

SHORTWAVE BULLETIN

Nummer: 1517, 10 augusti 2003. Deadline nästa nr: 22/8 2003 (E-mail 24/8 kl. 0900 SNT)

Fortfarande håller den fantastiska svenska sommaren i sig. Hela semestern har kunnat tillbringas på stranden. Trots den extrema värmen Skåne varit befriad från åskväder den senaste tiden. För er som är intresserade av detta, så finns det en trevlig länk till den danska meteorologiska institutet, DMI, <http://www.dmi.dk/vejr/index.html>, där man kan se blixtnedslag de senaste tre timmarna samt en vecka tillbaka. Den täcker hela södra Sverige.

I övrigt ser kortvägsaktiviteten ut att ha nått sitt absoluta bottenmärke, endast 6 bidragsgivare har hört av sig. Är det någon som har nån bra idé hur vi skall kunna fortsätta med bulletinutgivning i framtiden?

Läs mot slutet om en Internet rapport till RNZI som vällat lite diskussion.

Dario Monferini har också skickat över några rader – läs och begrunda. Visst ser det ut som det hjälper när många går in och säger sin mening.

Till sist – ta nya tag till nästa SWB!!!

Keep on

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SWB-info

SWB online på HCDX: <http://www.hard-core-dx.com/swb>
SWB old archive: <http://www.algonet.se/~ahk/swbhome.html>
SWB hot stuff: <http://homepage.sverige.net/~a-0901/> (på denna sajt ligger alltid senaste SWB).
SWB member information: <http://www.hard-core-dx.com/swb/member.htm>
Jubileumstidskriften: <http://homepage.sverige.net/~a-0901/> (html- + pdf-version).

QSL, kommentarer, mm.

Christer Brunström: lördagen den 2 augusti var vi ett helt gäng uppe i Kanebergsstugan. Bra mot Brasilien mycket tidigt men svårt med ID och programdetaljer. Den nya brassen på 3235 hördes liksom 3255 med non- stop musik. På 4815 hördes non-stop ecuadoriansk musik över brassen. Säkert Radio Del Buen Pastor som jag jagat i åtta år. Tyvärr hade vi bestämt att åka hem så det får bli en annan gång.

Leif Råhäll: Några tips från lite lyssning i sommarvärmen. Indoneserna ligger mer rätt i frekvens och verkar att ha höjt effekten.

Börge Eriksson. Åter ett livstecken från mig. Här går livet sin gilla gång d.v.s. frugan har ännu inte fått något datum för sin operation i Uppsala. Har min vana trogen gjort ett besök i Idre- och Grövelsjöfjällen, men tyvärr var hjortronmyrarna tomma i år. Enligt lokalbefolkningen var det för kallt under blomningen. Tur att ett mindre hjortronlager finns kvar i frysen sedan i fjol. Däremot tycks tillgången på kantareller vara hyfsat här i Dalarna så en och annan hink har fyllts. Har sista veckan sågat och klyvt 15 kubikmeter ved och fyllt vedboden för att ha till braskaminen när kölden börjar knäppa i knutarna. Litet sporadiskt lyssnande på försommaren har gett några QSL som blir de först svaren för i år. **BFBS2 5945** kort utan sändarort förstås, **WBOH 5920** med kort och liten lapp på svenska samt **Radio Gardarika 6235** med trevligt kort där man upplyser om att de hade en testperiod på KV 9-17 juni och det var under denna jag hörde dem den 12/6. Är dock inaktiva på KV för närvarande.

Annars har jag inte lyssnat speciellt ofta och när jag gör det är det endera inga konds eller för mycket åkspråk. Afrika har gått bra här hela sommaren och häromnatten kunde jag notera att indierna åter börjar höras med bra styrkor. Få se om jag börjar lyssna mera aktivt när det börjar mörkna om kvällarna igen. Dock har jag inte sänt en enda LA-rapport i år, vilket är ovanligt. Man börjar tydligen bli ordentligt gammal. Ha det fortsatt bra i sensommaren. *(det beror nog inte på åldern – utan på fåtalet stationer ... /red)*

Rolf Wikström: God fortsättning på året, trots att alla semestrar nu är slut och vädret är fint !

Har lyssnat en hel del under semestern, men har inte lyckats fånga några stora fiskar. Vissa nätter har det varit bra brasscx, andra nätter bra cx mot Perú eller Bolivia. Tyvärr så händer det inte mycket på KV numera. Inga nya stationer startas utan det verkar bara bli färre och färre LA-stationer. De enda nya LA-stationer som dyker upp och försvinner snabbt är perúpiraterna på mellanbanden som jag slutat lyssna på sedan länge då de aldrig svarar på lyssnarrapporter.

Vet att flera inbitna gamla KV-lyssnare numera nästan helt gått över till MV för att få lyssna till nya LA-stationer. Den här sommaren (liksom förra) gav dock inget på MV heller, bara några vanliga brassar kunde ibland höras och för det mesta var det heldött på mellanvägen mot Latinamerika.

Dan Olsson: Hemkommen efter en otroligt varm dag i Helsingör och Helsingborg är det dags att korrigera lite ifrån förra gången jag bidrog: Rodonia fick fel frekvens, och den rätta är 4775. Min nya adress gäller från och med 22 september. I övrigt har jag inte rört så mycket på radio, den mesta tiden har gått åt att packa, prata med olika mäklare och andra pappersarbeten i samband med att jag och min fästmö flyttar ihop. Förra lördagen (2/8) fick ja årets bästa verifikation: en förlovningsring av min fästmö (ja hon fick ju en av mig också). *(Grattis! /red)*

Björn Fransson: Jag kommer för sent, men jag hoppas att QSL-nyheten kan komma med. QSL: **Sudan Radio Service via Merlin-17630** svarade snabbt med e-mail, v/s: Jeremy Groce, som säger att man nu är igång med reguljära sändningar via Woofferton med program producerade tills vidare i Washington (sedan blir de från Nairobi, Kenya). Sänder 16.00-17.00 på 17630 samt 17.00-18.00 på 17660 kHz. Mail: srs@edc.org eller jgroce@edc.org

South Florida logs received from Robert Wilkner:

BOLIVIA 4600.12 to .26 Another Bolivian returns. Hopefully this will not be the last. **R Perla d Acre**, Cobija, with "Perla..." ID by om, 0950-1030, slow transmitter drift, om in espanol, little music noted. Weak with UTE on top of signal. [Wilkner-FL]
BOLIVIA 6585.44 Radio Esperanza weak at 0950-1010 [Wilkner-FL]
PERU 3172.8t. Radio Municipal seems active at 0020-0040 [Wilkner-FL]

PERU 4426.55 Radio Bambamarca 1020-1030, 0300-0310 - numerous ID's by om, thanks to tip from Florida DXer, Charles Bolland [Wilkner-FL]

UNID 3920 // 3940 from 1048-1053 om in language on 20 July. Best opening to Asia and Pacific this week, some audio on 2960.25v, possibly Indonesia. This was through severe local AROs. Looking for Korea. No joy since 20 July during 1000-1100 [Wilkner-FL] (Thanks for your contributions, always appreciated. /ed)

LOGGEN - ALL TIMES ARE UTC

2380	3.8	0040	Radio Nacional med tangos. Förmodligen 2 ggr 1190 och Radio Nacional i Tucumán. 2 CB
3205	2.8	2243	Rádio Ribeirão Preto med "590 AM"-IDs. 2 CB
3235,05	3.8	0230	Rádio Clube de Marília med ett musikprogram där de spelade "Música naïv". Korta annonseringar emellan. Har haft en station här en längre tid, men först detta datum dök de upp med acceptabel hörbarhet. QSA 2-2,5. WIK
4605	1.8	2023	RRI Serui med soft pop mx 2 LRH
4790	1.8	2020	Fak Fak med asiatisk mx och god styrka 3 LRH
4825	2.8	2230	Rádio Educadora de Bragança med stort ID i ett program med sertanejamusik. Rádio Canção Nova var helt borta denna kväll. Det var väldigt länge sedan jag senast hörde denna station. 3 CB
4890	1.8	1940	Port Moresby med cw-mx mycket god styrka 3+ LRH
4915	2.8	2130	Rádio Anhangüera med stort ID. 3-4 CB
6035	26.7	2100	Fang Guang Ming Radio QRM-ades av Radio Japan, men gick fint. Svåröretligt program av lättförståeliga skäl - de var på kinesiska. S 3-4 BEFF
17630	6.8	1600	Sudan Radio Service är en ny station via Merlin, som vill nå in i Sudan med en redaktion i Kenya. Bara nonstop musik denna dag - i en slags testsändning. Den 7 augusti började man sända "riktiga program" på olika regionala språk och på engelska. Kl 1700 sänder man en repris på 17660. S 4-5! BEFF



BM i Ecuador – Bandscan KV-71, 10/8 2003

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Rx: JRC-535, Loewe HF-150, Sangean ATS-808 Antenn: 12 m lw Ö/V, 24 m lw N/S + Lw Magnetic Balun + MFJ1025 phaser

Är ganska inaktiv just nu då mina antenner är nedmonterade pga av bygget av det 2dra (egentligen också et 3dje plan med arbetsrum/radio-), minibadrum, minikök och minibadrum + tvättstuga). Så det blir nog en tunn scan - har just nu bara 1 loggning. Tror det är bra att släppa på aktiviteten ibland.

5400.00 La 101, Buenos Aires (Argentina). 6 augusti 2003 - 1030 UTC. Hade den här stationen som OID, troligen Argentina med IDs: "Canal 26" och "Power 101".

Är numera med på "Conexión Digital"s utmärkta mailingslista och mailade där en förfrågan till Arnaldo Slaen, Argentina som snabbt förklarade hur det ligger till. Det är lokal media i Buenos Aires som går ut via FM och TV "Canal 26" och förmodar att 5400 kHz är en länk. Måste ha varit ovanliga conds-förhållanden denna morgon då stationen kom in med fin styrka. Har aldrig haft signal på frekvensen tidigare. Läs Arnold Slaens mail härnedan: (Gracias Arnaldo!)

slaen@ciudad.com.ar wrote: "Hola Bjorn y amigos de la Lista: Efectivamente Bjorn, se trata de una emisora argentina. Mas precisamente de "la 101", emisora de FM de la ciudad de Buenos Aires que pertenece a un multimedia local, integrado tambien por el Canal 26 de TV- que opera por aire y por cable-. Ignoro la politica QSL de esta emisora pero no es facil conseguir que una emisora de aqui verifique. Cualquier duda o consulta a tus ordenes".

(senare mail 2)

"A tus ordenes para lo que necesites Bjorn! Te agrego que los 5400 khz han sido reactivados en los ultimos tiempos. Nicolas Eramo encontro a "la 101" por vez primera en la QRG. Esta emisora transmitia desde hace un tiempo desde el microcentro de la ciudad pero ahora estaria ubicada en el conurbano bonaerense, es decir, en las afueras de Buenos Aires, a una veintena de kms. del centro. 73's & 55's Arnaldo"

Reaktiverad peruan!

5500.21 Radio San Miguel, San Miguel de Cajamarca (Perú). 8 augusti 2003 - 2350 UTC. Ett typiskt exempel på hur bra det är att WRTH håller kvar inaktiva peruanska KV-stationer, åtminstone ett par år. Adress (som inte stammer med WRTH): Jirón Alfonso Ugarte 668, San Miguel de Cajamarca.

Radio San Miguel de Cajamarca har varit inaktiv under flera år. Mycket fin signal och tjusig peruansk musik. Efter 0000 UTC ett program kallat "Buenas Noches Perú" som är ett önske/musik program. Uppgav 5500 kHz och FM 101.1 MHz. Ni kan lyssna på en inspelning från detta tillfälle: <http://homepage.sverige.net/~a-0901/>



73 från  i Quito!

AUSTRALIA. 5049.94 0935 ARDS Radio, Humpty Doo, weak signal with indigenous mx and talk. Thanks to Hans Johnson for the tip. (Ormandy Aug 9 Paul Ormandy ZL4TFX via HCDX)

AUSTRALIA. ARDS: I just rang them; per Dale Chesson, radio manager they are on 24 hours a day using 400 watts with a 1 kW transmitter. Two-element array beamed 100 degrees from Darwin. They are making sure that the local shops are stocking short wave radios so that people in the target area will be able to listen. Short wave was chosen because there are only 7,000 people in 30,000 sq km. They wanted everyone to hear the service so short wave was chosen. As funding became available they will put MW transmitters in the major centers. Per Dale, frequencies under 5060 kHz in Australia fall under a domestic broadcast license. This is what they wanted and they asked for as high a frequency as possible, hence being assigned 5050 kHz. Dale would welcome any reports at dale@ards.com.au or by mail to ARDS, Box 1671, Nhulunbuy NT 0881, Australia (Hans Johnson, WY, Aug 7, Cumbre DX via DXLD)

BOLIVIA. Retorno frecuencia: **4930 Radio San Miguel**, Riberalta, 2300, 27th/july, ID (Rogildo Aragão, Bolivia, hard-core-dx via DXLD)

CHAD. Africa DX Report - Livinus Terty, with a special report on the current radio scene in the African country of Chad.

THE RADIO SCENE IN CHAD: The country of Chad is situated in the heart of the African continent. The total land mass of Chad is about one and a quarter million square kilometers. Most of the northern areas of Chad are desert.

The history of Chad goes back a long way and it was an important segment of several large African empires on several earlier occasions. In the 1800s, European explorers and traders moved through the area and the French gained access to the territory with a formal treaty that was signed in 1897. Chad finally gained independence from France on August 11, 1960.

Chad has a population of nearly eight million inhabitants with roughly six persons per square kilometer. The languages spoken in Chad include French & Arabic as well as a host of vernacular languages. The capital city is N'Djamena (n-JAH-men-a) and it is also the largest city in the nation with a population of half a million.

The national radio of Chad is "Radiodiffusion Nationale Tchadienne", RNT, with its headquarters in N'Djamena and it was established in November 1955. RNT is government owned and it is the only body permitted to broadcast in Chad on the shortwave and mediumwave bands. Radiodiffusion Nationale broadcasts to the entire country of Chad on the shortwave frequency of 6165 kHz via its 100 kW transmitter located in Gredia, a suburb of the capital city N'Djamena. RNT is also active in N'Djamena on the FM frequency of 94.05 MHz.

RNT has also established four regional stations which broadcast occasionally on mediumwave but are now more active on the FM band. These stations produce local programs in various languages for their audiences living in the various regions. However, the regional stations also carry the major programs from RNT N'Djamena on relay, such as the national news and other major features.

In 1999, the government of Chad liberalized broadcasting on the FM band thereby making it possible for groups and individuals to establish FM stations in Chad. Today, besides the government owned RNT FM station, three local non-government controlled FM stations can be heard in N'Djamena.

Also heard in N'Djamena are the local downlink relays on FM from several other countries. These FM relay stations include Cameroon Radio Television (CRTV), Africa No.1 from Gabon, RFI Afrique from France, and the BBC African Service. There are half a dozen other privately owned FM stations in Chad, mostly in the south of the country.

Radio broadcasting is crucial for the dissemination of information in Chad. It is the main source for news and entertainment right throughout the country for most people due to the fact that the national television station in Chad, "Teletchad", is available only in the capital city area.

As a finale to this DX report from Livinus Terty in Chad, we might mention that it seems to be very difficult in obtaining a QSL from the shortwave station in their capital city. The AWR collection in Indianapolis contains not even one QSL from Chad (AWR Wavescan Aug 10 via DXLD)

COSTA RICA. 6105, Universidad de Costa Rica (Cf. DX-Window no. 224). I suspect they are not using their SW outlet on a daily bases. A while ago I tried for them day after day, but most of the time not even a carrier was noted. On other days, reception was quite good at s/off 0600 (Harald Kuhl, Germany, DSWCI DX Window July 30 via DXLD)

GUYANA. I spent some time in Guyana a few years back and listened to the VOG every day and also saw them in action at many public events, so it was nice to hear you praise them for their efforts a few months back. They have true grit and little else to work with, yet come up with some great programming. One has to love a station that broadcasts the national Parliament one hour and a children's cricket banquet the next. Guyana is in a state of constant political/racial tension and VOG has taken the high road remaining objective at all times. Sadly it's not only a tough catch here, but also a tough one there too. We were with the Akawio Indians in the upper Mazaruni district where they scrimped to buy a few batteries for their flimsy little analog radios each week, deftly working the dial every night for the BBC, VOA, and Radio Netherlands, but no Voice Of Guyana --- not enough money to get out that far. Even the tribal Yaesu transceivers and the Icoms owned by the traders couldn't pick it up. I tried and tried with the handheld Yaesu VR-500 I had with me (a great little travel radio if you ever need to travel very lightly and need a DC to daylight device), stringing wires in every way possible with little effect. Thanks again, (Michael Lijewski, Maryland, July 27, DX LISTENING DIGEST)

HONDURAS. 2859.98 (harmonic 2 x 1430), HRSJ Radio Futura, Jul 25- 27, 0115-0300, fair to good signal all 3 days, sign-off at 0300 with canned announcement, positive ID heard on Jul 26; thanks to Jay Novello, Terry Krueger and Bjoern Malm for IDing this one (Mark Mohrmann, Coventry, VT, NRD 535D, V-Beam 140m at 180 deg. "VT-DX" <http://www.rovers.net/~hackmohr/> DX LISTENING DIGEST)

INDONESIA. 6067.63, RRI Jayapura (presumed), 1045-1115 July 31. Initially noted a carrier here without any audio present. At 1100, theme music followed by comments from a woman probably in Indonesian language. Signal was always threshold during period (Bolland Chuck, Clewiston, Florida, DX LISTENING DIGEST) Nom. 6070

LAOS. Sorry, no more **7145 Lao external service**. Not heard for at least 3 months. Domestic Service still heard around 1300 on 6130 (Victor Goonetilleke, Sri Lanka, BC-DX via DXLD)

PERU. Tentative. There was better than usual reception of the religious broadcaster using a frequency which seemed close to 6020.2 today [Aug. 1st] at 0630 tune in. There were many Portuguese 'sounding' words, but I couldn't recognise what the whole language was. Maybe a mix of Portuguese and Spanish as reported elsewhere? No ID was heard before the signal faded --- just a long exhortation from a male with some music in the background. I could also hear a similar sounding transmission on 9720 below a stronger Radio Rossii broadcast. An offset frequency was not being used as far as I could tell. My guess is that the station is Radio Victoria from Lima. Regards from (Noel R. Green [Blackpool, UK], Cumbredx mailing list via DXLD)

MEXICO. Re R. Huayacocotla, <http://www.sjsocial.org/Radio/huarad.html> This page is definitely worth visiting. The initial page is in Spanish, which we will translate and publish soon, perhaps next week, but there are links to articles about the Mexican government's sudden closure of the station in 1994 and reopening in 1995, in English. I urge all to visit these sites (Mike Dorner, Catholic Radio Update August 3 via DXLD)

PERU. Radio Sabor (1610 kHz), logged as far away as Sweden by Hasse Mattisson, is located in Arequipa city, not Paucarpata, as the official frequency listing of the Peruvian Comms Ministry has it. The station's address is Oficina 430 at the Centro Comercial Independencia, which is also the location of the company's main station Radio Alegría (1510 kHz). Alegría, listed as station number 637 in WRTH03, is to celebrate its 13th anniversary on Aug 3 next. This is what I gathered from a phone call to the station on July 30. The phone number was kindly supplied by the webmaster of www.arequipalinda.com Jose Antonio Pastor D. who has made an all-out effort in trying to help, actually sending a messenger to the town of Paucarpata in order to locate the station. Thanks to Jose Antonio for his resourcefulness and thanks also to Björn Malm, without whose tip we would have been unaware of this Peruvian X-bander in the first place. Thanks also to Alfredo Cañote and César Pérez Dioses for taking their time to monitor the station. (Henrik Klemetz via HCDX)

PERU: RADIO VICTORIA – LIMA This religious station that normally is operation on 6020 khz and rarely on 9729 khz can be now listened to on 15480 khz in the 19 mts band. It was heard by me on August 8th, low power. (CESAR PEREZ DIOSES, CHIMBOTE –PERU via HCDX)

PERU: RADIO EMISORAS CAJAMARCA: Yesterday I was scanning the bands when surprise I catche **RADIO EMISORAS CAJAMARCA 3391.5** between 23.30 y 00.30 when signs off. Music and news and ide: escuchan Radio emisoras Cajamarca. En el WRTH this frequency is listed to Radio Cutervo call sign OAX2R. (CESAR PEREZ DIOSES CHIMBOTE –PERU via HCDX)

PUERTO RICO, Roosevelt Roads, AFN Relay. 7507 Received a p/d Letter (no freq or time) in 14 days from National Public Radio (NPR), 635 Massachusetts Ave, NW, Washington, DC, 20001-3753. V/s Jeff Rosenberg, Director, NPR Worldwide. Mr. Rosenberg stated that "As we do not own nor operate a transmitter, we do not issue QSL cards. Our interest is exclusively in the programming and the impact we can have with the content of the shows." He astutely concluded that I since could pick up the station in high quality FM audio simultaneously on a local station I must be more interested in picking up distant stations than in the actual content of the programming. NASWA Country Number 165. (Bill Harms- Elkridge, MD, USA)

PUERTO RICO. Puertorriqueña no identificada en 3160.02, muy común después de las 0400 UT, con sermones religiosos y música cristiana. Al parecer es católica. Es el primer armónico [decimos segundo --- gh] de 1580 kHz. En los directorios de puertorriqueñas en Internet, no pude localizar esa frecuencia de OM (Adán González, Catia La Mar, VENEZUELA, DX LISTENING DIGEST)

En WRTH 2003 hay una en 1580: WMTI, R. Voz, Morovis, 24h, 5/2.5 kW, dirección postal en Hato Rey; pertenece a WVOZ, Radio Voz (Glenn Hauser, DX LISTENING DIGEST)

SOLOMON ISLANDS. FYI the radio station has never been off the air and can be heard on 5020+/- 200 Hz. After 1100z they relay the BBC W/S until 1900z. Very interesting listening at present with plenty of appeals for people to co-operate with Task force which arrived on Thursday (Robin L. HARWOOD, Tasmania, July 28, swl at qth.net via DXLD)

Övriga radionyheter

PRESS RELEASE FROM THE BOARD OF PLAY-DX:

"Following to the many polemics opinions expressed everywhere concerning the Bellabarba QSL-ing policy, I wish here clarify the personal position of the DX-editor of Play-DX, Dario Monferini, has been always against this kind of unpolite activity, cause Mr. Bellabarba is manipulating informations coming from other sources, sending fake reports. For this reason I admit, after 25 years of personal tentatives to find a positive solution to this matter, to have totally failed in this "mission" and to have done remarkable problems and damns to the worldwide dx-ing family. I agree all the DX-ers sending serious reports have all the rights don't see rare radio stations verified in a fake way by Mr. Bellabarba in a total unpolite and foolish way to get a reply in all the ways, even changing the original datas (one week before) showing a "scientific" attitude but also a very unacceptable activity. The next autumn Play-DX will do a more descriptive article about these matters, to put a final world on this abominable story of Mr. Bellabarba, 30 years acting against the worldwide family of the radio listeners" (Dario Monferini, editor in chief Play-DX Italy)

DUTCH RESISTANCE MUSEUM, AMSTERDAM

ALLAN CUMMINGS (who writes via Mike Barraclough) recently went to the Dutch resistance museum in Amsterdam mentioned in June Contact and found it a very enjoyable visit. The museum is located at Plantage Kerklaan 61. 1018 CX Amsterdam close to Amsterdam Zoo. Wartime radio broadcasts by Queen Wilhelmina, Max Blokzeit, Adolf Hitler and Josef Goebbels may be heard and there are examples of concealed radios the populace used as the Nazis forced them to hand in their sets and loop aerials used to null out German jamming of resistance broadcasts. The museum website is <http://www.verzetsmuseum.org>

(August World DX Club Contact via Alan Roe, DXLD)

That Final Item: WHERE RECORD SPEEDS CAME FROM

And finally this week, ever wonder why the first successful disk phonograph records ran at 78 revolutions per minute? Well, a posting

to one of the audiophile remailers explains it this way.

Up until the 1920's recordings were made at a variety of speeds from 75 rpm to 84 rpm, and sometimes outside this range. The minimum acceptable speed was governed by the quality of the sound from the innermost grooves of the record. By trial and error this speed was found to be around 78 to 80 rpm.

The speed of records is based on the American electricity AC standard of 60 hertz. When engineers wanted to standardize the speed of recording equipment in the studios they started using synchronous electric motors. These are motors that are locked on to the 60 hertz power and run at precisely 3600 rpm.

If you use simple gear ratios then 3600 divided by 46 is 78.26 rpm. And all other phonograph record speeds came from the same source as well. 3600 divided by 80 gave us the popular 45 rpm record that helped to make the rock and roll revolution. 3600 divided by 108 is responsible for the L-P 33 1/3 rpm record and divided by 216 made the somewhat rare 16 2/3 rpm disks.

Of course most vinyl albums have been replaced by digital compact disks, but the history of grooved disks is an interesting one and now you know how it all came about. (The Hi-Fi Remailer via August NRC DX Audio Service whazzup, via DXLD)

GROUNDING IS KEY TO GOOD RECEPTION (rec.radio.shortwave)

From: jpd@space.mit.edu (John Doty). In article Larry.Picard@odxabbs.tor250.org (Larry Picard) writes:

In your recent post you advised that coax should be grounded at two sites, first at the antenna and then just before entering the house. Is there an advantage in grounding at more than these sites?

With grounds the most common experience is "the more the merrier". As you add more, however, you usually reach a diminishing returns (no pun intended) situation where there is no *observable* improvement: that's usually a good place to stop. There are also exceptional circumstances where grounding increases noise problems, but these, in my experience, are much rarer than the pundits who preach against "ground loops" seem to think.

Even a semi-quantitative theoretical treatment of grounding in oversimplified situations requires heavy math at RF. Experimentation is thus required even if one has done elaborate calculations. It's often easier to use the theory as a guide to what to try, and then experiment. I would also assume that the antenna is grounded when it is connected to the receiver as the outer braid of the coax is in continuity with the receiver chassis.

What's ground? If connect the shield of my coax (which is grounded outside) to the antenna input of my R8, I hear lots of junk, indicating that there is an RF voltage difference between the coax shield and the R8 chassis. Last night this measured about S5.5, which is about -93 dBm (preamp off, 6KHz bandwidth). That's a lot of noise: it was 18 dB above my antenna's "noise floor", and 26 dB above the receiver's noise floor.

This sort of disagreement about ground potential is characteristic of electrically noisy environments. The receiver will, of course, respond to any voltage input that differs from its chassis ground. The antenna, on the other hand, is in a very different environment, and will have its own idea of what ground potential is. If you want to avoid noise pickup, you need to deliver a signal, referenced at the antenna to whatever its ground potential is, in such a way that when it arrives at the receiver, the reference potential is now the receiver's chassis potential.

Coaxial cable represents one way to do this. Coax has two key properties:

1. The voltage between the inner conductor and the shield depends only on the state of the electromagnetic field within the shield.
2. The shield prevents the external electromagnetic field from influencing the internal electromagnetic field (but watch out at the ends of the cable!).

So, it's easy, right? Run coax from the antenna to the receiver. Ground at the antenna end will be whatever the antenna thinks it is, while ground at the receiver end will be whatever the receiver thinks it is. The antenna will produce the appropriate voltage difference at the input side, and the receiver will see that voltage difference uncontaminated by external fields, according to the properties given above. Unfortunately, it doesn't quite work that way. It's all true as far as it goes, but it neglects the fact that the coax can also guide noise from your house to your antenna, where it can couple back into the cable and into your receiver. To see how this works, let me first describe how this noise gets around.

The noise I'm talking about here is more properly called "broadband electromagnetic interference" (EMI). It's made by computers, lamp dimmers, televisions, motors and other modern gadgets. I have all these things. In many cases, I can't get them turned off, because it would provoke intrafamilial rebellion. However, even when I turn them off, the noise in the house doesn't go down very much, because my neighbors all have them too. In any case, one of the worst offenders is my computer, which is such a handy radio companion I'm not about to turn *it* off.

Some of this noise is radiated, but the more troublesome component of this is conducted noise that follows utility wires. Any sort of cable supports a "common mode" of electromagnetic energy transport in which all of the conductors in the cable are at the same potential, but that potential differs from the potential of other nearby conductors ("ground"). The noise sources of concern generate common mode waves on power, telephone, and CATV cables which then distribute these waves around your neighborhood. They also generate "differential" mode waves, but simple filters can block these so they aren't normally a problem.

So, let's say you have a longwire antenna attached to a coaxial cable through an MLB ("Magnetic Longwire Balun" [sic]). Suppose your next door neighbor turns on a dimmer switch. The resulting RF interference travels out his power lines, in through yours, through your receiver's power cord to its chassis, and out your coaxial cable to your MLB. Now on coax, a common mode wave is associated with a current on the shield only, while the mode we want the signal to be in, the "differential" mode, has equal but opposite currents flowing on shield and inner conductor. The MLB works by coupling energy from a current flowing between the antenna wire and the coax shield into the differential mode. But wait a second: the current from the antenna flows on the coax shield just like the common mode current does. Does this mean that the antenna mode is contaminated with the noise from your neighbor's dimmer?

The answer is a resounding (and unpleasant) yes! The way wire receiving antennas work is by first moving energy from free space into a common mode moving along the antenna wire, and then picking some of that off and coupling it into a mode on the feedline. In this case, the common mode current moving along the antenna wire flows into the common mode of the coax, and vice versa. The coax is not just feedline: it's an intimate part of the antenna! Furthermore, as we've seen, it's connected back through your electrical wiring to your neighbor's dimmer switch. You have a circuitous but electrically direct connection to this infernal noise source. No wonder it's such a nuisance!

The solution is to somehow isolate the antenna from the common mode currents on the feedline. One common way to do this is with a balanced "dipole" antenna. Instead of connecting the feedline to the wire at the end, connect it to the middle. Now the antenna current can flow from one side of the antenna to the other, without having to involve the coax shield. Unfortunately, removing the necessity of having the coax be part of the antenna doesn't automatically isolate it: a coax-fed dipole is often only slightly quieter than an end-fed longwire. A "balun", a device which blocks common mode currents from the feedline, is often employed. This can improve the situation considerably. Note that this is not the same device as the miscalled "Magnetic Longwire Balun".

Another way is to ground the coaxial shield, "short circuiting" the common mode. Antenna currents flow into such a ground freely, in principle not interacting with noise currents. The best ground for such a purpose will be a earth ground near the antenna and far from utility lines.

Still another way is to block common mode waves by burying the cable. Soil is a very effective absorber of RF energy at close range. Unfortunately, none of these methods is generally adequate by itself in the toughest cases. Baluns are not perfectly effective at blocking common mode currents. Even the best balun can be partially defeated if there's any other unsymmetrical coupling between the antenna and feedline. Such coupling can occur if the feedline doesn't come away from the antenna at a right angle. Grounds are not perfect either. Cable burial generally lets some energy leak through. A combination of methods is usually required, both encouraging the common mode currents to take harmless paths (grounding) and blocking them from the harmful paths (baluns and/or burial).

The required isolation to reach the true reception potential of the site can be large. According to the measurements I quoted above, for my site the antenna noise floor is 18 dB below the conducted noise level at 10 MHz. 18 dB of isolation would thus make the levels equal, but we want to do better than that: we want the pickup of common mode EMI to be insignificant, at least 5 dB down from the antenna's floor. In my location the situation gets worse at higher frequencies as the natural noise level drops and therefore I become more sensitive: even 30 dB of isolation isn't enough to completely silence the common mode noise (but 36 dB *is* enough, except at my computer's CPU clock frequency of 25 MHz).

Getting rid of the conducted noise can make a huge difference in the number and kinds of stations you can pick up: the 18 dB difference between the conducted and natural noise levels in the case above corresponds to the power difference between a 300 kW major world broadcaster and a modest 5 kW regional station.

The method I use is to ground the cable shield at two ground stakes and bury the cable in between. The scheme of alternating blocking methods with grounds will generally be the most effective. The ground stake near the house provides a place for the common mode noise current to go, far from the antenna where it cannot couple significantly. The ground stake at the base of my inverted-L antenna provides a place for the antenna current to flow, at a true ground potential relative to the antenna potential. The buried coax between these two points blocks noise currents.

There has been some discussion of grounding problems on this and related echos. I believe it has been mentioned that electrical codes require that all grounds be tied together with heavy gauge wire.

I'm no expert on electrical codes, and codes differ in different countries. However, I believe that any such requirement must refer only to grounds used for safety in an electric power distribution system: I do not believe this applies to RF grounds.

Remember that proper grounding practice for electrical wiring has very little to do with RF grounding. The purpose of an electrical ground is to be at a safe potential (a few volts) relative to non-electrical grounded objects like plumbing. At an operating frequency of 50/60 Hz, it needs to have a low enough impedance (a fraction of an ohm) that in case of a short circuit a fuse or breaker will blow immediately.

At RF such low impedances are essentially impossible: even a few centimeters of thick wire is likely to exhibit an inductive impedance in the ohm range at 10 MHz (depends sensitively on the locations and connections of nearby conductors). Actual ground connections to real soil may exhibit resistive impedances in the tens of ohms. Despite this, a quiet RF ground needs to be within a fraction of a microvolt of the potential of the surrounding soil. This is difficult, and that's why a single ground is often not enough.

A little experimentation with my radio showed that the chassis was directly connected to the third (grounding) prong of the wall plug. I am concerned that by connecting my receiver to an outside ground I am creating a ground loop that involves my house wiring. Can you comment on this?

Yes, you have a "ground loop". It's harmless. In case of a nearby lightning strike it may actually save your receiver. My R8 isn't grounded like that, so I had to take steps to prevent the coax ground potential from getting wildly out of kilter with the line potential and arcing through the power supply. I'm using a surge suppressor designed to protect video equipment: it has both AC outlets and feedthroughs with varistor or gas tube clamps to keep the various relative voltages in check. Of course the best lightning protection is to disconnect the receiver, but I'm a bit absent minded so I need a backup.

This may seem like a trivial point but I recently discovered that the main ground from the electrical service panel in my house was attached to a water pipe which had been painted over. I stripped the paint from the pipe and re-attached the grounding clamp and I noticed a reduction in noise from my receiver.

Not trivial. Not only did you improve reception, but your wiring is safer for having a good ground.

I suspect part of the reason I see so much noise from neighbors' appliances on my electric lines may be that my house's main ground wire is quite long. The electrical service comes in at the south corner of the house (which is where the breaker box is), while the water (to which the ground wire is clamped) enters at the east corner. All perfectly up to code and okay at 60 Hz, but lousy at RF: if it was shorter, presumably more of the noise current would want to go that way, and stay away from my receiver.

I am also a little confused by what constitutes an adequate ground. I have read that a conducting stake driven into the ground will divert lightning and provides for electrical safety but that RF grounding systems have to be a lot more complex with multiple radials with lengths related to the frequencies of interest. Is this true?

Depends on what you're doing. If you're trying to get maximum signal transfer with a short loaded (resonant) vertical antenna with a radiation resistance of, say, 10 ohms, 20 ohms of ground resistance is going to be a big deal. If you're transmitting 50 kW, your ground resistance had better be *really* tiny or things are going to smoke, melt or arc.

On the other hand, a ground with a resistance of 20 ohms is going to be fairly effective at grounding a cable with a common mode characteristic impedance of a few hundred ohms (the characteristic impedance printed on the cable is for the differential mode; the common mode characteristic impedance depends somewhat on the distance of the cable from other conductors, but is usually in the range of hundreds of ohms). Of course, if it was lower a single ground might do the whole job (but watch out for mutual inductance coupling separate conductors as they approach your single ground).

In addition, a ground with a resistance of 20 ohms is fine for an unbalanced antenna fed with a high impedance transformer to suppress resonance. Such a nonresonant antenna isn't particularly efficient, but high efficiency is not required for good reception at HF and below (not true for VHF and especially microwave frequencies).

Much antenna lore comes from folks with transmitters who, armed with the "reciprocity" principle, assume that reception is the same problem. The reciprocity principle says that an antenna's transmission and reception properties are closely related: it's good physics, but it ignores the fact that the virtues required of a transmitting and receiving antenna are somewhat different. Inefficiency in a transmitting antenna has a direct, proportional effect on the received signal to noise ratio. On the other hand, moderate inefficiency in an HF receiving antenna usually has a negligible effect on the final result. A few picowatts of excess noise on a transmitting antenna has no effect on its function, but is a big deal if you're receiving (of course, one might not want to have transmitter power going out via unintended paths like utility lines: this is indeed the "reciprocal" of the conducted noise problem, and has similar solutions).

Appendix: Absolute RF measurements with an R8.

Although the Drake R8's signal strength meter is marked with silly "S" units, the alignment procedure in the service manual actually sets up the meter to an absolute standard, at least sort of. A 60% modulated signal with a carrier level of -73 dBm (which is really closer to -72 dBm in total power including sidebands) is S9. One S unit is 5 dB. This is with 6 kHz bandwidth and with neither the RF preamp or attenuator engaged. I assume this is what they do at the factory.

Now, I don't really know how accurately this calibration is performed, and it certainly can't be more accurate than the flatness of the input passband filters (spec'd at <2 dB p-p). There are also problems because the measurement is actually being made by a peak-responding AGC system rather than an RMS meter. Based on experience with other peak sensing systems, I estimate that the meter probably reads noise power too high by about 3 dB, relative to the carrier power in the test waveform. Therefore, for noise, S9 is about -76 dBm.

On my R8, the linearity of the S-meter calibration is poor at the very low end: S1 is much less than 10 dB below S3. Therefore, for measurements below S3 I do relative measurements and refer them to stronger signals. I have on my NeXT computer an old demo application that gives the RMS amplitude of a signal on the audio input jack. With the R8's AGC turned off and the RF gain set low enough to insure good linearity, this may be used to make quite accurate relative power measurements. You could, of course, use an ordinary AC voltmeter to do this if you have one sensitive enough to read the level of the Drake's audio output (I don't have one). Considering all of the uncertainties, the numbers hold together remarkably well, better than the likely accuracies in this case (just dumb luck).

For the measurements quoted in my previous message, the receiver's noise floor is -119 dBm. Drake's specs imply that for a 6 kHz bandwidth the noise floor should be below -118 dBm with the preamp off.

According to "Reference Data for Radio Engineers" (Sams, 1975), the wintertime level of natural noise in my area at 10 MHz should be about 32 dB above the thermal reference level: this would produce a noise floor of -104 dBm in this bandwidth with a perfectly efficient antenna. A calculation for a 17 m vertical antenna feeding a high impedance transformer predicts a loss due to mismatch/lack of resonance of 4.5 dB at 10 MHz. My antenna is not a vertical but an inverted L which I presume is slightly less efficient (difficult to calculate). There are also presumably some modest losses in the transformer, the grounds, the cables and the connectors. I wouldn't be surprised if these added up to 3 dB or so. With a total antenna system inefficiency of 7 dB, I'd therefore expect to see an antenna noise floor of -111 dBm, which is, in fact, just what I measure.

(Last modified: March 10, 1998 E-mail your comments and updates to Steve Byan smb@world.std.com) (via Björn Malm)

Radio New Zealand International have recently received a Reception report requesting a QSL from an Internet logging on a Pentium 4 Computer.

It raises some interesting points on whether logging a station is really DX and worth a QSL? Any genuine feedback or comment will be passed on to Radio NZ International.

Hi Mark, RNZI has received this reception report requesting a QSL. As you will see the receiver was a Pentium 4 1.7 ghz. computer - I had a chuckle about it, but the guy is quite serious. I would be interested to know from the amateur community what they think?

My view is a QSL card was intended to acknowledge the expertise of an operator of a short-wave radio in hearing a distant station.

Surely clicking on a URL does not count?????!! Some may call me old fashioned, but I would appreciate feed-back on this issue!

Cheers, Adrian

From: Name removed To: info@rnzi.com Subject: Reception Report

The following reception report was submitted by j on Tuesday, August 5, 2003 at 14:47:20:

Country: CAN, receiver: pentium 4 1.7 ghz, antenna: internet, strength: 5, Interference: 4, Overall_Merit: 4, date: 04/08/2003, time: Time in UTC, frequency: In kHz, programme_details: Pacific news, comments: I would appreciate a QSL card to confirm reception. Please include sticker, pennant and station information. thank you. It is always nice to hear a station as far as New Zealand.

Mark Nicholls [editor@radiodx.com] via HCDX

Last year I had a disagreement with Glenn Hauser about exactly the same subject. On that occasion someone from USA sent Gleen a message saying he had got a verification (QSL) from Liechtenstein. I thought Radio Liechtenstein was on Shortwave but for my frustration Glenn told me that this "DX er" had heard the station over the Internet.

Well, I still consider QSL'ing a radio station over the WEB something stupid. If RNZI wants to reply this message I would suggest them to send an "email QSL" confirming the "WEB DX" or whatever you want to call it.

If we start accepting this kind of thing we could find ourselves in a ridiculous situation where the radio will virtually disappear and will be replaced by a computer. If this is the case, how about if I start reporting and QSL'ing TV stations that I catch on Cable ?

Marcelo Toniolo via HCDX

John Wright here, in Australia. To all..computer DX logging.... live streaming audio etc..... well thats nice that the person hears Radio New Zealand... however the issue was raised within Australia about 1997, as I did the QSLing for locally 2AM on 1620. The QSL is a Q code for amateurs that was established many years ago, as a means of thankyou for your report on my signal and a kind of thankyou and momento of the occasion, these QSL cards were also known as audience cards. Listeners were encouraged in the early days of radio, of reporting the strength etc.. of a signal, to which a thankyou card was sent out to the listner as a thankyou momento.... this was by radio....

Computer is not radio..however... when 2AM received this report, instead of throwing away the listeners request for a QSL the listener received a polite reply about what a QSL was all about, but no QSL card.... but some information about the radio DX or SWLing hobby was also sent to this person. Its all about education..... and growing the hobby.... Maybe some other people have other ideas....

Regards John Wright (Down under). Via HCDX

If it doesn't fade (QSB) or have noise (QRN) it's not radio. Collecting QSL cards for hearing radio stations over the Internet must be a separate hobby, not to intertwined with QSLing radio stations via the ionosphere. Here in the U.S. though, if our FCC allows BPL which is "a broadband Internet connection via AC power lines", the QRN will be so bad, as to relegate all of us to listening to radio via Internet.

73, Thomas F. Giella, Meteorologist C/S KN4LF via HCDX

Boy, not enough details for even a shortwave reception report...and what was the interference that this report claims with a SIO 544? Just my thoughts! Mick, cidxqsl@ecn.ab.ca via HCDX

Dear DX-friends, This subject was discussed three years ago at the Conference of the European DX Council in Barcelona and there was general agreement that "WEB LISTENING" cannot be regarded as "DX-ING". It is another hobby which just requires that you know certain web addresses. The stations are no more distant than your PC.(Best 73, Anker Petersen Denmark via HCDX)

As others have pointed out the computer logging, the overall was 544 well this misguided chap needs a computer verhaul....what..maybe his telephone line is not what it could be....hope someone at RNZI points this out.....then he has to get this checked out, then if not the telephone line its his computer set up.....(he could be on the hurdy gurdy for months).... anyway its not a perfect world after all in cyberspace....GRIN (John Wright Down under via HCDX)