

SHORTWAVE BULLETIN

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Tack för alla påskhälsningar och hoppas ni alla fått en skön start på våren.

Bönderna runt i kring Mardal har fått fram maskinerna och börjat köra ut gödning och så fort det torkat upp startar vårsådden. Snösmältningen gick lugnt och fint förbi med bara lite ökat vattenflöde i Rönneå.

Konditionerna på MV har nu gått i stå och de morgnar jag kollat har inte bjudit på nåt speciellt alls. Det är precis som vanligt – en massa starka européer som tagit kommandot. På KV är det lika lugnt och stilla.

Nu är det dags att börja se över antennparken och som bilaga till detta nummer kommer en sammanställning över de komponenter som kan köpas färdiga för att bygga en riktigt bra beverageantenn. Det är ju inte alla som gillar att fixa sina egna baluner. Hoppas denna sammanställning kan vara till nån nytta.

Keep on

Redaktion:

Thomas Nilsson
Mardalsv. 372
262 93 Ängelholm

Tel: 0431-27054

E-mail:
thomas.nilsson@ektv.nu

SWB-info

SWB online på HCDX: <http://www.hard-core-dx.com/swb>
SWB member information: <http://www.hard-core-dx.com/swb/member.htm>
SWB anniversary issue: http://www.hard-core-dx.com/swb/SWB_history.pdf
Dateline Bogotá 1993-1998: <http://www.hard-core-dx.com/swb/Dateline.htm>
SWB latest issue: <http://hem.ektv.nu/~ekt035221/password.htm>
Solar cycle progression: <http://www.swpc.noaa.gov/SolarCycle/>

QSL, kommentarer, mm.

Anders Hultqvist: Tack för bullen. Det har varit ganska intressanta konds senaste tiden. Nu i morse var det Karibien som dominerade, t ex Bahamas 1540,000 gick excellent länge.

MW-offset är ett intressant ämne numera med våra fina SDR-rx. Den nyfikne upptäcker snart att så gott som alla stationer faktiskt ligger lite off.

De som jobbar med högupplöst spektrum förstår snart fördelarna med att logga med tre decimaler. Det är bara att studera mina skärmdumpar för den som ännu inte förstår finessen och tvivlar på relevansen.

För att underlätta mätningarna och verkligen få exakta frekvenser använder jag mig av en uppsättning kalibrerings-stationer som jag törs lita på. Dessa stationer är någorlunda jämt fördelade över mellanvägen, och därmed har jag alltid en station inom max 50 kHz på var sida om den station jag vill mäta frekvensen för. Att radion ska vara ordentligt uppvärmd är en självklarhet.

Med denna metod kommer man så nära det är möjligt utan att ta till extern svindyr mätutrustning. Tekniken bygger givetvis på att kalibreringsstationerna ligger korrekt. Men om man misstänker att en kalibreringsstation inte ligger där den borde, så gör man ju ytterligare kontroller.

Med min metod, och med mätning av frekvenserna i läge waterfall med frekvensupplösning 0,049 kHz så kan inte resultatet avvika mer än max 1 Hz från det verkliga.

Den enda återstående felkällan (åtminstone enligt mig) är den speciella sunrise-dimman som växer och flyter ut uppåt i frekvens en aning kring alla bärvågor som påverkas av sunrise. Ungefär som K-strimor efter högtflygande jettflygplan. Risken finns att man mäter mitt på dimman istället mitt på bärvågen om bärvågen den är svår att upptäcka. Enklast är då att vänta tills sunrise-cx avtagit och "dimman lättar". Att det är ett fenomen förknippat med sunrise-cx syns tydligt eftersom alla stationer som påverkas av sunrise uppvisar exakt samma fenomen. Vad som händer och vad det beror på har jag dock ingen aning om. Men det finns säkert information om detta någonstans.

Stationer jag brukar använda som kalibreringsstationer är bla (notera att flera av dessa ligger konstant snett):

630 NRK	810 BBC Skottland
1089 Talksport	1130 WBBR
1269 DLF	1287 Ungern och BBC Ulster
1422 DLF	1470 La Valenciana
1548 Radio Sawa och Radio Russia	1620 Caribbean Beacon

(Framför allt så är utseendet på signalen i läge waterfall en hjälp vid loggning av en station som ligger på en svår frekvens. T ex Tarmo Kontros loggning i vintras av 4QD på 1548 som han fick klart ID på. Denna signal såg väldigt speciell ut och vid uppspelning av en ungefär samtida inspelning på den frekvensen fanns samma signal även här. Tyvärr var det flera andra engelsktalande stationer som gick samtidigt så någon audio var inte möjlig att spåra. Även att ha koll på offset-frekvensen hjälper en med att reducera antalet möjliga som man behöver invänta ID på. Nu är även MW-offsetlistan uppdaterad med en hel massa aktuella offsets. /red)

Christer Brunström: HCJB Global via Litauen 3955 med ett kort som visar det hus i Quito där jag bodde under min tid vid HCJB år 1995. **HCJB via CVC Chile 9835** trevligt kort med olika bilder av sändarstationen Calera de Tango. **WTWW Lebanon TN 9480**, hemmagjort kort från Scriptures for America.
Lars Skoglund: Ett kortvågssvar har kommit: **Radio Free Asia/Orzu, Tajikistan 11540** svarade med kort, dekal och programschema.

Börge Eriksson är fortfarande vid liv och ber att få önska dig Thomas och alla andra SWB-are en Glad Påsk (kanske litet sent nu på påskdagen), men vi får hoppas att det är tanken som räknas. Här finns inga återaktivitetsbeslut, så mitt DX-ande är nog slut. Nästa år firar SWB 50 år, men den här gången drar jag inte igång någon jubileumsskrift, även om datautvecklingen skulle ha gjort det mycket enklare än för tio år sedan. Har haft planer på att föra över alla mina ljudband med anrop från mitten av 1950-talet och framåt, redigera anropen efter t.ex. länder och sedan bränna ut dom på skivor, men än har jag inte kommit till skott. Har f.n. ingen rullbandspelare som fungerar och vet inte heller om banden fungerar då de legat i kartonger på vinden i många år. Vi får väl se hur det blir. Jag har så mycket projekt på gång och tiden vill inte räkna till. Dessutom har man åldern emot sig då man närmar sig de 75. En fjäder till Dig Thomas som kämpar på med utgivandet av SWB och försök hålla ut till sensommaren 2011 så vi får fylla de 50.

(Såg på De Radioaktivs hemsida att du varit ute med Fredrik Dourén för lite morgon DX. Kändes det ändå inte lite kittlande? Kanske du kan reaktivera några av de andra gamla kompisarna nu när vi behöver nya bidragsgivare, speciellt om vi skall fortsätta till 50 års firandet. Kanske någon kan skriva till de senaste 10 åren då till din eminenta jubileumsutgåva. /red)

Kurt Norlin: Först vill jag tillönska alla SWB-medlemmar en riktigt Glad påsk. Ja trots att vi nu har sommartid så är snödjupet fortfarande närmare en meter. Detta är den snörökaste vinter vi upplevt på många år. Möjligen kan vintern 1966-67 konkurrera i frågan om snödjup men den var dessutom extrem kall. Då hade vi flera veckor mellan 30-35 minusgrader så det var tufft. Över till roligare saker. Ett **KV-QSL** har kommit och det är **Radio St Helena 11092.5** som svarat med kort från 2007. Dessutom löfte om att få kort från 2009:års mottagning. Vi får se om det kommer. Jag hade aldrig fått kortet från 2007 tidigare så jag bifogade en rapportkopia från det året. Dessutom har jag fått ett nytt land, vilket gläder mig. Det blev Panama och Radio Mensabé som åstadkom det. Dessutom innehöll brevet en CD med fin musik från Panama. Jag lyssnar väldigt sporadiskt nu. Det blev ingen expedition till Parkalompolo varför QSL-skörden detta år kommer att bli en skuffelse. Det får bli allt denna gång.

Loggen

(UTC)

2310	28.2	2115	VL8A ABC Alice Springs Australia, In USB Better, Morning Show, "La Bamba", Weak Signal On 2325 Khz, No Signal On 2485 Khz. Suff. (BOC 19)
3185	28.2	0250	WWRB , Morrison, Tn, USA, Web : Www.Wwrb.Org Address : Airline Transport Communications Inc., Listener Services, P.O.Box 7, Manchester, Tn 37349, USA. Program sermon In English. Good. (BOC 19)
3215	28.2	0239	WWCR , Nashville, Tn, USA, Web : Www.Wwcr.Com Address : WWCR Shortwave, 1300 Wwcr Avenue, Nashville, Tn 37218, USA. English Sermons. Good. (BOC 19)
3250			Radio Luz y Vida , San Luis 1100 good signal with music and English Spanish translations, regular every day, 2310 fade in time for South Florida 0000 of Campo music [Wilkner]
3320	28.2	0235	Sonder Grense , South Africa, In Afrikaans. Suff/Good. (BOC 19)
3329.53			Ondas del Huallaga , Huánuco noted with good signal 1050 on 26 March with CHU notched, 24th March, hyper espanol om, yl Peru musica linda [Wilkner]
3330	2.3	0220	CHU , Ottawa, Canada, in // 7850 Khz. Pips Time Signals & Id In English & Ff. Suff/Good. (BOC 19)
3340			Radio Misiones Internacionales Comayagüela, off for long time, reports of distorted signals on other frequencies do not check out here, so far.. [Wilkner]
4010,05	03.3	1759	Kyrgyz Radio , Kyrgyzstan, Tx Bishkek, National Service. Suff/Good. (BOC 19)
4319	28.2	2325	AFRTS , Relay Diego Garcia, Indian Ocean, Public Radio program In English. Suff. (BOC 19)
4765	23.3	0150	Radio Tajikistan , talks man & woman, fair/good (Bernardini)
4780	28.2	-0345	RTD , Djibouti, In Arab, Morning Show, with modern songs. Good.(BOC 19)
4800	23.3	0146	AIR Hyderabad , Indian, talks, some Indian music, fair, no CNR tonight! (Bernardini)
4810	23.3	0142	AIR Bhopal , India, talks, music, good (Bernardini)
4810	3.3	1910	Voice Of Armenia , Yerevan, Armenia. Good. (BOC 19)
4820	24.3	0036	AIR Kolkata , India, Indian music, fighting against the usual PBS China. Poor/fair //4810 (Bernardini)
4835	1.3	*2130	VL8A ABC, Alice Springs, Australia, S/On suddenly with the morning ABC news in

			English. In // 4910 & 5025 Khz. Suff/Good (BOC 19)
4835.395			Radio Marañon Jaen after 1100 with WCKR sign off, from 1030 with narrow filter in lsb or IF notch. Peru on 4774.93 good signal since WCKR moved March 25&26. [Wilkner]
4845	3.3	2359	R. Mauritania , Arabic music & talks. Heard only that day, with muffled sound. Suff. (BOC 19)
4845,237	23.3	0138	Radio Cultura , Manaus, Brazil, songs, poor (Bernardini)
4880	23.3	0130	AIR Lucknow , India, Indian songs, good (Bernardini)
4885	2.3	2145	R. Clube do Parà , Belem, Brasil, Songs & News, Ids. Fade out after 2200. Poor/Suff. (BOC 19)
4895	3.3	2350	Radio Mongolia , National Service, In// 7260 Khz. Suff/Good. (BOC 19)
4910	23.3	0125	AIR Jaipur , India, talks and songs, good (Bernardini)
4915	2.3	0305	Radio Difusora De Macapà , Amapà, Brazil, Mixed Up/Down With Radio Daqui, Goiania, Ex CBN. Poor/Suff. (BOC 19)
4970	24.3	0030	AIR Shillong , India, news, fair (Bernardini)
4985	4.4	0535	Radio Brasil Central med mange ID's. 3 SHN
5005	1.3	2155	Radio Nacional Bata , Equatorial Guinea, In Spanish. Suff. (BOC 19)
5010	23.3	0120	AIR Thiruva... India, international reports, very good (Bernardini)
5020			SIBC 1030 to 1130 each morning with audible signal but near channel Radio Rebelde which dominates [Wilkner]
5025	3.3	0211	R. Rebelde , Cuba, Sport Report Baseball, Caraibic Sounds, Ids, Political slogans, News. Suff/Good. (BOC 19)
5039.21			Radio Libertad , Junin noted 1040 on 21 March with good signal. 1030 to 1110 on 24 March with excellent strong signal, impressive, rustic traditional Peruvian music, om IDs, Time Checks, slow a minute or two, ments of Santa Cruz, 1045 excellent fade up of signal, yl rustic vocal.. fading down by 1110. On 25 March Radio Havana Cuba dominant, very narrow filter to hear Libertad, RHC off at 1058*. Libertad with good signal, On 26 March, RHC sign off at 1100 again permitting ten to twenty minute logs of Radio Libertad [Wilkner]
5040	24.3	0016	Radio Habana Cuba , in French, interview, international politics, id, fair/good at 0025 observed QRM from AIR Jeypore (Bernardini)
5040	3.4	2300	Radio Habana Cuba sender engelsk til Caraibien 23-24 UTC her siden 22.3. 4 SHN
5045			Radio Cultura Ondas Curtas 1010 to 1020 fade with less strong signal than on other occasion as troubled by WCKR on 5050. [Wilkner]
5045	23.3	0125	Radio Cultura , Belem, Brazil, songs, weak/fair (Bernardini)
5755	25.3	0700	WTWW Lebanon TN var inte alltför stark denna morgon. KN
5770	4.3	*0023	Myanmar Army Radio , Myanmar, Burmese yl news after S/On. martial music. Poor/Suff. (BOC 19)
5915	23.3	0033	Myanma Radio , Burma, pop, talks //5985 fair/good (Bernardini)
5985,8	23.3	0027	Myanma Radio , Burma, soft Asian pop, talks, // 5915, free channel, fair (Bernardini)
6010	23.3	0110	Belaruskoye Radio , songs & talks, good (Bernardini)
6019,28	7.3	0700	Radio Victoria med prädiken på spansk. 3 SHN
6030	24.3	0042	Bible Voice , in Hindi language, (presumed), long talks and slow music, fair (Radio Marti off air this night) (Bernardini)
6035	24.3	0001	BBS , Bhutan, talks by man followed by monks' slow music, fair/good It sound as they are on air with 100 KW again. (Bernardini)
6040	24.3	0051	Belaruskoye Radio , talks and songs, //6010 & 6070, fair, QRM from China, stopped at 0057 from Radio Slovakia Int. starting English bc. But at 0100 all where covered by Radio Canada International. What a jammed frequency ! (Bernardini)
6050	23.3	0105	PBS Xizang , China, reports, Chinese, good (Bernardini)
6055	28.2	1850	Radio Rwanda , Kigali, Rwanda. Swahili Program For Children. QRM From Radio China International In French. Suff. (BOC 19)
6090	23.3	0058	China Business Radio , id, news, over or mixed with Dr. Gene Scott, University Network. Chinese poor/fair (Bernardini)
6165	28.2	0515	Tchad National Radio , Morning program with listeners phonecalls in French. V.Good. (BOC 19)
6170	3.3	1850	La Voce della Russia , Italian service, "Racconto di un'alba su un paracarro" "Viaggio In Russia : Sochi" Speaker Laura. "Se andate a sochi provate la pizza da Mammarsosa". Good. (BOC 19)
6185	28.2	0630	Radio Educacion , Mexico City, Mexico, Program classic music. Poor/Suff. (BOC 19)
7110	2.3	1635	Radio Ethiopia , Addis Ababa, Ethiopia, National Radio, In Amharic, News. Suff/Good. (BOC 19)
7185,76v	3.3	0034	Myanmar Radio , Myanmar, Talks, In // 5985 Khz. Poor/Suff. (BOC 19)
7295	1.3	0045	Traxx Fm , Malaysia, Funky Pop sounds. Web : www.Traxxfm.Net Contact : Traxxfm, 2nd Floor, Wisma Radio, Angkasapuri, 50740 Kuala Lumpur. Suff. (BOC 19)

7610	28.2	1115	Radio Amica , Appennino Emiliano, Italy. "La Psyche Umana" Italian Program. "Cose Dell'altro Mondo". Suff/Good. (BOC 19)
9290.4	18.3	1515	Cool AM fra Finland spillede classic rock, E ID. 4 SHN
9525,9v	2.3	1903	Voice of Indonesia , Indonesia music, end of Spanish, start of German, ids, Web : http://En.Voi.Co.Id (New Web very detailed) Reports Required Via Web Form : http://En.Voi.Co.Id/Index.Php?Option=Com_Alfcontact After 1903 Hour Cancelled By Twr Relay Slovakia Tx. Poor/Suff. (BOC 19)
9526	29.3	1810	Die Stimme Indonesiens med nyheter på tyska. 3 CB
10000	2.3	2008	Unid station with Arab talks. Clandestine ?. Suff/Good. (BOC 19)
11725	2.3	1851-	Radio New Zealand , News about tsunami alerts in Oceania. Weak QRM From DW Relay Rwanda. Poor/Suff. (BOC 19)
11725	4.4	0540	Radio New Zealand Int'l med meget fin modtagelse. E ID. Pop. 4 SHN
11815	7.3	0950	Radio Brasil Central på helt fri frekvens. Portugisisk ID's. 3 SHN
15360	3.4	1400	TWR , Swaziland, engelsk ID's og pausesignal. 2 SHN
15550	26.3	1400	WJHR Milton FL med musik och religiöst. 1-2 CB
15660	27.3	1530	Radio Mada Int stark här. Har någon en kontaktadress till stationen? KN

Note a typo in previous SWB, I believe for R. Clube do Pará log, should be 4885, not 4855. 73, Glenn Hauser
(See log above, correct frequency is 4885 for this station! /SWB-editor)

Stationsnyheter

ANGOLA: 7217.050 Radio Nacional, 1936, Portuguese, fair with soccer commentary. Best in USB to escape 7215 slop. Parallel to 4949.7v. Very low modulation. Mar. 27 (David Sharp, NSW Australia via DXLD)

BHUTAN: The **BBS** transmitter was on repair in February 2010, and under test in first week of March, it was irregular then, but last 10 days its noted strong & continuous between 0100 UTC to 1500 UTC, I think they have recommissioned the 100kw Thompson TXR at full duty... The Signal is very strong like S9+30 db here without any ext. antenna (- I leave only approx. 350+ KM aerial distance from Thimpu, Bhutan) and can be listened very well without erecting any telescopic whip, inside living room, great audio with S9+... Try 0500-0600UTC and 0800-0900 UTC in English. (Partha Sarathi Goswami Siliguri, West Bengal, India via DXLD)

BRAZIL. 4885, March 28 at 0537 as I tuned by, station was giving full ID with ZY callsigns, several frequencies, but hard to copy with noise level and reverb added to the announcement at this odd time. Surely it's **R. Clube do Pará**, the usual all-night station unlike the other two Brasilians on frequency (Glenn Hauser, OK, DXLD)

CHAD. 6165, RNT, 0427-0430+, March 21, three minute window here for Chad to be heard. Audible after Radio Nederland sign off at 0427 with definite RNT Balafon IS. Chad completely covered by a strong Radio Nederland sign on at 0430. Weak but readable at 0427 but with weak co-channel QRM. Chad heard in the clear and with a stronger signal at 0510 tune-in with local Afro-pops and hi-life music. French talk. Local drums at 0530 and French talk. (Brian Alexander, Mechanicsburg, PA, USA via DXLD)

This evening, RNT had a very quick sign off announcement at 2226 then into NA and off just prior to 2228. 23 March 2010 (Steve Lare, Holland, MI, USA via DXLD)

ECUADOR. 4781.6, Radio Oriental, Tena. 2230-2304* marzo 20. Mencionando línea telefónica 2887700. Anuncios de Gobierno Municipal de Tena. "Amigos, amigas es Oriental de Tena..." Fuera del aire luego de las 2304* (Rafael Rodríguez R., Fomeque, Cundinamarca, 90 km sur oriente de Bogotá, Sony ICF 2010 Hilo de 10 metros, via Yimber Gaviría, WORLD OF RADIO 1505, DXLD)

ETHIOPIA [non]. A new clandestine started last week via WRN, Ogaden Media at 1800-1830 Mon & Fri on 7425, but is now shifted to 1815-1845, probably via Armenia. Not sure what the airname is, but it could be for Ethiopia or Somalia. Maybe **Radio Xoriyo**? That used to broadcast on Mondays and Fridays on another 7 MHz frequency, an hour earlier per WRTH (Glenn Hauser, OK, March 29, dxldyg via WORLD OF RADIO 1506, DXLD)

Radio Xoriyo, heard here from tune-in at 1625 UTC with a massive signal. SIO 555. Many mentions of Ogadan and clear IDs as Radio Xoriyo (pronounced "Horiyo"). Abrupt close at 1845 then CIS type transmitter tone and went off air at 1845:30 Have found a web reference to the radio at <http://www.ogaden.com/> (Dave Kenny, UK via BDXC)

INDONESIA 7289.824 RRI-Nabire, 0719, Indonesian, good with soft vocals and very sparse comments by man (only two breaks prior to 0800). "SCI" at 0759, ID by woman at 0800 and into RRI news. Extended news block lasted 'till about 0825. Then carrier went off, only to come back on about 30-seconds later. Usually, they pull the plug around 0820 or thereabouts, but today went well-past 0830 (but was off by 0900). Perhaps they actually meant to go off at 0825 today but for some reason the transmitter was put back on. Mar. 27 (David Sharp, NSW Australia via DXLD)

UGANDA. This country finally gets a SW clandestine station. In case you didn't notice, the A-10 M&B/DTK schedule has this new client: **ABA Radiyo Y'Abaganda** (Ababaka)

kHz	UTC	CIRAF	deg	ant	day	from to	site	kW	client
15410	1700-1800	48SW	140	217	7	280310-311010	ISS	250	ABA

7 meaning Saturdays only. ISS meaning via FRANCE.

Googling the name finds their website:

http://www.ababaka.com/cms/index.php?option=com_kunena&Itemid=40&func=view&catid=30&id=8653&lang=lg

Seems the Buganda tribe are behind it, in support of ``occupied Buganda``, where SW radios started selling like hotcakes with reports that this webcast would now be on SW (Glenn Hauser, OK, DXLD)

Övriga radionyheter

Homemade baluns with OL (overlapped) windings:

From the paper "A Second Look at Fabricating Impedance Transformers for Receiving Antennas by John Bryant, Bill Bowers and Nick Hall-Patch" you can read (only parts from the original article copied):

The largest toroids that I've used measure 1.4 inches in diameter (FT-140.) These work, but they are a little heavy and expensive. Our study recommends the middle sizes, 1.14 inch or .82 inch diameter donuts, that are large enough to handle easily.

The two ferrite mixtures most often recommended for this application are Type 43 and Type 75. Bill Bowers' initial round of testing investigated these and Type 61. After building and [precisely] testing over 50 transformers, the determination was made that Type 75 performed the best for the "ideal" broadband transformer operating over LW, MW and the lower shortwave frequencies.

However, as one moves above about 2 MHz, the leakage inductance losses became very serious in the SS design and the difference in losses between the separate winding and merged winding designs sometimes approached 4 dB! Field tests not only confirmed these findings, but indicated that they were quite conservative.

Therefore, we recommend the "traditional" overlapped windings for our design.

For designing impedance transformers to operate at a specific range of frequencies, the number of turns for the primary and secondary are usually determined by a standard set of formulae that are available in most texts and from the toroid manufacturers. However, Bill Bowers' previous study of impedance transformers for long wave reception indicated that a turns count almost 50% higher than that generated by the standard formulae was more efficient.

One of the primary purposes of our in-depth study was to test transformers across a range of turns counts to determine whether the standard formulae were totally accurate for this application (= mediumwave and lower shortwave frequencies).

We found that, for this frequency range, the formulae were more nearly correct than for a narrowband design at long wave frequencies. However, our "ideal" design - determined by direct experimentation - was still at slight variance to conventional wisdom.

Recommendations:

For 450 ohm to 50 ohm conversion (Beverage antennas, etc.):

Size: Either FT-82 or FT-114

Material: Type 75(J)

Winding Pattern: Either quadra-filar (TW) or traditional overlapped (OL) windings

Turns Count: 11/33 (The 11 turn coil goes to the coax, the 33 turn coil to the antenna.)

For 900 ohm to 50 ohm conversion (flags, pennants, KAZ loops, etc):

Size: Either FT-82 or FT-114

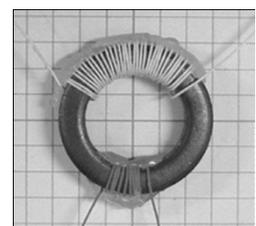
Material: Type 75(J)

Winding Pattern: Either quadra-filar (TW) or traditional overlapped (OL) windings

Turns Count: 11/48 (The 11 turn coil goes to the coax, the 48 turn coil to the antenna.)



OL – Overlapped winding



SS – Side by Side winding

For a long time I have planned to arrange both my antennas more permanently as reversible Flags. Recently Wellbrook added a Flag & KAZ antenna amplifier and head unit, the FLG100 to their range of loop antenna components. This item looks very interesting but is a bit expensive, about 200 £ for 2 head units and a power supply which mean a total cost equal to 400 £for two reversible Flags.

For testing purposes of the coming setup I decided to order some more reliable high quality relays for reversal and also new toroids before ordering the Wellbrook components.

The Amidon FT114-J type recommended above is very hard to find in Sweden and with the help of Google a cross reference table was found for different brands of baluns.

According to the cross reference table Amidon FT114-J could be replaced almost exactly by N30 material made by Epcos. Such toroids can be ordered from Elfa. Elfa also has Amidon toroids type 77 in stock but those are inferior to the 75 or J material for mediumwave according to some sources.

I decided to order a bigger sized toroid than suggested above, similar to the FT140-J. Epcos has one replacement type, B64290-L674-X830 with a size of 36x23x15 (Elfa part no. 58-614-14). The price is 69 SEK each. A_L is rated at 5750.

With the help of a small and very useful shareware, the mini Ring Core Calculator, the suggested turns count ratio of 11/48 was recalculated for this new toroid and a turns count ratio of 8/35 was suggested which corresponds exactly to the normal formula.

The old baluns used for the Flag antenna were wound using SS (side by side windings) with 37/11 turns ratio. The old balun in ALA100 was wound using OL (overlapped windings) with incorrect number of turns, 11/48.

The new baluns were wound with OL (overlapped windings) and with a winding ratio of 8/35 as recommended above by John Bryant.

I replaced both baluns in the Flag antenna and also in my special variant of ALA100 with the new ones. At that moment I was of course very curious if any difference could be noticed.

The initial test showed that the Flag antenna now has the same signal output as the ALA100. With the old SS-baluns there was a difference of 4-6 dB and the Flag also had a substantially lower signal level above 6 mHz, heavily decreasing at higher frequencies in comparison to the ALA100.

With the new baluns you can notice a slight difference first above 15 mHz where the Flag gradually becomes weaker but much less than before.

It also seems that the new baluns are a little less sensitive to electric disturbances from our house.

Manufacturers Equivalent Ferrite Materials - based on Initial Permeability (μ_i)							
μ_i	Amidon	Neosid	EPCOS	Fair-Rite	Magnetics	TDK	Philips - Ferroxcube
20	68	F29	C302	68			
40	67	F25		67			
125	61	F16		61			4C6/4C65
350	61						4B1
500	44			44			
850	43	F19	M33	43			4A11/4A15
1500	31		K7	31			3C15/3H3
2000	77	F5/F44	N27	77		H6B	3C96/3F3
2500	73	F5A	N26	73		PC40	3C90/3C94
3000	F		N41	F	F	PC95	3C81/3C91
5000	75/J	F9C	N30	75	J	HP5/HS52	3E4
10000	W	F39	T38/T44	76	W	H5C2/HS10	3E5/3E55
15000	H		T46		H	H5C3	3E7

This cross reference table is copied from <http://users.catchnet.com.au/~rjandusimports/> where lots of other useful information regarding toroids and ferrite material can be found.

http://www.pe-coils.com/MnZn_Ferrite/MATERIAL%20COMPARES.pdf is another, more detailed cross reference table.

mini Ring Core calculator is a freeware/shareware and can be downloaded from:

http://www.dl5swb.de/html/mini_ring_core_calculator.htm

(/Thomas Nilsson)

Recording archive

Hello, here ist my new website: <http://home.arcor.de/radio-archiv> This radio archives contains recordings of shortwave and mediumwave radio stations. The oldest recordings were made in the year 1969 when I started my DX-activities.

Essentially I received the stations at home in Germany. Some of the transatlantic mediumwave stations I heard on DX-camps in Denmark by using more appropriate antenna technology.

Unfortunately many of the recorded radio stations have stopped broadcasting on shortwave and cannot be heard any more. On that reason this web page can be regarded as a historical document, too.

Happy listening to the audio files!

(Michael Schnitzer, Germany <http://home.arcor.de/radio-archiv> via HCDX)

Video: largest collection of radio documents, amateur & broadcast

Jonathan Marks has uploaded a twenty minute video to Vimeo:

"I wanted to share part one of a short documentary I am making about the radio documentation centre in Vienna. When I was there in September last year, my colleague broadcaster and friend Wolf Harranth OE1WHC showed me around the world's largest collection of radio related documents, both from the broadcast and amateur radio world. In fact the millions of QSL cards, magazines, books and unique government records tell the story of communication across international borders. They survive on help from volunteers and I hope that this video will help to explain why they are so passionate about preserving the golden age of international radio." <http://vimeo.com/10320815>

A fascinating video, default is HD is on, I changed to HD is off for my 2MB connection as the video was stuttering. (Mike Barraclough via DXLD)

THE STORY OF RADIO BROADCASTING ON THE PACIFIC ISLANDS OF TONGA

The many scattered islands that make up the kingdom of Tonga in the South Pacific stretch across a distance of some five hundred miles, from north to south. The entire cluster of 159 islands lie north of New Zealand at about the same latitude as the state of Queensland in Australia. These islands are mostly volcanic in nature, surrounded by a coral reef, and the total land area for the whole country is only about one hundred square miles.

Only thirty six of the Tongan islands are inhabited, and the total population is just one hundred thousand, most of whom live on the main island, Tongatapu. The name Tonga, in their dialect of the Polynesian language, literally means south.

Historians state that the Polynesian peoples migrated from the Asian mainland some four thousand years ago and they scattered out over the many small islands in the Pacific. It is generally considered that Tonga was settled by seafarers from Samoa around 1500 BC.

Europeans first reached Tonga about four hundred years ago; the Dutch were first, followed by the British and then the Spanish. Two hundred years ago, Protestant missionaries from England settled in Tonga, and it was through them that the island chief was designated as a king, and he took the throne name King George, as in England.

Tonga claims to be the only remaining kingdom in the Pacific, and the only nation that was not annexed by a European power, though they were under a British protectorate through a mutual treaty signed in the year 1900. They gained their independence in 1970 and joined the British Commonwealth of Nations.

The first radio communication station in Tonga was established under the callsign VSB in the national capital, Nuku'alofa in 1921. Other subsidiary communication stations were soon afterwards established in other distant islands, including Vava'u Island with the British callsign GON.

The first radio broadcasts from Tonga came from the American eclipse expedition on Tin Can Island, Niuafu'ou, in 1930 with the relay of news and commentaries back to the United States on shortwave via RCA Hawaii. You will remember that this story was presented here in Wavescan a few weeks back.

Another notable broadcast took place in May 1933 when Tonga produced a short segment that was transmitted on shortwave from station VSB and picked up by AWA near Sydney in Australia for inclusion in a very memorable program for that era, the "South Seas Broadcast".

The first regular radio broadcasting station in Tonga was inaugurated under the callsign ZCO on July 4, 1961 with 10 kW on 1020 kHz. This callsign was changed to A3Z exactly fourteen years later, and the mediumwave channel was changed to 1017 kHz five years later again. In actual reality, there were two mediumwave transmitters at 10 kW installed in the new radio station at Nuku'alofa, one as the active unit and the other for standby usage.

Back more than twenty years ago, a new shortwave service was inaugurated in Nuku'alofa in an endeavor to bring local radio coverage to all of the islands in the Tonga group. The initial temporary shortwave unit was made locally and it was rated at just 200 watts. A more substantial transmitter was installed shortly afterwards and it operated with 1 kW on the 60 metre band channel 5030 kHz. The antenna system was a horizontally polarized dipole.

However, the Tongan shortwave service, was continually plagued with problems. The transmitter was said to be faulty, and spare parts from the manufacturers in France took a long while to arrive. A storm destroyed the antenna system in 1993, after which the United Nations UNESCO provided a new 1 kW transmitter and antenna system. However, four years later again, Cyclone Hina caused further damage to the antenna systems and to the transmitter itself.

The shortwave broadcasts from Nuku'alofa were always a relay from the mediumwave service, and the last known broadcasts on shortwave occurred in June 1997. By this time, a new FM service was on the air, and FM relay stations were installed on the outlying islands.

At one stage, UCB, the United Christian Broadcasters in New Zealand, announced that they had received approval to install several radio stations in Tonga; mediumwave, FM and shortwave. It was their intent to operate a shortwave station that could be heard throughout the Pacific. However, though a lot of preliminary work was performed, UCB ultimately concentrated on FM coverage only.

These days, the only way to hear a radio broadcasting station in Tonga is to tune in while you are visiting some nearby area in the South Pacific. However, the station has always been a good verifier with a distinctive QSL card, both under the old callsign ZCO, and under their more recent callsign A3Z. Many of the QSL cards issued by station A3Z carry unique postage stamps, such as one in the circular shape of a camera lens, and another in the shape of a banana.

(Adrian Peterson, IN, AWR Wavescan script March 14 via DXLD)