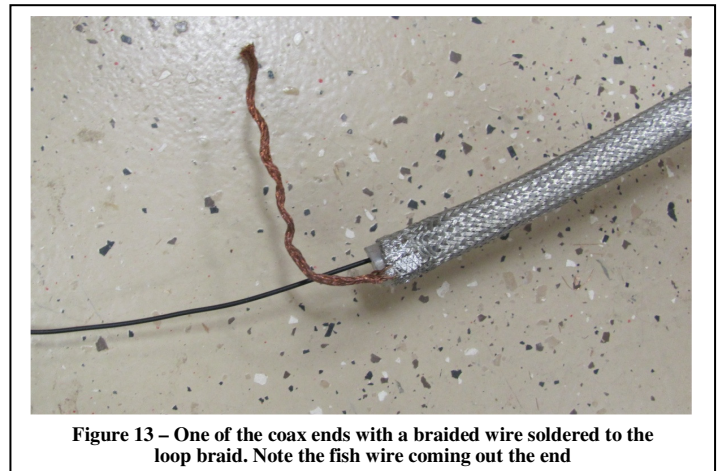


Figure 13 – One of the coax ends with a braided wire soldered to the loop braid. Note the fish wire coming out the end

Figure 14 shows the finished "Roll Your Own" coax Mobius Loop. I checked the capacitance of the "Roll Your Own", while it was in place, it was **132 pF** and the inductance was **16.2 µH**. The RG-11 loop that was used on one of my previous loops was **247 pF** and **17.4 µH**.

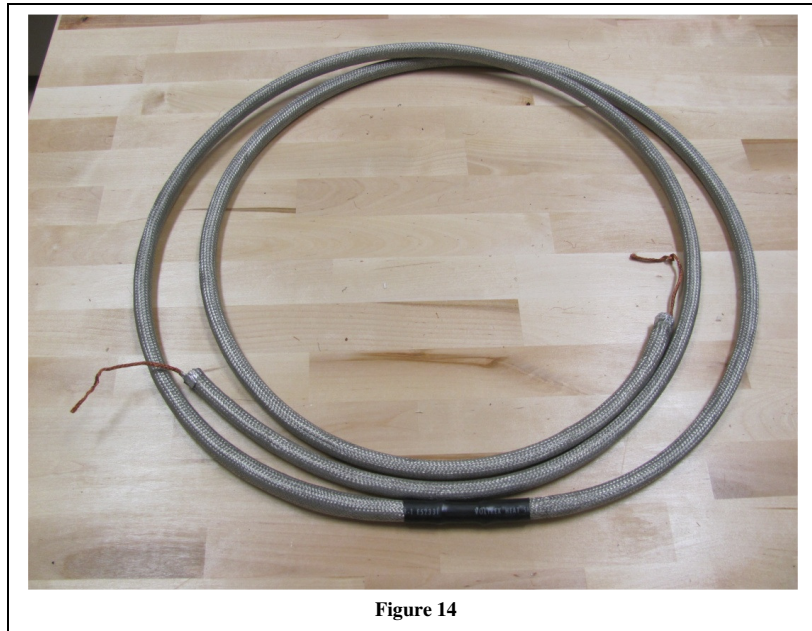


Figure 14

In comparing the RG-11 Mobius loop to the RYO Mobius loop, side by side, I found that the RYO had much sharper nulls and the nulls were deeper by 5 dB. It was difficult to tell for sure, but I did detect a little less noise. Also I noticed that I was getting a little less output from the RYO loop. I traded the preamps back and forth just to make sure there were no differences in preamps, but the results were the same. I later discovered that a 1:1 turns ratio matching transformer, center tapped, worked better than the 1:2 turns ratio that I had previously been using on the RG-11 Mobius loop.

Wanting to make further improvements and lower the capacitance of the Mobius loop, I did a web search looking for aluminum tubing and ran into an interesting product, called "PEX AL PEX". This product is a polyethylene pipe which has aluminum sandwiched between two layers of poly. The aluminum is 0.035" in thickness and is easy to form without any special tools or jigs. PEX AL PEX pipe has been used in Europe for several years and is used for water supply lines, heated floors, and is also used for natural gas feed lines to homes. In more recent years, it has been used here in the States for the same, but is not easy to find. I checked with local suppliers to try to find a source, but no one carried it. I made a web search and located a 100' roll of 1" PEX AL PEX and bought it. It was UPS shippable, so arrived in three days, which gave me time to come up with a plan for forming and making a Mobius loop.

I cut off an 11' piece of the PEX pipe and started binding it by hand, it was a little stiffer than I thought it would be, but still workable. I found the best way to form it was to hold the pipe in each hand, spreading your arms out, to the side as far as you can and lightly place your foot on the pipe, moving it back and forth, making small bends with your foot pressure as you move it back and forth.

After it was formed, I cut the pipe to 10' and then cut it again at the top center. The two cut pieces were checked to make sure that they were both the same size (see Figure 15).

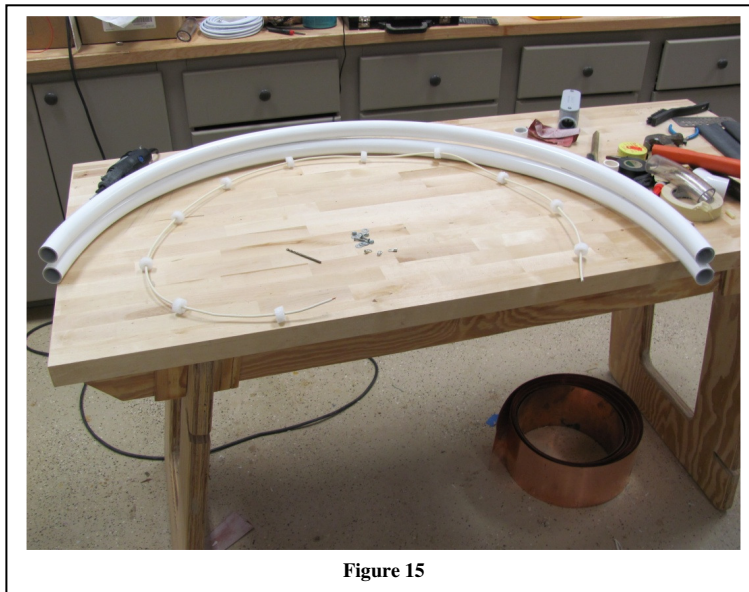


Figure 15

Figure 17 shows where the PEX pipe is joined together at the top using a 1" long piece of 1" PVC pipe as a spacer. Also you can see two screw heads 180 degrees apart, which is where the two center conductors are connected to the shield of the tube opposite. This joint later had two pieces of shrink tubing placed over it to add some strength to the joint.

Figure 18 shows the junction box for 1" PVC conduit. The holes in it are a little larger than the PEX pipe, which is 1.25" OD, however, there is a ridge on the inside part of the two holes in the junction box. I reamed them out using a small sanding drum, which allowed me to be able to slip the PEX pipe further into it. I drilled two small holes where each pipe end fits into the PVC box and put two small sheet metal screws into each to hold the PEX pipe in place. The two ground wires are connected together. Figure 20 shows the assembled loop.

Note the Dremel tool, with a small carbide bit, in Figure 16. This was used to cut away the poly to expose the aluminum at the top, in order to connect the two center conductors to the tubing. Also the poly was cut away at the bottom for ground connections.

In Figure 16 you can also see the 7/8" diameter poly foam disks that act as spacers for the center conductor of the PEX coax. These disks were slipped over the conductor every 6" is to give uniform spacing between the center conductor and the tubing outer wall. The foam disks were cut out of 1/2" thick PE foam, using a piece of conduit with an ID of 7/8", the edges of which I had ground down to make it like a leather punch., Then I used an ice pick to make the holes in the center of each disk. This made a tight fit on the coax center conductor (see Figure 19). Originally, this center conductor was the insulated center conductor of RG-58 coax, but I have since moved to using #22 magnet wire, and modified the spacers accordingly.

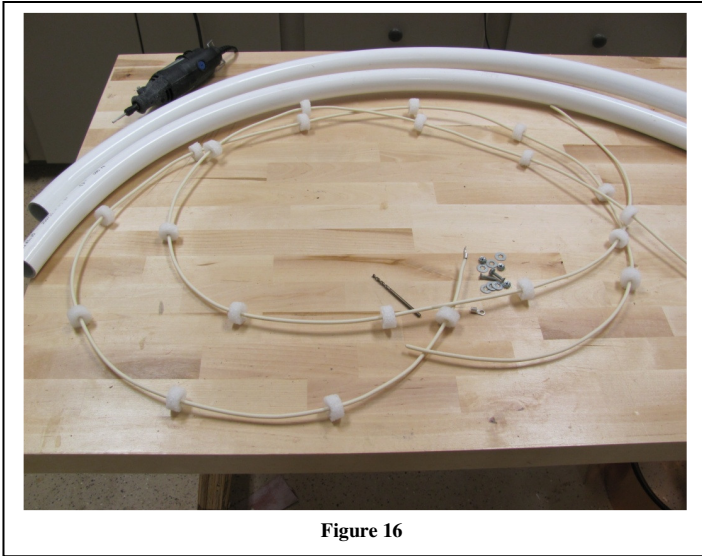


Figure 16

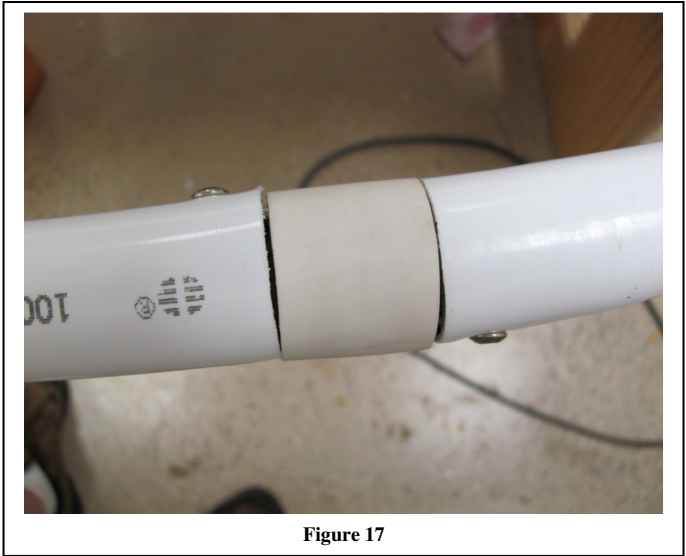


Figure 17

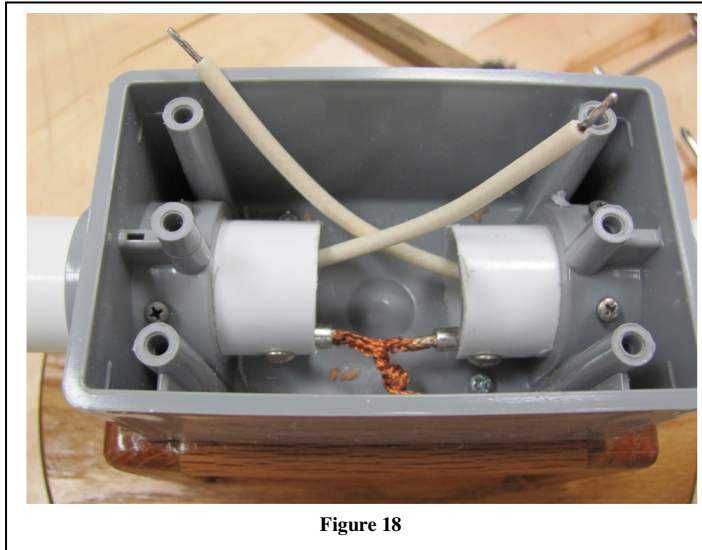


Figure 18

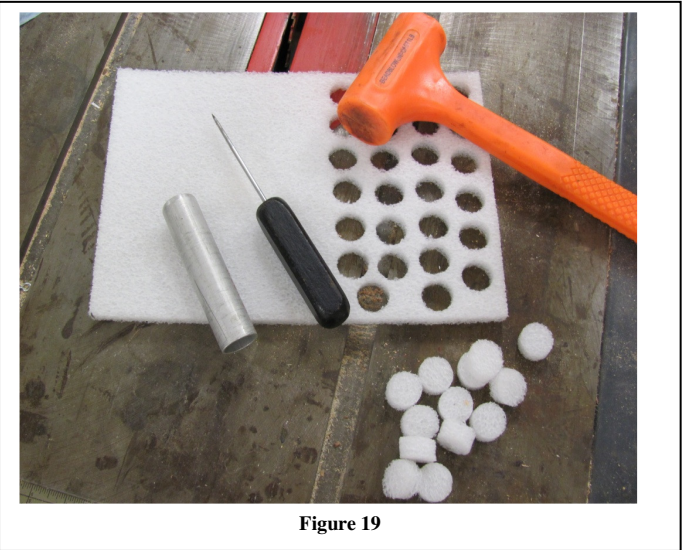


Figure 19

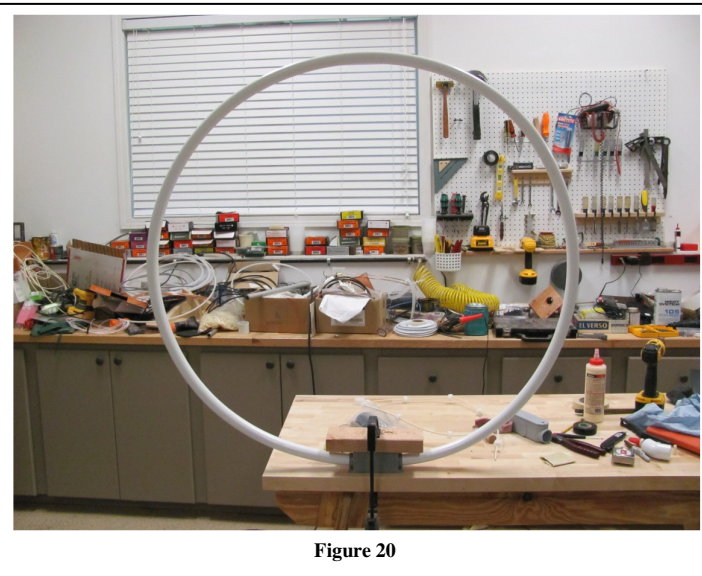


Figure 20

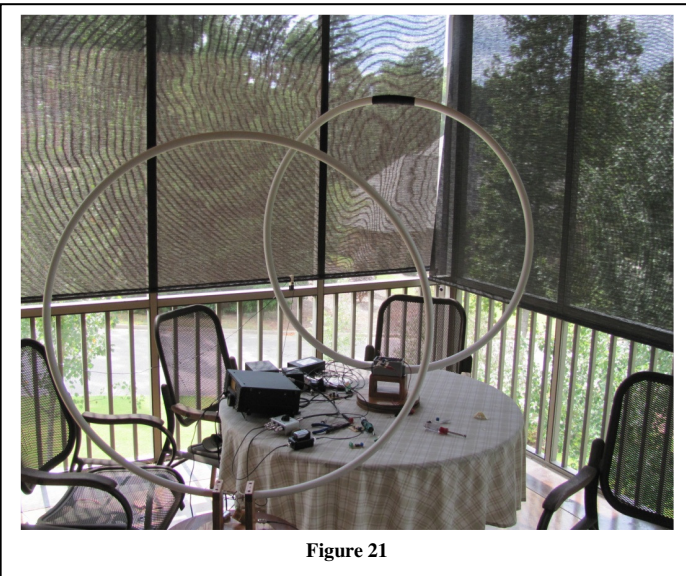


Figure 21

The loop to back right in Figure 21 is the new PEX Mobius loop; you can see the black shrink tubing at the top that is holding it together and water proofing the top joint.

The finished loop ended up with a much lower capacitance than any of the previous loops that I built. It was 93 pF but when measured prior to building the loop it was 8 pF per foot, so 13 pF was added in the construction process. I think that PEX AL PEX pipe is a great material for making loop antennas and I plan on making a few more loops but with larger diameters.

I later found information on the web of a modification to the M0AYF amplifier that was posted by Steve Ratzlaff, where he changed the way T1 was connected in the circuit. I made the mod and also changed the transistors to MPSH10, to increase the higher frequency capabilities of the amplifier when used with a loop antenna. I found it difficult to get a good match with the transistors, so I added R9 to the circuit which allowed me to balance the voltage drop across R2 and R3 thus giving better balance to the two transistors. I also changed capacitors C5 and C6, which were 0.1 μF , to 1 μF , this seemed to improve the coupling between the antenna and the M0AYF amplifier. (The modified M0AYF amplifier is in Figure 22)

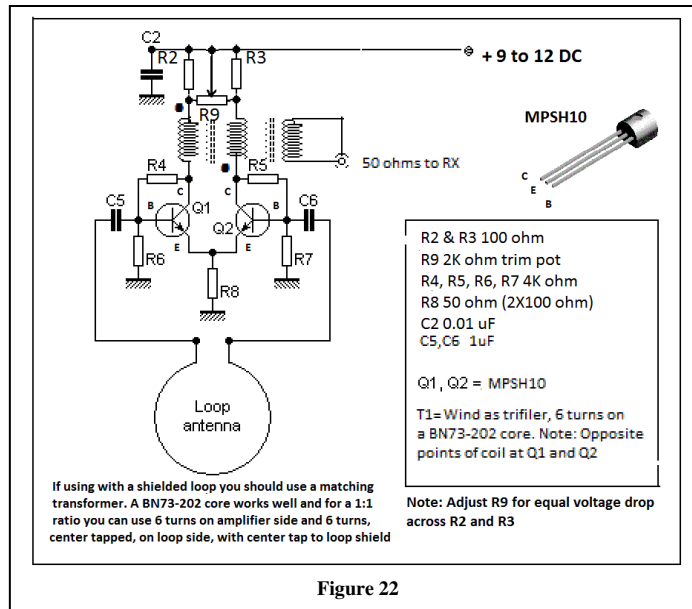


Figure 22

When first using the newly modified M0AYF amplifier I did not get the results I was looking for with the PAP Mobius loop design. The nulls were not any better than what I had seen from my earlier work. The problem, as it turned out, was that the 1:2 turns ratio matching transformer was no longer the proper match for the newly modified M0AYF amplifier. What turned out to work best was the 1:1 turns ratio, with the center tap connected to the loop shield and each side of that winding connected to the center conductors of the loop. Once this change was made, I saw a 10 dB improvement in signal strength on MW and I was now able to get 30 dB nulls from several of the local AM radio stations. I also noticed lower noise on LW.

Once I was satisfied with the performance of the Mobius configured loop with the modified amplifier and the 1:1 matching transformer I built a permanent model to use for portable operation (Figure 23). It is powered with a rechargeable 9VDC Lithium-ion battery that puts out 8.3 volts. With the amplifier drawing 65 mA, the battery lasts for several hours.



Figure 23 – The finished portable Mobius Loop

The modified M0AYF amplifier was built on a 2"X 2" perf-board and placed inside of the PVC electrical junction box to which I added a switch, LED and a BNC connector for the 50 ohm output (Figure 24). I use this portable Mobius loop to take out to places that have less noise and use it with my CommRadio CR1A radio. The batteries in both the loop and the CR1A last about the same length of time, 6 to 8 hours.

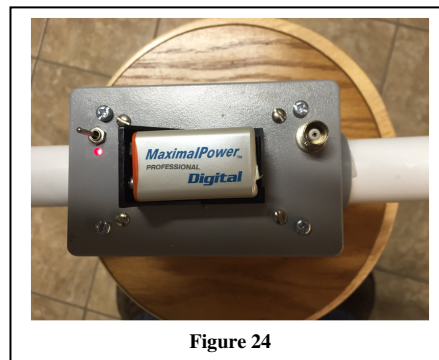


Figure 24

Several months later, I bought an RFSpace NetSDR receiver and wanted a larger antenna to put outside. I was so pleased with the prior work and experiments with the Mobius configured loop that I wanted to build a larger one to go with the Clifton Labs Z1501D Active Whip antenna that I had. After some thought I decided to build a Mobius loop that was 6' in diameter.

In order to do that I need to go back and add some additional circuitry to the M0AYF amplifier, so I could feed power to it through the coax. I went back to the original article that I started with (<http://www.qsl.net/m0ayf/active-loop-receiving-antenna.html>) and added what was needed to the circuit to enable it to be used with remote power. I wanted to use the Clifton Labs Power Coupler to power the loop, however, it uses 18 VDC, so I added a 12 volt regulator to the amplifier circuit. The amplifier, when using 12V with the MP5H10 transistors, pulls 105 mA, which is pushing the transistors, as they are rated at 50 mA collector current. However, the loop has been operating now for about 3 years without any problem.

I built a 6' diameter loop using the 1" PAP pipe and used 22 gauge magnet wire as the center conductor, which lowered the capacitance between the center conductor and the shield to 5.5 pF per foot. With the lower capacitance per foot, I was able to compensate for the larger size loop, which otherwise would have had a greater total capacitance. The lower capacitance allowed for better performance at the higher frequencies. I had to use a larger electrical box, 6" X 6" X 6" at the loop, in order to accommodate the extra amplifier circuitry. I found that the same 1:1 matching transformer was the best choice for this new loop.

Once the loop was installed I added a Dow-key relay outside so I could switch back and forth between the 6' Loop and the Active E Probe Whip.

Pictured in Figure 25 is the Clifton Labs Power Coupler, with the added switch on its side to allow switching back and forth between the two antennas. I use the two antennas with my NetSDR receiver. Also from time to time I will use the antennas with my Elecraft K3S, as the receive antenna. The Clifton Labs Power Coupler has a disable feature, where I can connect it to the K3S Key Out and when I transmit it will shut down either of the two RX antennas.

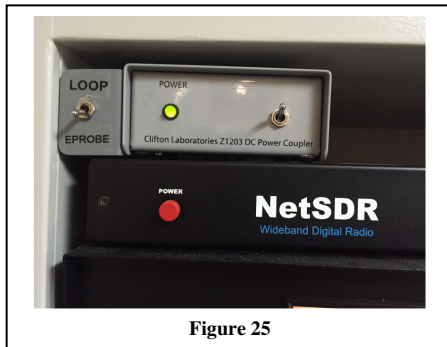


Figure 25

I was able to hang the 6' Mobius in a tree and tie it off in a direction that gave me the least amount of noise (see Figure 26). The Z1501D Active Whip is 102" long and mounted on a pole six feet above ground level (see Figure 27).



Figure 26



Figure 27

Figures 28 and 29 show screen shots of reception using the 6' Mobius loop and Clifton Labs Z1501D Active whip. The whip antenna picks up a lot more noise, but it has the advantage of producing better signal than the Mobius loop below 300 KHz and is way better below 100 KHz. That is why most NDB DXers use E probe antennas. If there is no electrical noise, then the Clifton active whip is a very good antenna.

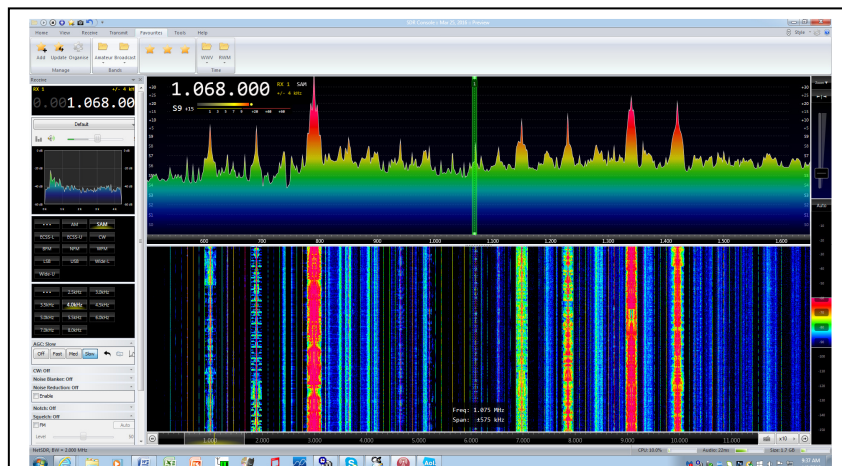


Figure 28 – 6' Mobius Loop reception

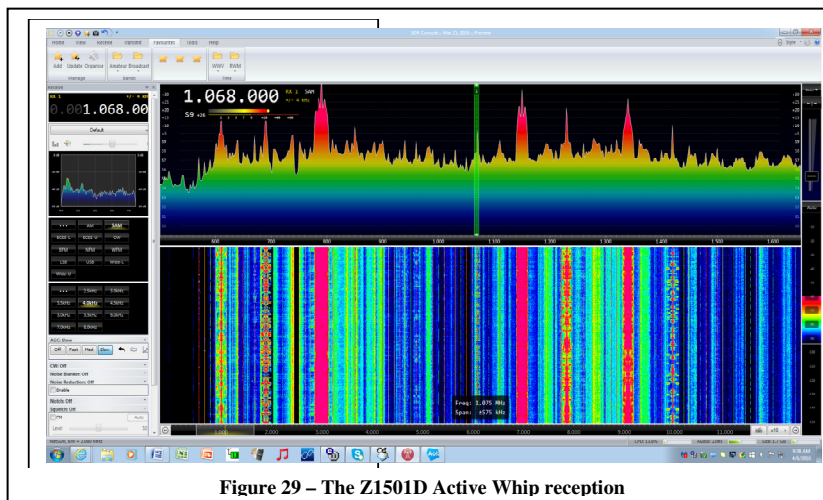


Figure 29 – The Z1501D Active Whip reception

<http://www.ircaonline.org/uploads/690kHzprobe.mp3> exhibits the noise that I hear daytime here in Tuscaloosa AL on 690 kHz using Clifton active whip; <http://www.ircaonline.org/uploads/690kHzloop.mp3> apparently shows not too much of an improvement using the Mobius loop. However, quite a bit of work was required to bring the noise down to this level on the active whip: Its BNC connector is "floating" (not grounded), while the antenna base and amplifier are at earth ground to eliminate any possibility of a ground loop. Also I have common mode chokes located in several places along the feed line coming to my house. In contrast, there is no earth ground on the loop, nor are there any common mode chokes in the line coming to the house, so it is an easier antenna to deploy in a noisy environment.

A more striking contrast is found between <http://www.ircaonline.org/uploads/960kHzprobe.mp3> which is a fairly noisy daytime signal from a Birmingham station on 960 KHz that is about 70 or so air miles from here. The recording, <http://www.ircaonline.org/uploads/960kHzloop.mp3>, made using the loop, is considerably quieter. For whatever reason, I have a lot of noise during the daytime, with most of it gone during the night. So the loop is a big help for daytime listening, but also helps at night too.

After seeing the results from this project, why would you ever want to use a tuned loop? I have compared this Active Mobius loop to all of my tuned loops and in most cases it works as well, if not better and picks up a lot less noise, especially when placed away from the house. With this Active Mobius loop you have one antenna that replaces several antennas and with no more tuning or band-switching every time you change frequencies. It gives coverage from LW through well above 30 MHz.

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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".

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