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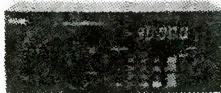
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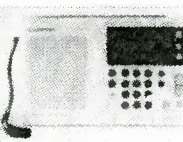


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# NASWA Notes

Richard A. D'Angelo  
2216 Burkey Drive  
Wyomissing, PA 19610  
Internet: rdangelo3@aol.com

Ho, ho, ho... 'tis the season to be a jolly DX'er! Happy holidays to the entire membership. Will that choice new receiver make its way into your hands this holiday season? Let's get those reminders out there for the family to pick up on!

Once again, a brief reminder that my new e-mail address is [rdangelo3@aol.com](mailto:rdangelo3@aol.com). Please use it for all NASWA correspondence. My old address is no longer in use.

One of the things that makes this a great place to work is the quality of the staff the helps edit and assemble the Journal each month. Without hours upon hours of volunteer participation, there would be no Journal. A shining example of teamwork, cooperation and our club motto—Unity and Friendship—is the effort that goes into our popular Easy Listening column. Early in 1997, **Rich Cuff** had to step down on a temporary basis as editor. **John Figliozzi** grabbed a bat and pinch hit. Last month John ended an 18-month stint as temporary editor of the Easy Listening. Richard Cuff is back and his first effort, after his extended vacation, appears this month. Thank you John and welcome back Rich! Incidentally, you can catch the fine work of **Mr. and Mrs. Hospitality** at the Winter SWL Festival in Kulpsville in a couple of months. These two keep the hospitality suite in high gear in addition to their regular Easy Listening forum, which is one of the most popular features in FEST history.

Member **Bob Padula** is pleased to announce that Edition Number 6, December 1998, of

## ANARC SWL Ham Net

Tune in Sunday mornings at 10 A. M. Eastern Time on 7240 LSB for the latest in shortwave, medium wave and longwave listening, DX tips, and up to the minute hobby news. Contributors share their DX tips via their own amateur radio stations or by telephoning a "gateway" station who then broadcasts the relayed tips. Contributions are also accepted via the Internet Relay Chat (IRC) channel #swl while the net is in progress. Net Controls Dave Kirby N1DK, Hausie WB4JSP, and Bob Curtis W1EXZ host an always lively gang of DX monitors. (Best heard in the eastern half of NAM) Net info is also available at [http://www.trsc.com/swl\\_net.htm](http://www.trsc.com/swl_net.htm). If you miss the net, you can hear it in RealAudio on the Internet, on Dave Kirby's home page, <http://www.newweb.com/users/dkirby/>. Dave also posts text versions of loggings.

the popular *Australasian Shortwave Guide* ("ASWG6") is planned to be published on 12 December (print edition only—no electronic version!). ASWG6 is 28 pages in A4 format. Although targeting listeners from primarily in Australia, New Zealand and the Pacific Islands and secondarily in Asia, the Far East, the Indian sub-continent, the Indian Ocean, and Siberia, readers elsewhere will also find the general articles of interest. ASWG6 is a comprehensive alphabetical listing by country of programs beamed to Australia, Oceania, the Far East, South Asia, and the Indian sub-continent, for the W98 (B98) Winter Season.

Our Motto is - "Unity and Friendship"



Details are given of frequencies, times, broadcast days, target areas relay sites, languages and other information. This listing of several hundred entries is applicable for the five month period commencing October 25 and concluding on March 28 1999. There is also a new special Graphical Index on an hour-by-hour basis, referenced and linked to the main alphabetical country listings. ASWG6 will have data not published in the standard annual texts. ASWG6 will include the following features: DXing Singapore prepared by Mick Ogrizek, DXing From Asia, Austria Calls the World and International Broadcasting. Price for ASWG6 is unchanged—A\$10 in Australia (elsewhere via economy airmail: A\$15, US\$10, 10 IRCs) from Bob Padula, 404 Mont Albert Road, Surrey Hills, Victoria 3127, Australia (E-mail: padula@compuserve.com)

It's time for another brief reminder about our monthly mailing date for the Journal. The Bulletin goes to the printer on the last Saturday of the month (publication day). The book, as **Bill Oliver** is fond of calling the Journal, is mailed "officially" on the Friday after the last Saturday of the month. The November edition of the Journal was actually mailed a day early on Thursday morning (November 5). Please keep this in mind when inquiring about missing bulletins. When the last Saturday is near the end of the month, the mailing date extends into the following, i.e. cover, month. Please keep this in mind when asking about missing books. Give the Journal a chance to arrive, hi!

That's it for this month. Enjoy this month's edition of the JOURNAL; it's another good one.



## Musings

*This column provides a forum wheras members can express comments, ideas, and thoughts about NASWA or the SW radio hobby. Please feel free to comment on anything presented this month (or previous months). Opinions expressed here are are soley those of the submitters. Please submit all Musings to Richard A. D'Angelo, 2216 Burkey Dr., Wyomissing, PA 19610 or via email: rdangelo3@aol.com.*

**Joe Buch** <joseph.buch@dol.net>, PO Box 1552, Ocean View, DE 19970

Following up on Jim Conrad's Musing in the October NASWA Journal, I also have been pondering what the design of a short-wave receiver should include for the next millenium. Naturally, the ability to receive and decode the new digital transmission format will be essential. I have previously presented in my Tech Topics column the features such a receiver would have according to the Digital Radio Mondiale consortium now developing the new standard. I now propose a new function I elect to call "Mute-On-Keyword".

As long as the digital receiver needs a digital processor chip or two anyway, why not implement user programmable voice recognition software as an integral part of the radio. That way I could program my radio to mute as soon as words and phrases like "Cheezuss", "salvation", "Y2K", "won't you support this ministry?", "Monica" or "cigar" are heard.

The "mute-on-keyword" function could help reverse the trend of declining short-wave listening among young people. Many of us ponder and lament in this forum why young people are no longer coming into this hobby. Could it simply be that parents just do not want their offspring's mind being warped by the mindless rantings of bigots, racists, and money-grubbing charlatans who spew their trash as the word of God? Young minds are very impressionable and easily influenced by continual streams of paranoia such as those that emanate from most US commercial short-wave broadcasters. If they are not preaching fear of the coming judgment day, or the forced return to the barter economics of caveman civilization as a result of the conspiratorial actions of the New World Order, they are

predicting the end of civilization as we know it on midnight, December 31, 1999. Why would any responsible parent buy their kid a shortwave radio?

Until commercial short-wave broadcasters clean up their act, the responsible parent must exercise the right to be selective about the ideas to which their young family members are subjected. Until listeners push commercial broadcasters to begin acting with some responsibility for what they air, the lure of easy money will continue to guarantee these rants will continue. Maybe automated, user-programmable, censorship is the answer.

The "mute-on-keyword" function of the millenium 2000 receiver would allow parents to exercise this discretionary responsibility automatically and once again restore short-wave listening to the safe hobby it was when I was cutting my short-wave eye teeth at age 10. In those days we only heard radio rantings about Communists under our beds, the world running out of oil by 1962, and imminent nuclear annihilation. Ah, for those simpler times.

**Richard D'Angelo <rdangelo3@aol.com>, 2216 Burkey Drive, Wyomissing, PA**

November saw our first DXpedition of the season. This was our first DXpedition to French Creek State Park. It's a little closer for our Philadelphia based contingent; also, Gifford Pinchot was booked solid so we had to find a new spot. This location had been talked about for years as an alternative so we put "Plan B" into effect.

The thorns at French Creek were not as plentiful as those at Gifford Pinchot, so my clothing held up just fine. Fred Kohlbrenner and I arrived around 2:00 PM on Thursday, November 5, but the "uniforms" in-charge wouldn't give us the key to the cabin until 3:00 PM. Everything is now computerized so when the system crashes, you can't get your key to the cabin. Apparently, the state modernized with "old" computer systems. Nothing like the lowest cost bidder getting the project. So we waited and did some antenna work prior to getting official title to the cabin for the weekend.

Bob Montgomery, Kris Field and Ed Mauger arrived, in that order I might add, on Thursday afternoon. After setting up, Ed drove home for his headphones. Thankfully, he lives only about 15 miles from the cabin. Personally, I think he was bored with us after only an hour. Conditions were far from spectacular until Saturday afternoon when some Indo's began rolling in but the cabins were electrically quiet so we now have two DXpedition sites.

There were no major weather catastrophes that usual surround our DXpeditions. There was a lot of talk about mayonnaise but I was too tired to fully comprehend what was going on.

### **FRENDX: Twenty Five Years Ago....**

What would December be without Charlie Loudenboomer's "Twas the Night Before Christmas?" Jimmy C. Jones was the winner of the Tall Tale contest. Jones' entry was about the freezing point of standing waves at -41 degrees Fahrenheit. Scott Reeves compiled a listing of English language programs to North America. The World Radio TV Handbook was being offered to members for \$6.50, which was \$1.00 off the cover price. Larry Yamron notified members that a local branch was being formed in Pittsburgh. Harry van Gelder sent a letter to all DX Federations, Councils, and clubs publicizing DX Rally 1974. Dan Ferguson informed members that club dues would remain at \$10.00 per year with the Mid-Month Flashsheet costing \$2.00 per year. In the QSL Report, John Campbell reports verification from the rare hospital ship "De Hoop." Other fine catches included Lakeland Radio, La Voix de Revolution, Burundi, That TV, and Turks & Caicos Islands.

## Calendar Of Events

- Dec 18 Meeting. Philadelphia Area NASWA Chapter.** Kulpsville Holiday Inn, Kulpsville, PA at 7:30 PM. For more information contact Dan Cashin at 610-446-7831.
- Dec 18 No Meeting. Boston Area NASWA Chapter.** The December meeting of BADX has been cancelled. The next meeting will be January 15 at The Lexington Club, Rts. 4 & 225, Lexington, MA at 7:30 PM. The location is 1/4 mile west of Rt. 128, Exit 31. For more information contact Paul Graveline at 978-470-1971 or Internet: 74007.3434@compuserve.com. The URL for the BADX guys is <<http://www.anarc.org/naswa/badx/>>.
- Dec'98 Contest. 1998 African DX Contest** organized by Gruppo Radioascolta Liguria ("GRAI") will take place between 2200 and 2300 on December 20, 1998. Details in October's *Journal*. Send your entry to Alessandro Micheli, Via Lausen 16, 38050 Canal S. Bovo, Trento, Italy.
- Jan 8 Meeting. The Tidewater SWL's** meet at 6:30 PM. For more information plus meeting location contact Joe Buch at [joseph.buch@dol.net](mailto:joseph.buch@dol.net)
- Jan 8 Meeting. The Cincinnati/Dayton Monitoring Exchange (MONIX)** meet at the Lebanon Citizens National Bank on U.S. Route 42 in Mason at 7:00 PM. For more information contact Mark Meece at 513-743-8089 or e-mail at <[mmeece@siscom.net](mailto:mmeece@siscom.net)>. For additional information about MONIX, check out their web site at <<http://www.siscom.net/~mmeece/monix.html>>
- Mar'99 Contest. 1999 North American DX Championships.** Further information will be published in the *Journal* or you can send a self-addressed stamped envelope to 1999 NADXC, c/o Dr. Harold Cones, 2 Whits Court, Newport News, VA 23606.
- Mar'99 Convention. The 12th Annual Winter SWL Festival** will be held at the Kulpsville Holiday Inn (Exit 31 on the Northeast Extension of the Pennsylvania Turnpike) on 12-14 March 1999. Organized by the infamous "gang of three" (Messrs. Brown, Cones, and Field) this all wave gathering attracts about 200 hobbyists each year.
- Apr'99 Convention/DX Camp.** The Danish Shortwave Club International will hold its **Annual General Meeting and DX Camp** during the weekend of April 30-May 2, 1999 at a scout camp in the dunes of the west coast of Jutland, Denmark. Details to follow.
- Apr'98 Convention. The 35th Annual International World Wide Continental DX Association (IWWCDXA)** will be held in Tahiti at the Charlie Loudenboomer Estate on April 1, 1998 from noon until midnight. Charlie will lecture continuously during this 12-hour period on a variety of boring subjects some of which may actually pertain to shortwave radio. Registration fee is a modest \$150.00 with an extra \$50.00 charge for the traditional hamburger helper banquet. More information is available from Charlie at <[cl@sucker.com](mailto:cl@sucker.com)>.

Members are invited to submit items to be included in this calendar to Rich D'Angelo (Internet: [rdangelo3@aol.com](mailto:rdangelo3@aol.com)) or Ralph Brandi (Internet: [ralph@mcs.com](mailto:ralph@mcs.com)).

## Contribute!

Send your loggings and QSL information off to our Distributing Editor, **Fred Kohlbrenner** (2641 South Shields Street, Philadelphia, PA 19142). He will forward them to the appropriate editor. Remember, Fred has now expanded his business to include QSL report information and totals for the **Scoreboard** column. He can also be reached through the Internet at: [fkohl@ix.netcom.com](mailto:fkohl@ix.netcom.com).

# Easy Listening

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## It's Great to be Back

Hello again! It's great to be back as the editor of *Easy Listening*. Before I go any further I wish to thank John Figliozzi from the bottom of my heart for filling in for more than two years as column editor. The column has been in great hands during my absence, and I hope I can continue to build on John's excellent contributions. John certainly won't be disappearing from the hobby, as his other efforts in books and periodicals will now be able to receive a higher level of support. John will also be contributing from time to time in the column here as well.

## So What Did I Miss?

The past two years have generally seen short-wave diminish in its importance as a medium for international broadcasters to deliver their message. Some key developments:

- ¶ **Radio Canada International** survived extinction threats and finally appears to be on solid footing.
- ¶ **Radio Australia**, an underfunded broadcaster even three years ago, has seen nearly half its transmitter plant shut down, and is no longer managed as an independent entity. Nearly all its programming originates from, or is also aired by, the domestic Radio National network, and Radio Australia is managed as a part of Radio National.
- ¶ The **Christian Science Monitor World Service**, a 'round-the-clock news and analysis effort, was shuttered, with all Christian Science programming now religious.
- ¶ The **Voice of America** adopted a 24-hour news and analysis format of its own, called *VOA News Now*.

- ¶ **Radio New Zealand International** has lost much of its independent programming.
- ¶ **Radio Portugal** no longer broadcasts in English.
- ¶ The **BBC World Service** scaled back from five program streams to three streams, and appears on the verge of launching a separate (my own speculation) 24-hour news service built on the format of *The World Today*. The Beeb continues to annoy listeners with ill-advised schedule changes and strategies.
- ¶ **Radio Norway International** no longer broadcasts in English.
- ¶ **Merlin Network One** has arrived on the air, mostly with a music format.

I'm sure I missed some of the more significant developments, but these were the station developments that came most readily to mind.

To some extent, we only have ourselves to blame. We need to make clear to broadcasters that our listening makes a difference in our attitudes, opinions, and behaviors about their country, people, and economy.

Myopic politicians and policymakers also share in the blame. Speaking as a marketing manager, I believe broadcasters are being shortsighted in eliminating or reducing short-wave as a medium, especially in the developing world, because it is very difficult to look at the cause & effect of different delivery methods in listeners' (think consumers) attitudes and opinions. As a marketer, it's very difficult to trace *which marketing tools* were effective in convincing a customer to do business with me. Was it an advertisement? A trade show? A press release? A direct mail piece? Tracing the initial source is very difficult.



Clearly, though, we as listeners need to become activists. At the Winter SWL Festival a few years back, I was struck by the passion of a couple attendees for a particular program host on WWCN. Do you show your passion for your favorite broadcaster or program?

## The Internet and Shortwave Radio

I could consume a lot of space hashing and rehashing the relationship between the Internet and Shortwave Radio, but I won't. The 'net has greatly facilitated access to up-to-date schedule and frequency information for major broadcasters, and nearly all broadcasters can be E-mailed. However, detailed program information—the type I report on in this column—is still very difficult to come by, except perhaps 1 to 2 weeks in advance. A few broadcasters, specifically HCJB and Radio for Peace International, have created E-mail lists utilized in “pushing” program and station information to listeners.

Aside from information, the other significant role of the 'net is the availability of live and on-demand audio from more than 1700 sources, most of them radio stations. While Internet audio should still be considered somewhat experimental, with connectivity not universally reliable, the diversity of programming options - even just considering those broadcasters traditionally called “shortwave broadcasters” is remarkable. As a parent with two young children, much of my listening is “catch as catch can”, and I listen to tape recorded downloaded files quite frequently.

Given the role of “webcasting” as part of the media mix, I do plan to report on programs originating from international broadcasters that air at times when a particular broadcaster doesn't propagate well to most of North America.

My reasoning is that the *message* is what's important in the context of Easy Listening,

whereas the *media* is less important. My basic criteria is that a broadcaster must have a significant shortwave presence for much of its output if it's to be discussed here. For example, an international broadcaster that's audible as part of the new *WRN from NPR* can be covered here, but NPR originated programming that's available only via satellite or webcast can't be covered here. If you'd like to debate that approach, feel free to drop me a note, or, better yet, submit your thoughts in a Musing to Rich D'Angelo.

## Program Exchange

Several months back, John Figliozzi started a new regular segment entitled “Program Exchange”, incorporating your selections and suggestions for programming. I will keep this tradition going—as long as you support it with your submissions. I'll take written copy, E-mail, faxes (610-954-7045), or whatever format you're comfortable with.

### Radio Australia: *The Planet*

**Weekdays, 1300 UTC:** First, from Bob Montgomery: Some fantastic music in the a.m, 1300 to 1500 UTC. *The Planet* features a wide variety of music, anything from Reggae to CW, and to real ridge runner music. Really good stuff. Some mornings, several types of music and not all the same for several hours. Can't say I have ever heard pop on at this time but much Jazz and sometimes some good folk. Blue grass this particular morning. Lucky Oceans (originally born Reuben Gosfield in Philadelphia) hosts Monday through Thursday, Robyn Johnston on Fridays. Doug Spencer produces the program for Australia's Radio National, and can be contacted at ABC Radio National, GPO Box 9994, Perth, W.A. 6001, Australia.

### Radio Australia: *Money, Markets & The Economy*

**Sundays, 1130 UTC:** One of the problems with business and economic news these days is the emphasis on instant analysis, with very little depth. You don't see analysis, you just see reaction. Radio Australia has been offer-



ing a 13-episode series, *Money, Markets & The Economy* that seeks to demystify the external forces and political motivations that shape macroeconomic behavior. The program has been airing Sundays, 1130 UTC; the program is also available on-demand in RealAudio, (URL: <http://www.abc.net.au/money>) and other live airings, available in RealAudio, can be found from the Radio Australia website. The 13<sup>th</sup> edition will air December 6<sup>th</sup>; and the series will then be repeated starting with the 1<sup>st</sup> edition (per personal correspondence from RA).

#### Merlin Network One

**Daily, 2000 to 0600 UTC:** From John Figliozzi, here's the program schedule for Merlin Network One:

**Daily except Wednesdays:**

0000 *The MNO Music Jam*

2000 *The Rock Radio Network* (from 1800)

**Wednesday**

00:00 *The MNO Music Jam*

20:00 *The MediaZoo\**

21:00 *Atmospherics*

22:00 *The 2 hour Album Zone*

**North American target Frequencies:**

0000-0300: 9560 kHz

0300-0600: 9895 kHz

2000-2200: 11985 kHz

#### HCJB—DX Partyline

**Sundays, 0110 and 0410 UTC:** Also, from Mr. Figliozzi: Next weekend, HCJB's *DX Partyline* starts a new feature titled "Tech Talk with Dr. Rick." This will be the first regular technical spot for SWLs since the demise of "The Two Bobs" on SRI some years ago. (Arnie Coro's program on RHC is technical in nature, but oriented more toward hams—and more advanced ones at that, IMHO.)

From what I understand, the spot will work very much like "The Two Bobs" or if you prefer the *Swiss Shortwave Merry-Go-Round*. Technical questions related to SWLing from listeners will be answered. More details are on the HCJB website.

## BBC World Service Highlights

As usual, we'll preview upcoming **BBC World Service** series and occasionally profile ongoing offerings. I'll focus on prime time airings in the Americas stream, when possible given the program schedule. First, though, I'll highlight a phenomenon which happens only once every nine years.

### Light Entertainment

Thursdays, 0330: *Brain of Britain* reaches a nine-year climax with the following series of programs:

December 17<sup>th</sup>: The finals for *Brain of Britain 1998*, with Robert Robinson presiding.

December 31<sup>st</sup>: The 1998 champion (crowned on the 17<sup>th</sup>) faces off against the 1996 and 1997 champions for the title *Brain of Brains*.

January 7<sup>th</sup>: The 1998 Brain of Brains faces off versus the 1995 and 1992 Brain of Brains for the crown of *Top Brain*, awarded once every nine years!

The only other Americas airing on shortwave is the prior Saturday at 0730; you might also be able to catch the European feed Mondays at 1830.

### General Features

Sundays, 0130—*On Your Behalf* is a 12-part 15-minute listener contact series for listeners with a sense of curiosity regarding what they've heard (presumably, on the World Service). The program is hosted by Malcolm Billings, who hosts and produces the popular program *Heritage*. *On Your Behalf* also airs Fridays at 1615.

Mondays, 0130, beginning December 7<sup>th</sup>—*Pick of the World* returns for a 16-week run. Daire Brehan picks her favorite programs for the prior week for a repeat airing. Daire can apparently be influenced by listener suggestions regarding which programs are worth repeating; E-mail your suggestion to [pick@bbc.co.uk](mailto:pick@bbc.co.uk). Also airs Sundays 1615.

Mondays, 0530, beginning December 7<sup>th</sup>—*Tying The Knot* is a five-part 30-minute series looking at wedding celebrations and their cultural contexts in five diverse cultures, ranging from Nigeria to Hungary to Pakistan and beyond. Also airs Saturdays 1030 and Mondays 2130.

Saturdays, 0130, beginning December 26<sup>th</sup>—*Small Worlds* is a six-part 15-minute series investigating the unique lifestyles of the world's 'microstates'—those countries small in landmass and population. Why do Monaco, Iceland, Samoa, Kiribati, Nauru, and the Seychelles all have minimal starvation, homelessness, unemployment, or crime? Repeated Fridays 1515.

#### Science and Technology

Tuesdays, 0145, beginning December 15<sup>th</sup>—*Wild Tales* is an eight-part 15-minute series inviting eight different naturalists the opportunity to relive some of their most memorable and fascinating animal encounters. You can hear about Polynesian snails, anaconda snakes in Guyana, and leech plagues in the Amazon. Joanna Pinnock hosts; also airs Fridays 1230.

Tuesdays, 0330, beginning December 29<sup>th</sup>—*Watershed* is a four-part 30-minute series examining the possibility that demand for water may soon exceed its global supply. Water has long been a source of conflict, between Egypt and Ethiopia, and Israel and Palestine, to name a few countries. Andy Kershaw discusses water problems with politicians, environmentalists, scientists, and people at the heart of the problem. Repeated Tuesdays 1130.

#### The Arts

Saturdays, 2230: *Play of the Week* synopses:

Saturday, December 12<sup>th</sup>: *The Cyclist* is a simple fable-cum-morality tale, where an innocent dreamer, known only as the Narrator, is desperate to see the world. He leaves his sheltered Indian village and sets off to cycle round the world. Written by Vijay Tendulkar, one of India's foremost modern playwrights.

Saturday, December 19<sup>th</sup>: *The Spectre Bridegroom* is based loosely on a Washington Irving short story as a Christmas fairytale with a distinctly science fiction flavor. Hattie, a practical, of not particularly beautiful young girl, is promised in marriage to the heir of an old and honorable family. Said gentleman shows up to claim Hattie's hand, but he is, alas, crushed to death by a passing waste disposal unit from the planet Ord. Hattie's despair is ameliorated by the Model G28 humanoid aboard the waste disposal unit, but Hattie's father isn't so sure. Written by Diane Ney, a previous winner of the BBC World Service Playwriting Competition.

Saturday, December 26<sup>th</sup>: *Mr. & Mrs. Nobody* is a stage play based on George and Weedon Grossmith's comic masterpiece *The Diary of a Nobody*. Keith Waterhouse wrote the stage play based on this and his own work *Mr. Pooter's Diary*. Dame Judy Dench and Michael Williams are featured.

That's it for December—have a wonderful holiday season! See you next year

73 DE Richard



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## DX Target: Radio MINURCA

### United Nations Mission Radio in the Central African Republic

by Richard A. D'Angelo

During the summer of 1998, a small radio station, established by the United Nations Security Council began broadcasting on FM in Bangui, the capital city of the Central Africa Republic. By November, Radio MINURCA was able to add shortwave broadcasting, thus becoming the first UN "mission" station to operate on shortwave. I was fortunate to catch a broadcast from this new shortwave broadcast station during its first week of operation and received some interesting information from its director, David Smith. More about Radio MINURCA, its role in Africa, and its programming a little later. First, let's take a brief look at the Central African Republic.

### The Country

The Central African Republic, as its name implies, lies in central Africa and is bordered on the north by Chad, on the east by Sudan, on the south by the two Congos and on the west by Cameroon. The landlocked nation has an area of 622,436 sq. km (about 240,323 sq. mi.). Bangui is the capital and largest city.

### Land, Natural Resources, and Climate

The Central African Republic is situated on the northern edge of the Congo River Basin. Most of the land is a plateau that ranges in elevation from 610 m to 790 m (about 2000-2600 ft). There are two ranges of hills in the north and northeast that rise to maximum heights of about 1400 m (about 4600 ft). Most of the country is savanna, which is grassland interspersed with trees. Open grass-

land is found in the extreme north, and dense rain forest covers the major part of the southwestern part of the country. The mineral resources of this primarily agricultural country are relatively undeveloped. Diamonds are the dominant exploited mineral, but deposits of uranium exist, as well as iron ore, gold, lime, zinc, copper, and tin. Commercially valuable trees include the sapele mahogany and the obeche. Almost every animal of the African tropics is found in the country. However, David Smith notes, "There is fabulous scenery in the country, and I have heard that there is lots of big game too, but, after seven months in Bangui, I have yet to see anything more exotic than a dog." The climate of the Central African Republic is hot and humid; the average temperature is about 26°C (79°F). Tornadoes and floods are common at the onset of the rainy season, which lasts from June to November. Annual rainfall varies from about 1800 mm (about 70 in) in the Ubangi River valley to about 200 mm (about 8 in) in the semi-arid north.

### Population

The main ethnic groups of the Central African Republic are the Baya, Banda, Sara, Mandjia, Mboum, and M'Baka. About 49 percent of the population inhabit small villages, living and working according to traditional customs. The population of the country was 2,054,610 in a 1975 census and was estimated in 1995 to be 3,429,000. Most of the population is concentrated in the western half of the country, where Bangui (Population estimated in 1988 as 451,590), the capital and chief city, is located. An estimated 60 percent of the total population follow traditional religions, about 35 percent are Chris-



tian, and 5 percent are Muslim. French is the official language, but Sango is the most common African language and numerous other African languages are also spoken. Only 38 percent of the population are literate.

## Economy

The Central African Republic is one of the most underdeveloped areas in Africa. Growth of the export economy is hindered by the difficulty of transporting goods to a seaport. The country has no railroads. Consequently, river systems are important arteries of transportation. About 60 percent of the population earns their livelihood by farming. The agricultural output is fairly evenly balanced between subsistence and export crops. The principal sources of revenue are diamonds, coffee, tobacco, cotton, and timber exports. The annual national budget in the early 1990s showed revenues at \$175 million and expenditures at \$312 million.

Only about 3 percent of the total land area is suitable for crops. The government has organized agricultural cooperatives, placing primary emphasis on introducing new crops that are expected to produce a higher income. The government encourages the cultivation of tobacco, sesame, and rice. The most important cash crop has traditionally been coffee, but production declined along with market prices in the early 1990s. Cotton, which is widely cultivated, is now the leading cash crop and represents 23 percent of export earnings.

Manufacturing activity in the Central African Republic is very limited. Products include cottonseed, peanut, and sesame oils; textiles; leather goods; tobacco products; soap; flour; bricks; and paint. The annual output of electricity is about 96 million kilowatt-hours, approximately 69 percent of which is generated in hydroelectric installations. Gem diamonds account for nearly all the country's mineral output and 63 percent of its export revenue.

France and Belgium are by far the leading trade partners, and some commerce is also carried on with the nearby nations of

Cameroon, Congo, and Gabon, with which the Central Africa Republic is linked in the Customs and Economic Union of Central Africa. In the early 1990s annual exports earned about \$138 million while imports cost \$205 million. Station Director DEavid Smith offers the following comments about the economy. "The only textile mill in the country closed down a couple of years ago. The UCATEX factory in Bangui is waiting for the elements to knock it down. A big part of the problem is lack of infrastructure. It takes almost a week to drive from the coast (Doula, Cameroon) and only the most sturdy of vehicles dare make the trip. A good highway and rail line to Douala could help boost the economy of this country."

## Government

In 1981, army officers overthrew the government of the Central African Republic and suspended a constitution that had been approved earlier that year. A new constitution calling for a single-party republic was approved by referendum in November, 1986. Under this constitution, a president and the Council of Ministers, which the president heads, hold executive authority; the president is popularly elected to a six-year term. The National Assembly, the 85 members of which are popularly elected to five-year terms, holds legislative authority. In 1992, the constitution was revised to allow for a multi-party system. A recent series of mutinies has resulted in the current UN peacekeeping mission.

## History

Most of the ethnic groups inhabiting the present-day Central African Republic entered the region in the 19th century to escape Fulani armies or to avoid slave traders operating in the Congo River Basin and modern Sudan. In the 1880s, the French annexed the area and in 1894 it was organized as the territory of Ubangi-Chari. In 1910, the dependency became part of the Federation of French Equatorial Africa. From 1946 to 1958, the territory had its own elected legislature and was represented in the French National Assembly. In 1958, the dependency gained

autonomy as the Central African Republic; it became fully independent on August 13, 1960. At one time in late 1976, the country was briefly renamed the Central African Empire.

## The Station

Radio MINURCA is the UN's peacekeeping radio station in Bangui. Radio MINURCA commenced broadcasting on July 22, 1998 on FM 100.8 MHz in Bangui using a 500 watt transmitter. After running test transmissions of music from July 22 through July 27, the station's first live program was broadcast at 0815 UTC on July 27th. It consisted of an interview with the UN's Special Representative to the Secretary General, Mr. Oluyemi Adeniji. Shortwave broadcasting commenced at 1600 UTC on Saturday, November 7, 1998 on 9900 kHz. The station uses a 20-kilowatt transmitter, which is running at only 12 kilowatts. Programming is targeted to the Central African Republic from studios located in Bangui.

The UN mission was established in Bangui in April, 1998, by action of the UN Security Council, in order to ensure security and stability in the country following three violent mutinies. Radio MINURCA is part of the UN's peacekeeping mission. MINURCA (Mission des Nations Unies en Republique Centrafricaine) was established by the UN Security Council in April, 1998, and is scheduled to continue until February 28, 1999. While Radio MINURCA is scheduled to cease broadcasting on that date, there is the possibility that either the mission will be extended or another UN agency may take over operation. David Smith, Director of Radio MINURCA, would like to see the Radio MINURCA continue because the station "is extremely popular here and provides the only independent voice in the country."

Radio MINURCA is enjoying many firsts for the UN: first mission radio to broadcast 24 hours a day, seven days a week; first UN mission radio to broadcast on shortwave; and first UN mission radio station to use local presenters for all of its programming. The first program broadcast on Radio MINURCA was called TGV Musique, presented by Carlos Valenzuela, who also hap-

pens to be chief of the station's electoral unit. The station also carried a "once-off" reggae program, in English, on Saturday, November 16, 1998, that was heard worldwide by DXers and shortwave listeners including myself. Jamaican-born Henry Thompson, the station's communications chief, who made his first radio appearance with that broadcast, presented the program. Station Director David Smith says, "The 'once-off' reggae program has proven so popular that we've decided to 'cement' it into the Saturday 2100 UTC slot. We have literally been bombarded with e-mails from all around the world complementing Radio MINURCA and Henry Thompson on REGGAE NIGHT."

Most of the station's programming is in Sango and French, although Radio MINURCA also carries some live programming from the BBC Africa Service in English (0500-0600 and 1745-1900 UTC). There are plans to run some English and French programming from Radio Netherlands in the near future. The target audience is the people of the Central African Republic and the bulk of the station's current programming deals with preparations for legislative elections scheduled for Sunday, November 22, 1998, and again on December 13, 1998. Presidential elections are scheduled for late 1999, but it is unclear whether the UN will still be in Bangui at that time.

The station is very interested in receiving reception reports. They can be sent by regular postal mail to the station at: Radio MINURCA, David Smith, Director, P. O. Box 2732, Bangui, Central African Republic. According to Mr. Smith, "e-mail is rather fragile in the Central African Republic, so I use two different systems. One of them usually down." E-mail reception reports can be sent to David Smith at <radmin@intnet.cf> or <smith2.unep@un.org>. Alternatively, you can try sending a reception report to their FAX number 1-212-963-9715, which, by the way, is in New York City.

Grab this one while it lasts. Report loggings of this new station to Wally Treibel for the International Band Log Report and verifications to Sam Barto for the QSL Report. Good luck with this DX target.



# Equipment Reviews

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## The Ten-Tec Model RX-320 PC Radio

This has been one of the most fun-to-use receivers I have ever tested—I think that any SWL with a computer would love to have one of these radios! Since the radio's control functions and most of the signal processing are done via software, the radio has a fantastic price to performance ratio, with a price of \$295 plus shipping. The Ten-Tec RX-320 is a 3 x 6.25 x 6.5 inch black metal box that plugs into a serial port of a personal computer running Windows 3.1 or 95. The computer must be a 386 or better and have at least one megabyte of free hard disk space available. The DSP functions are handled by a chip in the receiver, so processor speed is not important for receiver performance. I used a 200 MHz Pentium and response to commands was almost instantaneous. The receiver is supplied with a 9 pin (DB9) serial cable, AC adapter, a patch cord for connecting the receiver's audio output to the computer's sound card line input, control software on a 3.5 inch diskette and a telescoping whip antenna which screws into the radio's circuit board via a hole in the top cover. Provision for an external antenna (RCA phono connector) and an external 4 ohm speaker (1/8 inch jack) are available on the radio's rear panel.

The RX-320 is a general coverage receiver with a frequency range of 100 kHz to 30 MHz. Demodulation, filtering and AGC are all done by digital signal processing. Reception modes of AM, USB/LSB and CW are supported. There is no synchronous AM mode. The receiver's IF bandwidths are 8, 5, 2.5, 1.8 and 0.5 kHz (shape factor 1.5:1 or better) on the latest models. The receiver was originally equipped with 6 and 3 kHz values instead of the 8 and 5 kHz and the advertising

I have seen as late as the November 1998 QST still shows values of 6 and 3 kHz. The folks at TenTec told me that the change was made for better SWL performance. AM sensitivity is rated as 0.64  $\mu$ V with the wide filter (80% modulation, one kHz tone, 12 dB S+N/N). SSB sensitivity is 0.3  $\mu$ V with the 2.5 kHz filter. Third order intercept is specified as +10 dBm with a 90 dB dynamic range with the 2.5 kHz filter with 50 kHz signal spacing. The radio is a triple conversion design with intermediate frequencies of 45 MHz, 455 kHz and 12 kHz—the final conversion being for the DSP circuitry.

### Installation

I really appreciate that TenTec supplies all the necessary cables for connecting the RX-320 to a computer. They even include a RCA connector for the external antenna jack. The radio does require a free serial port to be connected to, but it can be configured to use COM 1-4. The serial cable and the audio patch cable are six feet in length, to allow placing the receiver away from the computer and monitor. The control software is loaded from a 3.5 inch diskette and takes up less than a megabyte of hard disk space. The software version I received with the radio was Version 1.25, but Version 1.26, which repairs a couple of glitches, is now available on the TenTec Website. I initially had no audio output from the sound card, but this was a problem with my computer. I had to activate the line input via the sound card's mixer program. It took longer to figure this out than it did to install the software and start using the radio! If your computer doesn't have a sound card, the RX-320 provides a one watt output to drive an external 4 to 8 ohm speaker.



## Gee, it looks like a radio!

At this point, I strongly advise you to go to TenTec's Website ([www.tentec.com](http://www.tentec.com)) and download the RX-320 control program software, since a picture is worth 10,000 words. The software will operate without the radio. Once the control program is started, the main screen comes up with three windows: the radio panel, the memory window and the spectrum scan display. These windows can be opened or closed by clicking on buttons on the program's toolbar or via the "View" option on the Menu bar. The radio panel window is the primary one that most operators will use. It looks just like the front panel of a typical communications receiver with frequency display, tuning knob (with spinner indent!), pushbuttons for mode, filter and tuning step and a slider for volume control. The computer's pointing device (I prefer a trackball to a mouse, due to limited real estate on the desk) is used to select the desired function. The top portion of this window has the frequency display, with read-out to 1 hertz. Along with the frequency the current filter, mode and tuning step are displayed. There is a clock with both local and UTC times displayed. The radio's clock is slaved to the computer's clock. Offset between UTC and local time is set via the "Options" button on the toolbar or via "Setup"

on the Menu bar. Just below the frequency display is the log scale. The log scale is calibrated in 2 kHz steps and covers a span of approximately 260 kHz. A red index line in the center of the log scale indicates the currently tuned frequency.

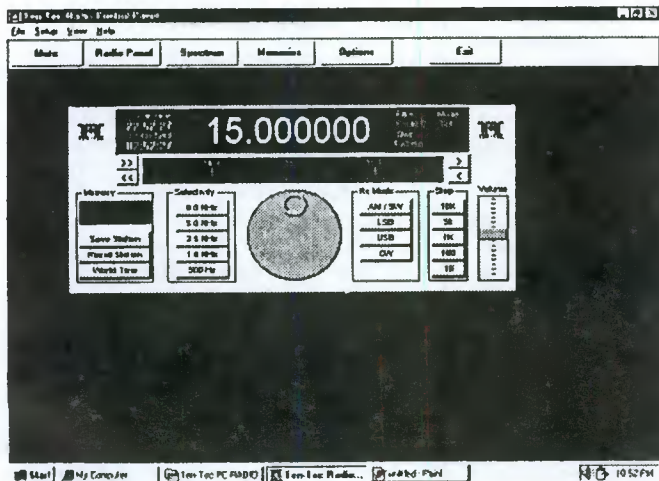
## Where's the tuning knob?

The log scale can be "dragged" to retune the receiver—very useful for quick frequency excursions, but not very precise. At the right end of the log scale are right and left arrowheads. When these are clicked the radio will tune in steps based on the currently selected step size in the direction of the selected arrowhead. Available step sizes are 10, 5 or 1 kHz or 100 or 10 hertz. When a specific mode is selected, a default tuning step is selected: 5 kHz in AM and 100 hertz for SSB/CW. These defaults cannot be reset. At the left end of the log scale are double left and right arrowheads. When these are clicked, the radio tunes in steps equal to 10 times the current step size.

Yes, there is a (virtual) tuning knob. By pointing to the tuning knob on the panel display the radio can be tuned by clicking. Point to the upper half of the knob and a clockwise arrow appears. The receiver then tunes up in frequency by the selected step

size for each click—point to the lower half of the knob to tune downward. The receiver tunes continuously if the left mouse button is held depressed. For those who refuse to use a mouse, the computer's Up and Down arrow keys will also tune the radio.

Direct frequency entry is also possible via the numeric keypad (Num Lock must be enabled). I found it easiest to enter frequencies in MHz for-



mat, i.e. with a decimal point. Kilohertz entry can be forced by typing "k" instead of "Enter" after the desired numerals. The instruction manual states that the program will attempt to determine the format based on the numbers entered. This didn't work too well—entering frequencies less than "1000" tuned the radio in kHz, but numbers greater than 1000 resulted in the radio tuning to hertz. For example, entering "7,8,0,Enter" tuned to my local talk station on 780 kHz, but typing "1,2,9,0,Enter" tuned the radio to 1.290 kHz—below the reception range of the radio! I found it easier to use the "k" method to enter medium and longwave frequencies and the decimal point and "Enter" for shortwave—zeroes after the decimal point do not have to be entered. By clicking on the frequency display, a numeric entry window is opened and the desired frequency can be typed in, but I don't see much point in this, as it requires an additional mouse click compared to the keypad entry method.

## Other controls

To the left of the tuning knob are the buttons for bandwidth selection: 8, 5, 2.5, 1.8 and 0.5 kHz. Any of these values can be selected for any mode, but the defaults when a specific mode is selected is 8 kHz for AM, 2.5 kHz for LSB/USB and 1.8 kHz for CW. Further to the left of the tuning knob are the memory controls. At the top of this column is the memory display—this shows the station identifier (i.e. "BBC") when the receiver is tuned to a frequency that has been saved in memory. Below this window are the memory save and recall buttons. When the "Save" button is clicked, the "Station Information Sheet" pops open. This permits entering the station call sign or identifier, frequency, mode, bandwidth, country, language and notes. Pressing the "Recall" button pulls up the memory window—which I will describe later. The bottom button in this column is "World Time"—clicking this button tunes the radio to 10 MHz in AM mode. The default frequency for the "World Time" button cannot be altered. Unfortunately, there's no way to go back to the frequency the radio was tuned

to, other than using the keypad or the other tuning methods—it would be nice if clicking the "World Time" button a second time would return the receiver to the previously tuned frequency.

To the right of the tuning knob are the mode buttons: AM, LSB, USB and CW. The AM button is labelled "AM/SW", I presume for those North Americans who equate "AM" with the medium wave band. Contrary to what is shown in the ads for the RX-320, there is no "SAM" button for synchronous AM detection (hopefully a future development, but "not at this time" according to TenTec). Further to the right are the tuning step buttons: 10K, 5K, 1K, 100 and 10 hertz. There are no provisions for 9 kHz steps for overseas MW listeners. The minimum tuning step of 10 Hz is adequate for SSB/CW signals, but is still too coarse for really good ECSS tuning of AM signals with music content, although it is adequate for voice programs. The other obstruction to ECSS tuning is outlined below. Any tuning step can be selected for any mode, but switching modes resets the receiver for the default step for that mode; 5 kHz for AM and 100 hertz for the other modes. In addition, switching modes changes the resolution of the tuning display to the default tuning step for that mode.

## Zero-beating, Not!

This can present a problem when attempting to "zero-beat" a station to measure the exact frequency or for ECSS tuning of AM signals. An example is in order to illustrate this. If the radio is tuned to a signal at 9.755 MHz in AM mode, then switched to USB and 10 Hz tuning step selected, the signal is zero beat at 9.75486 (the master oscillator is off slightly—TenTec says that the capability to adjust this oscillator will be incorporated into future software revisions), then switch to LSB to compare the sidebands. At this point, the tuning step switches to 100 Hz, which is OK, because it can be changed, but the receiver retunes to 9.75480 MHz (note that the tuning goes to the lower 100 Hz increment, not the nearest). Therefore, one sideband cannot be

compared to the other without resetting the tuning step size and retuning. If the AM mode is then re-selected the receiver retunes to 9.755 MHz, since the tuning step defaults back to 5 kHz and the display reverts to 1 kHz resolution. Going back to the zero-beat frequency requires resetting the tuning step and retuning the radio. The solution would be to have "sticky" defaults where the software remembers the last step used for a particular mode or being able to specify the defaults via an options menu.

## Unique S-meter

A non-standard "S" meter can be displayed by checking a box in the User Options brought up by the "Options" button on the toolbar or via the "Setup" choice on the Menu Bar. It is non-standard in two ways: it has a 0 to 80 scale rather than "S" units and it has TWO needles! The lower needle indicates the current relative received signal strength while the upper is a "peak hold" indicator with a decay time of about one second.

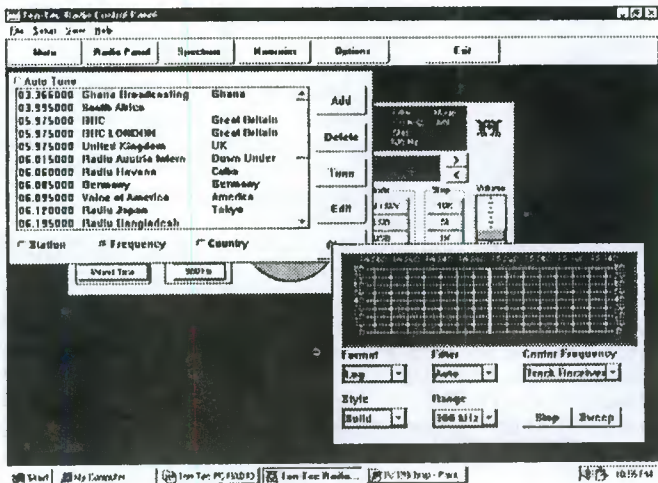
## Other features

So far, what I have described is a radio with a virtual front panel. However, the RX-320 software has two additional components that make it more than that. Although these features are available through software control programs for other radios, TenTec's implementation of them make them very functional and easy to use.

The first of these features is the memory window. When this option is selected, a window opens with a list of stations stored in memory displayed. The memories can be reviewed by scrolling through the list. The

memories can be displayed in order of callsign/station identifier, country of origin or frequency. Clicking on a memory highlights the listing and it can be tuned, deleted or edited. The edit command pulls up the "Station Information Sheet" which contains fields for station, frequency, mode, bandwidth, country, language and notes. There is no "Copy" command for making duplicate entries where only one field such as the frequency needs to be changed. On the main memory screen is a radio button for "Auto Tune"—when this option is selected, the radio will automatically tune to the desired memory channel with a single mouse click.

I found the memory list to be very useful and quick to use. The number of available memory channels is only limited by the computer's available RAM, according to the manual, although surely what is meant is hard disk space, since the receiver's memories are non-volatile. The manual states that any PC will store 1000's of memories. The only drawback I can foresee to this memory capacity is that there is no way to search the list of memories. I think it would be nice if there was a search function, especially if it was the type of search that Microsoft uses in some of their programs where the search results automatically narrow as more characters of the desired search target are typed in. Unfortu-





nately, based on my correspondence with TenTec, there are no plans to implement such a feature at this time.

## Is the band open?

The other feature of the RX-320 that I found quite exciting was the spectrum window. This window is a spectrum analyzer display, which shows a plot of signal strength vs. frequency. The sweep widths available are 1.5 MHz, 750, 300, 150, 75, 30 or 3 kHz. The center frequency can be the frequency that the receiver is currently tuned to or can be input by the user. The sweep time is 25 seconds and the receiver mutes during the scan. Once the scan is completed, the user can point to the spikes on the display and tune to that frequency by clicking. I found that the spikes lagged the actual frequency by one or two kilohertz, so some fine-tuning may be required. This was no big deal, since it just involves moving the mouse pointer and clicking a time or two. The spectrum analyzer works quite well—it does a good job of distinguishing signals from noise. I really enjoyed this capability, especially for band-scanning and searching for new stations.

## Is it a good radio?

Since the RX-320 has no front panel controls and signal detection and processing are handled by a couple of integrated circuits, the overall cost of the radio is low. I would comfortably state that this is the best radio available for \$300. Due to the inherent cost savings in the design, overall performance is approximately equivalent to "normal" radios costing up to twice as much. Of course, one major factor in the cost of the required computer system, but most people that would be interested in the RX-320 have a computer already. I don't have any experience with the Icom PCR-1000 or the Winradio, so I can't compare how the TenTec performs relative to these other PC radios. The PCR-1000 and Winradio do have VHF/UHF coverage, unlike the RX-320, which only goes up to 30 MHz.

Due to its lack of advanced features such as passband tuning and notch filter, the RX-320 isn't a replacement for kilobuck DX machines, but it does a creditable job for both program listening and DX'ing. Sensitivity is more that adequate, especially with an outdoor antenna. I could routinely copy hams on ten meters and got plenty of stations on the tropical bands. The filtering, due to the tight skirt selectivity inherent with DSP filters, is outstanding. The 8 kHz bandwidth was excellent for program listening and the 5 kHz value works well for rejecting adjacent channel interference. The 5 kHz filter sounds somewhat "pinched" (consistent with the tight skirts), but the receiver could be off-tuned by one kHz or so to "brighten up" the sound while still rejecting interference. Both the 2.5 and 1.8 kHz filters were very useful for listening to hams. The AGC characteristics were good overall, although there was some "thumping" on weak signals. I couldn't detect any difference in the AGC when switching from AM to SSB modes. I was unable to detect any spurious signals from local MW broadcasters, either above or below the standard AM broadcast band, even with a half wavelength 90 meter dipole. TenTec rates the receiver's dynamic range at 90 dB (2.5 kHz bandwidth at 50 kHz spacing) and the third order intercept at +10 dBm. I thought that the audio quality was excellent, but this will be dependent on the quality of the sound card and speakers that are attached to the host computer. The built-in audio amplifier had more than enough power to drive a Drake MS-4 speaker to room-filling volume. The external speaker output can be used for headphones, but a mono to stereo adapter is required for stereo headphones.

## Hints and quirks

With my particular computer and monitor, I was unable to use the RX-320's whip antenna for anything more than a quick test due to computer noise. Most of the noise was from the monitor. Based on my experience, I would recommend locating the antenna for

the radio as far from the computer as possible and using good quality coaxial cable to connect the antenna to the RX-320. Initially, I still had a noise problem when using an outdoor antenna with a coax lead-in—I found that center conductor of the coax had a poor solder joint at one of the connectors. Resoldering the joint almost completely removed the noise. The connecting cables for the radio are six feet in length, so the radio can be placed away from the computer and closer to the antenna. A good earth ground can be useful for reducing noise, as well.

When I used the control program with my monitor set for large fonts, the bottom 1/5 of the clock digits were cut off. Switching the monitor preferences for small fonts restored the full clock display.


I did notice some quirks with the memory display window on the radio panel. I had saved the frequencies for RFPI (6,975 and 15,049 kHz) in memory. I was quite surprised to see “RFPI” pop up in the memory window as I was tuning the 160 meter ham band one evening, at 1942 kHz. Subsequently, “WLW” (normally at 700 kHz) appeared in the window as I tuned past 13,807 kHz while bandscanning. Note that the radio didn’t tune to these frequencies—just that the stored station identifier appeared in the display window. I’m not sure what causes these anomalies.

Occasionally, the control program wouldn’t start—a “floating point error” message was displayed. This is a bug that occurs when the S meter display option is chosen. Version 1.26 of the control software supposedly fixed this bug, but I still had the problem intermittently. While cycling the power switch in frustration during one occurrence of this problem, I managed to break the switch. Fortunately, the power switch is the only component that is not mounted on one of the RX-320’s two circuit boards, so a quick trip to

Radio Shack and some soldering was all that was needed. The power switch is somewhat awkward to reach, but the receiver can be left powered up at all times.

## The fun factor

I really enjoyed using the TenTec RX-320. My usual radios are beyond an arm’s length from my computer, so it was really nice to be able to open the receiver’s window and retune the radio while using the computer. I had no conflicts while using the radio with any software. While I would like to see some changes, primarily being able to specify defaults, adjust the master oscillator and adding a search function to the memory page, the RX-320 is a solid performer and is really fun to use. Selectable sideband synchronous AM detection would also be a nice addition, but I am unsure of the feasibility of this modification. A programmer’s reference guide is available at TenTec’s website, so it will be interesting to see if any third-party software becomes available.

I think that the highest compliment that I can pay to a piece of review equipment is that I end up buying it instead of sending it back. That’s my plan for the RX-320. I would also like to compliment TenTec’s factory service—I managed to break the potentiometers on my 1254 kit receiver—they sent me replacements at no charge. If you would like to see another review of the TenTec RX-320, check out Tom Sundstrom’s review in the Receiver Shopping List at the Radio Netherlands website ([www.rnw.nl](http://www.rnw.nl))—he gives it five stars and I concur. The price for the receiver is \$295 plus shipping direct from TenTec. The radio has a 30 day money back guarantee (minus shipping charges) and a one year warranty. TenTec’s address is 1185 Dolly Parton Parkway, Sevierville, TN 37862; (800) 833-7373; E-mail: [sales@tentec.com](mailto:sales@tentec.com) ; Website: [www.tentec.com](http://www.tentec.com). 

## The Sun And Short-Wave Reception (Part 7)

This month the glossary of terms associated with the sun and shortwave propagation continues.

**PLAGE** Bright areas in the chromosphere overlying sunspots. The source of EUV radiation. It exists from the emergence of the first magnetic flux until the widely scattered remnant magnetic fields merge with the background.

**PLAGE CORRIDOR** A space in chromospheric plage lacking the usual intensity and coinciding with the polarity inversion line.

**PLAGENIL** Spotless disk free of plage.

**PLASMA** An ionized gas in which there are approximately equal numbers of positive ions and negative particles. There may also be many neutral particles, as is the case for the ionosphere.

**PLASMA FREQUENCY** The maximum frequency of the internal oscillations of a plasma. The plasma frequency is proportional to the square root of the electron density.

**PLASMAPAUSE** The outer boundary of the earth's plasmasphere. The plasmasphere resides in the magnetosphere and consists of ions and electrons. The plasmopause may be considered an extension of the ionosphere.

**POLAR CAP ABSORPTION (PCA)** An anomalous condition of the polar D Region ionosphere whereby HF and VHF (3-300 MHz) radio waves are absorbed, causing blackouts, and LF and VLF (3-300 kHz)

radiowaves are reflected at lower altitudes than normal. PCAs and proton events occur simultaneously. PCAs are almost always preceded by a major solar flare on the visible hemisphere of the sun. The time between the flare event and the onset of the PCA ranges from a few minutes to several hours. Transpolar radio paths can be disturbed for days or weeks following the end of a proton event.

**POLARIZATION** In an ionized medium in the presence of a magnetic field, a radio wave is split into two circularly polarized components. Each component propagates independently. These components are called the ordinary and extra-ordinary waves. The division of wave energy depends on the angle the wave makes with the magnetic field. At low frequencies, the extra-ordinary wave is heavily attenuated.

**PRODUCTION** In the ionosphere, "production" refers to the process of producing free electrons.

**PROMINENCE** A term identifying cloud-like features in the solar atmosphere. The features appear as bright structures in the corona above the solar limb and as dark filaments when seen projected against the solar disk.

Figure 4 shows several prominences as viewed in H-Alpha light. (See Part 5 of this series.)

**PROTON** A positively charged nuclear particle associated with solar flares.



**PROTON EVENT** By definition, the measurement of at least 10 protons/sq.cm/sec/steradian at energies greater than 10 MeV. A steradian is a solid angle in spherical geometry. There are Pi steradians in a sphere.

**PROTON FLARE** A flare that liberates significant amounts of high energy protons. If this stream intercepts the earth, the protons can cause a polar cap absorption (PCA).

**QUIESCENT PROMINENCE (FILAMENT)** A long, sheet-like prominence extending nearly vertically above the solar surface. Figure 4 shows some.

**QUIET** A description of geomagnetic disturbance conditions meaning a geomagnetic Ap index level of less than 8. Another definition refers to solar activity levels with less than one chromospheric event per day.

**RADIO EMISSION** Emissions of the sun in radio wavelengths. These emissions are roughly categorized into two types, bursts and long duration background radiation. Radio burst emissions provide to scientists an early alert signal that a flare has occurred. The intensity of the radio emission from the sun often increases during solar flares and above large sunspot groups. In addition, the sun produces a background radio noise flux which depends on frequency and varies in the course of the solar cycle. Units for solar radio flux are  $10^{-22}$  Watts/meter<sup>2</sup> (also known as a solar flux unit or s.f.u.). Solar flux units are measured at a wavelength of 10.7 centimeters and reported on WWV and on the web by the NOAA Space Environment Center. The background flux level averaged over a 30 to 90 day period is strongly correlated to ionospheric ionization levels and maximum useable frequencies.

Four categories of radio emission bursts have been defined:

- **Type I** A noise storm composed of many short, narrow-band bursts in the metric range (50 to 300 MHz)

- **Type II** Narrow-band emission that sweeps slowly downward in frequency from around 300 MHz toward the vicinity of 10 MHz. Type II emissions occur are correlated roughly with major flares and are evidence of a shock wave moving through the solar atmosphere.

- **Type III** Narrow-band solar noise bursts that sweep from about 500 MHz to 500 kHz in a few seconds. Type III bursts often occur in groups and are sometimes associated with complex solar active regions.

- **Type IV** A smooth continuum of broad-band bursts primarily in the 30 to 300 MHz range. These bursts are associated with some major flare events beginning 10 to 20 minutes after the flare maximum, and can last for hours.

**RADIO EVENT** Flares with centimetric bursts and/or correlated with a Sudden Ionospheric Event (SID).

**RECOMBINATION** The process of joining together of ions and free electrons in the ionosphere to form neutral atoms or molecules.

**RECURRENCE** Describes the recurrence of physical parameters on the sun every 27 days (the rotation period of the sun).

**REFLECTION** Radio waves are refracted in the ionosphere. The rays actually bend like a column of soldiers marching from a smooth surface into a muddy field at an angle. The column will bend in the direction of the muddy field. The amount of refraction depends on the electron density of the ionosphere and the operating frequency. To simplify ray path analysis, scientists often substitute a simple straight-line ray path for the real ray path, as though the ray reflected from a mirror. Thus radio waves are often referred to as being reflected from the ionosphere.

**REFRACTIVE INDEX** An index to define the amount of refraction a wave will undergo when it enters a medium.

**RETARDATION** The delay in radio wave propagation caused by the slowing down of the wave as it goes through the ionosphere. This is an effect that must be compensated for in precision satellite navigation systems like GPS. GPS measures the difference in arrival time of a signal transmitted on two frequencies. The difference in delay is proportional to the total delay allowing receivers to compensate for total ionospheric delay time.

**RIOMETER** (Relative Ionospheric Opacity meter). A specially designed radio receiver for continuous measurement of cosmic noise reaching the surface of the earth. The absorption of cosmic noise in the polar regions is very sensitive to the solar low-energy cosmic ray flux.

**SEASONAL ANOMALY** See Winter Anomaly.

**SECTOR BOUNDARY** An area of demarcation between sectors of the solar wind and the predominant direction of the interplanetary magnetic field.

**SHORT WAVE FADE (SWF)** A subset of Sudden Ionospheric Disturbances (SIDs) whereby short-wavelength radio transmissions, VLF, through HF, are absorbed for a period of minutes to hours. When you hear your first one, you will think your radio is broken or the antenna fell to the ground.

**SHORTWAVE FADEOUT** See Daylight Fadeout.

**SID** Sudden Ionospheric Disturbance. See Daylight Fadeout.

**SIGNAL-TO-NOISE-RATIO** The ratio of the power of a signal to the power of the noise in the receiver equivalent noise bandwidth. Usually expressed in decibels.

$S/N \text{ db} = 10 \log (P \text{ signal}/P \text{ noise})$

**SKIP DISTANCE** The minimum distance from the transmitter for which a reflected wave will return to earth from the ionosphere when the operating frequency is above the vertical incidence critical frequency. Within the skip distance, only ground wave propa-

gation is possible. The higher the operating frequency, at a given level of ionization in the ionosphere, the longer the skip distance.

**SKY WAVE** The radio wave which propagates to and from the ionosphere. Sometimes called the ionospheric wave to distinguish it from the direct (line of sight) wave and the ground wave.

**SMOOTHED SUNSPOT NUMBER** An average of monthly sunspot numbers centered on the specified month. Smoothed numbers tend to obscure the effect of short term variations to allow major long term trends to be identified. The smoothed sunspot number is used to define the start and end times of a solar cycle.

**SOLAR ACTIVITY** A generic term to describe any change in the sun's appearance or behavior. You will hear solar activity described as very low, low, moderate, high, or very high.

**SOLAR CONTROL** The term used to indicate that the behavior of an ionospheric region is dominated by the sun.

**SOLAR CYCLE** Solar activity levels go up and down over a period of about 11 years. At solar maximum, the solar activity is high and so too the radiation output which affects the ionosphere. At solar minimum, the opposite is true. Some scientists think they also see a 22 year cyclic component. There have been times in history when the usual solar cycle disappeared for decades. These periods have been associated with droughts on earth as determined from old tree growth rings and historical records. Long period solar cycles may be responsible for climatological cycles on earth such as the widely touted global warming.

**SOLAR FLUX UNIT** Unit of radio emission from the sun defined as  $10^{22}$  Watts/meter<sup>2</sup>. At the minimum of the solar cycle, when there are no sunspots, the solar flux measured on earth at 10.7 centimeters wavelength is about 68 solar flux units. At solar maxima this measurement can rise into the hundreds of solar flux units.

# Listener's Notebook

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**KINDA SQUEEZED FOR SPACE** this month (at least it's for a good reason!), but had to sneak in my sincere thanks to everyone whose listening and reporting and cooperation have made this column possible for another year. Here's wishing everyone a happy holiday and a DX-packed new year!

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## AFGHANISTAN *Radio Voice of Shari'ah*

0130-0355	Pashto/Dari	7201v 4774v Sa-Th
0330-0800	Pashto/Dari	7201v 4774v Fr
1230-1430	Pashto/Dari	7201v 4774v
1430-1500	Nuristani/ Pashavi	7201v 4774v
1500-1600	Pashto/Dari	7201v 4774v
1600-1615	Urdu	7201v 4774v
1615-1645	Turkmen	7201v 4774v
1630-1645	Urdu	7201v 4774v
1645-1700	Arabic	7201v 4774v
1700-1715	English	7201v 4774v
1715-1745	Pashto/Dari	7201v 4774v

Provincial station *Takhar Radio* is on 7085 kHz (BBCM) 7070v Afghanistan (t) 1200-1330 weakest station 3 time pips at 1230 and Afghanistan and Kabul in ID. Frequency moves and much ham QRM. (25-Nov/Goonetilleke-SRI)

**ALGERIA** *Radio Algiers International* in English noted on 6160 at 1600-1700. (1-Nov/RVI Radio World/BC-DX/Bueschel-GER)

**ANGOLA** 4914.43 *R. Nacional de Angola*, 0413-0428, "R. Nacional da Angola a seu servico" Talking abt the death of some one. (28-Oct/Iversen/DSWCI DX-Window/Petersen-DEN)

4950 *Radio Nacional de Angola*, 0039-0045, W speaker in Portuguese talking to various people on the phone. Clear ID at 0041. 24343 (20-Nov/Veldhuis/DSWCI DX-Window/van den Boogert-TWN)

11954.74 *R. Nacional*, 0125 nice signal with mix of PT-language and US/UK pop music, even some country mx, announced by man. Considerably stronger than WINB-11949.94 at the same time. (4-Nov/Novello-NC)

**ARGENTINA** 15820.0L *Radio Rivadavia*, Buenos Aires, 0700-0710 good, after the usual canned ID, the 5 minute micro news "El Rotativo del Aire" was broadca st with weather report. (22-Nov/TIN-JPN/Relampago DX) //13363.50 (22-Nov/van Rooy/DSWCI DX-Window/van den Boogert-TWN)

**BHUTAN** 5030 *Bhutan B.S.*(p), 1250, in Nepali. Heard local pops in good condition but was gone due to carrier came on of BBC at 1256. (3-Nov/Iwata/Kanto DXers Circle/DSWCI DX-Window/van den Boogert-TWN) 5030 *Bhutan BS* local lang into EE at 1315 to 1400\*. Much better signal now, and will improve as winter progresses. (23-Nov/Goonetilleke-SRI)

**BOLIVIA** 3493.8 *Radioemisora Padilla*, 0023-0105, sports news about Oriente Petrolero and Copa Bolivar. ID "Usted esta en sintonia de Radio Emisora Padilla, transmitiendo en la frecuencia de 3475 kHz, banda de 90 metros onda corta...Padilla, capital de la provinci en nuestros estudios son las 9 de la noche 5 minutos." (6-Nov/Iversen/DSWCI DX-Window/Petersen-DEN)

4471.85 *Radio Movima*, 2310-2315, Spanish, talk, mid-sentence ID (23-Nov/Phillips/DSWCI DX-Window/van den Boogert-TWN)

4549.45 *Radiodifusroa Tropico*, 2300-2320, Spanish, continuous talk, ID, teleprinter and CW QRM (23-Nov/Phillips/DSWCI DX-Window/van den Boogert-TWN)

4702.21 *R. Eco*, San Borja, Beni, 2255 M announcer with monologue including numerous IDs in passing. Canned ID 2302. Clobbered by huge chirping ute 2304. First time I've heard this one since last May. (23-Nov/Novello-NC)

The missionary organization SIM reports that *Radio Mosoj Chaski* will soon go on the air in Cochabamba, following the recent granting of a license by the Bolivian government. The station has already produced and recorded 1 year of programs in the Quechua language. The construction of the studio building is completed, and the programming team has moved in. Construction continues on the caretaker's quarters at the 10 kW transmitter site. Radio Mosoj Chaski will proclaim the Christian Gospel in Quechua to the entire nation. I would assume by this that the station will use SW, since a 10 kW MW transmitter would not give national coverage. (Colin Miller-CAN, VE3CMT, Oct 28/BC-DX/Bueschel-GER)



**BRASIL** 4865.14 *Radio Missoes da Amazonia* 0904 in Portuguese with lively music, definite canned ID @0910, then talking atop music (voice mixed too low and unintelligible); both music and voice ended at 0914\*, when station seemingly pulled the plug. If this is a real signoff time, North American DX'ers will have to be up at a godawful hour to log this one! (25-Nov/Quaglieri-NY)

**CENTRAL AFRICAN REPUBLIC** 9900 *Radio Minurca* (Mission des Nations Unies en Republique Centrafricaine) is active. Sked appears to be: BBC 1800-1900 French 1900-2000 music 2000-2230+ Address is B.P. 2732, Bangui, Central African Republic, FAX 236-61-2108, E-mail: radmin@intnet.cf (Berg+Kohlbrener+Fine+Nordic DX)

**CHILE** *Radio Voz Cristiana* is operated by the UK-based Christian Vision organization, which also operates Christian Voice radio in Zambia. Main production studios are in Miami (USA).

0000-0100 Spanish/ 21550 15375 11745 6070  
English

0100-0500 Spanish/ 15375 11745 11690 6070  
English

0500-0600 Spanish/ 15375 11690  
English

0600-0800 Spanish/ 11690  
English

0800-0900 Spanish/ 11890  
English

0900-1000 Spanish/ 11890 6070  
English

1000-1100 Spanish/ 15375 11890 6070  
English

1100-1200 Spanish/ 21500 15375 6070  
English

1200-1300 Spanish/ 21500 15375 9635  
English

1300-2000 Spanish/ 21550 21500 17680 9635  
English

2000-2100 Spanish/ 21550 21500 17680 6070  
English

2100-2300 Spanish/ 21550 17680 11745 6070  
English

2300-2400 Spanish/ 21550 15375 11745 6070  
English

(BBCM) [BBCM says programs are in Spanish and English, but I've yet to see English reported-AQ]

**CLANDESTINE- AFRICA** *Voice of Democratic Eritrea - The Voice of the Eritrean Liberation Front Revolutionary Council* (Arabic "Sawt Eritrea al-Dimuqratiya—Sawtu Jabhat al-Tahrir al- Eritrea") 1500-1530 Arabic/Tigrigna 9230

(BBCM)

*Voice of Free Eritrea* (Arabic "Sawt Eritrea al-Hurrah;" Tigrigna "Demtsi Natsa Eritrea")

1530-1600 Arabic/Tigrigna 9230 Mo-Fr

(BBCM)

*Voice of Truth* (Arabic: Sawt al Haqq)

1530-1600 Arabic 9230 Sa/Su

1600-1630 Arabic 9230 Mo-Fr

1600-1630 Tigrigna 9230 Sa/Su

(BBCM)

*Radio of the Voice of Freedom and Renewal, Voice of the Sudan Alliance Forces, Voice of the Popular Armed Uprising* (Arabic: idha'at sawt al-hurriyah wa al-tajdid, sawt quwwat al-tahaluf al-sudaniyyah, sawt al-intifadah al-sha'biyyah al-musallahah).

0400-0500 Arabic 7000v

1600-1700 Arabic 7000v

(BBCM)

**CLANDESTINE—LATIN AMERICA** Colombian clandestine *Voz de la Resistencia* 6239.80 at 1059 strong and clear with vocal anthem mentioning "companeros," straight into musical selections. Just missed an anncet before the anthem, but voiceover during second song after anthem said "Transmite La Voz de la Resistencia." These guys play some nice cumbias—shame about the telco-quality audio. Trx Morhmann/Valko tip via Johnson. 1051 Nov 10, came on with a Spanish-language version of "Seasons in the Sun" (of all things), then one other LAM popular song, then "Companeros de la FARC" anthem. M announcer with s/on sequence just before 1100, giving schedule as 6:00 to 7:30 in the morning (1100-1230 UTC) and 4:30 to 6:00 in the evening (2130-2300 UTC) on 6240. Then back into music. (9-Nov/Novello-NC)

**CROATIA** *Croatian Radio* B98:

0000-0200 6165D 9925J

0200-0400 6165D 9925J

0400-0500 6165D 9925J

0500-0600 6235D 7305D 9925J

0600-0730 6235D 7305D 9830D

0730-0800 6165D 7305D 9830D

0800-1200 6165D 7185D 9830D 13820J

1000-1200 6165D 7185D 9830D 13820J

1200-1630 6165D 7185D 9830D

1630-1730 6235D 7305D 9830D

1730-1900 6235D 7305D

1900-2030 6235D

2030-2400 6165D

2100-2200 13830J

D=Deanovec, J=Julich (6-Nov/EDXP/Padula-AUS)

**DOMINICAN REPUBLIC** 2700.09h *Ondas del Yuna*, Bonao, 2305 noted back on the air with merengues with a rural flair mixed with usual bachata mx and live, excited M and W announcers. 0000 finally a canned "Ondas del Yuna" ID; heard well past 0230 with this format. A pleasure to hear this one back post-Georges, and at its former good strength. (13-Nov/Novello-NC)

4779.86 *Onda Musical*, 2300 making one of its infrequent appearances with bachatas, "incon-

fundible" IDs, and good signal despite low het. (15-Nov/Novello-NC)

**ECUADOR** 4814.35 *Radio El Buen Pastor*, Saraguro, 0149-0251, saludos between songs, mentions of "Saraguro" and a bank in "Loja." ID's in passing as "...sintonia de 90.3..." (probably their FM outlet?), and program "Programacion Romantica." 0247 switch to a 3 minute dramatic promo which included a canned "Radio El Buen Pastor" ID, then back to announcer and musica romantica (19-Nov/Mohrmann/DSWCI DX-Window/van den Boogert-TWN)

**ERITREA** Conflicting reports from various sources have made for some confusion re the actual schedule for *Voice of the Broad Masses of Eritrea* (VOBME), the official government-run radio of Eritrea. Below is my best guess-AQ. ID in Arabic: "Huna Asmara, Idha'at Sawt al-Jamahir al-Iritriyyah." ID in Tigrigna: "Ezi Kab Asmara Zemehalalef Medeber Radio Demtsi Hafash Eritrea Eyu." ID in Amharic: "Yeh be Asmera ketema yemigeagne yesifif yeritrea hezeb demts yeamargina agegilot new."

0330-0430	Afar	7175 Sa
0330-0430	Arabic	7175 Mo-Fr
0330-0430	Tigrigna	6190 7100 Mo-Fr
0400-0500	Tigre	6190 7100 Sa
0430-0500	Amharic	7175
0430-0530	Tigre	6190 7100 Mo-Fr
0500-0600	Afar	7175 Mo-Fr
0500-0600	Arabic	7175 Sa
0500-0700	Tigrigna	6190 7100 Sa/Su
0700-0730	Tigrigna	6190 7100 Su
0930-1030	Arabic	7175
0930-1030	Tigrigna	6190 7100 Mo-Fr
1000-1300	Tigrigna	6190 7100 Su
1300-1400	Arabic	7175 Mo/Th/Sa
1300-1400	Tigre	6190 7100 Su/Tu
1300-1400	Tigrigna	6190 7100 We/Fr
1400-1500	Afar	7175 Su-Fr
1500-1530	Bilen	7175 Mo/Th
1500-1530	Saho	7175 Tu/Fr
1500-1600	Kunama	6190 7100
1530-1600	Amharic	7175
1600-1700	Tigre	6190 7100
1700-1800	Arabic	7175
1700-1830	Tigrigna	6190 7100

(BBCM + Goonetilleke-SRI)

**ETHIOPIA** 9560.2 *Radio Ethiopia*, Gedja, 1352-1359, Native music, M speaker in Afar, IS at 1358, followed by opening announcement of Arabic Service and chimes. (19-Nov/Veldhuis-HOL/DSWCI DX-Window/van den Boogert-TWN)

7160 *Radio Ethiopia* in FF 1700-1730, very good signals //9560. One is reminded of Radio Voice of the Gospel ETLF in the '60ies when these transmitters were their property. Wonder if they ever got any compensation? (23-Nov/Goonetilleke-SRI)[I don't believe so. - AQ]

**GERMANY** *High Adventure Ministries* have eliminated their evening European English broadcasts

(1900-2100 on 5975 and 2100-2300 on 6000 kHz), replacing them with a daily 4 hour morning block of programming to Europe, 0700-1100 on 5975 KHz, via DTK Jülich. (Daig-HAM UK/DSWCI DX-Window)

5850 *Sunrise Radio* via Jülich, 1420 with usual programming, back here ex-6110. Discovered by checking out a cry for help from a listener, who misses his favourite office station "since a couple of days." (13-Nov/Ludwig/DSWCI DX-Window/Petersen-DEN)

**GUYANA** 3289.93 *Voice of Guyana* noted at 0940 in English at listenable level (finally) with hindi-type music interrupted every measure for an English translation by W, pgm ended 0950, then hyper car dealer ad, then M "You are tuned to the Voice of Guyana..." into W more subcontinental-type mx. (25-Nov/Quaglieri-NY)

**INDIA** 4950 *AIR Srinagar*, 1535-1550, news in English, AIR ID; mention of Kashmir after the news, but again a general ID and continuing with news in vernacular. Poor signal. (20-Nov/Pijpers/DSWCI DX-Window/van den Boogert-TWN)

4960.05 *AIR Ranchi* (p), 1530-1544, TS, short instrumental tune, W with ID and news in English, correspondent reports. News ended at 1544 with short instrumental tune. Quite good until 1533. The only source that lists AIR here is Klengenfuss '98, and it says transmitter site is Ranchi. Can anyone confirm this? Haven't seen this one mentioned in the DX press recently. (2-Nov/Veldhuis/DSWCI DX-Window/Petersen-DEN) 4960 *AIR Ranchi* tested here only a few days in early November, but is now off. Earlier in '98 tested 3305 again for few days. (22-Nov/Goonetilleke-SRI)

12040 is another new frequency from *AIR* in Hindi at 1615-1730 hrs to ME. (8-Nov/Dasgupta-IND/DSWCI DX-Window/Petersen-DEN)

**INDONESIA** 2960.0 *RPDT2 Manggarai*, talk of local information by M at 1145. Local pops at 1147. Jakarta news relay at 1200. ID by M at 1223 as "...siaran kami Radio Pemerintah Daerah Tingkat Dua Manggarai," local pops at 1237. Not relayed Jakarta news at 1300. Poor. (14-Nov/Yamada-JPN/Jembatan DX)

3074.20v Unidentified, 1156-1315, no relay of RRI Jakarta news at 1200. Popular music, dangdut music, and M mentioned as "...Kalimantan Selatan." Also mentioned "...Kalimantan Selatan" at 1303. At 1315 signal going down. First heard this on Nov. 5. Weak. (5-Nov/Schulze-PHL/Jembatan DX/Yamada-JPN)

3204.4 *RRI Bandung*, at 1353 with W talk. Local news started at 1400. Also heard at 1813 with Sundanese traditional music. SCI at 1858 and Jakarta news relay at 1900. ID at 1907 then Sundanese traditional music again. Poor. (14-Nov/Yamada-JPN/Jembatan DX)

3231.9 **RRI Bukittinggi**, local news was heard at 1531. The ending music was "Bagimu Negri" with chorus. ID at 1536 then short local traditional play. ID again at 1538 and followed to lagu melayu. Fair. (7-Nov/Yamada-JPN/Jembatan DX)

3395.1 **RRI Tanjung Karang**, 1046-1055, Bahasa Indonesia, with Indonesian pop music, 1048 Qu'ran. (14-Nov/Kecskes/DSWCI DX-Window/Petersen-DEN) I believe the new name for Tanjung Karang is Bandar Lampung. (Veldhuis-HOL) **RRI Bandar Lampung**, 1450-1500, BI, man talking, local ID. (7-Nov/Schnitzer/DSWCI DX-Window/Petersen-DEN)

3644.3 **RRI Fak Fak** (p), M talk at 1835. Already not heard at 1900. (14-Nov/Yamada-JPN/Jembatan DX)

3905 **RRI Merauke**, \*1858, S/on with music, followed at 1859 by Song of the Coconut Island. At 1900 Warta Berita by M speaker in Bahasa Indonesia, followed by choir with Love Ambon. At 1905 on Nov 19 ID by W speaker: "Radio Republik Indonesia Merauke," and on Nov 20 same by M speaker (also at 1905), followed both days by western popmusic with Indonesian M songs. (19-Nov/van Rooy/DSWCI DX-Window/van den Boogert-TWN)

3976.1 **RRI Pontianak**, 1420, M speaker in Bahasa Indonesia, by re-check at 1455 western popmusic with Indonesian M songs, at 1457 M speaker in Bahasa Indonesia until 1459, then Song of the Coconut Island, followed by Warta Berita at 1500 by M speaker. (22-Nov/van Rooy/DSWCI DX-Window/van den Boogert-TWN)

3985.8 **RRI Surabaya**(p), all night wayang kulit program at 1855. Not relayed Jakarta news at 1900. Poor. (14-Nov/Yamada-JPN/Jembatan DX)

4606.45 **RRI Serui** (p), 1135-1150 fade out. Traditional Indonesian mx w/ talks by W anncr in Indonesian. (4-Nov/Rippel/DSWCI DX-Window/Petersen-DEN)

4606.3 **RRI Serui** 1250 w/beautiful Indo ballads. (23-Nov/Goonetilleke-SRI)

4696.50 **R. KIP**, 1927-1932, BI with Gamalan play (14-Nov/Kecskes/DSWCI DX-Window/Petersen-DEN)

4753.3 **RRI Ujung Padang**, 2020-2144 carrier cut, interesting mix of music with choir vocals and middle-eastern type music. Carrier cut in the middle of a long talk by a man and woman about Ujung Padang. Fair. (7-Nov/D'Angelo-PA/DSWCI DX-Window/Petersen-DEN)

4766.2 **RRI Medan**, Jakarta news relay at 1203. Dangdut music at 1213. ID by W then radio drama. Heard today only. Still not heard regularly. (6-Nov/Yamada-JPN/Jembatan DX)

4777.1 **RRI Jakarta**, 2148-2225 fade-out, Vocals until SCI at 2158, Jakarta news at 2200 and more music until fade out. Poor to fair. (7-Nov/D'Angelo-PA/DSWCI DX-Window/Petersen-DEN)

4789.13 **RRI Fak Fak**, 1155 lagu selections and impossibly deep-voiced M announcer; SCI three times 1159, then RRI ID. (9-Nov/Novello-NC)

4874.38 **RRI Sorong**, 1150 local Elvis doing "Can't Help Falling In Love With You;" Leo Sayer's "When I Need You;" M and W announcers; SCI twice just before 1200. Signal only fair, but readable. (3-Nov/Novello-NC)

4925.0 **RRI Jambi**, \*2156-2245 fade-out, IS to RRI Jambi ID by woman at 2158, followed by SCI. At 2200 another RRI Jambi ID followed by local news with many items about Jambi. (7-Nov/D'Angelo-PA/DSWCI DX-Window/Petersen-DEN)

11760.0 **RRI Jakarta**, Cimanggis, Badmington [badminton?-AQ] game of Indonesia open was heard at 1315. //3355.3kHz, 4606.4kHz, 4753.4kHz, 4777.1kHz, 4925.0kHz, 5040.0kHz, 9565.0kHz, 9630.0kHz, and 15125.0kHz. (1-Nov/Yamada-JPN/Jembatan DX)

**RRI Ambon** 4945.0 inactive recently. (Schulze-PHL)

**RRI Banjarmasin** 3250.0 still inactive.

**RRI Jambi** 4927 and 3355.3kHz reactivated on Oct 26 after several days absence.

**RRI Manokwari** 3987.2 not heard at local evening.

**RRI Medan** 4766.2 active again on Nov 11.

**RRI Padang** 3959.7 still inactive.

**RRI Sorong** 4874.4 Nov 14 active after several days absence.

**RRI Ujung Padang** 2490.0 not heard at local midnight, 14-Nov. (Yamada-JPN/Jembatan DX)

**IRAN** Again, ignore the full schedule in last month's LN! Here's the **Voice of the Islamic Republic of Iran** current observed schedule (Nov 12-13) including a lot of new frequencies:

0000-0030	Arabic	5995 6120 6145
0000-0630	Farsi	15084
0030-0130	Bengali	6015 6185 9515
0030-0130	English	6065 9022 9685
0030-0130	Spanish	6010 6175 9650
0030-0230	Arabic	5995 6120 7270
0100-0300	Dari*	7180
0130-0230	Spanish	6010 6065 6175 9650
0130-0230	Urdu	6005 6190 7130
0230-0330	Arabic	5995 9565
0230-0330	Pashto	6005 6190 7130
0230-0330	Spanish	6065 6175
0300-0330	Armenian	7235
0300-0330	Uzbek*	7180
0330-0400	Arabic	6195* 7115* 7130 7295* 9565 9670* 9770 15125
0330-0400	Arabic-IRI	5995 6020* 6145 9695
0330-0430	Swahili	11750 13605 15320 15610
0330-0500	Tajik	7180





1300-2215	Arabic-d	12140 9815 5915
1315-1330	Georgian	15640 11605
1500-1530	English	17535 15650
1500-1600	Persian	15640 9435 7465
1600-1625	Hebrew-g	7465 9435 15640 Fr
1600-1625	Persian	15640 9435 7465 Su-Th
1600-1625	Spanish/ Ladino	21625 15640 11605 9435 7465 Sa
1600-1800	Hebrew-b	17545 15615 11590
1630-1645	French	15650 11605 9435
1645-1655	English	15650 11605 9435
1700-1725	Yiddish	11605 9435 9365 7465
1725-1735	Moghrabi	9365
1725-1745	Romanian	11605 9435 7465
1735-1745	Spanish	9365
1745-1800	Hungarian	11605 9435 7465
1745-1800	Ladino	9365
1800-1825	Yiddish	11605 9435
1800-1900	Hebrew-b	15615 11585 9390
1800-2000	Russian	9435-(from 1830) 7465
1900-2000	Hebrew-b	11585 9390 9365 7495
2000-2025	English	15640 11605 9435 7465
2000-2200	Hebrew-b	11605 11585 9390 7495
2030-2045	French	15640 11605 9435 7465
2045-2100	Spanish	15640 9435 9365 7465
2200-2300	Hebrew-b	15640 11585 9390 7495
2300-2400	Hebrew-b	7495

Hebrew-b = relay of Network B (Reshet Bet) Hebrew-g = Reshet G  
 Arabic-d = relay of Network D (Reshet Dalet) (BBCM)

**KAZAKHSTAN** *Kazakh Radio's* external service is relayed via transmitters in Ukraine. It may also be carried on Kazakh Radio's domestic second program.

1200-1220	English	11840-ukr 9620-ukr Fr/Sa
1200-1220	German	11840-ukr 9620-ukr Su/Mo/ We/Th
1200-1220	Turkish	11840-ukr 9620-ukr Tu
1220-1240	English	11840-ukr 9620-ukr We
1220-1240	Russian	11840-ukr 9620-ukr Su
1220-1240	Tatar	11840-ukr 9620-ukr Fr
1220-1240	Uighur	11840-ukr 9620-ukr Mo/Tu/ Th/Sa
1240-1300	Azeri	11840-ukr 9620-ukr Th
1240-1300	English	11840-ukr 9620-ukr Tu
1240-1300	Korean	11840-ukr 9620-ukr Su/Mo/ We/Fr
1240-1300	Russian	11840-ukr 9620-ukr Sa

(BBCM)

Radiochannel "Euraziya"

0940-1000	Russian	5970 6000 9505 9620 11720
1020-1040	Russian	9505 9602 11720

("Club DX"/VOR/RUS-DX/Klepov-RUS)

**KENYA** 4880 *KBS* in vernaculars 1600-1700+. Note that Nairobi/4935 is off the air due to transmitter problems. Should come back soon from past experiences. (23-Nov/Goonetilleke-SRI)

**KOREA—NORTH** 2850 *Korean Central Broadcasting Station*, Pyongyang, 2211, M and W talk in

Korean and martial music. Loud for a couple of minutes.//3350. (22-Nov/Harms-MD)

**KYRGYZSTAN** 4010 *Radio Bishkek*, 1757, W speaker in Kyrgyz with pieces of rock music with Kyrgyz M songs, followed by ID by W speaker at 1759 sounding as "Kyrgytski Radio." (13-Nov/van Rooy/DSWCI DX-Window/Petersen-DEN)

**LAOS** 4683 *Houa Phan* noted 1030-1230 with fair reception, also *Luang Prabang* good on 6974 1000-1230\* and \*0050-0110\*. Both relay Vientiane with bell chimes and news from around 1159, //6130. (7-8-9-Nov/Davies-THA/BC-DX/Bueschel-GER)

**LIBERIA** 5100 *Radio Liberia International* with rap music at 2251. Radio Liberia ID at 2259. (9-Nov/Ross-ONT)

**LITHUANIA** *Radio Baltic Waves* is a surrogate broadcaster for Belarus transmitted from Lithuania. Station heard testing on 6240 at 1630 on 13-Nov (Kuhl-GER), and earlier (4-Nov, by Elbe) on 6235 with 8-letter groups in Russian. The transmitting facility is already installed somewhere in the Northern Lithuania with a 10 kW transmitter and a zenith radiation antenna system in order to get a better coverage of such a close target area. The reason for creating of the RBW/RG sce is a very bad situation concerning the human rights and freedom of expression, which occurred due to the current behavior of the Belorussian authorities. (Vadim Alexeev-RUS/MIDXB/Pashkevich-RUS/BC-DX/Bueschel-GER) According to e-mail QSL transmitter location was Ute-nea, Power 2.5 kW, antenna fullwave dipole, 1/5 wavelength height, beamed 135/315. Here's an excerpt of an eMail of RBW, from Rimantas Pleikys, ripple@rc.lrs.lt (Elbe/DSWCI DX-Window/Petersen-DEN)

**MADAGASCAR** 3287.7 *RTV Malagasy*, Antananarivo, 1641. Traces of music under noise and UTE-QRM. Weak, but definitely // stronger 5009.5 kHz. (21-Nov/Veldhuis-HOL/DSWCI DX-Window/van den Boogert-TWN)

5009.56 *RTV Malagasy*, Antananarivo, easy listening songs, low pitch M announcer. (Schaay-HOL/DSWCI DX-Window/van den Boogert-TWN)

**MALAYSIA** *Radio Malaysia Sarawak* noted signing on at 0100 with IS and ann on 7130 Kuching, so this daytime-only freq evidently is active (but reception is difficult later in the day here). Still no sign of 5030 Kuching and 6060 Miri, the latter freq in particular is a clear channel all evening so I'm fairly convinced Miri is now inactive. (30-Oct/Davies-MLY/BC-DX/Bueschel-GER)

**MOLDOVA** All *Radio Moldova International* shortwave broadcasts are transmitted via facilities located at Galbeni, Romania.

0230-0255	Spanish	9590
0300-0330	Romanian	7500

0330-0355	English	7500
0400-0425	Russian	6135
0430-0455	English	7500
1200-1225	Spanish	15315
1230-1300	Romanian	15315
1930-1955	Russian	6135
2000-2025	French	7520
2030-2055	Spanish	7520
2100-2125	French	7520
2130-2155	Spanish	7520
2200-2225	English	7520
2300-2325	English	7520

(BBCM)

7520 R. *Moldova Int.*, Oct 25, 0510 strong signal but oh! That transmitter hum! Underneath, barely distinguishable English program surely they know about this colossal problem. (Ormandy) [So why don't they do something about it, huh? HvB] They surely want to do something about it, but they don't have the power to do so. I had regular correspondence with Radio Moldova a while back. The only thing they can do is pass on complaints to the Romanians, but it's Romania who apparently refuses to use a better transmitter for RMI's broadcasts. (Schaay-HOL/DSWCI DX-Window/Petersen-DEN) [Audio analysis of the horrible signal reveals sharp spikes of hum at 50, 100, 150 and 200 Hz, which would indicate faulty regulation of the transmitter's power supply.-AQ]

**MOROCCO RTVM**, B98 via "Morocco" transmitters, Arabic: 0000-0500 11920, 1100-1500 15335, 2200-0000 15335. I am unclear as to whether Tangier or Brieich is the site. (EDXP/Padula-AUS)

**MYANMAR 5973 Myawadi Broadcasting Station** in Burmese 1200-1300, again 1430-1530 UTC causing heterodyne to BBC. A regular in Colombo. (22-Nov/Goonetilleke-SRI)

5985.85 *Radio Myanmar*, 1340, M and W speakers in Bamar, at 1358 local hsiang waing music with drums called pat waing and a circular rank of small bulbed bronze gongs called kyi waing, followed by M speaker in Bamar at 1400. Not // 4725. (21-Nov/van Rooy/DSWCI DX-Window/van den Boogert-TWN)

**NEPAL 5005.3 R Nepal**, 0030, VN, ID, reports, trad-mx (8-Nov/Schneeberger/DSWCI DX-Window/Petersen-DEN) Who knows the correct shortwave transmitter-site location of R. *Nepal*? WRTH 98, TBS and Tropenbandliste are saying Khumaltar; PWBR says Harriharpur; and Klengenfuss Shortwave Frequency guide says Pokhara during winter month-sand Bardibas during the summer. Maybe they have a mobile transmitter: -) (Schothmans/HC-DX/DSWCI DX-Window/van den Boogert-TWN) (See LN Extra, last page of International Loggings, for the answer.)

**NEW ZEALAND Radio New Zealand International** revised as of 30-November:

0706-1015	9700 Sa/Su
0706-1015	9700 Mo-Fr

1015-1205	9700 occ. sports
1206-1650	6105 occ. sports
1650-1951	11675 Mo-Fr
1855-1958	11675 Sa-Su
1952-0705	17675 Su-Th
1959-0705	17675 Fr/Sa

(Sainsbury-RNZI)

B98 sked for *Radio Reading Service*: ZLXA 3935 24-hrs, 7290 1900-0500. Reports sought to PO Box 360, Levin 5500, with return postage. (EDXP/Padula-AUS)

**OMAN** Scrub last month's data; here's another R. *Oman* current observed schedule:

0200-0400	6085 7120 7230
0400-0600	7230 9515 11890
0600-0800	13620
0800-1200	13620 17630
1200-1300	7230 13620 17630
1300-1400	7230 13620 15140
1400-1600	7230 15140 15375
1600-1800	7230 11805 15375
1800-1900	7230 11805 11890
1900-2130	7230 9735 11890

(12-13-Nov/Timofeyev-RUS/DSWCI DX-Window/Petersen-DEN)

**PAKISTAN Radio Pakistan**, external services:

0100-0215	Urdu	15485 11975
0230-0245	English-DSN	15485 15235 11975 9470
0330-0400	Gujarati	17555 15325
0500-0700	Urdu	17555 15175 11725
0800-1104	Urdu*	17835 15530
0900-0930	Indonesian	17535 15405
1000-1030	Tamil	17535 15320
1100-1230	Hindi	13580 11995 9510
1105-1120	English-DSN	17835 15530
1200-1230	Chinese	15430 11895
1200-1245	Bengali	15625 11975
1300-1345	Persian	15625 11935
1330-1530	Urdu**	15465 15170 11570
1430-1500	Turki	6075 5060
1515-1545	Russian	9330 5060
1600-1630	English***	17720 15465 15325 15170 11570

1700-1730	Turkish	13580 12015
1700-1900	Urdu	15335 11570
1800-1845	Arabic	9330 7470
1800-1900	Urdu****	9475
1930-2000	French	11570 9400

DSN=dictation-speed news\*0805-0810 news in English\*\*1400-1410 news in English from domestic service\*\*\*1600-1615 news from domestic service, 1615-1630 dictation speed news\*\*\*\* Islamabad program (BBCM)

HOME SERVICE SCHEDULES:

0045-0345	4790e Fr	
0045-0435	4790e Sa-Th	
0100-0102	Urdu	6070d
0200-0225	Urdu	6070d



0230-0245	SSN	6070d
0300-0310	English nx	6070d
0330-0430	Balti HS	7200a
0400-0404	Urdu	9645d
0445-0545	Sheena HS	7200a
0500-0504	English nx	9645d
0600-0604	Urdu nx	7110c
0600-0604	Urdu reg nx	9645d
0604-0800	Rawalpindi pgm	7110c
0700-0704	Punjabi regional nx	
0700-0704	Punjabi	9645d
0800-0804	Sindhi	9645d
0800-1115	Islamabad pgm	7110c
0800-0804	Sindhi regional nx	
0900-0904	Pushtu regional nx	
1000-1004	Urdu nx	
1100-1104	English nx	
0800-1215	7265e Sa-Th	
0900-0930	Indonesian	11835d
0900-1215	7265e Fr	
1000-1030	Tamil	11835d
1100-1104	English	11835d
1200-1210	Urdu nx	9645d
1200-1805	4790e	
1230-1300	Kashmiri	9645d
1300-1304	Urdu HS	6180a
1302-1309	Punjabi reg nx	9645d
1304-1316	Pushtu HS	6180a
1309-1316	Sindhi reg nx	9645d
1323-1600	Pushtu HS	6180a
1400-1414	English nx/mx	9645d
1414-1422	Balti HS	5045b
1422-1430	Sheena HS	5045b
1500-1530	Urdu nx	9645d
1600-1630	EE SSN	7230d
1615-1700	Aaina HA	7310a
1700-1715	Urdu/Pasmanzar	7230d
1730-1800	Turkish	7230d

a=API2 100kW b=API3 100 kW c=API4 100kW d=API7 10 kW link services from Islamabad e=API8 100 kW Rawalpindi III

#### REGIONAL SERVICES

##### Quetta 10kW

0045-0345	5025 Fr
0045-0404	5025 Sa-Th
0400-0820	7155 Fr
0600-1145	7155 Sa
1000-1145	7155
1200-1805	5025

##### Peshawar 10kW

6140 1100-1400  
(1-Nov/Green-UK/DSWCI DX-Window/Petersen-DEN)

**PAPUA NEW GUINEA** 3315.00 *Radio Manus*, 1016-1030, In Pidgin with Top music chart count down. (14-Nov/Kecskes/DSWCI DX-Window/Petersen-DEN)

3335.0 *Radio East Sepik*, 1029-1035, Pidgin ID, Time checks, program info, PNG's native

drums and sing-sing music. (14-Nov/Kecskes/DSWCI DX-Window/Petersen-DEN)

3345 *Radio Northern*, 1136, Back to back "Island Music." ID and mentions of PNG by M announcer at 1145. Back to Island music with M chorals. (15-Nov/Rippel/DSWCI DX-Window/Petersen-DEN)

3385 *Radio East New Britain*, 1155, Beautiful M chorals. ID by W and time check at 1151 into program announcements. (15-Nov/Rippel/DSWCI DX-Window/Petersen-DEN)

**PERU** 3172.7 *Radio Municipal* (t), 0943, tent. propagation fair, but static preventing firm ID, news at 1000 and mention of Peru by W news reader, lots of pennywhistle instruments. Logged here only to advise others that it is still on. (13-Nov/Norrie/DSWCI DX-Window/Petersen-DEN)

3235 *Radio Luz y Sonido*, with QSL card in 71 days, letter with a stations introduction, both signed by Pedro Martinez Tineo, Administrador, two postal-cards, a 100 Intis banknote, Address: Jiron Dos de Mayo No. 1286, Oficinas 308-309, Huanuco, Peru. (Monges/DSWCI DX-Window/Petersen-DEN)

3250.77 *Radio Comas*, 0430-0456\*, very nice Andean music (huaynos) in program "Folclore peruano por Comas AM. (5-Nov/Schmid/DSWCI DX-Window/Petersen-DEN)

4563.73 *R Uno*, Chiclayo, 0941-1043, Andean music, TC's and ID's "Somos Radio Uno la Diferente..." wildly swinging carrier frequency between 63.73 and 64.26. (22-Nov/Mohrmann/DSWCI DX-Window/van den Boogert-TWN)

4700.58 *R. Origen*, Huancavelica, 2345 Peruvian flutes and Andean vocals, M DJ, ID "...en Radio Origen" in passing 2352. (18-Nov/Novello-NC)

4748.29 *R. Huanta 2000*, Huanta, Ayacucho, 1058 noted in passing with ad string and ID by man, weak signal in rising noise. (14-Nov/Novello-NC)

4824.42 *Radio La Voz de la Selva*, Iquitos, \*0954-1000 fair, s/on with salsa, then a canned ID "La Voz de la Selva, que buena voz" was announced. (21-Nov/TIN-JPN/Relampago DX)

4855.57 *R. La Hora*, Cuzco, 2320 excited man with live commentary of what sounded like a parade, numerous ID's in passing. Good signal but faded considerably by 2345 or so. (5-Nov/Novello-NC)

4935 *R. Tropical*, Tarapoto, 1113 news being read by two M announcers taking turns, phoned-in reports from correspondents, numerous IDs in passing. (14-Nov/Novello-NC)

4950.15 *R. Madre de Dios*, Puerto Maldonado, Madre de Dios, 0032 tuned in just as M was giving a full ID: "...Radio Madre de Dios, una voz en el servicio del pueblo..." and mentioning AM and FM frequency. Nice to get an instant ID on this one after other sessions of listening to the entire rosary. (19-Nov/Novello-NC)

4970.97 **Radio Imagen**, 0934-0950, program "El Tatu Tatu Madrugador" with chicha music. (3-Nov/TIN/DSWCI DX-Window/Petersen-DEN)

5018.65 **R. Horizonte**, Chachapoyas, 0010 W DJ with pretty local flute-led stuff, very nice audio but splash from Rebelde-5025. 0049 canned ID, then into church remote. (6-Nov/Novello-NC)

5024.98 **R. Quillabamba**, Quillabamba, Cusco, 0115 presumed the one talking here with fair signal in Rebelde-5025's absence. (6-Nov/Novello-NC)

5305.01 **Radio La Inmaculada**, 1120-1130, program "Alegre Despertar" with folklore nacional. ID "Ud. escucha a La Inmaculada, su radio." (7-Nov/TIN/DSWCI DX-Window/Petersen-DEN)

5522.23 **Radio Sudamerica**, Cutervo, 1057-1012 fair, no stop chicha songs until 1110. At 1110 ID "Usted escucha a Radio Sudamerica transmitiendo desde la Provincia de Cutervo, Cajamarca, Peru." (21-Nov/TIN-JPN/Relampago DX)

5677.98 **Radio Ilucan**, 0348\*, caught their sign off announcement. Very strong, excellent signal. (13-Nov/Mohrmann/DSWCI DX-Window/Petersen-DEN)

5558.19 **R. Lajas**, Chota, Cajamarca, 0002 M harmony group vocals with rustic guitars, into comunicados by man after ID 0004. (19-Nov/Novello-NC)

5949.32 UNID OA station which had been first observed on 22/AUG/98, was heard again at 1113, with a religious programming in Spanish. Sometimes mentioned "Gloria Dios..." According to "Latinoamerica DX" of Emilio P. Povr zenic, this outlet identified itself as "Proyeccion Cristiana" for the station name or program. Need more work. (21-Nov/TIN-JPN/Relampago DX)

5995.22 **Radio Melodia**, Arequipa, 0805-0830, romantic music, folk tunes, announcing "Melodia, Romantica!" (7-Nov/Phillips/DSWCI DX-Window/Petersen-DEN)

6535.7 **Radiodifusoras Huancabamba**, 2335-2340, Spanish, musical interlude, talk, Huancabamba heard mid sentence. (23-Nov/Phillips/DSWCI DX-Window/van den Boogert-TWN)

6618.57 **Radio Super Sensacion**, Huancabamba, 1042-1045, poor modulation, playing huaynito crio. (3-Nov/TIN/DSWCI DX-Window/Petersen-DEN)

6674.76 **Radio Impacto**, Aramango, 1024-1046, poor signal with QRM from a utility station. Playing many rustic OA folklores. At 1040 ID "Somos Radio Impacto Internacional y saludamos a toda la gente que nos escucha en Aramango y diferentes puntos de la Provincia de Bagua. Tambien saludos especiales para los oyentes de Rioja, Nueva Cajamarca, Naranjos, Tarapoto, Moyobamba, y todos...gracias por su amable sintonia." (21-Nov/TIN-JPN/Relampago DX)

6690.06 **Radio Estudio DW**, Naranjos, 1046-1052 weak signal, huayno s & saludos. At 1052 ID "Estas con la primera, Estudio DW." (21-Nov/TIN-JPN/Relampago DX)

6797.58 **Radio Ondas del Rio Mayo**, 1051-1055, a new version identification was heard as "OBX9N 1490 kHz onda media, OAX9Q 5045 kHz onda corta banda internacional. Es Radio Difusora Comercial Ondas del Rio Mayo con sus oficinas centrales en el Jiron Huallaga 348, Distrito Nueva Cajamarca, Provincia de Rioja, Republica del Peru," then local advs. of some stores in Nueva Cajamarca. Interestingly, the station now announces its shortwave outlet as 5045 kHz with callsign OAX9Q instead of former nominal channel 6803 kHz. (3-Nov/TIN/DSWCI DX-Window/Petersen-DEN)

7003.37 **Radio La Voz de las Huarinjas**, Huancabamba, 1118-1130 poor, program "Amanecer en los Andes." (21-Nov/TIN-JPN/Relampago DX)

7745.8 **Radio Cristal**, San Hilarion, 2345-0005, Spanish, andean music with announcements by woman. (13-Nov/Schnitzer/DSWCI DX-Window/Petersen-DEN)

**PHILIPPINES R. Pilipinas**, B98: All via Tinang—English and Filipino 0230-0330 15120 15270 11805, 0330-0400 17730 15330 13770. (Padula-AUS/EDXP) 11730 **Radyo Pilipinas**, 1900, Filipino, ID, politics and news. I think this is a new frequency on a clear channel. (9-Nov/Schneeberger/DSWCI DX-Window/Petersen-DEN) Both Klingenfuss '98 and the latest ILG database list them here in English, 1730-1930.—Veldhuis. 11890 **Radio Pilipinas**, 1804, program in Filipino (14-Nov/Mendez/DSWCI DX-Window/Petersen-DEN)

**DZRM** Quezon City is listed on 9616 (yes, 9616) for B98 in the ITU's Tentative HF Broadcasting Schedule, with 3 kW, 2100-1500, non-directional. (Padula-AUS/EDXP) Further info from a QSL letter: Call sign: DUR2 Power: 250 Watts Transmitter: modified BC-610 US Army Signal Corps Antenna: 2dB bi-directional quad loop antenna directed north and south. Antenna/transmitter location: Marulas, Valenzuela, Metro Manila Programming: relays DZRB Radyo ng Bayan 738 kHz or DZRM Radyo Manila 1278 kHz. (van den Boogert-TWN)

**QATAR QBS** was noted on new 11820 (ex-17895) at 0705-1305. (12-13 Nov/Timofeyev- RUS/DSWCI DX-Window/Petersen-DEN)

**RUSSIA** Current **Radio Minsk** schedule: 0200-0400 and 2000-2200 on 7105 and 7210. English service: Mo 0300, Tue 2030 and 2130, Wed 0300, Thu 2030 and 2130, Fri 0300, Sat 0300, Sun 0300. German service: Wed 2030 and 2130, Thu 0300, Sat 2030 and 2130, Sun 0330, 2030 and 2130. (R. Minsk/Ludwig-GER)

Latest check of **R. Kyzyl** shortwave transmissions is: \*2322-approx.0130\*, \*1120-approx.1230\*—all on 5550.3v, local program till 0000, 0010-0100 and till 1200—other time with R. Rossii program //5290 (28-29-Oct/Timofeyev-RUS)

**SAUDI ARABIA BSKSA** current observed schedule:

0000-0600	MAP	9870
0300-0600	HQ	9608v
0300-0600	HQ	9553.6 9608v 9718.3 9740 11935 17720
0300-1700+	2nd Arabic program	9578.6 (also aud. on 4790 "subharmonic")
0400-0500	Somali	15165
0400-0600	Turkish	15275
0500-0600	Swahili	17760
0600-0900	HQ	9715
0600-0900	MAP	9530 9718.3 9870 11818.5 11868.4
0800-1000	French	15335
0900-1200	HQ	9715 17880 21495
0900-1200	MAP	9870 11818.5 15275
1000-1200	Indonesian	21670
1200-1230	MAP	9870 15175 15377 15435
1200-1400	Urdu	15345
1200-1600	HQ	15161.8 15170.1
1230-1500	MAP	15175 15377 15435
1400-1500	Bengali	15345
1400-1600	Farsi	11745
1400-1600	French	15170
1400-1600	HQ	11785
1500-1600	Turkmen	9730
1500-1700	CI	11780 11910 11948.3
1600-1700	Bambara	17760
1600-1700	HQ	9730 11708.2 11785 11833.6
1700-1800	HQ	9730 11708.2 11833.6
1700-1800	MAP	11780 11910 11948.3
1700-2100	2nd Arabic program	12038.6
1800-2300	HQ	11935
1800-2300	MAP	9555 9870
2300-2400	MAP	9870

(Timofeyev-RUS/DSWCI DX-Window/Petersen-DEN)

**SEYCHELLES FEBA** in Divehi still being jammed on Fridays only from 1630-1700 on 11665. This is the first Divehi foreign broadcaster and Maldives is against any Christian broadcasts claiming to be a 100% Islamic State. Jamming is of a varying tone hardly noticeable interference, but maybe strong in the Maldives. They are listed to have one 30Kw and another 7.5 shortwave transmitter. What lengths people go to. (20-Nov/Goonetilleke-SRI) [Indeed.-AQ]

**SOLOMON ISLANDS 5020 SIBS**, 1134-1156\*, Easy listening instrumentals and vocals hosted by a woman. Fair to good reception and sudden off while checking Merauke. (8-Nov/D'Angelo-PA/DSWCI DX-Window/Petersen-DEN)

**SOMALIA 6843 R. Hargeisa**, good reception for last few days and English/Somali lesson has been observed at 1739-1746 and it is interesting to note that after **R. Mogadishu/V.O.P** Radio Hargeisa also has started to broadcast English program, However still no trace of R. Mogadishu/V.O.P. it was on 6873v 3 months ago. (15-Nov/Vaghjee-MAU)

**SOUTH AFRICA Channel Africa** change to schedule in last month's LN: 1700-1730 English and 1730-1755 Portuguese now on 17860 (ex-17870). (Otto-SENTECH)

**TAJIKISTAN 4635 R. Dushanbe 1**, 1800, Tajik with mention of Dushanbe, piece of music and news, At recheck 1814 Tajik talk with mention of Dushanbe, Turkish Tartar music with handdrums and local flute and Tajik M songs at 1825 local sitar with Tajik W songs (sounding the same as the music you hear from Uzbek Radio) (13-Nov/van Rooy/DSWCI DX-Window/Petersen-DEN) 7515 **Tajik Radio** 1828 new freq for Dushanbe with Central Asian vocals and lengthy, mournful instrumental selections till 1849, when into talk by woman in presumed Tajik (closely related to Farsi). Back to instrumentals at 1856, followed by brief announcement at 1900 and off. Audio seemed to fade up and down at times. ID per Padula in EDXP. (1-Nov/Hill-MA)

7465 **Voice of Tibet** 1220-1255 in Tibet on air on new channel 1225-1255 via Dushanbe, ex- 7470. No more //11520. (25-Nov/Goonetilleke-SRI)

**Democratic Voice of Burma** observed on new 7490 via Dushanbe (x9985, x11580), //DTK Jülich on poor co-ch stns spoiled 15330. Always time delay noted between both channels! (14-Nov/Bueschel-GER/BC-DX/Bueschel-GER) 5945 NF Democratic Voice of Burma in Burmese 1245-1345 deliberately close to Yangon/5985 kHz, //15330 and 7490. (23-Nov/Goonetilleke-SRI) [A report from the same day and same reporter (Victor Goonetilleke) lists the three freqs for this broadcast as 5945, 7490 and 15330. Which combination is correct—this one or the previous?—AQ]

**THAILAND 6070 R. Thailand** 1100-1600 mixing Singapore to 1400, then in the clear. // to better 4830 and poorer 7115. (23-Nov/Goonetilleke-SRI)

**TUNISIA RTT** was noted on a new freq of 7215 (ex-7225) at 0400-0700, 7225 at 1700-2330 at present (other channels are: 7280 0400-0600 1700-2330, 11730 0700-1700, 12005 0500-0600 1700-2330, 15450 and 17735 0600-1700) (12-13-Nov/Timofeyev-RUS/DSWCI DX-Window/van den Boogert-TWN)

**URUGUAY** while visiting 9650-**Emisora Ciudad de Montevideo** we learned from Jorge Yizmeyian that they are thinking to leave the current frequency in the 31mb and take amove into the 49mb (still on an unknown channel). He did no mention of the also assigned 19mb fqcy and probably there is no



connection with the pair of 49 mb frequencies recently offered by the telecom authorities. (Nigro-URU)

**USA** 2939.84H **KVLH**, Pauls Valley OK, 0050 Superstrong with FM country format and no ads at all; 0124 ID for "KVLH-KTOK." 2 x 1469.92. (8-Nov/Novello-NC)

25910 **WJFP** Fort Pierce, 1523-1600, with Gospel program in English and several IDs, FM feeder; quite good at times, but heavy fading; completely disappearing soon after getting dark outside (15-Nov/Kuhl/DSWCI DX-Window/Petersen-DEN)

**UZBEKISTAN** Current observed schedule of **Radio Tashkent**:

0000-0030	Uighur	5040
0100-0130	English	5955 5975 7105 7285 9540
0130-0200	Dari	5955 5975 7285
0130-0230	Uzbek*	7105 9540
0200-0230	Pushtu	5955 5975 7105 7285 9540
0230-0330	Uzbek**	5955 5975 7105 7285 9540
0330-0430	Uzbek*	7105 9540
0500-1300	Uzbek*	15165 15330
1200-1230	English	5060 5975 6025 9715
1230-1300	Urdu	5060 5975 6025 9715
1300-1330	Hindi	5060 5975 6025 9715
1300-1330	Uzbek*	15330
1330-1400	English	5060 5975 6025 9715
1330-1400	Uighur	5040
1330-1400	Uzbek*	7105 15330
1400-1430	Uighur	5040
1400-1430	Urdu	5060 5975 6025 9715
1400-1430	Uzbek*	7105
1430-1500	Chinese	5040
1430-1500	Hindi	5040
1430-1550	Uzbek*	7105 9540
1500-1530	Uighur	5040
1520-1550	Dari	5975 6025 7285
1550-1630	Uzbek**	5975 6025 7105 7285 9540
1630-1700	Farsi	5975 6025 7285
1630-1700	Uzbek*	7105 9540
1700-1730	Arabic	5975 6025 7285
1700-1730	Turkish	7105 9540
1730-1830	Uzbek**	5975 6025 7105 7285 9540
1830-1900	Farsi	5975 6025 7105 7285 9540
1900-1930	Arabic	5975 6025 7105 7285 9540
1935-2030	German	5025 5035 5060 7105 9540 11905
2030-2100	English	7105 9540
2100-2300	Uzbek	7105 9540
2330-0000	Chinese	5040

Uzbek\*-Uzbek R. HS 2nd program (//4850 0000-2300) Uzbek\*\*-FS (R. Vatandosh) Uighur at 0000, 1330, 1400 and 1500 only as a tentative language. (28-29-Oct/Timofeyev-RUS)

7105 **Radio Tashkent** noted well in English 0109. (26-Nov/Fine-VA)

After a brief stay on 7400 kHz **IBRA Radio** in Begnali from Tashkent is now back on 15470 khz at 1330-1400 hrs. (30-Oct/Dasgupta-IND)

**VENEZUELA** 9640 **Ecos del Torbes** 2124 man in Spanish with play-by-play of sporting event (presumably fthol), including lots of gooooooooooals. Stronger than // 4980, which was just beginning to fade in; buried at 2130 by AWR s/on. First time I've heard the 31M channel in ages. (1-Nov/Hill-MA)

**VIETNAM** Regionals audible here incl **Lao Cai** 5597 and 6668 (both vary +/- 1 kHz or so) at 1200- 1340 (noted 8 Nov among others). Both freqs in // whenever I have checked. Also UNID location on 6468, 1000-1030 & 1200-1330, additional relays Hanoi HS prgr1 0930!-1000 //5925, 9875 on certain days only. No trace found of **Son La** on clear channel 4740, may have changed freq or be inactive. (9-Nov/Davies-THA/BC-DX/Bueschel-GER)

5034.74 **Dia Tieng Noi**, Hanoi, 1155 Hmong language service with fragile-sounding reed instrument mx to 1159, short orchestral theme with probable ID spoken over by M then by W, bit of talk by W, then into extended talk by M after 1200, then into solo vocalizations by W 1210. All // 6165 which was stronger, and lasted until AIR \*1229. Growl on xmtr but good audio on a very good Asian morning; and definitely varying from 5035.00 as logged by Hans van den Boogert in September. (20-Nov/Novello-NC)

**RADIO FREE IRAQ** **Radio Free Iraq** is on the air. Schedule:

0300-0400 5965K 7110K 7275K 9740L  
1600-1700 6130K 9540W 9850L 11915W

K=Kavala L=Lampertheim W=Woofferton (Clandestine Radio Watch/Schoech-GER) (DX'ers can now kiss Ethiopia-7110 goodbye-AQ)

**UNIDENTIFIED** There is a weak signal on 6055 after Rwanda goes off, heard virtually every day, but neither Al Quaglieri-NY or I have been able to figure out who this is. (Sundstrom-NJ) Re the weak stn you and Tom Sundstrom are hearing on 6055 after Rwanda s/off at 2100 (DXW 139), a possibility is **JOZ**. Beginning around this time of year, we move toward grayline at that hour--sunrise in Japan, sunset here. The 3925 outlet becomes fairly regular for about two months around 2100-2200, and there's no reason the 6055 outlet wouldn't propagate as well. (Hill-MA)

UNID Russian 6915, 2150 western songs man in Russian, ad "upotenie" then close at 2200\*; modulation problems (19-Nov/Liangas-GRC)

**RAMADAN** Ramadan will begin on December 20th this year. (Veldhuis/DSWCI DX-Window/van den Boogert-TWN) Ramadan will begin on December 20th this year. (Veldhuis/DSWCI DX-Window/van den Boogert-TWN)



# Pirate Radio Report

Chris Lobdell  
P.O. Box 146  
Stoneham, MA 02180-0146  
Internet: clobdell@mediaone.net

Hello and welcome to the last **PIRATE RADIO REPORT** of 1998! I hope all of you had a great Thanksgiving. Now it's time for Christmas.

## FCC Cracks Down on Pirates!

I've you've been tuning the pirate bands over the past few weeks and haven't heard anything, don't worry. It's not bad propagation, a broken radio or antenna that's the cause.

What some are calling "*The Great Halloween Pirate Massacre of 1998*" occurred on October 30th and 31st when the friendly FCC agents tracked down and visited four alleged pirate operators in Massachusetts, Illinois, Texas and California. The stations were handed violation notices, told to stop operations immediately and warned that fines or equipment seizures would be forthcoming if broadcasts continued.

These were the first such busts since 1995 and word traveled throughout the pirate community like lightning, causing all those not visited to go silent.

In addition to the FCC visits, word leaked out of an operation "*Clean Sweep*" in which the FCC is going to keep track of all SW pirates, obtain search/seizure warrants and bust all those selected on the same day. This story has not been confirmed and some are doubting its validity.

Despite all this, we do have some logs to report, although most were made before the FCC enforcement activities occurred.

My thanks go to our faithful reporters *Bill Wilkins* in MO and *David Krause* in Ohio. Many thanks guys! If not mentioned it was 6955 kHz.

*JERRY RIGGED RADIO* was heard with their Halloween show on November 1st at 0001 UTC featuring a séance and eerie music. [Wilkins-MO]

*PARTIAL INDIA RADIO*, a funny parody of AIR was heard on October 17th at 0026 UTC reading letters from listeners and mentioning Pakistan. [Wilkins-MO] Also heard on October 25th at 2145 UTC. [Krause-OH]

*RADIO EUROGEEK* usually makes an appearance just before or after the annual *Radio St. Helena* broadcast. This year was no exception. They were heard from 1804-1841 sign off. Format included pop mx and talk about leaving pirate radio due to financial difficulties. The frequency was 11092.5 USB. They use the Providence drop. [Wilkins-MO, Krause-OH]

*RADIO FREE SPEECH*, featuring Bill O. Rights was noted in the AM mode at 1144 UTC on October 24th with a scary Halloween show. [Krause-OH]

*RADIO METALLICA WORLDWIDE*, popped up on 7415 kHz on October 17th at 1948 UTC. Dr. Tornado was playing rock and German steel metal music. [Krause-OH]

*RADIO ONE*, was heard on October 17th at 2324 UTC with station IDs and Rockabilly mx. They use the Belfast drop. [Krause-OH]

## It's Europirate Season Again!

Now that darkness is upon us, don't forget to check for *Europirates* between 0600-0900 UTC in the frequency range of 6200-6400 kHz on Saturday/Sunday AMs.

Farmers From Holland is usually found around 6300 kHz. If they are coming in good, try looking for a few others. Some others may be testing from Europe between 2300-0500 on 6955 kHz if the frequency is vacant. If you hear anything, be sure to report in to us here at the **PIRATE RADIO REPORT!**

Until next month, Merry Christmas and Happy Pirate DX!

—Chris



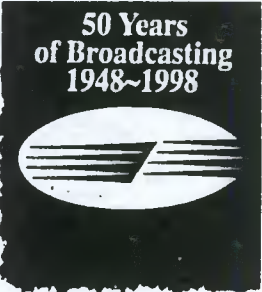
# QSL Report

Sam Barfo  
47 Prospect Place  
Bristol, CT 06010

- ALASKA:** KNLS 7365 f/d "Bears of Alaska" cd. in 12 wks. for \$1.00. (Tilbury).  
**ALBANIA:** Trans World Radio 11625 f/d "Family Group Tunes in the Radio" cd. w/ schedule and business cd. in 73 ds. (Humenyk-ONT).  
**ALGERIA:** Radio Algiers International 15160 f/d cd. in 115 ds. for 1 IRC. (Neal-TX).  
**ANGUILLA:** The Caribbean Beacon 6090 f/d cd. in 2 wks v/s B. Monsell Hazell, Chief Engineer. (Klinck-NY)  
**ANTARCTICA:** Radio Nacional Arcangel San Gabriel 15476 f/d "Logo/Map/Penguin" cd. in 71 ds. for a SP rpt. and \$1.00. v/s Hugo Carlos Casela, Teniente Coronel Base Esperanza. (Stephens-AL).  
**ANTIGUA:** BBC 5975 f/d ltr. in 3 wks. via London for \$1.00. v/s Hild Myklebust. (Myers-VA). Deutsche Welle 6185 f/d "Köln Cathedral" cd. in 52 ds. for an E mail rpt. v/s B. Klaumann. (Delmage).



**FEBC**  
PHILIPPINES



- ARGENTINA:** LS6 Radio  
 \* Rivadavia 8098 p/d ltr. w/ stickers in 2 wks. for a SP rpt. and \$1.00. v/s Marcelo Mithieux, Gerente Tecnico, who insists that a listener or hobbyist must be retransmitting LS6 because they only have a medium wave outlet on 630. (Loudell-DE).

MERRY CHRISTMAS  
AND  
HAPPY NEW YEAR  
 恭賀新禧  
 五福臨門  
 合家歡樂  
 敬賀  
 自由中國之聲  
 VOICE OF FREE CHINA

- ARMENIA:** Radio Mitternachtsruf sent a ltr. to Marlin Field in which they stated that their program is no longer being transmitted over Radio Armenia International. They now utilize the facilities of Radio Luxembourg.

- ASCENSION ISLAND:** Radio Japan 9665 f/d cd. in 24 ds. v/s Y. Fushimi. (Palmersheim-WA). BBC 12095 f/d cd. in 62 ds. v/s Nicola Nicholls.

- ASIATIC RUSSIA:** Voice of Vietnam 7250 via Armavir f/d (Humenyk).

- cd. w/ ms. and paper pennant in 61 ds. (Humenyk). Radio Nederlands 17580 via Khabarovsk f/d "CIS" relay cd. in 20 ds. (Loudell-DE). Voice of Russia 5905, 5930, 6150 and 7330 via Petropavlovsk-Kamchatsky f/d cd. in 3 mo. (Palmersheim-WA). 7175 via Khabarovsk f/d cd. in 3 mo. (Palmersheim). 5920 via Komsomolsk-Amur f/d cd. in 3 mo. (Palmersheim-WA).

Belgium



THIS IS YOUR THIRD REPORT ON OUR BROADCAST OF Jan. 15, 1970

BELGIAN NATIONAL BROADCASTING SERVICE  
SHORTWAVE SERVICE P. O. B. 30 - BRUSSELS 1 - BELGIUM

STATION ORU 22.0v - 22.3v  
FREQ 9.550 MHz  
100 Kw. - 20-Kw.





To: Harry Neal

This confirms your report of HCJB's transmissions on 21455 kHz in the 13 meter band.

Date 19 April 98  
Time 2049  
Mode \_\_\_\_\_

The transmitter used was a Gates with a power of 500 watts through a rhombic antenna directed 35/225 degrees. HCJB's shortwave transmitters and antennas are located at Pifo, Ecuador.

73 and God bless,

Malcolm  
Frequency Manager

HERALDING CHRIST JESUS' BLESSINGS

**AUSTRALIA: Radio Australia**  
12080 via Brandon f/d "Studio" cd. in 2 mo. w/ sticker. (Palmerheim) 17795 and 21740 via Shepparton f/d "ABC South-Bank Centre" cd. in 73 ds. w/ sticker and sked. \* (Humenyk). **Australian Defense Forces Radio** 14790 p/d ltr. w/ pins in 3 wks. for a taped rpt. and \$2.00 (returned) v/s Barry Looms, Presenter. (Myers-VA).

**AUSTRIA: Radio Austria International** 9655 f/d "Imperial Family in Go-

dollo, Hungary" cd. w/ ltr. in 14 ds. for 2 IRCs. (Brouillette-IL). **BOLIVIA: Radio Nacional de Huanuni** 5964 personal ltr. in 3 mo. for a \* SP rpt. after several f/up rpts. v/s Luisa Santos Flores, Secretaria General. Pennant was rcvd. (Field-MI).

**BRASIL: Radio Novas de Paz** 9515 f/d cd. in 2 mo. on my 4th try for a PT rpt. This is my 119th QSL from Brasil - more than any other country. (Field-MI)

NOTES: Paul Brouillette of 611 Illinois St, Geneva, IL 60134 would like to contact Harold Levison in PA. If you read this Harold or if any of our members have the address, please contact Paul.....Sam.

\* **Radio Trans Mundial do Brasil** 11705 personal ltr. was rcvd. for an EG rpt. v/s Jose Eduardo Dias. (Field-MI)

\* **Radio Alvorada Londrina** ZYG641 4865 n/d ltr. in 9 mo. after a f/up rpt. v/s Manuel Joaquim.

**CANADA: CKZU** 6160 p/d blue "CBC Centre" cd. in 16 (Palmerheim). ds. for ms. v/s Dave Newbury. (Loudell-DE). **CHNX** 6130 f/d ltr. in same in 2 wks. for ms. (Loudell). **Radio Canada International** 5960 f/d "Royal Mounties" cd. in 21 ds. w/ sticker and schedule. Also rcvd CIDX info. (Borokowski).

**Radio Japan** 11705 via Sackville f/d "Drying Octopuses" cd. w/ sked. and brochures in 3 wks. (Loudell). 6120 f/d cd. w/ stickers and schedule in 35 ds. (Clapper-NY).

**CHILE: Voz Cristiana** \* 9630 f/d cd. in 2 wks. for a f/up rpt. to the FL addr. for \$1.00. (Tilbury).



RADIO TV MALAYSIA  
KOTA KINABALU



Q  
S  
L

Dear George Maroti:

Thank you for your reception report. We are pleased to verify your reception of our station transmitting from Sabah.

Date of Reception: 11-01-1998  
Time: 05:58-06:30  
Frequency: 4970 kHz  
Transmitter Power: 10 kilowatts



Amey (ANGKICK STEWART)  
Signature

Official Seal

1488

**Weekend Music Radio**  
Through the day and into the night

Thanks GEORGE of MURKISS for the reception report, which was checked against our station log, and found to be correct. The report was of value to our high frequency bureau. Thank you for your support and interest in WMRL. All our transmissions come from Scotland unless otherwise stated. Your reception details were as follows...

DATE: 73 18 198 SINPO: 24832  
TIME: 2354 UTC/GMT POWER: 400 Watts  
FREQ: 6952.2 kHz ANTENNA: 1/2 Wave Dipole  
COMMENTS: GREAT - well done SIGNED: John

Box 99, 1st Floor Suite, 288 Belfhurst Road, London, SE23 6XT  
14 Stone Flow, Coleraine, Northern Ireland, BT62 1EP

WWW: <http://www.op.hogla.net/jonny/wmrl/> E-Mail: <wmraw@aol.com>



*Avec les compliments de*  
**L'OFFICE DE RADIODIFFUSION  
 ET TELEVISION DU BENIN**  
**STATION NATIONALE**  
 B. P. 366 COTONOU (REPUBLIQUE DU BENIN)  
 Tél. (229) 30 10 96 & 30 14 37 - Fax (229) 30 04 48

REPUBLIQUE DU BENIN



21550 f/d cd. in 80 ds. for 2 ms. (Neal-TX).  
**CHINA, PEOPLES REP.**  
**OF: Radio Exterior de Espana**  
 11910 via Xian p/d ltr. in 2 mo. (Barto-CT).  
**CLANDESTINE: Voice of Democratic Eritrea** 9230 n/d ltr. in 1 mo. v/s Seyoun O. Michael. Member of the Executive Committee of the Eritrean Liberation Front. Addr: P.O. Box 200343, 53134 Bonn, Germany.

\* (Field-MI). Rainbow Radio 9855 via Julich f/d prepared cd. in 17 ds. (Kusalik-ALB).

**NOTES:** Ed Tilbury says that he is trying to verify a lot of the easy stuff that has eluded him in the past. He has about 30 reports outstanding. His fingers are crossed regarding Azerbaijan, Zanzibar, Eritrea and Tajikistan. Allan Loudell says he has been fairly lucky recently. Thanks for the great QSL report...Sam. Denis Pasquale is looking forward to the DX season. With the lousy winter weather due pretty soon, it seems that everone is looking to the upcoming DX season...Sam.

**COSTA RICA: Radio Exterior de Espana** 11815 p/d ltr. in 2 mo. (Barto-CT).

**CUBA: Radio Habana Cuba** 6000 f/d "DX Club" cd. #1 (!) in 5 mo. (Palmerheim).

**CYPRUS: Cyprus Broadcasting Corporation** 9760 f/d color "CBC Studio" cd. in 7 wks. for 1 IRC. (Tilbury).

**CZECH REP: Radio Prague** 9435 f/d "Aero 50" cd. w/ several 75th Anniversary stickers, sked. and a plastic station pennant in 18 ds. (Delmage-ALB). 17845 f/d cd. in 1 mo. w/ bookmark and sticker. (Palmerheim)

**ECUADOR: Radio Buen Pastor** 4815 n/d personal ltr. in 2 mo. for a SP rpt. Station pennant was rcvd. v/s Juana Guaman, Sec. (Field-MI).

**ENGLAND: WYFR** 13710 via Skelton cd. w/ site in 2 mo. w/ stickers and schedule. (Kusalik-ALB).

**TELE RADIO STEREO**  
 Ufficio Pubblicità  
 00136 Roma - Via Carlo Evangelisti, 3  
 tel. 3452131 - 3450945



*Dear listener,*  
**SAM BARTO :**

*Carissimo SAM :  
 Ringraziandoli per la simpatica lettera e per l'attenzione che prestai ai programmi di F.R.P. confermiamo il tuo rapporto di ascolto, con la speranza che sarai sempre nostro ascoltatore*

*affettuosamente  
 F.R.P.  
 per DARIO SBRIGOLI Direttore  
 D. Williams QSL Mgr*

*Deltafi :*  
 FREQUENZA = 6012,6 kHz ; POTENZA = 5 Kw  
 GIORNO = 10 April 1998 ; □RARI□ : 2315-2329 UTC



National Democratic Alliance NDA  
Voice of Sudan Reception Verification Certificate  
Transmitting from Liberated Areas (Sudan)

**NDA**

Awarded to

**Mr. Norman Constanti**

Frequency: 8005 kHz  
Time: 16.00 - 16.25 (EST)  
Date: 4<sup>th</sup> August 1998

We confirm with pleasure your listening report, which conforms to the programs we broadcast

Wednesday, 16 September, 1998

On behalf of Sudan Voice team  
Abdullah F. ElMahdi  
NDA SUI Office Director

**ENGLAND: Merlin Network One** 13690 via **Skelton** f/d ltr. in 24 ds. v/s Michelle Franks. (Palmersheim). 15590 via **Woofterton** f/d ltr. in 24 ds. (Palmersheim). 9780 f/d cd. in 25 ds. for \$1.00 (returned). (Pasquale-PA). **Radio Canada International** 9735 f/d "Olympic" cd. in 25 ds. w/ sked. sticker and pennant. (Palmersheim).

**EUROPEAN RUSSIA: Voice**

of the **Mediterranean** cd. in 2 mo. w/ stickers and schedule. (Field-MI).  
\* **Radio Irina** 15580 and 9550 (**Moscow?**) f/d cd. in 2 mo. after several f/up rpts. v/s Dr. Dao Tri Noc, US Rep. Addr: 6433 Northanna Drive, Springfield, VA 22150. (Field-MI).  
**FINLAND: Radio Finland** 9780 f/d form ltr. in 42 ds. direct from the transmitter site. v/s Raimo Makela. (Palmersheim-WA).  
**FRENCH GUIANA: Swiss Radio International** 9905 via **Montsinery** f/d "William Tell Monument" cd. in 221 ds. for 2 IRCs. (Brouillette-IL). f/d "Schloss Valerina" cd. in 18 ds. (Borokowski-NY).  
**GEORGIA: Voice of Hope** 12125 via **Tbilisi** f/d cd. w/ site and schedule in 5 wks. (Barto-CT).

**SPECIAL OFFER:** Our customers have spoken. The enclosure of used postage stamps as a form of gift with your reception reports seems to be working. For 1998 we are now offering the following:

\$10.00 will bring you 1300 foreign stamps; \$15.00 will net you a total of 2300 stamps. With either order you will receive an additional

600 stamps (US). That's 1900 total for only \$10.00 or 2900 for only \$15.00. You will not be disappointed. Please try to include an extra \$3.00 for overnight USPO delivery. Mail your order to your NASWA QSL Editor.



**GERMANY: Croat Radio** 5840 and 6120 via **Julich** f/d cd. in 3 mo. w/ personal ltr. (Field)  
**Deutsche Welle** 9545 via **Nauen** (old DDR) p/d cd. in 3 mo. (Barto)  
**Adventist**

**World Radio** 9835 via **Julich** f/d "Transmitter Site" cd. in 18 ds. for \$1.00. v/s Adrian Peterson. (Kusalik). **Voice of Hope** 15715 via **Julich** f/d cd. in 28 ds. via UK addr. (Palmersheim-WA).

**GERMANY (Clandestine): Radio Rainbow** 5904 via **Julich** f/d cd. w/ personal \* ltr. in only 10 ds! for an EG rpt. (Field-MI).

**GUAM: Adventist World Radio KSDA-1** 9355 f/d QSL #1 w/ site in 18 ds. v/s Adrian Peterson. Schedule was rcvcd for \$1.00. (Kusalik). **KSDA-2** 11980 same as above w/ 92-93 cd. (Kusalik). **KSDA-3** 9370 f/d "Floral Design" cd. in 18 ds. w/ schedule. (Kusalik). **KSDA-4** 9650 f/d "25th Anniversary" cd. in 18 ds. w/ schedule. (Kusalik-ALB). **KSDA** 11775 f/d "AWR #2" cd. in 35 ds. w/ AWR stamp and schedule. (Humenyk-ONT).

**NOTES: Henry Lazarus's** QSL from Radio Ayabaca in Peru (as reported last month) was his first shortwave QSL for 1998! We do look forward to hearing from you more often. Ayabaca is a great catch! Sam. **Mark Humenyk** says he mailed a reception report to the IBRA Office in Ontario but it was returned by the post office. I would suggest mailing to Sweden... Sam. **Allan Loudell** sends his greetings to everyone and hopes that this DX Season will surpass the last one. I hope so too!... Sam.

**WRNO**

4539 I-10 SERVICE ROAD, METAIRIE, LOUISIANA 70006  
TELEPHONE (504) 889-2424



# LRA 36

RADIO NACIONAL

-ARCANGEL SAN GABRIEL-

QTH 9411 Base ANTARTICA ESPERANZA  
TERITORIO ANTARTICO ARGENTINO  
REPUBLICA ARGENTINA

UBICACION GEOGRAFICA

-Lat 63° 24' Sur  
-Long. 56° 59' Oeste

QTH



**GUATEMALA:** Radio Mam 4825 personal ltr. in 2 yrs. for a SP rpt. v/s Norma Ramires. (Field-MI).

**HOLLAND:** Radio Nederland 6020 via Flevo f/d cd. "From Wireless to World Wide Web" in 2 wks. (Loudell-DE).

**ICELAND:** INBS 11402 f/d cd. in 11 ds. (Humenyk).

**INDIA:** All India Radio 5010 via Thiruvananthapuram (the alphabet station) f/d ltr. in 3

mo. direct from the station. (Field-MI). f/d prepared and stamped cd. in 7 wks. The card looked like it had kicked around the floor of the v/s's pickup truck for a couple of weeks before he mailed it. Hi!

**ITALY:** RAI 9675 and 11850 f/d "Guglielmo Marconi" cd. (Tilbury).

\* w/ stickers in 2 mo. (Loudell-DE). Tele Radio Stereo 6012.6 f/d ltr. in 3 mo. w/ station stickers. (Barto-CT).

**LIBERIA:** Star Radio 3400 n/d hand written ltr.

\* in 1 mo. Addr: Foundation Hirondele, 3 Rue Traversiere, 1018 Lausanne, Switzerland. (Field-MI)...Nice QSL. Thanks for the addr.

**MALAGASY REPUBLIC:** Adventist World Radio 4960

I rcvd. a ltr. from the station which stated

**VERIFICATION SIGNERS:** Radio Television Malagasy

5009 Mamy Rafeno Manantsoa, Director of Radio.

Addr: B.P. 422, Anosy, Malagasy Republic. Voice

of Malta 9660 M. Delu. Addr:

St. Francia Ravelin, Floriana VLT15, Malta. Radio

Pakistan 5085 Anver Inayat

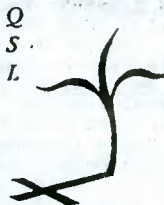
Khan, Engineering Manager at

Rawalpindi. Ondas del Huallaga

3330 Flavino Llanos M. Addr: Jiron Leonico Prado 723

Apartado 343, Huanco, Peru. Murmansk Radio

5930 D. Pedereri, Chairman...via PLAY DX



Voz Cristiana & Christian Voice

that 3215 is the only channel used not 4960. (Field-MI).

**MALAYSIA:** Voice of Malaysia 15295 beautiful f/d cd.

of "Beach/Palm Trees" w/ decal and a very attract-

ive program guide in 52 ds. for 1 IRC. v/s Jamilah Jaafar. Also

rcvd a bookmark station pennant. (Delmage-ALB).

**MALUKU:** RSPDK Maluku Tengah 3578.3 f/d personal ltr. in 8 mo. after a

\* f/up rpt. in IN. v/s Muchlis Hatala. (Palmerheim-WA).

**MOLDOVA:** Radio Moldova International 7500 f/d "Supreme Court of Mol-

dova" cd. w/ ltr. in 33 ds. for 1 IRC. Also rcvd. stamps and a cal-

endar. (Pasquale-PA).

**MOROCCO:** VOA 17895 f/d "Utah" cd. in 6 wks. (Tilbury).

**NEWFOUNDLAND:** CKZN 6160 p/d "Map of Labrador and Newfoundland" cd. in

2 wks. w/ form ltr. and sticker for ms. (returned). v/s S. Williams.

(Loudell). same in 13 ds. for 1

IRC (returned). (Brouillette).

**NEW ZEALAND:** Radio New Zealand Inter-

national 11905

f/d "KiwI" cd. in

15 ds. for \$2.00.

Sticker and sked.

rcvd. (Borokowski).

**NORWAY:** Radio Denmark

9975 and 11635 p/d

## Radio San Marino International

Shortwave Station from the Republic of San Marino

"Logo" cd. in 2 mo. (Barto).

**PALAU:** **KHBN** 9985 f/d "Map" cd. in 1 mo. for \$1.00. (Tilbury).

**PERU:** **Radio San Nicolas**

- \* 5470 f/d cd. in 3 mo on my 3rd try for a SP rpt. v/s Dr. Juan Jose Grandes Vargas, Director General. (Field).
- \* **Radio San Juan** 4000 personal ltr. w/ QSL cd. and a photo of the station in 5 mo. on my 3rd try in SP. v/s Santiago Lopez Valderrama, Director General. (Field-MI).
- \* **Radio Ritmo** 5602.2 f/d cd. on my 5th try for a SP rpt. and a 93 reception. (Field). **Radio Luz y Sonido** 3235 p/d cd. w/ f/d ltr. and several postcards in 1 yr. for a SP rpt. \$1.00 and ms. v/s Pedro Martinez Tineo. (Myers-VA). **Radio La Hora** 4977.1 f/d prepared cd. w/ personal ltr. in 14 mo. after 3 f/up rpts. in SP for an 88 reception. v/s Carlos Gamarra M., Director. (Palmer-sheim-WA). 4855-4860 4 cds. for various reports in 5 mo. after many rpts. (Field-MI). 4855.4 f/d prepared cd. in 3 1/2 yrs. for a SP rpt., tape and \$1.00. This is my 15th QSL from Peru - not too bad for one who once hated doing Spanish DX. (Klinck-NY).

**PHILIPPINES:** **Far East Broadcasting Co. Radio International DZF9** 15095

f/d cd. w/ sticker and schedule in 5 wks. (Barto-CT). f/d ltr. in 2 mo w/ schedule. (Barto). 9795 f/d cd. in 3 mo. w/ postcards. (Barto-CT). 9475 f/d cd. in 2 mo. w/ sticker. (Barto). **DZF9** 11635 f/d "Filipino Kalesa" cd. w/ schedule & sticker in 1 mo. (Barto).

**CONFIRMACION DE ESCUCHA**

ORA Sr. NORMAN CONSTANT  
 QTH 3577 4way T ROSEBUD, MO 63091 - USA  
 Fecha 15-12-97 QTR 2335-2345 UTC  
 Banda 19 MHz Señales \_\_\_\_\_  
 Sus datos de recepción coinciden correctamente con los archivos de programación de esta radioemisora Antártica Argentina

**EQUIPAMIENTOS**

Potencia en KW 1 Kw antena Zomaca  
 Frecuencias de emisión 15476 kHz  
 Horarios de emisión 0930-1100 hrs  
 Desde el TAA un cordial saludo y agradecimientos  
 Base Antártica Espeyanza de Noviembre 1978

**VERIFICATION SIGNERS: Feeling FM** 11133 (USB relay) Carlos A. Taglia Pietra, Subgerente Tecnico. **Radio Alvorada de Londrina** 4865 Padre Manuel Joaquin.

**Radio Transmundial** 11705 Sergio Paulo Da Silva, Director. Addr: C.P. 18300, Vila Alexandria, Sao Paulo 04699-970 SP. **China Radio International** 9665 via **Brasilia Central** 11815 Ney Raymundo Ying Lian, English Service. **Radio Brasil Central** Fernandes, Director Administrativo. Addr: Rua Dona Adelaide 430, Jardim Bela Vista, 74001 - 070 Goiana, Brasil. **Radio Nationale du Cambodia** 11938 Ken Yan. **Radio Rainbow** 9855 Tu. Assefa. Addr: P.O. Box 140104, DE-53056 Bonn, Germany.



same cd. in 54 ds. w/ a personal ltr. from Ellen Valdez. Also rcvd. sticker, schedule, station info. and a calendar. I even rcvd. an official receipt for the \$1.00 that I sent to the station. (Borokowski-NY). **Voice of America** 17735 and 18820 via **Poro** f/d "Hawaii" cd. in 88 ds. (Humenyk-ONT).

**PORTUGAL: RDP International** 17745, 17725, 15555 and 15200 f/d cds. in 6 wks. (Barto). 13640, 13700, 11770, 11840 and 9520 f/d cd. in 7 wks (Barto). 9765, 11770, 11840, 13640 and 13700 f/d cds. in 1 1/2 mo. (Barto). 17725, 15555 and 9780 f/d cd. w/ ltr. and postcard in 2 mo. (Barto-CT). 13640 and 13700 f/d cd. w/ ltr. in 2 1/2 mo. (Barto). 6150 and 9570 f/d cd. in 5 wks. (Barto-CT). 21655 f/d "Torre de Belem and Centro Cultural de Belem" cd. w/ sked. report form and a ltr. in 64 ds. (Humenyk-ONT).



La Gran Cadena Radial de la Paz

Recuerdo de  
**RADIO  
ABAROA**



RIBERALTA  
BENI-BOLIVIA

Special Edition" cd. in 18 ds. for \$1.00. v/s Adrian Peterson. (Kusalik-ALB).

**SINGAPORE:** Radio Japan 11740 via Kranji f/d "Autumn at the Asagiri Highlands Below Mt. Fuji" cd. w/ sked. in 1 mo. (Barto).

**VERIFICATION SIGNERS:** BBC Asian Relay Station 11955 Miss Jaruwat Meesaurtong, Executive Secretary. Addr: P.O. Box 20, Muang, Nakhon Sawang 60000, Thailand. Turkmen Radio 5015 K. Karen, Chief of the Technical Department. Addr: 3 Mollanepes Street, Ashgabat 744000. Merlin Network One 9795 Michelle Franks, Assistant for Scheduling and Frequency Management. Addr: Merlin Communications, c/o Bush House, Strand, WC1, London, UK. Radio Blandenque Argentina 9955 via WRMI Raul Gonzales, DJ, Box 293, Merlin, Ontario, NOP 1W0, Canada... via PLAY DX....Sam.

**QSL VERIFICATION**

**RADIO STATION** Voice of Broad Masses of Eritrea  
**TRANSMITTING FROM:** ASMARA-ERITREA

Dear Mr. GEORGE MAROTI

We confirm with pleasure your reception report which conforms to the programs we broadcast. THANK YOU.

FREQUENCY: 7085 KHZ

Date 29 / 98 Time 04:20 - 05:00 UTC

LANGUAGE TIGRIGNA & TIGRE

Dawit  
Signature P.T.O



\* schedule. v/s Kathy Otto. (Humenyk). f/d cd. in 1 mo. for a 95 reception. (Field-MI). Adventist World Radio 6000 via Meyerton f/d cd. in 2 wks. v/s Adrian Peterson. (Field). **SPAIN:** China Radio International 9690 cd. in 1 mo. w/ paper cut. (Levison-PA). f/d "CRI Building" cd. in 32 ds. (Palmerheim). Radio Exterior de Espana 17890, 17805 and 17755 p/d ltr. in 2 mo. (Barto). 6055 f/d "Studio" cd. w/ schedule and station info. under separate cover in 13 wks. (Loudell-DE). same in 100 ds. w/ sticker for 1 IRC. (Griffin). **SWITZERLAND:** Swiss Radio International 9885 f/d "Zurich" cd. in 10 wks. (Loudell-DE). **TAIWAN:** Radio Taipei International 9680 f/d "Foreign Language Staff" cd. in 53 ds. (Levison-PA).

**D. P. R. S.**  
Dutch Pirate Radio  
Service

12 Dorman Road  
Preston PR2 6AS  
England

**POLAND:** Polskie Radio Warsaw 9525 f/d "Logo" cd. in 92 ds. w/ personal ltr., stickers & report forms. v/s Rafal Kiepuszewski. (Borowski-NY).

**RWANDA:** Deutsche Welle 15275 via Rigali f/d "Rhine River" cd. in 6 mo. This was 3 mo. after a f/up rpt. w/ \$1.00. Rcvd. ltr. from Mrs. Silke Broker indicating that the personnel at the DW Technical Advisory Service is very tight. (Tilbury).

**SAO TOME:** VOA 11975 f/d cd. in 1 mo. (Tilbury).

**SERBIA:** Radio Beograd 7200 f/d "Radio Yugoslavia Listeners Club" cd. w/o site in 10 wks. for a rpt. sent to the Radiotelevizija Srbije address. (Tilbury). Radio Yugoslavia 11870 f/d cd. in 5 mo. w/ stickers. (Palmerheim-WA).

**SICILY:** Radio Uno 6160 via Caltanissetta p/d cd. w/ site in 16 mo. (Maroti-NY).

**SLOVAKIA:** Radio Slovak International 15460 f/d cd. in 38 ds. (Palmerheim). Adventist

World Radio 11610 via Rimavska f/d "AWR

ecuador



S/200



**UKRAINE: Radio Ukraine International** 12050 via **Kiev** f/d "16th Century Bronze Bible Plate" cd. in 69 ds. w/ schedule, (Humenyk). **Universal Life** 11605 n/d hand written ltr. from the CT address in 5 wks.(Field-MI).

**USA: Radio Taipei International** 5950 f/d "Mountain and Plains" cd. w/ sked. and stickers in 1 mo. (Loudell-DE). f/d "Insect and Bug" cd. in 70 ds. w/ bookmark. (Palmersheim). **WHRA** 9400 f/d cd. in 5 mo.

v/s Loren Holycross. (Palmersheim). 13760 f/d "Globe/Logo" cd. in 150 ds. w/ schedule. (Humenyk). **WJES** 11715 f/d stamped USPO postcard in 3 wks. for \$1.00. (Tilbury). 15384.8 f/d folder cd. in 5 mo. (Palmersheim). **WINB** 11950 f/d cd. in 57 ds. v/s Fred W. Wise. (Humenyk-ONT). **WBCQ** 7415 f/d "Rainbow over the Earth" cd. in 16 ds. for \$1.00. (Pasquale-PA). same in 1 mo. (Field-MI). f/d cd. in 8 ds. v/s Elayne Starr, Office Manager. (Palmersheim-WA). **Voice of Greece** 9775 via **Delano** f/d Parliament cd. in 26 ds. (Palmersheim). **WRMI** 9955 f/d "Everglades Nat-

**NOTES: Denis Pasquale** says that he now has a little more time for DXing again. Reception seems to be running hot and cold but not quite as good as was predicted. Hopefully it will improve. He also wants to start sending out more reception reports. Its a good time for follow up reports also...Sam. **Paul Brouillette** says he has about 20 reports currently outstanding but at least he has gotten some replies. Sometimes its like a crap shoot...Sam. **Mickey Delmage**, VP of CIDX, says that he has been a NASWA member for many years but has never gotten around to sending in any reports for the Column. I'm very glad to have you with us and keep the reports flowing in...Sam.



Radio  
**IRAQ**  
INT. BAGHDAD

We thank you for your reception report and are pleased to confirm that you have heard our station on 20.02.92 at 20.02 - 20.10 GMT on 17.860 kHz SP7

Sincerely yours, **A** PRIORITAIRE PAR AVION

**Ríkissíðvarpið**

**RÚV** ICELANDIC NATIONAL BROADCASTING SERVICE RÁÐSÍÐVARPIÐ FRIÐALEI 1. 190 REYKJAVÍK



*Kormen, Constanti*

3578 HWY T

Rosebud, Missouri

63091 - U.S.A.

ional Park" cd. in 75 ds. w/ schedule and sticker. v/s Jeff White. (Humenyk). **Radio Free Asia** 11590 (**Dushanbe**), 9330 (**KWHR**) and 7550 (**Kamo**) f/d personal ltr. w/o sites in 1 wk. after a f/up rpt. Sticker and schedule rcvd. (Field)

**USA (Pirates):** next QSL Column...Sam.

**UZBEKISTAN: Radio Tashkent** 17775 f/d cd. from the Soviet era in 9 wks. for a US dollar. (Tilbury). 6025, 5975, 7285 and 7105 f/d cd. in 3 mo. on my 2nd try. (Field-MI).

**VATICAN CITY: Radio Vatican** 15570 f/d cd. in 69 ds. for 1 IRC. (Griffin-VA). 9585 f/d "Transmitter/Tower" cd. in 3 mo. (Barto-CT).

**WEST BERLIN: Deutschland. Radio Berlin** 6005 f/d orange "Logo" cd. w/ station info., pens and stickers in 3 mo. for \$1.00 (returned). (Loudell-DE).

We actually had a full Column this month. Best of QSLing.....

*Sam*

# Net Notes

Tom Sundstrom

P.O. Box 2275  
Vincentown, NJ 08088-2275  
Fax: 609-859-3226  
Internet: trs@trsc.com  
http://www.trsc.com

There is a good source for the transmission schedules of Radio Kuwait<sup>1</sup> now. The page is on the Web servers of the Ministry of Information.

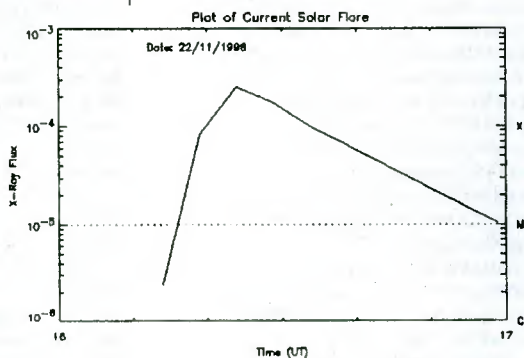
Those of you active on the Internet know of the long-running Drake R8 in North Carolina that you can tune and listen to audio clips with a Web browser. Now there is a virtually complete compilation of all such receivers on the Web, compiled by a Danish radio amateur.<sup>2</sup>

On Sunday, Nov 22 a number of us were "chatting" online in the #swl IRC channel<sup>3</sup> and I was listening to some great music from Porgy and Bess on the BBC-Africa service on 15400. At 1619 UT, within 30 seconds the signal disappeared completely, as did all other signals on the

HF spectrum.

It was a flare, and Mark Fine pointed us to a page on the IPS Australia Web site. The "Real Time SWF Coverage Prediction"<sup>4</sup> page provides a map of the impact and a link to a second page<sup>5</sup> that updates every 30 seconds with the flare intensity as it rises and falls in magnitude. The flare ended at 1700 UT.

Very interesting, indeed!



<sup>1</sup> [www.moinfo.gov.kw/ENG/FREQ/SW.htm](http://www.moinfo.gov.kw/ENG/FREQ/SW.htm)

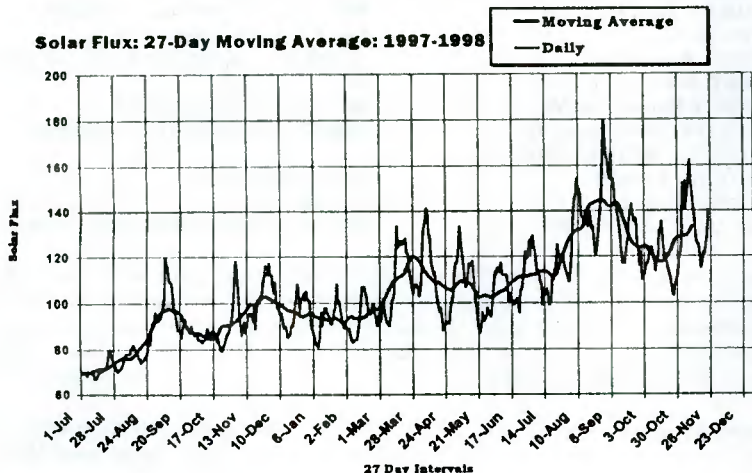
<sup>4</sup> [www.ips.gov.au/asfc/current/rtalf.html](http://www.ips.gov.au/asfc/current/rtalf.html)

<sup>2</sup> [www.qsl.net/oe3mzc/receivers.html](http://www.qsl.net/oe3mzc/receivers.html)

<sup>5</sup> [www.ips.gov.au/asfc/current/ftrack.html](http://www.ips.gov.au/asfc/current/ftrack.html)

<sup>3</sup> [www.trsc.com/irc\\_faqs.html](http://www.trsc.com/irc_faqs.html)

Solar Flux: 27-Day Moving Average: 1997-1998



# Contributors' Page

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2641 S. Shields St.  
Philadelphia, PA 19142  
Internet: fkohl@ix.netcom.com

## DEADLINE FOR CONTRIBUTIONS IS THE 10th OF THE MONTH

The following members sent in contributions:

Brian ALEXANDER, Mechanicsburg, PA

John BOONE, Spring, TX

Ralph BRANDI, Tinton Falls, NJ

David CLARK, Thornhill, ONTARIO

Peter COSTELLO, Matawan, NJ

Rich D'ANGELO, Wyomissing, PA

Ralph FAMULARO, Hyogo-ken, JAPAN

Kris FIELD, HORSHAM, PA

Bob FRASER, Cohasset, MA

Hugh GRIFFIN, Jr, Portsmouth, VA

Bob HILL, Littleton, MA

Mark HUMENYK, Weston ONTARIO

Fred KOHLBRENNER, Philadelphia, PA

David KRAUSE, Eastlake, OH

Harold LEVISON, Philadelphia, PA

George MAROTI, Mt. Kisco, NY

William McGUIRE, Cheverly, MD

Jim MOATS, Ravenna, OH

Winter MONGES, VENEZUELA

Bob MONTGOMERY, Levittown, PA

Gary NEAL, Sugarland, TX

Ed NEWBURY, Kimball, NE

Jay NOVELLO, Wake Forest, NC

Takayuki Inoue NOZAKI, Tokyo, JAPAN

Marina PAPPAS, Huron, SD

Stephen PITTS, Minnetonka, MN

Bob RAYMOND, Nashua, NH

Chuck RIPPEL, Cornland, VA

Betsy ROBINSON, Clinton, TN

Conrad ROUTH, Chamblee, GA

Giovanni SERRA, Rome, ITALY

John SGRULETTA, Mahopac, NY

Bill SMITH, Mineola, TX

Mike STRAIN, Bayville, NJ

Ed TILBURY, Anchorage, AK

Fred TRESHER, Philadelphia, PA

Patrick VAN LOO, Washington, DC

Mark VELDHIUS, NETHERLANDS

Gerald WITHAM, Keauu, HI

Terry WOLF, Bellville, OH

Dan ZIOLKOWSKI, Hanburg, NY

R8B AOR AR-7030 100' LW

R8 70' LW

R8A NRD-515/SE-3 ANC-4 Carolina Beam

AR3030 DX-390 YB400 70' LW Tun-4A

R8 FL-3 200+500' beverages

ICF-SW55 ATS-803A R5000 LW

R8 SP600 beverages

Sony ICF-2003 ICF-SW100S 2m LW

DX150B LW

Sony 2010 120' dipole at 35'

Magnavox D-2935 AN-60 DX-SWL sloper

R8 NRD-525 Datong FL-3 AD Sloper

Kenwood R600

R8 R70 YB400

Sony 2010 10/45m dipoles MFJ-956 tuner

DX-380

DX-440 48' indoor LW

R388 DX Pro active antenna

Grundig YB-400

WJ-1000 R8 60' Sloper 20' loop

R8A LW's

NRD515 NRD535 FRG7000

R8 Eavesdropper

NRD-535D FRG-7 Eavesdropper RW Loop

DX-398 20m 5/8 wave vertical

WJ-HF1000A R8B R390A/SE-3 51S-1 LW's

Sony 2010 Indoor antenna

NRD-535D AD 60' Sloper

NRD-525 AD Sloper

NRD-515 AD Sloper Moseley trap dipole

R8B R70 51J4 Beverage

DX380, 390, 394, 398 FRG-7 MFJ-1020B LW

AOR-7030 80' LW

ATS-818 Sony 2010 FRG-7700


R8B FRG-100 DX-390 Delta Loop Dipole

R8 ANC-4 135' LW

Sony 2010 LW

R8 Sloper SPS NRF-7 SEM QRM Eliminator

Loggings from Kris Field, Rich D'Angelo, Bob Montgomery, and I were made while on a Dxpedition to French Creek State Park near Reading, PA. Also attending for the first time was NASWA member Ed Mauger. It was our first trip to this park, and the lack of the underbrush and thorn bushes we're used to at Gifford Pinchot Park made stringing antennas there almost a pleasure. We've already scheduled another trip to French Creek for December.

I'd like to thank our members who have taken the time to contribute to the Journal over the past year, and I wish everyone in the club Seasons Greetings and a very Happy New Year! 



# Tropical Band Loggings

**Sheryl Paszkiewicz**

P.O. Box 152  
Manitowoc, WI 54221-0152  
spaszkie@msn.com

- 2310 AUSTRALIA ABC 10/9 0910 interview, ment Australia, Canberra, 0930 nx (Ziol-NY) 11/13 1300 poor (Smit-TX)
- 2325 AUSTRALIA ABC 11/13 1300 poor (Smit-TX)
- 2410 NEW GUINEA R Enga 10/13 1144 presumed, tlk, mx (Pitt-MN)
- 2485 AUSTRALIA ABC 11/13 1300 poor (Smit-TX) 10/11 1540 election results (With-HI)
- 2850 N KOREA KCBS 10/12 1550 KR vcls, ID //3220 (With-HI)
- 3025 N KOREA Frontline Soldiers R 10/11 KR 1605 drama (With-HI)
- 3210 COSTA RICA REE 11/16 0100 ID, cmtry (Boon-TX)
- 3220 ECUADOR HCJB 10/29 0230 tlk, ID (Rout-GA)
- 3223 INDIA AIR Shimla 10/11 1610 HD tlks, p-f (With-HI)
- 3224.9 PERU Luz y Sonido 11/3 1018 folk mx, tlk (TIN-JP)
- 3235 NEW BRIT RWNB 11/1 1151 ID, C&W, s/off anmts (Maro-NY)
- 3250 HONDURAS Luz y Vida 11/16 0045 ID, tlk, rustic mx (Boon)
- 3280 ECUADOR LV del Napo 10/12 0920 QU huaynos, band mx (Robi)
- 3289.8 GUYANA Vo Guyana 11/14 0305 song abt Carib. PSA (Nove-NC) 11/8 0353 ID, clear (Fiel-PA) 10/4 0745 VOA pgm Issues in the Nx, lcl ID ment 5950 too, big band mx (Alex-PA) 10/24 0345 EG sports pgm, call ins (Krau-OH)
- 3290 CHINA CNR 10/11 1550 slow tlk, pops, march 1600\* (With-HI)
- 3315 INDIA AIR Bhopal 11/7 0102 tlk, SC vcls (Kohl-PA) 11/7 0050 great vcl pgm, f-g (D'An-PA) 10/21 \*0025 IS not // 5010, pretty weak (Nove-NC)
- 3320 N KOREA PBS 10/16 1655 regional mx, ID, nx (With-HI)
- 3324.8 GUATEMALA R Maya 10/18 1110 Indian mx, jazz, ads (With-HI)
- 3325 SUMATRA RRI Palangkaraya 11/13 1226, tlk, mx (Smit-TX) ID?
- 3345 INDIA AIR Jaipur 10/22 \*0025 IS, Vande Mataram song (Nove)
- 3380 GUATEMALA R Chortis 10/178 1145 sports, mx, nx (With-HI)
- 3395 SUMATRA RRI Bandar Lampung 11/8 2159 tlk, IS, nx (Sgru-NY)
- 3905 IRIAN JAYA RRI Merauke 11/1 1200 SCI, ID nx (Maro-NY) 11/8 1159 SCI, talk but no ID so presumed (Fiel-PA) 11/8 0122 Big Band show, ID 0204 (Kohl-PA) 11/8 1136 C&W, instl SCI nx (D'An-PA) 10/29 1258 SCI, TP, ID, nx (Pitt-MN)
- 3976.1 KALIMANTAN RRI Pontianak 11/1 1515 ballads, IN tlk, ID, p-f (Veld-NETH)
- 4405 N KOREA RP 10/25 1700 SP IS, ID, nx, poor (With-HI)
- 4606.4 IRIAN JAYA RRI Serui 10/13 1258 SCI, TP, ID, nx (Pitt-MN)
- 4635 TAJIKISTAN TR 10/21 0100 string IS, Inja Dushanbe ID Nove
- 4735 CHINA Xinjiang 11/14 \*1100 IS, ID, IS, anmt, mx (Nove-NC)
- 4748.3 PERU R Huanta 2000 11/14 1058 ad string, ID (Nove-NC)
- 4753.3 SULAWESI RRI U-P 11/7 2117 IN tlk, hymn, SCI (Fiel-PA) 11/7 2020-2144 carrier cut, mx, tlk abt U-P (D'An-PA) 11/13 1233 tlk, fair (Smit-TX)
- 4760 AND ISL AIR Pt Blair 10/25 1130 ID, film mx (Nove-NC)
- 4770 NIGERIA Kaduna 2210 EZL mx, ID (Smit-TX) 10/31 0500 lang w/Afr mx (Tres-PA)
- 4777.1 JAVA RRI Jakarta 11/7 2148 vcls, SCI, Jak nx (D'An-PA) 11/13 1233 fair w/pops (Smit-TX)
- 4779.8 ECUADOR R Oriental 10/20 1030 ID, mx (Robi-TN)
- 4789.1 IRIAN JAYA RRI Fak-Fak 11/9 1155 lagu, anmts, SCI, ID Nove
- 4790.4 PAKISTAN AKR 11/8 0214 tent w/tlk, ME mx, should have checked earlier, tnx Kohl (D'An-PA)

- 4810 **ARMENIA** *Vo Armenia* 11/4 2112 GM closing anmts, addr, chime IS, IDs //9965 (Hill-MA)
- 4815 **BURKINA FASO** *RTV* 2228 tlk, poor (Smit-TX)
- 4820 **BOTSWANA** *RB* 11/8 0325 //7255 (Fiel-PA) 10/31 0515 lang cmtry (Tres-PA)
- 4820 **HONDURAS** *LV Evangelica* 10/5 0330 rel pgm, EG ID (Boon-TX) I'm sorry I accidentally omitted yr logs last month but did send yr name to Fred—sp
- 4824.4 **PERU** *LV de la Selva* 11/7 \*0948 lively OA mx, echo IDs Kohl 11/3 \*0953 salsa, greeting, ID musica chicha (TIN-JP) 11/4 1000 ID, tlk, vcls, clear (Ziol-NY) 10/28 0227 mx, ID (Rout-GA)
- 4825 **GUATEMALA** *R Mam* 20/6 0045 SP marimbas (Rout-GA)
- 4828 **ZIMBABWE** *ZBC* 11/9 2140 instl, anmts, gone after 2200 (Nove-NC)
- 4830 **VENEZUELA** *R Tachira* 11/16 0200 pops, ID (Boon-TX)
- 4835 **MALI** *RTM* 2217 tlk (Smit-TX)
- 4840 **INDIA** *AIR Mumbai* 10/20 0040 sitar, film song, ads (Nove-NC)
- 4840.1 **VENEZUELA** *R Valera* 1-0/23 0109 tlk, mx, ID (Rout-GA)
- 4845.1 **GUATEMALA** *R Kekchi* 11/13 1230 good vcls (Smit-TX) 10/2 2350 ballads/pops, ID, drama (Alex-PA)
- 4850 **CHINA** *CNR* 11/4 2146 tlk, mx //7770 & 9064 (Hill-MA)
- 4855.6 **PERU** *R La Hora* 11/5 2320 live cmtry, poss parade, IDs Nove
- 4860 **INDIA** *AIR Delhi* 10/12 1221 SC mx, TP, EG ID, nx (Pitt-MN)
- 4870 **BENIN** *ORTB* 2243 solo vcl, p-f (Smit-TX) 10/31 0500 FR mx cmtry (Tres-PA)
- 4870 **ECUADOR** *LV del Upano* 11/6 0203\* anmts, ID, NA (D'Ang-PA) 10/29 0145 ID, anmts (Rout-GA)
- 4874.4 **IRIAN** *JAYARRI Sorong* 10/30 0950 lagu lagu lcl ID (TIN-JP) 11/3 1150 Elvis, Leo Sayer, SCI (Nove-NC)
- 4875 **BRAZIL** *R Roraima* 10/6 0359 mx, ment Boa Vista (Rout-GA)
- 4880 **BANGLADESH** *RB* 11/9 1202 SC songs, tlk, fade 1225 (Nove-NC)
- 4890 **PAPUA** *NBC* 11/18 1300 listeners ltrs, cmtry, oldies (Boon) 10/20 1100 ID, nx, pops, ads for positions at various PNG stations (Ripp-VA) 10/19 1125 Mary Chapin Carpenter, YL annr (Nove-NC) 11/13 1222 fine mx, booming in (Smit-TX) 10/19 1100 ID, job opportunities, Mary Chapin Carp (Robi)
- 4895 **INDIA** *AIR Kurseong* 11/14 \*1130 IS, vcls, pretty good (Nove)
- 4895 **SARAWAK** *RTM* 11/13 1326 tlk, poor (Smit-TX)
- 4915 **BRAZIL** *R Anhanguera* 10/27 0011 ID, backgd tlk (Sgru-NY)
- 4915 **GHANA** *GBC* 2222 tlk & mx (Smit-TX)
- 4919 **ECUADOR** *R Quito* 10/7 0300 ID, anmts, mx (Boon-TX)
- 4920 **INDIA** *AIR Chennai* 11/14 \*1200 IS, tlk, S9 (Nove-NC)
- 4920 **IRAQ** *R Baghdad* 11/8 2325 vcls & strings, TP nx ID (Nove-NC)
- 4925 **SUMATRA** *RRI Jambi* 11/7.\*2156 lcl ID, SCI, ID, nx abt Jambi choir, preaching (D'An-PA) 11/1 1509\* nx, promo, 1509 went off, good (Veld-NETH)
- 4930.6 **HONDURAS** *R Int'l* LA vcls EZL 10/12 (Ripp-VA)
- 4935 **KENYA** *KBC* 10/27 2104\* pop mx, anmts, ID, TP (Kohl-PA)
- 4935 **PERU** *R Tropical* 11/14 1113 nx, corres rpts, IDs (Nove-NC) 10/17 1010 fair sig, chicha & sev ads in Tarapoto (TIN-JP)
- 4940 **CHINA** *Vo Strait* 11/7 2132 CH tlk & lively mx (D'Ang-PA)
- 4955 **COLOMBIA** *R Nacional* 11/16 0230 romantic ballads, ID, Caracol nx (Boon-TX) 0201 EG IDs, Sam mx (Krau)
- 4960.1 **DOM REP** *R Cima* 10/18 0220 guitar/vcls, ID (Nove-NC) 11/2 0045 full ID, was trying for AIR Ranchi (Sgru-NY)
- 4964.7 **PERU** *R San Miguel* 11/6 1001 huaynos, ID, TC (D'An-PA) 10/26 1007 Andean mx, ment Cusco, weak (Ziol-NY)
- 4965 **ZAMBIA** *Christian Vo* 11/4 2250 pops, nx, tone (Nove-NC)

- 4971 PERU R *Imagen* 11/3 0934 "El Tatu Tatu Madrugador" pgm (TIN)
- 4975 PERU R *del Pacifico* 11/16 0400 ID, rel pgm (Boon-TX) 10/17 1003 vcls, tlks fair (Zio-NY)
- 4980 VENEZUELA *Ecos del Torbes* 11/17 0300 long tlk, ID, mx (Boon 10/7 0230 SP tlk, LA pops (Boon-TX)
- 4990 INDIA AIR *Itanagar* 11/5 1200 low key vcls, noisy (Nove-NC)
- 4990.9 PERU R *Ancash* 10/28 0907 NA, anmts, ID, vcls (Kohl-PA)
- 4990.9 SURINAM R *Apintie* 10/12 0300 non-Latin mx (Ripp-VA)
- 4995.6 PERU R *Andina* 11/6 1014 ID, woman shouting (D'An-PA)
- 5010 INDIA AIR *Thiru.* 11/2 0040 SC mx, strong (Sgru-NY) 10/21 \*0020 IS, EG nx, vy good (Nove-NC)
- 5011.7 DOM REP R *Cristal* 10/3 0236\* continuous tlk so presumed rel & class mx, NA (Alex-PA)
- 5015 TURKMENISTAN R *Asgabat* 11/9 2105 strings, pops (Nove-NC) 11/6 2258 exotic mx (Kohl-PA)
- 5018.7 PERU R *Horizonte* 11/3 1120 cumbia peruana, poor (TIN-JP) 11/8 0009 lively mx, lds, TCs (D'An-PA) 11/6 0010 flute led mx, canned ID, church remote (Nove-NC)
- 5020t SOL ISL *SIBC* 11/13 1242 OC but no audio (Smit-TX)
- 5025 PERU R *Quillabamba* 10/17 1000 good w/folk mx, TC, ID (TIN) 11/6 0115 presumed in Rebelde's absence (Nove-NC)
- 5027.1 PAKISTAN *Quetta* 11/6 0117 Koran, urgent tlk, no Cuba (Hill)
- 5030 COSTA RICA *AWR* 10/23 0003 EG rel, asked for rpts (Levi-PA)
- 5030 SARAWAK *RTM* 11/13 1223 tlk, vcls (Smit-TX)
- 5035 BRAZIL R *Aparecida* 10/27 2357 mx ID (Rout-GA)
- 5035 CENT AFR REP R *Cent.* 2233 poor, tent w/Brazil QRM (Smit)
- 5040 GEORGIA *RG* 11/9 2150 Scott Joplin, IS (Nove-NC)
- 5040 INDIA AIR *Jeyapore* 11/6 0030 ID, lcl mx, tlk nx (Mont-PA) pres 10/24 0015 tone, IS, TP, nx (Sgru-NY) 11/7 \*0025 OC Hindi vcls, TP, ID, nx (D'An-PA) 10/25 \*0025 IS, Vande Mataram song (Nove-NC)
- 5050 INDIA AIR *Aizawl* 11/14 \*1130 tlk (Nove-NC)
- 5050 TANZANIA *RT* 11/7 0200 AR prayer, SH tlk, ID, mx (Kohl-PA)
- 5054 COSTA RICA *Faro del Caribe* 11/17 0400 rel pgm (Boon-TX)
- 5054.9 FR GUIANA *RFO* 10/18 2230 zouk, ragga, Montell Jordan Let's Ride, ID (Nove-NC)
- 5100.1 LIBERIA R *Liberia* 11/15 2145 western pop mx, reggae, insp tlk, IDs (Bran-NJ) 11/5 2125 nx, lds, hilife, TC (Kohl)
- 5145 CHINA *CRI Hohhot* 11/1 1318 RS tlk, mx, tnx van Rooy (Veld-NETH) Tnx & tnx to Marie for forwarding
- 5305 PERU R *La Inmaculada* 11/7 1120 "Alegre Despertar" & ID TIN
- 5522.2 PERU R *Sudamerica* 11/5 0020 Andean mx, phone ins ID (Kohl) 1120 11/3 fair ID, TC (TIN-JP)
- 5745 USA *WHRI* 10/6 0100 anmts, ID, rel pgm (Rout-GA)
- 5760.3 PERU R *Sorocucho* 11/8 0958 s/on routine, lds, TCs (D'An)
- 5770 NICARAGUA R *Miskut* 10/23 0130 beaut sig reggae, EG Carib accented anncr (Nove-NC)
- 5825 USA *WEWN* 10/6 0200 rel pgm, ID (Rout-GA)
- 5835 KALININGRAD R *Ned* 11/6 \*2027-2125\* IS ID, TP, DT pgm, pop mx, nx & sports (Kohl-PA) 11/6 2127\* DT pgm, saxophone, ID 2 min of dead air b4 s/off (D'An-PA)
- 5865 BULGARIA *RB* 10/31 0237 tlk, ID (Rout-GA)
- 5875 ENGLAND *BBC* 10/6 0109 ID (Rout-GA)
- 5880 VATICAN *VR* 11/1 0445 tlk, IS, ID (Rout-GA)
- 5885 VATICAN *VR* 11/1 0500 IS anmts, ID (Rout-GA)





# International Band Loggings

**Wallace C. Treibel**  
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- 5975 **UZBEKISTAN R Tashkent** in EG 0100, quiz questions, mx, vcls, ID's, g (Robinson TN 10/18)
- 6010 **MEXICO R Mil** in SP 0832-0915, L Am mx, SP rock tune, frequent ID's, TC (Kohlbrener PA 10/14)
- 6020 **UKRAINE RUI Kiev** in EG 0100, nx, cmntry, ID, class mx, pops, //5905, 7205 (Alexander PA 10/31)
- 6025 **DOMINICAN REPUBLIC R Amanacer** in SP 1210, relig hymns, QRM R Marti (Novello NC 10/20)
- 6070v **CHILE V Christiana** in SP 0130-0305+, L Am mx, contemp relig mx, ID's, tiks, poor with lots of slop from adjacent channel, //11690 and 96304 with the best signal (Alexander PA 10/10)
- 60999v **ALBANIA R Tirana** in Albanian 1330, TP, ancmt, ID, lcl nx, f-g (Serra ITALY 10/10)
- 61151 **ALBANIA R Tirana** in EG 0330 (new time), nx, ID, press review, lcl mx, //7160 (Alexander 10/31)
- 6120nf **GERMANY R Vilnius** Lithuania relay Julich in EG 0030-0059\*, s/on ancmts, ID, nx, cmntry, lcl mx, nx cmntry re whether or not to close power plant, s vg (Alexander PA 10/31, Krause OH 11/2)
- 6130 **LAOS Lao Nat'l R** in lang 1143, lcl pop mx, long tik, IS, clock tower bells, ID, nx (Maroti NY 11/8)
- 6135 **BOLIVIA R Santa Cruz** in SP 0909, ID, pan flute mx, w/male vcl, p but clear (Ziolkowski NY 10/13)
- 6155 **UNITED KINGDOM R Japan relay** in EG 0051, cmnts on recycling paper, exc (Levison PA 10/14)
- 6188 **PERU R Oriente** in SP 1005, anmts, TC's, ads, ID's, NA, L Am mx (Kohlbrener PA, D'Angelo PA)
- 62501 **PERU L V de Andahuaylas** in SP 2216, ID, tiks, mx, nx, abruptly off 2245 (Montgomery PA 10/28)
- 6265 **ZAMBIA ZNBC Lusaka** in EG/lang 0249, IS, NA, "Radio One" ID, fqy, mx, sked (Kohlbrener 11/7)
- 66748v **PERU R Impacto** in SP 0007, DJ w/rustic vcls, ID's, p (D'Angelo PA 11/7) in SP \*1101-1145 f/o, NA, very long ID, fqy, and TC, ancd nominal fqy as 6675 but fqy varies, QRM (Nozaki JAPAN 11/3)
- 67977v **PERU R Ovidas del Rio Mayo** in SP 0030, ID, nice mx, extreme fades (Montgomery 10/28) in SP 1015 Andean mx/flutes, tiks, outlet for MW 1490, lcl ads (Kohlbrener PA 11/7, Nozaki JAPAN 11/3)
- 66186v **PERU R Super Sensacion** in SP 1042, ID's, a TC's, huaynos mx (D'Angelo PA 11/6, Nozaki JP 11/3)
- 70406v **PERU R San Ignacio** in SP 2340, tiks, promos, OA folk mx, clear ID, CWQRM (Alexander PA 10/2)
- 7125 **GUINEA RTV Guineenne Conarky** in FR 2255, long tiks, ID, mx, g (Raymond NH 11/3)
- 7130 **BOSNIA R Yugoslavia relay** in EG 0200, nx, cmntry, ID, p w/QRM from DW (Alexander PA 11/1)
- 71499v **ALBANIA RTV Shqiptar IIS** in AL 1011, continuous lcl pop songs, f/g (Serra ITALY 10/10)
- 7150nf? **GERMANY Int'l Broadcast Corp (site?)** in EG 0055, cmntry on SE Asia, ID 0056 (Costello NJ 11/5)
- 7170 **UNITED KINGDOM Merlin Net One** in EG 2230, rock mx, ID's, ads (Costello NJ, Krause OH 10/20)
- 7190nf **TURKEY V of Turkey** in EG 2215, feature on "Last Week in Turkey", exc (Fraser MA 10/12)
- 7200 **YUGOSLAVIA RTV Srbije** Belgrad in Serbian 1018, string mx, ID, folk songs (Serra ITALY 10/10)
- 7210 **BELARUS R Minsk** in EG 0205, ID's, nx, mx by lcl artist, fqys, QTH, //11670 (Kohlbrener 10/16)
- 7250 **RUSSIA V of Vietnam** relay Armavir in VT 0100, ID, nx?, harp notes, g (Robinson TN 10/19)
- 7250nf **HUNGARY R Budapest** in EG 2218, shortwave DX show, couple of ID's, g (Krause OH 11/1)
- 7255 **BOTSWANA R Botswana** in lang \*0247, barnyard animal cowbells IS, choral anthem, multi-lingual s/ on anmts including EG, tik in lang, //4820, both signals fair (Alexander PA 10/25)
- 7255 **NIGERIA V of Nigeria** in EG 0635, pgm re Nigerian banking system, //15120 (Alexander PA 10/17) in EG 0500, Afro mx w/band & chorus (Newbury NE 10/29) in lang? 2252, g (Strain NJ 10/17)
- 7260 **CHINA China R Int** Baoding in SH 1710, world nx, 10 sec cutoff @ 1720, //11960 (Witham HI)
- 7285 **GERMANY Deut Welle** in EG 0158, IS, ID, "Newslink", press review, f, //6035 (Moats OH 10/31)
- 7295nf **IRAN VOIRI** Teheran in Bosnian 1745, phone rpt, ID 1801, //7340, 9615, 11655 (Witham HI 10/15)
- 7350 **CHINA Heilongjiang PBS** Harbin in CH 1024-1130\*, drama pgm?, segments of CH operatic mx, poor signal mostly unreadable at s/off (Kohlbrener PA 11/8, Field MI 1/8)
- 7425 **BULGARIA R Bulgaria** Sofia in RS \*1900, IS, s/on anmts, ID's, world nx, f (Famularo JAPAN 11/6)
- 7500 **ROMANIA R Moldova** relay in EG 0355\*, nx, cmntry, ID, lcl mx, into lang 0400, p (Alexander 10/31)
- 7515nf **TAJIKISTAN Tajik R** Dushanbe in lang 1828-1900\*, Asian vcls, mournful sels, tik, ID (Hill MA 11/1)
- 77458 **PERU R Cristal** in SP 2345-0200+, tik, nice OA folk mx, surprisingly strong sig (Alexander PA 10/2)
- 8098nf **ARGENTINA R Rivadavia** in SP 2255, tiks, brief mx segments, "Radio Rivadavia" ID's at 2300, but after 2305 heard several mentions of "RAE Internacional", p (Kohlbrener PA 10/14)
- 9165v **AZERBAIJAN R Azerbaijan** in lang \*0215, IS thrice, ID mentioning Azerbaijan, choral anthem, vocal mx, nx (Rippel VA 10/18, Novello NC 10/19) in EG 1705-1731, tik mostly unclear, many ments of Azerbaijan, anmts & lcl chant, nx, mx, poor audio (Serra ITALY 10/12, Raymond NH 10/31)

- 9200 **SUDAN SNBC** Omdurman in AR \*0247, IS, NA, TP, tk in lang, Koran, f (Alexander PA 10/25)
- 9385 **GUAM KSDA** Agat Adventist World Radio in AR 1625-1700, relig pgm, replaces 9355 for AR xmsn, ments of Cyprus QTH, mx bks, familiar IS, fqys, ID's in AR/EG 1659, website (Treibel WA 11/11)
- 9465nf **CZECH REPUBLIC R Prague** in EG 0000, nx, wx rpt, "Current Affairs", mail, ID (Krause OH 11/7)
- 9480 **CZECH REPUBLIC R Prague** in EG 0334, nx, into classical mx, QRM 9475 (Sgrulletta NY 10/18)
- 9485 **BULGARIA RB** Sofia in EG 0000, IS, ID, nx, wx, cmnts on oil pipeline (Levison PA, Trescher PA)
- 94898 **ABKHAZIA R Abkhazia** Sukhumi in lang \*0329, IS thrice, ID "Govorit Sukhum", electronic pop mx theme "Children" by Robert Miles, into nx?, surprisingly strong S-9 signal! (Novello NC 10/18)
- 9505 **KAZAKHSTAN Kazakh Radio 2** in lang? 1240, stringed instrument and soaring male vcl, // to the Kiev relay on 11720, IS? tune at 1300 (Novello NC 10/22)
- 9550 **BANGLADESH R Bangladesh Betar** in EG 1230, regional nx, ID, lcl chants, QRM co-channel RHC all three reporters indicate distorted and/or poor reception (Kohlbrener PA, Witham HI, Serra ITALY)
- 9570 **ROMANIA RRI** Bucharest in RS \*1500, IS, ID, nx?, f-p (Famularo JP 11/1) in EG 2320, cmntry on local economy, tk on Romanian youth center, ID, rock mx, sports rpt (Krause OH, Levison PA)
- 9580 **AUSTRALIA RA** in EG 1235, interview author of "leftist" book on US problems (Newbury NE 10/14)
- 9580 **HUNGARY R Budapest** in EG 0100, ID, "Hungary Today", nx re NATO & Yugo (McGuire MD 10/6)
- 9610 **TAIWAN R Taipei Int'l** in EG \*1200, ID's in CH/EG, pips, "Taipei Magazine", f (D'Angelo PA 11/6)
- 9620nf? **UKRAINE Kazakh R** via Kiyev in lang? 1205, guitar mx, male vcls, //11720, g (Novello NC 10/19)
- 9640 **VENEZUELA Ecos del Torbes** in SP 2124, live soccer, //4980, buried 2130 by AWR\* (Hill MA 11/1)
- 9655 **TURKEY V of Turkey** in EG 0300, fqys, sked, world & national nx (McGuire MD 9/22) in EG 1235, commentator: re Cyprus saying "Greek side is quite wrong", f (Newbury NE 12/15)
- 9660nf **ECUADOR IICJB** Quito in FR 0045-0059\*, presumably repl for 9415 rptd in Passport 99. Actually, this is a return to 9660 which was last logged at this QTH during Summer '90, exc (Treibel WA 11/13)
- 9675 **PAPUA NEW GUINEA NBC** Port Moresby in EG 1220, "Friday Evening Music" island style chorals some C&W, ID's, using their alt fqy to 4890 on rptd date (Novello NC, Kohlbrener PA, both 10/23)
- 9690 **SPAIN China R Int'l** in EG 0315, ID, rpt on Asian econ crisis, features (Newbury NE, Levison PA)
- 97042 **ETHIOPIA R Ethiopia** in Vern 1245, lks, AR & pop mx, f (Trescher PA 10/31, Kohlbrener 10/15)
- 9840 **VIETNAM V of Vietnam** in EG 1333-1358\*, lks, vcls, no ID, //120196 (Ziolkowski NY 10/10)
- 9895 **UNITED KINGDOM Merlin Network One** in EG 0300, rock mx, ads, ID's, exc (Krause OH 11/3)
- 9900nf **CENTRAL AFRICAN REPUBLIC R Minurca** in EG/FR 1930-2105, faint bits of mx at first but signal improved at 2000, hi-life & Afro pop mx continued, ID in FR twice at 2043, QTH?, f-p signal with splatter from 9895 (Kohlbrener 10/10) also rptd by Johnson CO & Vaghjee MAUR — CUMBRE DX
- 9990v **EGYPT R Cairo** in EG 2323, nx, cmntry on tourism in Egypt, g (Raymond NH 11/8)
- 110925 **ST HELENA RSH** in EG 2000-2319\*, aned last annual pgm, phone calls from around the world, mx, E-mail QTH, ID, QSL info (Pappas SD, Strain NJ, Krause OH, Newbury NE all on 10/24)
- 11530 **LEBANON V of Hope** in EG/langs 1745, EG ID between pgms in other langs, g (Novello NC 10/22)
- 11595 **GREECE FTH** Athens in EG 2340, world nx, ID, fqys, GK mx (Krause OH 10/17)
- 11600 **CHINA R France Int'l** relay Xi'an in EG 1207, Afr & ME nx, nx abt France, ID, p (Krause OH 10/24)
- 11600 **CZECH REPUBLIC R Prague** in EG 2250, "The Arts" - Festival of Theatricals, g (Fraser MA 10/14)
- 11625nf **GUAM KSDA** Agat in EG \*1530, New fqy for Adventist World Radio "The World of Hope", ID, features, mx, E-mail address, into VT service 1600, g (Treibel WA 11/6)
- 11635 **PHILIPPINES FEBC** in EG 0935, "In Touch" relig pgm, ID, QTH at 0959, f (Kohlbrener PA 11/6)
- 11655 **NETHERLANDS RN** Flevoland in EG 1843, cmntry on Taiwan/China negotiations (Levison 10/16)
- 11660nf **FRENCH GUIANA Swiss R Int'l** relay in SP 2330 moving up a notch from listed 11650. Two OM's in animated discussions, Several ID's, fqy, and musical IS at 0000 sign off (Treibel WA 11/6)
- 11675 **NEW ZEALAND RNZI** in EG 1810, "Sounds of the South Pacific", promo, ID's, interview re politics in Fiji, song by the Crowded House, surprise to hear on ECNA early afternoons (Novello NC 10/22)
- 11675 **CHINA China Radio Int'l** in EG 1225, rpt from developing countries, econ nx, //11980 (Fraser 10/11)
- 11700 **HUNGARY R Budapest** in EG 2114, Shortwave DX pgm, ID's, g (Wolf OH 10/7)
- 117082v **SAUDI ARABIA BSKSA** in AR 1730, Qur'an pgm, distorted audio but good strength (Novello 11/12)
- 11710 **NORTH KOREA R Pyongyang** in EG 2129, usual propaganda, good pop mx, p (Raymond NH 11/1)
- 11710 **ARGENTINA RAE** Buenos Aires om EG 0200, nx of OAS, tango mx, g (Robinson TN 10/20) in SP 0238, L Am mx, lks in SP, several ments of MW "Radio Nacional Salta", ID (Kohlbrener PA 11/6)
- 11715nf **ITALY RAI** Rome in EG 2025, lcl pop mx, ID, f, //1115, 9670 both poor (Alexander PQA 10/31)
- 117341 **TANZANIA V of Tanzania Zanzibar** in SH 2100\*, indigenous mx with M East flare, s/off with NA, fair sig but required LSB to avoid QRM from 11735. S/off 1 hr later than usual (Alexander PA 10/3)
- 11755nf **CANADA Merlin Network One** relay in EG \*2000, "Rock Radio Network Review Show" with hard rock mx, studio guests, rock mx tk, promos, E-mail QTH, phone (Moats OH 10/30, Krause OH 10/25)



- 11800 ITALY *RAI* Rome in IT 2303, classical music selections, very little talk, IS, exc (Levison PA 10/8)
- 11810 ANTIGUA *Deut Welle* relay in SP 0238, singing in GM, classical mx, g (Newbury NE 10/11)
- 11815 BRAZIL *R Brasil Central* in PT 0015, ID, tlk by OM, singing jingle, f, //4985 (Ziolkowski NY 10/17)
- 119026 SRI LANKA *SLBC* in lang 0025, chant by 2 OM's, ID, lcl mx, bad audio, p (Ziolkowski NY 10/17)
- 119043 CAMBODIA *National Voice of Cambodia* in lang 1239-1311\*, flute IS, pgm sked?, SEA mx, xmtr off after a very brief ancmt, QRM disappears after s/off (Rippel VA 11/11, Marou NY 11/1)
- 119547 ANGOLA *R Nacional de Angola* in PT 0125, US/UK pop/country mx (Novello NC 11/4) in PT 0457 hi-life mx, nx w/mentions of Angola, heavy splatter from 11960, f-p (Famularo JAPAN 11/6)
- 12015 GABON *R France Int'l* relay in EG 1615, peace negotiations re Congo, //15210 (Newbury NE 10/17)
- 120197 VIETNAM *V of Vietnam* in EG 1020, tlks by OM/YL, //9840, into lang 1030, p (Ziolkowski 10/27)
- 12030 FRANCE *R France Int'l* in EG 1403, nx re int'l conference, ID, TC's, f (Famularo JAPAN 11/2)
- 12065 RUSSIA *R Nederland* relay Petropavlovsk in IN 1235, ID's, solid clear signal (Wolf OH 10/4)
- 12085 MONGOLIA *V of Mongolia* Ulan Bator in EG/CH \*1200, IS, s/on in CH, long tlks to 1230 change to EG pgming, IS repeated 3 times at 1230, ID in EG, sked, fqys, feature on student athletic competition, interviews, local mx (D'Angelo PA, Kohlbrenner PA, Montgomery PA, Rippel VA, Novello NC)
- 12130nf SOUTH AFRICA *Adventist World Radio* relay Meyererton in EG 1730-1800\*, relig pgm, sermon by OM w/Hindu accent. New fqy represents move from 12135 listed in PWBR 99, mail QTH in Nairobi, Kenya given at s/off, IS, ID's in multiple languages (Treibel WA 11/11)
- 13625nf INDIA *AIR* in EG 2306, YL on Indian political maneuvering, ID, g-f (Famularo JAPAN 11/5)
- 13650 GERMANY *RVI* Belgium relay in EG 1730, ID, European nx & wx, fqy, sked, p (Witham HI 10/25)
- 13670nf NETHERLAND ANTILLES *RVI* Belgium relay in EG 2227, IS, ID, fqys, "Radio World", skeds for RVI pgms, "World of Radio" DX pgm (Moats OH 10/25, Krause OH 10/25)
- 13730 AUSTRIA *RAI* Vienna in EG 1245, rpt on Central European Intuitive Meeting, exc (Fraser MA 10/12)
- 13830 SWEDEN *R Sweden* in EG 2038, "Sweden Today", topics going on in Sweden, vg (Krause OH 10/17)
- 15040 INDIA *AIR Aligarh* in EG 1025, tlks by OM, clear but weak, //11735, 13700, 11585 (Ziolkowski 11/4)
- 15050 COSTA RICA *RFPI* in EG 0300, ID, interview re environmental destruction in Siberia (Witham 10/25)
- 15110 KUWAIT *R Kuwait* in EG 0546, 80's rock/pop mx, fqys, world nx 0600, f (Famularo JAPAN 10/25)
- 15120 NIGERIA *V of Nigeria* in EG 1035, nx, African drums, HCJB QRM wipe out\*1059 (Ziolkowski 11/4)
- 15125 TAIWAN *R Taipei Int'l* in EG 1313, domestic nx, wx rpt, "Taiwan Today", f-p (Famularo JP 10/28)
- 15130 NORTH KOREA *R Pyongyang* in SP 0146, ID, Korean military mx, flutter fade (Ziolkowski 10/27)
- 15150 CANADA *RCI* in EG 2145, tlk on Quebec polit history, sked, inailbag (Newbury NE, Famularo JP)
- 15155 FRANCE *RFI* in EG 1230, nx headlines, "Discovery", med feature, sked, //11600 (Moats OH 10/27)
- 15160 ALGERIA *RTV Algerienne* in EG 1606, nx, mx breaks, ID 1610, pop/rock mx (Serra ITALY 10/2)
- 15185 TURKEY *V of Turkey* in EG 1308, ID, mx, feature on Turkish food (Krause OH 10/24)
- 15200 UZBEKISTAN *R Mashal* (Uzbek Radio 2 pgm) in Uzbek 1037, chant, pop mx, //15165 (Serra 10/11)
- 15200 UNITED KINGDOM *R Caroline* via Merlin Network One in EG 1828-1859\*, pop mx pgm, Elton John tune, ID's, poor under co-channel AIR xmsn (Kohlbrenner PA 10/14)
- 15215nf SOUTH AFRICA *Channel Africa* in EG 0519, human rights in Africa, Capetown jr. high school students practice conflict resolution skills, ID, f-g (Famularo JAPAN 11/6)
- 15235 LIBYA *R Jamahiriya* in AR 1925, AR mx with heavy instruments, ID, f (Newbury NE 10/6)
- 15240 SWEDEN *R Sweden* in EG 1130, "Sounds Nordic", top 5 singles, exc (Robinson TN 10/19)
- 15250 SRI LANKA *VOA* relay in EG 0058, ID, IS, "VOA News Now", f-p, only 35 kw (Moats OH 10/31)
- 15300 THAILAND *VOA* relay in EG 0119, NFL football scores, NYC marathon, ID, f (Famularo JP 11/2)
- 15465f PAKISTAN *RP* in Urdu 1518, tlk abt Islam, world nx, anmt, ID, NA, muffled audio (Serra 10/11)
- 15505 KUWAIT *R Kuwait* in AR 1028, tlk abt Kosovo crisis, //15495, 13620, f (Serra ITALY 10/11)
- 15540nf VATICAN STATE *Vatican R* in EG 1350, "Echoes of the World", QRM 15535 (Krause OH 10/10)
- 15570 JAPAN *R Japan* Tokyo in EG \*0100, IS, pips, s/on xmsn to E Asia, //15590, p (Ziolkowski 10/26)
- 15700nf BULGARIA *RB Sofia* in EG 1200, IS, ID, sked, nx, econ review, sports, //17500 (Moats OH 11/3)
- 15820nf? ARGENTINA *R Rivadavia* Buenos Aires in SP 1002, "Contacto Directo" a.m. nx (Nozaki JP 11/3)
- 17575 FRENCH GUIANA *RFI* relay in EG 1230, France to sign charter on minority langs, g (Fraser 10/12)
- 17605 NETHERLAND ANTILLES *RN* relay in EG 1938, Clinton impeachment inquiry (Newbury NE 10/6)
- 17620 FRENCH GUIANA *RFI* relay in FR 2326, songs from the opera "Carmen", exc (Levison PA 10/14)
- 17715nf CANADA *RCI* Sackville in EG 1337, ID's, CBC show on politics in Quebec (Krause OH 11/7)
- 17755nf TURKEY *V of Turkey* in Azerbaijan \*0830, IS, ID's, TP's, nx, f-p with QRM (Famularo JP 11/5)
- 17790 ROMANIA *RRI Bucharest* in EG 1324, pgm re sights to see in Bucharest, vp (Krause OH 10/10)
- 17815nf TURKEY *V of Turkey* in EG 1408, Turkish recipes, ID, TK mx, strong siig w/QRM (Krause 10/31)
- 17815 BRAZIL *R Cultura* in PT 2258, drums, full ID, fqys 2301, bossa nova style mx (Sgrulletta NY 10/27)
- 17830 ASCENSION IS *BBC* relay in EG 2003, Malaysia to address kiddy-porn problem (Newbury NE 10/6)



- 1783nf **PAKISTAN RP** in EG 1100, slow speed nx, India & Pakistan Def Ministers meet (Kohlbrener 11/6)  
 17870nf **SOUTH AFRICA Channel Africa** in EG 1759, IS, ID, TP, fgy. regional nx bulletin, sports nx with features on World Cup bid and YL marathon runner, g (Moats OH 11/1)  
 17885 **UNITED ARAB EMIRATES Abu Dhabi** in AR, local chants, AR mx, //21630 (Serra ITALY 10/11)  
 18950nf **NORWAY RNI** in NO 1815, practically all tk in NO, ID in EG, interview?, exc (Levison PA 10/15)  
 21455usb **ECUADOR HCJB** Quito in EG 1418, "Key Light", relig tk, mail, ID, fgy, TP, f-p (Moats OH 10/28)  
 21460usb **COSTA RICA RFPI** in EG 1657, anmts, ID, mx, QTH, p (Serra ITALY 10/12) in EG 2310, feature on catching fish using salt - pro & con, exc (Levison PA 10/14)  
 21500nf **TURKEY V of Turkey** in TK 0633, instrml mx, "Ankara" ID, econ tk, //21715 (Famularo JP 10/25)  
 21550 **UNITED KINGDOM Merlin Network One** in EG 1830, rock star interview, rock mx (Krause 10/31)  
 21670 **FINLAND YLE R Finland** in EG \*0730, ID, "Capital Cafe", no nx today, g-f (Famularo JP 11/1)  
 21695 **SRI LANKA D Welle** relay in EG 0626, rpt on poor Russian potato harvest, //17820 (Famularo 10/25)  
 21745 **CZECH REPUBLIC R Prague** in EG 1400, nx, wx rpt, "Encore" w/oldies mx, ID's (Krause OH 11/7)  
 21810 **SWEDEN R Sweden** in EG 1229, IS, ID, fgy, update on fire tragedy, "Spectrum", g (Moats OH 10/31)  
 26470 **USA WJFP Ft Pierce, FL** in EG 2023, Jumpin Joe w/numerous ads/PSAs, hip-hop mx w/anmts for continuous jazz station. Apparently simultaneous w/FM xmsns. Deep fades (D'Angelo PA 11/6)

## Clandestine, Tentatives, Presumed, or Unknown

- 6205 **UNIDENTIFIED** v in tk in lang 0225-0400+, classical mx, 6 pips 0300, Russian? (Alexander 10/10)  
 62398 **CLANDESTINE (Colombia) LV de la Resistencia** in SP 1059, vel anthem, nice cumbias mx, telco-quality audio, Spanish lang version of "Seasons in the Sun", strong & clear sig (Novello NC 11/9)  
 7110nf? **SITE? R Liberty s/on w/multi-lingual ID's \*0258-0305+**, into unident lang 0300 (Alexander PA 11/1)  
 ED: VOA sked lists RL s/on at 0300 in AR from Morocco relay. Could be a move down 1 MHz?  
 7201 **AFGHANISTAN(tent) V of Sharia** in lang? 1627, Qur'an recitations, tlks, p (Famularo JP 11/6)  
 7465nf? **CLANDESTINE (Tibet) via Tajikistan?** in lang? 1220, 5 note chime IS, Asian tune, ID, s/on tune was used throughout pgm as a bumper, IS few times before 1255 s/off (Novello NC 11/7)  
 79999 **CLANDESTINE V of Sudan** (p) in lang 0400, ments of Sudan, lcl folk mx, g (Alexander PA 10/31)  
 9165 **AZERBAIJAN(p) R Dada Gorgud?** in lang 0315-0359\*, RS classical mx, M East type mx, tlks, g (Alexander 10/31) in lang? 1259, mx bridge, ID?, tk, very weak but clear (Ziolkowski NY 10/10)  
 95684 **CLANDESTINE V of the Iraqi People** in lang? 2134, ME vcls, long tlks, ID, nx (D'Angelo PA 11/5)  
 11605 **CLANDESTINE V of Oromo Liberation** via Germany? in Amharic(p) 1745, flute & Mid East mx, abrupt cut-off at 1759, g (Witham HI 10/11)

## Listener's Notebook Extra

by Al Quaglieri

**NEPAL** On several occasions over the years, I have visited all of the main facilities of Radio Nepal. This is the answer to your query as mentioned in your bulletins.

1. **Singha Durbar.** This location is in the capital city Kathmandu. It was previously a school for the children of the royal family and it was taken over for use by Radio Nepal in 1951. The original transmitter here was a 250 watt shortwave unit. This facility was subsequently rebuilt and it is in use as the main offices and studios of Radio Nepal.

2. **Jawarlakhel.** This location is on the edge of Kathmandu. It was assumed in 1962 and the original shortwave transmitter was re-installed to this location and re-tuned to a mediumwave channel. Four more transmitters were installed here, each made by AWA in Australia. These were two at 5 kW on shortwave and two at 1 kW mediumwave. When the Khumaltar base was established, the units at Jawarlakhel were used only on an emergency basis and they were tested regularly just once each year. This facility is probably by now no longer in use.

3. **Khumaltar.** This location is further out on the edge of Kathmandu, though by now the area may be already built up. It was opened in 1967 with a Marconi 100 kW for use on SW and a 5 kW for use on MW. Two additional 100 kW units from Harris were installed in 1977 & 1982, both for use on SW.

4. **Pokhara.** No SW transmitter has ever been in use at this location, though it had been under consideration. There is a 100 kW MW unit at Pokhara, which is located towards the middle of the country. It is a beautiful tourist location.

5. **Hariharpur.** This is an alternative name for the location of the SW base at Khumalta and it is listed this way in Passport to World Band Radio, but not in the WRTVHB.

In view of the interest in this topic, we will present a "Station Profile" on Radio Nepal in "Wavescan" early in the New Year. All other major topics in Wavescan for the remainder of 1998 are already allocated. (Petersen, AWR, IN)

# English Schedules

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0000-0015	V. of Cambodia	11940.3as						
0000-0015	Radio Japan	6155.0eu	6180.0eu	9665.0af	11705.0na	11815.0as	13650.0as	
0000-0027	Radio Prague Int'l	7345.0na		9465.0na				
0000-0029	twhfa Radio Canada Int'l	6040.0am		9535.0am	11855.0am			
0000-0030	Radio Cairo	9900.0am						
0000-0030	Radio Thailand	9655.0af	9680.0va	11905.0af				
0000-0030	BBC World Service	3915.0as	5965.0as	5970.0sa	5975.0am	6175.0na	6195.0as	
		7110.0as	9410.0as	9590.0am	9915.0sa	11945.0as	11955.0as	
		12095.0sa	15280.0as	15310.0as	15360.0as	17790.0as		
0000-0030	VOA	7215.0as	9890.0as	11760.0as	15185.0as	15290.0as	17735.0pa	
		17820.0as						
0000-0030	twhfa VOA	5995.0ca	6130.0ca	7405.0sa	9455.0ca	9775.0sa	11695.0ca	
		13740.0sa						
0000-0045	All India Radio, Delhi	7410.0as	9705.0as	9950.0as	11620.0as	13625.0as		
0000-0056	Radio Pyongyang	11845.0am	13650.0am	15230.2am				
0000-0059	Radio Canada Int'l	5960.0am	9755.0na					
0000-0100	Radio Australia	9660.0pa	12080.0va	15240.0pa	17715.0as	17750.0as	17795.0va	
		21740.0va						
0000-0100	Radio Bulgaria	7375.0na	9485.0na					
0000-0100	KHBI Saipan, Marianas	15665.0as						
0000-0100	WWCR Nashville TN	3215.0na	5070.0na	7435.0na	13845.0na			
0000-0100	WYFR Okeechobee FL	6085.0na	9505.0na					
0000-0125	Radio Netherlands	6165.0na	9845.0na					
0000-0200	FEBE Manila	15450.0as						
0000-0200	Radio Exterior de España	6055.0na						
0000-0200	WEWN Birmingham AL	5825.0na	5850.0eu					
0000-0200	WSHB Cypress Creek SC	7535.0na	9430.0am					
0000-0300	R. for Peace Int'l	6975.0va	15049.1va	21460.1uf				
0000-0300	WHRA Greenbush ME	7395.0af						
0000-0400	KWHR Haalehu HI	17510.0as						
0000-0400	Overcomer Ministries	11660.0as						
0000-0400	WHRI Noblesville IN	7315.0am						
0000-0400	s twhfa WHRI Noblesville IN	5745.0eu						
0000-0400	m WHRI Noblesville IN	5755.0eu						
0000-0400	WRNO New Orleans LA	7355.0va						
0000-0400	WWBS Macon GA	11905.0na						
0000-0500	ZLXA New Zealand	3935.0do	7290.0do					
0000-0500	s a SIBC Solomon Islands	5020.0do						
0000-0500	a SIBC Solomon Islands	9545.0do						
0000-0600	CBC Northern Service	9625.0do						
0000-0600	Merlin Network One	3985.0eu	9560.0na					
0000-0600	WGTG McCaysville GA	5085.0am	6890.0uf					
0000-0700	HCJB Quito Ecuador	9745.0na	12015.0na	21455.0uf				
0000-0700	Nat'l BC, Papua NG	3925.0do	4890.0do	9520.0do	9675.0do	11880.0do		
0000-0705	Radio New Zealand Int'l	17675.0va						
0000-0715	NBC Windhoek, Namibia	3270.1af	3289.9af					
0000-0800	WINB Red Lion PA	11950.0am						
0000-0830	ABC Alice Springs	4835.0do						
0000-0830	ABC Katherine	5025.0do						
0000-0830	ABC Tennant Creek	4910.0do						
0000-1000	Caribbean Beacon	6090.0am						
0000-1000	Voice of Guyana	3289.8do	5949.4do					
0000-1000	WRMI Miami FL	9955.0sa						
0000-1100	SBC Radio 1, Singapore	6150.0do						
0000-1100	WBCQ Monticello ME	7415.0na						
0000-1100	Radio Vanuatu	3945.0do	4960.0do	7260.0do				
0000-1400	KAIJ Dallas TX	5810.0va						
0000-1600	RTM Radio 4, Malaysia	7295.0do						
0000-1600	KTBN Salt Lake City UT	7510.0na						
0000-2200	Voice of Hope, Lebanon	11530.0me						
0010-0020	Kyrgyz Radio, Bishkek	4010.0eu	4050.0eu					
0015-0100	Radio Japan	6155.0eu	6180.0eu	9665.0af	11705.0na			
0030-0045	BBC English Teaching	6080.0as	7110.0as	9600.0as	15280.0as	17790.0as		
0030-0100	ORF Vienna	7325.0na						
0030-0100	Radio Vilnius, Lithuania	6120.0na						
0030-0100	Radio Thailand	9655.0as	11905.0as	13695.0na				
0030-0100	BBC World Service	5965.0as	5970.0sa	5975.0am	6175.0na	6195.0as	9410.0as	
		9590.0am	9915.0sa	11955.0as	12095.0sa	15310.0as	15360.0as	
		5995.0ca	6130.0ca	7405.0sa	9455.0ca	9775.0sa	11695.0ca	
0030-0100	twhfa VOA	13740.0sa						
0030-0125	VOIRI Teheran	6055.0am	7260.0al	9022.0am	9685.0ca			
0030-0430	Sri Lanka B'casting Corp.	6005.0as	9730.0as	15425.0as				
0045-0100	BBC English Teaching	15280.0as	17790.0as					
0050-0100	Int'l BC Tamil	7150.0na						
0050-0110	RAI, Rome	6010.0na	9675.0na	11800.0na				
0100-0127	Radio Prague Int'l	6200.0na	7345.0na					
0100-0127	Voice of Vietnam	5940.0na						
0100-0130	Radio Slovakia Int'l	5930.0na	7300.0ca	9440.0sa				

0100-0130		Swiss Radio Int'l	9885.0na	9905.0na					
0100-0130		VOA	7115.0as	7200.0as	9740.0as	9850.0as	11705.0as	15250.0as	
			15300.0as	17740.0as	17820.0as				
0100-0130	twfha	VOA	5995.0ca	6130.0ca	7405.0sa	9455.0ca	9775.0sa	13740.0sa	
0100-0130	m	Voice of Deliverance	6155.0na						
0100-0130		Radio Tashkent	5955.0as	5975.0as	7105.0as	7285.0as	9540.0as		
0100-0130	mtwhfa	Radio Yugoslavia	7115.0na						
0100-0150		Deutsche Welle	5960.0am	6040.0na	6145.0am	9640.0am	9700.0na		
0100-0200		Radio Australia	9660.0pa	12080.0va	15240.0pa	15415.0as	17715.0va	17750.0as	
			17795.0va	21740.0va					
0100-0200	s	Good News World Radio	6155.0va						
0100-0200		Voice of Indonesia	9525.0va	11784.9na					
0100-0200		Radio Japan	6150.0af	11860.0as	11870.0af	15325.0as	15570.0as	15590.0as	
			17685.0pa	17810.0as	17835.0sa	21670.0pa			
0100-0200		Radio Ukraine Int'l	5905.0eu	6020.0eu	6030.0na	6080.0eu	7150.0na	7205.0eu	
			7420.0eu	9560.0eu	9610.0eu				
0100-0200		BBC World Service	5965.0as	5970.0sa	5975.0as	6175.0na	6195.0as	9410.0as	
			9590.0am	9915.0sa	11955.0as	12095.0sa	15280.0as	15310.0as	
			15360.0as						
0100-0200		WYFR Okeechobee FL	6065.0na	9505.0na	15165.0as				
0100-0500		Radio Havana Cuba	6000.0na	9820.0na	13605.0uf				
0100-0500		WWCR Nashville TN	3215.0na	5070.0na	5935.0na	7435.0na			
0130-0150		Voice of Greece	7430.0na	7450.0na	9375.0na	9420.0na			
0130-0200		ORF Vienna	7325.0na	9495.0sa	9870.0sa				
0130-0200		Radio Myanmar	7185.0do						
0130-0200		Radio Sweden	7265.0af	9435.0as					
0130-0200		VOA	7115.0as	7200.0as	7405.0	9740.0as	9775.0	9850.0as	
			11705.0as	15250.0as	15300.0as	17740.0as	17820.0as		
0130-0200	twfha	VOA	5995.0ca	6130.0ca	9455.0ca				
0140-0200		Vatican Radio	7335.0au	9650.0au					
0200-0205		Croatian Radio, Zagreb	9925.0na						
0200-0210		Radio Bangladesh	4880.0as						
0200-0230		Radio Budapest	6135.0na	9835.0na					
0200-0230		Radio Myanmar	7185.0do						
0200-0230		Radio Yugoslavia	7130.0na						
0200-0250		Deutsche Welle	6035.0as	7225.0as	7285.0as	9615.0as	9765.0as	9815.0as	
0200-0256		Radio Romania Int'l	6155.0na	9570.0na	7195.0as	15280.0as	15310.0as	15360.0as	
0200-0259		Radio Canada Int'l	6155.0am	9535.0am	9755.0na	9780.0am	11865.0am		
0200-0300	twfha	RAE Buenos Aires	11710.0am						
0200-0300	twfha	RD Nacional de Colombia	4955.0am						
0200-0300		Radio Korea	11715.0sa	11810.0sa	15575.0na				
0200-0300		Voice of Russia	7180.0na	9865.0na	9875.0na	12020.0na			
0200-0300		Radio Taipei Int'l	5950.0na	7130.0as	9680.0na	11740.0am	11745.0va	11825.0pa	
			15345.0as						
0200-0300		BBC World Service	5970.0sa	5975.0am	6175.0na	6185.0am	9410.0as	9605.0as	
			9770.0af	9915.0sa	11955.0as	15280.0as	15310.0as	15360.0as	
0200-0300		VOA	7115.0as	7200.0as	9740.0as	9850.0as	11705.0as	15250.0as	
			15300.0as	17740.0as	17820.0as				
0200-0330		Radio Cairo	9475.0am						
0200-0330		KJES Vado NM	7555.0na						
0200-0400		WSHB Cypress Creek SC	5850.0na	7535.0va					
0200-0400		WYFR Okeechobee FL	6065.0na	9505.0na					
0200-0500		Radio Australia	9660.0pa	12080.0pa	15240.0pa	15415.0as	15510.0va	17715.0va	
			17750.0as	21725.0pa					
0200-0900		Kenya BC Corp	4885.0do	4935.0do					
0200-1000		WEWN Birmingham AL	5825.0na						
0215-0220		Radio Nepal, Katmandu	3230.0as	5005.0as					
0230-0245		Radio Pakistan	9470.0as	11975.0as	13609.2as	15486.0as			
0230-0245		BBC English Teaching	9825.0as	15405.0as	17790.0as				
0230-0257		Voice of Vietnam	5940.0na						
0230-0300		Radio Sweden	7280.0af	9455.0na					
0230-0330		Radio Pilipinas, Manila	11885.0pa	15120.0pa	15270.0pa				
0245-0300		Radio Tirana, Albania	6115.0na	7160.0na					
0245-0300		BBC English Teaching	5995.0am	6110.0am	7235.0af	7325.0ca	9515.0am	9610.0af	
			11865.0af						
0250-0300	f	Voice of Greece	7430.0na	7450.0na	9375.0na	9420.0na			
0250-0310		Vatican Radio	7305.0ca	9605.0am					
0300-0305		Croatian Radio, Zagreb	9925.0na						
0300-0325		Channel Africa, S. Africa	9525.0af						
0300-0327		Radio Prague Int'l	7345.0na	9435.0na					
0300-0329		Radio Canada Int'l	6155.0na	9755.0na	9780.0na				
0300-0330	sm w f a	Radio Minsk, Belarus	7105.0eu	7210.0eu					
0300-0330		Malawi B'casting Corp.	3380.0do						
0300-0330	mtwhfa	Radio Mexico Int'l	5985.0na	9705.0na					
0300-0330		Radio Thailand	9655.0am	11905.0am	15460.0na				
0300-0330		BBC English Teaching	15280.0as	17760.0as	21715.0as				
0300-0330		BBC World Service	3255.0af	5975.0am	6005.0af	6175.0na	6185.0am	6190.0af	
			6195.0eu	7160.0af	9410.0eu	11730.0af	11760.0me	11765.0af	
			11955.0as	12095.0af	15310.0as	15360.0as	17790.0as	21660.0as	
			6035.0af	6080.0af	7105.0af	7290.0af	7340.0af	7415.0af	
			9575.0af	9885.0af					
0300-0330	mtwhf	VOA	4960.0af						
0300-0350		Deutsche Welle	6045.0na	9535.0am	9640.0na	9700.0na			
0300-0356		China Radio Int'l	9690.0na						
0300-0400		Radio Bulgaria	7375.0na	9485.0na					
0300-0400		TIFC Costa Rica	5054.6ca	6175.0ca	9645.0ca				
0300-0400	sm	HRPC Honduras	3249.5ca						
0300-0400		Radio Japan	17810.0as	17825.0ca	21610.0pa				
0300-0400		Voice of Russia	5940.0na	7180.0na	9865.0na	9875.0na	12020.0na		
0300-0400		Radio Taipei Int'l	5950.0na	9680.0na	11745.0as	11825.0as	15345.0as		





0500-0530	<b>AWR Africa, Meyerton</b>	5960.0af	6100.0af						
0500-0530	<b>Channel Africa, S. Africa</b>	15215.0af							
0500-0530	<b>Swiss Radio Int'l</b>	6165.0eu							
0500-0530	<b>BBC World Service</b>	3255.0af	3955.0eu	5975.0am	6005.0af	6175.0am	6180.0eu		
		6190.0af	6195.0eu	7160.0af	9410.0eu	9740.0as	11760.0me		
		11765.0af	11955.0pa	12095.0eu	15280.0as	15310.0as	15360.0as		
		15420.0af	15575.0as	17640.0af	17760.0as	17790.0as	17885.0af		
		21660.0as							
0500-0530	<b>Vatican Radio</b>	9660.0af	11625.0af	15570.0af					
0500-0550	<b>Deutsche Welle</b>	6100.0na	6120.0na	6185.0na	11795.0na				
0500-0556	<b>China Radio Int'l</b>	9560.0na							
0500-0556	<b>Radio Pyongyang</b>	3560.0eu	11710.1eu	13790.0eu					
0500-0556	<b>Radio Exterior de España</b>	6055.0na							
0500-0600	<b>Radio Australia</b>	9660.0pa	12080.0va	15240.0pa	15510.0va	17715.0va	21725.0pa		
0500-0600 s	<b>a Radio Australia</b>	17750.0as							
0500-0600	<b>Radio Japan</b>	6110.0na	7230.0eu	9835.0na	11715.0as	11760.0as	11840.0as		
		11850.0pa	15230.0pa	15590.0as					
0500-0600	<b>Overcomer Ministries</b>	9695.0as	13810.0as						
0500-0600	<b>WYFR Okeechobee FL</b>	5985.0na	9985.0eu	11550.0eu					
0500-0700	<b>Radio Havana Cuba</b>	9550.0na	9820.0na	9830.0uf					
0500-0700	<b>Voice of Nigeria</b>	7255.0af	15120.0af						
0500-0800	<b>Radio Kuwait</b>	15110.0va							
0500-0800	<b>SIBC Solomon Islands</b>	5020.0do	9545.0do						
0500-0800	<b>WHRA Greenbush ME</b>	7435.0af							
0500-1000	<b>Radio Liberia Int'l</b>	5100.0do							
0500-1900	<b>ZLXA New Zealand</b>	3935.0do							
0505-0600	<b>TWR Swaziland</b>	3200.0af	4775.0af	9500.0af					
0505-1100	<b>WWCR Nashville TN</b>	2390.0na	3210.0na	5070.0na	5935.0na				
0515-0530 s	<b>a BBC English Teaching</b>	6135.0af	9515.0af	11940.0af					
0515-0530	<b>VOA</b>	5970.0af	6035.0af	6080.0af	7170.0af	7295.0af	9700.0af		
		9775.0af	11825.0eu	12080.0af	15205.0me				
		6010.0eu	7270.0eu	9915.0eu					
		6015.0na	6155.0eu	13730.0eu	15410.0eu	17870.0eu			
		4010.0do	4050.0do						
		9655.0eu	11905.0eu	15115.0eu					
		15435.0au	17830.0au	21605.0au	21700.0au				
		3955.0eu	6180.0eu	6195.0eu	9410.0eu	12095.0eu			
		3255.0af	5975.0am	6005.0af	6175.0am	6190.0af	7160.0af		
		9740.0as	11760.0me	11765.0af	11955.0pa	15310.0as	15360.0as		
		15420.0af	15575.0as	17640.0af	17760.0as	17885.0af	21660.0as		
		3955.0eu	6180.0eu	6195.0eu	9410.0eu	12095.0eu			
		5970.0af	6035.0af	6080.0af	7170.0af	7295.0af	9700.0af		
		9775.0af	11825.0eu	12080.0af	15205.0me				
0530-0545	<b>BBC English Teaching</b>								
0530-0600	<b>ORF Vienna</b>								
0530-0600	<b>a Kyrghyz Radio, Bishkek</b>								
0530-0600	<b>Radio Thailand</b>								
0530-0600	<b>Radio Dubai, UAE</b>								
0530-0600	<b>mtwhf BBC European Service</b>								
0530-0600	<b>BBC World Service</b>								
0530-0600 s	<b>a BBC World Service</b>								
0530-0600	<b>VOA</b>								
0530-1630	<b>Zimbabwe BC Corp.</b>	4828.0do	5012.0do						
0545-0600	<b>BBC English Teaching</b>	7145.0af	9710.0af						
0600-0605	<b>TWR Swaziland</b>	4775.0af	9500.0af						
0600-0615	<b>BBC English Teaching</b>	6155.0af							
0600-0620	<b>Vatican Radio</b>	4005.0eu	5883.0eu	7250.0eu					
0600-0629	<b>mtwhf Radio Canada Int'l</b>	6090.0va	6150.0eu	9740.0af	9760.0va	11905.0af			
0600-0630 s	<b>Malawi B'casting Corp.</b>	3380.0do							
0600-0630	<b>Channel Africa, S. Africa</b>	15215.0af							
0600-0630	<b>BBC World Service</b>	3955.0eu	5975.0am	6005.0af	6175.0am	6180.0eu	6190.0af		
		6195.0eu	7145.0pa	7160.0af	7325.0eu	9410.0eu	9740.0as		
		11760.0me	11765.0af	11940.0af	11955.0pa	12095.0eu	15310.0as		
		15360.0as	15420.0af	15565.0eu	15575.0as	17640.0af	17760.0as		
		17790.0as	17885.0af	21660.0as					
		5970.0af	5995.0af	6035.0af	6080.0af	7170.0af	7285.0af		
		11805.0af	11825.0eu	11950.0af	12080.0af	15205.0me	15600.0af		
		11735.0af							
0600-0635	<b>TWR Meyerton</b>								
0600-0641	<b>Radio Romania Int'l</b>	6095.0na	9530.0na	11940.0na					
0600-0650	<b>Deutsche Welle</b>	6045.0af	7225.0af	9565.0af	11785.0af	17820.0as	21695.0me		
0600-0700	<b>Radio Japan</b>	5975.0eu	7230.0eu	9835.0na	11740.0as	11840.0as	11850.0pa		
		15590.0as							
0600-0700	<b>Radio Kiribati</b>	9809.9do							
0600-0700	<b>Voice of Russia</b>	15460.0au	15470.0au	15525.0au	17570.0au	21790.0au			
0600-0700	<b>Merlin Network One</b>	6110.0eu	13720.0as						
0600-0700	<b>WYFR Okeechobee FL</b>	5985.0na	7355.0eu						
0600-0700	<b>Republic of Yemen Radio</b>	9780.3do							
0600-0730	<b>Italian Radio Relay Svc</b>	3985.0va							
0600-0800	<b>Radio Australia</b>	9660.0pa	12080.0va	15240.0pa	15415.0as	15510.0va	17715.0va		
		17750.0as	21725.0pa						
		7535.0va	9835.0af						
0600-0800	<b>WSHB Cypress Creek SC</b>	3316.0do							
0600-0900	<b>SLBS, Sierra Leone</b>	13810.0as							
0600-0900	<b>Overcomer Ministries</b>	5470.0do							
0600-1000	<b>Radio Veritas, Liberia</b>	7255.0do	9600.0do						
0600-1530	<b>Radio Botswana</b>	4775.0af	6100.0af	9500.0af					
0605-0705	<b>TWR Swaziland</b>	6010.0eu	9870.0eu						
0615-0630	<b>BBC English Teaching</b>	6015.0na							
0630-0700	<b>ORF Vienna</b>	9850.0eu							
0630-0700	<b>mtwhfa V. of the Mediterranean</b>	6165.0eu							
0630-0700	<b>Swiss Radio Int'l</b>	3955.0eu	6195.0eu						
0630-0700	<b>mtwhf BBC European Service</b>	5975.0am	6005.0af	6175.0am	6180.0eu	6190.0af	7145.0pa		
0630-0700	<b>BBC World Service</b>	7160.0af	7325.0eu	9410.0eu	9740.0as	11760.0me	11765.0af		
		11940.0af	11955.0pa	12095.0eu	15310.0as	15360.0as	15420.0af		
		15565.0eu	15575.0as	17640.0af	17760.0as	17790.0as	17885.0af		
		21660.0as							
0630-0700 s	<b>a BBC World Service</b>	3955.0eu	6195.0eu						
0630-0700	<b>VOA</b>	5995.0af	7170.0af	11825.0eu	11950.0af	15205.0me			
0630-0700 s	<b>a VOA</b>	5970.0af	6035.0af	6080.0af	7285.0af	11805.0af	12080.0af		

0630-0700		Vatican Radio	15600.0af						
0641-0656		Radio Romania Int'l	11625.0af	13765.0af	15570.0af				
0645-0700		BBC English Teaching	7105.0eu	9510.0eu	9530.0na	9625.0eu	11775.0eu		
0700-0715	f	Voice of Greece	5875.0eu	9635.0eu					
0700-0715		BBC World Service	7430.0eu	7450.0eu	9375.0eu	9420.0eu	9775.0au		
			5975.0am	6005.0af	6175.0am	6180.0eu	6190.0af	6195.0eu	
			7145.0pa	7325.0eu	9410.0eu	9740.0as	11760.0me	11765.0af	
			11835.0af	11940.0af	11955.0pa	12095.0eu	15310.0as	15360.0as	
			15485.0eu	15565.0eu	15575.0as	17640.0eu	17760.0as	17790.0as	
			17830.0af	21660.0as					
0700-0715 s	a	BBC World Service	17885.0af						
0700-0730	w	Malawi B'casting Corp.	3380.0do						
0700-0730		Radio Slovakia Int'l	11990.0au	15460.0au	21705.0au				
0700-0745		WYFR Okeechobee FL	7355.0eu	9455.0va	9985.0eu				
0700-0756		Radio Romania Int'l	17790.0af	21480.0af					
0700-0800 s		Good News World Radio	13740.0va						
0700-0800		KWHR Naalehu HI	11565.0pa	17780.0as					
0700-0800		Radio Myanmar	9730.0do						
0700-0800		Voice of Russia	15460.0au	15470.0au	15525.0au	17495.0au	17570.0au	21790.0au	
0700-0800		Radio Taipei Int'l	5950.0na						
0700-0800		Merlin Network One	6110.0eu	9915.0eu	13720.0as	17630.0eu	21550.0af		
0700-0900		HCJB Quito Ecuador	9640.0pa	9775.0eu	21455.0uf				
0700-1100		Radio Africa, Eq. Guinea	15185.0af						
0700-1600		University Network	12065.0as	17590.0eu					
0700-1900		Sunrise Radio	5850.0va						
0700-2200		Nat'l BC, Papua HG	3925.0do	4890.0do					
0705-0710	mtwhfa	Croatian Radio, Zagreb	6235.0eu	7305.0eu	9830.0eu	13820.0au			
0705-1206		Radio New Zealand Int'l	9700.0va						
0710-0715 s		Kyrgyz Radio, Bishkek	4010.0do	4050.0do					
0715-0730		BBC English Teaching	6005.0af	9635.0eu	11680.0eu	11845.0eu	13745.0eu	15335.0eu	
			15400.0af						
			5975.0am	6175.0am	6180.0eu	6190.0af	6195.0eu	7145.0pa	
			7325.0eu	9410.0eu	9740.0as	11760.0me	11765.0af	11835.0af	
			11940.0af	11955.0pa	12095.0eu	15310.0as	15360.0as	15485.0eu	
			15565.0eu	15575.0as	17640.0eu	17760.0as	17790.0as	17830.0af	
			21660.0as						
			17885.0af						
0715-0730 s	a	BBC World Service	6060.0af	6175.0af					
0715-1700		NBC Windhoek, Namibia	7430.0eu	7450.0eu	9375.0eu	9420.0eu	9775.0au		
0730-0740		Voice of Greece	5875.0eu	9635.0eu					
0730-0745		BBC English Teaching	4005.0eu	5883.0eu	6185.0eu	7250.0eu	9645.0eu	11740.0eu	
0730-0745	mtwhfa	Vatican Radio	15595.0eu						
			9840.0va	21670.0as					
0730-0800		Radio Finland	11910.0eu						
0730-0800		Georgian Radio, Tbilisi	9885.0af	11860.0af	13635.0af				
0730-0800		Swiss Radio Int'l	5975.0am	6175.0am	6190.0af	6195.0eu	7145.0pa	7325.0eu	
0730-0800		BBC World Service	9410.0eu	9740.0as	11760.0me	11765.0af	11835.0af	11940.0af	
			11955.0pa	12095.0eu	15310.0as	15360.0as	15400.0af	15485.0eu	
			15565.0eu	17640.0eu	17760.0as	17790.0as	17830.0af	21660.0as	
			15575.0as	17885.0af					
0730-0800 s	a	BBC World Service	7120.0va						
0730-1300 s		Italian Radio Relay Svc	15200.0as						
0740-0800		KTWR Guam	9870.0eu						
0745-0755 s	a	TWR Monte Carlo	9685.0eu						
0745-0920		TWR Tirana	9870.0eu						
0755-0920		TWR Monte Carlo	6190.0af	7145.0pa	7325.0eu	9410.0eu	9740.0as	11940.0af	
0800-0810		BBC World Service	11955.0pa	12095.0eu	15310.0as	15360.0as	15400.0af	15485.0eu	
			15565.0eu	17640.0eu	17760.0as	17790.0as	17830.0af	21660.0as	
			15575.0as	17885.0af					
0800-0810 s	a	BBC World Service	11640.0eu	15260.0eu					
0800-0827		Radio Prague Int'l	9930.0as						
0800-0830 s		Universal Life, Germany	5995.0do						
0800-0830	w	Malawi B'casting Corp.	9730.0do						
0800-0830		Radio Myanmar	7205.0af						
0800-0830 s	tw	Amateur Radio League, SA	7365.0as						
0800-0900		KNLS Anchor Point AK	5995.0pa	9580.0va	9710.0pa	12080.0va	15415.0as	15510.0va	
0800-0900		Radio Australia	17750.0as	21725.0pa					
			9525.0va	11784.9va					
0800-0900		Voice of Indonesia	9570.0au	13670.0eu					
0800-0900		Radio Korea	11650.0as	15380.0as					
0800-0900		KFBS Saipan, Marianas	15665.0eu						
0800-0900		KHBI Saipan, Marianas	9985.0as						
0800-0900		KHBN Palau	9905.0au	15470.0au	15525.0au	17495.0au	21790.0au		
0800-0900		Voice of Russia	9915.0eu	13720.0as	17630.0eu	21550.0af			
0800-0900		Merlin Network One	7535.0eu	9835.0af	9845.0au				
0800-0900		WSHB Cypress Creek SC	15200.0as	15330.0as					
0800-0915		KTWR Guam	5020.0do						
0800-1430		SIBC Solomon Islands	9930.0as	11565.0pa					
0800-1600		KWHR Naalehu HI	15530.1eu	17835.1eu					
0804-0820		Radio Pakistan	6165.0eu	7185.0eu	9830.0eu	13820.0af			
0805-0810 s		Croatian Radio, Zagreb	6190.0af	7325.0eu	9410.0eu	9740.0as	11940.0af	11955.0pa	
0810-0900		BBC World Service	12095.0eu	15310.0as	15360.0as	15400.0af	15485.0eu	15565.0eu	
			17640.0eu	17760.0as	17830.0af	21660.0as			
			15575.0as	17885.0af					
			15540.0as						
0810-0900 s	a	BBC World Service	9925.0eu	9940.0va					
0815-0900	f	FEBA Seychelles	6155.0eu	13730.0eu	17615.0as	21765.0au			
0830-0856		R. Vlaanderen Int'l	7205.0af						
0830-0900		ORF Vienna	9885.0as	13685.0as					
0830-0900 s		Amateur Radio League, SA	2310.0do						
0830-0900		Swiss Radio Int'l							
0830-2130		ABC Alice Springs							



0830-2130		ABC Katherine	2485.0do						
0830-2130		ABC Tennant Creek	2325.0do						
0900-0915		Radio Voice of Lebanon	6549.6me						
0900-0915		BBC World Service	6065.0as	6190.0af	6195.0as	9410.0eu	9580.0as	9740.0as	
			11760.0me	11765.0pa	11940.0af	11945.0as	11955.0as	12095.0eu	
			15190.0sa	15310.0as	15360.0as	15400.0af	15485.0eu	15565.0eu	
			15575.0as	17640.0eu	17705.0eu	17760.0as	17790.0as	17830.0af	
			17885.0af	21660.0as					
0900-0930	w	Malawi B'casting Corp.	5995.0do						
0900-0930	hf	Amateur Radio League, SAF	7205.0af						
0900-0950		Deutsche Welle	6160.0pa	9565.0af	11775.0as	12055.0as	15145.0af	15410.0af	
			15470.0as	17800.0af	17820.0as	21600.0af			
			15210.0pa	17755.0pa					
0900-0956		China Radio Int'l	9809.9do						
0900-1000		Radio Kiribati	9355.0as	13840.0af	15665.0as				
0900-1000		KHBI Saipan, Marianas	9905.0au	15470.0au	15525.0au	17495.0au			
0900-1000		Voice of Russia	7395.0sa	9455.0eu	9835.0af				
0900-1000	s	WSHB Cypress Creek SC	11830.0eu						
0900-1030		V. of the Mediterranean	5050.0af						
0900-1030		Radio Tanzania	6080.0as	9580.0va	11880.0as	17750.0as			
0900-1100		Radio Australia	9640.0pa	21455.0uf					
0900-1100		HCJB Quito Ecuador	9915.0eu	17630.0eu	21550.0af				
0900-1200		Merlin Network One	9495.0as	11650.0as	15380.0as				
0900-1300		KFBS Saipan, Marianas	5965.0eu						
0900-1400		Overcomer Ministries	4935.0do						
0900-1900		Kenya BC Corp	6165.0eu	7185.0eu	9830.0eu	13820.0af			
0905-0910	mtwhfa	Croatian Radio, Zagreb	15330.0as						
0915-0930		KTWR Guam	6065.0as	9580.0as	11680.0eu	11945.0as	11955.0as	13745.0eu	
0915-0930		BBC English Teaching	15280.0as	15325.0eu	15340.0eu	17695.0eu			
			6195.0as	9740.0as	11765.0pa	15360.0pa	17760.0as	21660.0as	
0915-0945	mtwhf	BBC English Teaching	6190.0af	9410.0eu	11760.0me	11940.0af	12095.0eu	15190.0sa	
0915-0945		BBC World Service	15310.0as	15400.0af	15485.0eu	15565.0eu	15575.0as	17640.0eu	
			17705.0eu	17790.0as	17830.0af	17885.0af			
			6195.0as	9740.0as	11765.0pa	15360.0pa	17760.0as	21660.0as	
0915-0945	s	a BBC World Service	4010.0do	4050.0do					
0920-0930	t	Kyrgyz Radio, Bishkek	9685.0eu						
0920-0935	s	a TWR Tirana	9870.0eu						
0920-0950	s	TWR Monte Carlo	6065.0as	9580.0as	11945.0as	11955.0as	15280.0as		
0930-0945		BBC English Teaching	17615.0as	21765.0au					
0930-1000		ORF Vienna	11910.0eu						
0930-1000		Georgian Radio, Tbilisi	7230.0eu						
0930-1000		AWR Europe, Forli	9865.0as						
0930-1100		KTWR Guam	11635.0as						
0930-1100		FEBG Manila	7260.0as	9820.0au	12065.0as				
0930-1125		Radio Netherlands	9685.0eu						
0935-0950	s	TWR Tirana	7265.0af						
0940-0945		RTV Togo	6065.0as	9580.0as	11945.0as	11955.0as	15280.0as		
0945-1000	smtwhf	BBC Slow Speed News	6190.0af	6195.0as	9410.0eu	9740.0as	11760.0me	11765.0pa	
0945-1000		BBC World Service	11940.0af	12095.0eu	15190.0sa	15310.0as	15360.0pa	15400.0af	
			15485.0eu	15565.0eu	15575.0as	17640.0eu	17705.0eu	17760.0as	
			17790.0as	17830.0af	17885.0af	21660.0as			
			6065.0as	9580.0as	11945.0as	11955.0as	15280.0as		
			5940.0as	7270.0as	7400.0as	9839.9as	12019.5as		
			4810.0eu	15270.0eu					
0945-1000		a BBC World Service	17485.0af	21745.0as					
1000-1025		Voice of Vietnam	11660.0as						
1000-1030	s	Voice of Armenia, Yerevan	11740.0as						
1000-1030		Radio Prague Int'l	5070.0am						
1000-1030		KSDA Guam	3970.0do	4770.0do	4990.0do	6025.0do	6050.0do	7285.0do	
1000-1030	mtwhf	Radio Telefis Elreann	9570.0do						
1000-1030		Radio Telefis Elreann	6190.0af	6195.0va	9410.0eu	9740.0as	11760.0me	11765.0pa	
1000-1030		Radio Nigeria	11940.0af	12095.0eu	15310.0as	15360.0pa	15485.0eu	15565.0eu	
			15575.0as	17640.0eu	17705.0eu	17760.0as	17790.0as	17885.0af	
			21660.0as						
1000-1030	s	a BBC World Service	15190.0sa	15400.0af	17830.0af				
1000-1056		China Radio Int'l	15210.0pa	17755.0pa					
1000-1100		a Good News World Radio	5910.0va						
1000-1100		All India Radio, Delhi	11585.0as	11735.0au	13700.0as	15040.0as	17387.0au	17840.0as	
1000-1100		Radio Japan	9695.0as	11850.0pa	15590.0as				
1000-1100		KHBI Saipan, Marianas	9355.0as	15665.0as	15725.0af				
1000-1100		Voice of Nigeria	7255.0af	15120.0af					
1000-1100		VOA	5985.0pa	6165.0ca	7405.0ca	9590.0ca	11720.0as	15425.0as	
1000-1100		WYFR Okeechobee FL	5950.0na						
1000-1200		WEWN Birmingham AL	5825.0na	7465.0eu					
1000-1300		WHRI Noblesville IN	6040.0eu	9495.0am					
1000-1300		WSHB Cypress Creek SC	6095.0am	9455.0am					
1000-1500		WRMI Miami FL	9955.0am						
1000-1800		Radio Liberia Int'l	6100.0do						
1000-2200		Caribbean Beacon	11775.0am						
1000-2200		Voice of Guyana	5949.4do						
1000-2200		WGTC McCaysville GA	9400.0am						
1005-1010	s	Croatian Radio, Zagreb	6165.0eu	7185.0eu	9830.0eu				
1030-1045	mtwhf	Radio Ethiopia	5990.0do	7110.0do	9705.0do				
1030-1100		Georgian Radio, Tbilisi	11910.0me						
1030-1100		KSDA Guam	11660.0as	11795.0as					
1030-1100		Radio Korea	11715.0sa						
1030-1100		Radio Vilnius, Lithuania	9710.0eu						
1030-1100	mtwhf	Malawi B'casting Corp.	5995.0do						
1030-1100		Radio Dubai, UAE	13675.0eu	15370.0eu	15395.0eu	21605.0eu			
1030-1100		BBC World Service	6190.0af	6195.0va	9410.0eu	9740.0as	11760.0me	11765.0pa	

			11940.0af	12095.0eu	15310.0as	15485.0eu	15565.0eu	15575.0as
			17640.0eu	17705.0eu	17790.0as	17885.0af		
1030-1100	s	a BBC World Service	15190.0sa	15400.0af	17830.0af			
1030-1130		Sri Lanka B'casting Corp.	11835.0as	15150.0as	17850.0as			
1030-1445		Radio Nigeria	4770.0do	4990.0do	6025.0do	6050.0do	7285.0do	9570.0do
1030-1530	s	a Radio Tanzania	5050.0af					
1100-1110		fa Kyrgyz Radio, Bishkek	4010.0do	4050.0do				
1100-1125		Voice of Vietnam	7285.0as	9730.0as				
1100-1130	s	a Radio Telefis Eireann	5070.0am					
1100-1130	s	a Malawi B'casting Corp.	5995.0do					
1100-1130		KHBN Palau	9965.0as					
1100-1130		Swiss Radio Int'l	9535.0eu	9540.0as	17815.0as			
1100-1130	mtwhf	BBC Caribbean Report	6195.0ca	15220.0ca				
1100-1130		BBC World Service	5965.0na	6190.0af	6195.0va	9410.0eu	9580.0as	9740.0as
			11760.0me	11940.0af	11955.0as	12095.0eu	15280.0as	15310.0as
			15400.0af	15485.0eu	15565.0eu	15575.0as	17640.0eu	17705.0eu
			17785.0as	17790.0sa	17830.0af	17885.0af	21660.0af	
1100-1130	s	a BBC World Service	15190.0sa	15220.0am				
1100-1130		VOA	5985.0pa	6110.0as	9645.0as	9760.0as	11705.0as	11720.0as
			15425.0as					
1100-1130	mtwhf	VOA	13675.0af	15510.0af	17650.0af	17750.0af	21705.0af	
1100-1135		Radio Maputo, Mozambique	11818.0af	11835.0af				
1100-1150		Deutsche Welle	15370.0af	15410.0af	17780.0af	17800.0af		
1100-1156		Radio Pyongyang	3560.0af	9640.0af	9975.0af	11335.0af	13650.0va	15230.2af
1100-1200		Radio Australia	6080.0as	9580.0va				
1100-1200		Radio Japan	6120.0na	9695.0as	15590.0as			
1100-1200		Voice of Asia, Taiwan	7445.0as					
1100-1200		WWCR Nashville TN	2390.0na	5070.0na	5935.0na			
1100-1200	mtwhf	WWCR Nashville TN	3210.0na					
1100-1200	s	a WWCR Nashville TN	15685.0na					
1100-1200		WYFR Okeechobee FL	5950.0na	7355.0na				
1100-1215	s	Radio Vanuatu	3945.0do	4960.0do	7260.0do			
1100-1230		VOIRI Teheran	9585.0as	11830.0me	11875.0as	13605.0va	15260.0as	17560.0as
1100-1230		Radio Korea	7275.0as					
1100-1400		KHBI Salpan, Marianas	9355.0as	9385.0pa				
1100-1400		Radio Singapore Int'l	6015.0as	6150.0as				
1100-1600		HCJB Quito Ecuador	12005.0ca	15115.0am	21455.0uf			
1100-1730		Radio Jordan	11690.0va					
1104-1120		Radio Pakistan	15530.1eu	17835.1eu				
1115-1130		BRT Int'l, Cyprus	6159.0do					
1115-1130		BBC English Teaching	11805.0eu	13685.0eu	15325.0eu	15340.0eu	17695.0eu	
1115-1130	mtwh	BBC English Teaching	9745.0eu	11970.0eu				
1115-1130	mtwhf	BBC English Teaching	5875.0eu	9815.0eu				
1115-1130	mtwhfa	Vatican Radio	5883.0eu	9645.0eu	11740.0eu	15595.0eu	21850.0eu	
1115-1145		Radio Nepal, Katmandu	3230.0as	5005.0as				
1130-1135		Kol Israel	15640.0va	17535.0va				
1130-1145		Radio Burundi	6140.0do					
1130-1156		R. Vlaanderen Int'l	9925.0eu	13745.0eu				
1130-1157		Radio Prague Int'l	11640.0eu	21745.0af				
1130-1200		Swiss Radio Int'l	9540.0as	17815.0as				
1130-1200	mtwhf	BBC English Teaching	15310.0as	17785.0as				
1130-1200		BBC World Service	5965.0na	6190.0af	6195.0va	9410.0eu	11760.0me	11940.0af
			12095.0eu	15220.0am	15485.0eu	15565.0eu	15575.0as	17640.0eu
			17705.0eu	17830.0af	17885.0af	21660.0af		
1130-1200	mtwhfa	BBC World Service	9580.0as	9740.0as	11955.0as	15280.0as		
1130-1200	s	a BBC World Service	15310.0as	17785.0as				
1130-1200		VOA	5985.0pa	6110.0as	9645.0as	9760.0as	11705.0as	11720.0as
			15425.0as					
1130-1200	f	Vatican Radio	15595.0va	17550.0va				
1130-1300	s	BBC Asian Service	6195.0as	9580.0as	9740.0as	11955.0as	15280.0as	
1130-1325		Radio Netherlands	6045.0eu	9855.0eu				
1200-1209		BBC World Service	5965.0na	6190.0af	6195.0va	9410.0eu	9515.0na	11760.0me
			11940.0af	12095.0eu	15220.0am	15310.0as	15485.0eu	15565.0eu
			15575.0as	17640.0eu	17705.0eu	17785.0as	17830.0af	17885.0af
			21660.0af					
1200-1209	mtwhfa	BBC World Service	9580.0as	9740.0as	11955.0as	15280.0as		
1200-1215		V. of Cambodia	11940.3as					
1200-1215	s	Kyrgyz Radio, Bishkek	4010.0do	4050.0do				
1200-1215		Radio Voice of Lebanon	6549.6me					
1200-1215		BBC English Teaching	7135.0as	9605.0as	11920.0as			
1200-1220	fa	Radio Almaty, Khazakhstan	9620.0eu	11840.0eu				
1200-1229		Radio Canada Int'l	6150.0as	11730.0as				
1200-1230	mtwhf	Malawi B'casting Corp.	5995.0do					
1200-1230		Radio Tashkent	5060.0as	5975.0as	6025.0as	9715.0as		
1200-1245		WYFR Okeechobee FL	5950.0na	7355.0na	11830.0na	11970.0na		
1200-1256		China Radio Int'l	6950.0pa	7385.0pa	9715.0as	9945.0pa	11660.0as	11675.0pa
			11980.0as	15180.0as				
1200-1300		Radio Bulgaria	15700.0eu	17500.0eu				
1200-1300		Radio France Int'l	9805.0eu	11600.0as	13625.0ca	15155.0eu	15195.0eu	15540.0af
			17575.0ca					
1200-1300		KHBN Palau	9965.0as					
1200-1300		Radio Taipei Int'l	7130.0as	9610.0au				
1200-1300		Radio Ukraine Int'l	7380.0na	21510.0au				
1200-1300		WEWN Birmingham AL	5825.0na	15745.0eu				
1200-1300		WWCR Nashville TN	5070.0na	5935.0na	7435.0na	15685.0na		
1200-1320		Radiobras, Brasilia	15445.0am					
1200-1330		VOA	6110.0as	9645.0as	9760.0as	11705.0as	11715.0as	15425.0as
1200-1400		Radio Australia	6080.0as	9580.0va	9660.0va			
1200-1600		Merlin Network One	9915.0eu	13645.0eu	17630.0eu	21550.0af		
1200-1700		Ghana Broadcasting Corp.	4915.0do	6130.0do				

1200-2400		<b>CBC Northern Service</b>	9625.0do						
1206-1650		<b>Radio New Zealand Int'l</b>	6105.0oc						
1209-1215	mtwhf	<b>BBC Caribbean Report</b>	6195.0ca	15220.0ca					
1209-1215		<b>BBC World Service</b>	5965.0na	6190.0af	6195.0va	9410.0eu	9515.0na	11760.0me	
			11940.0af	12095.0eu	15310.0as	15485.0eu	15565.0eu	15575.0as	
			17640.0eu	17705.0eu	17785.0as	17830.0af	17885.0af	21660.0af	
			9580.0as	9740.0as	11955.0as	15280.0as			
1209-1215	mtwhfa	<b>BBC World Service</b>	15220.0am						
1209-1215	s	<b>BBC World Service</b>	5875.0eu	9635.0eu					
1215-1230	s	<b>BBC English Teaching</b>	5965.0na	6190.0af	6195.0va	9410.0eu	9515.0na	11760.0me	
1215-1300		<b>BBC World Service</b>	11940.0af	12095.0eu	15220.0am	15310.0as	15485.0eu	15565.0eu	
			15575.0as	17640.0eu	17705.0eu	17785.0as	17830.0af	17885.0af	
			21660.0af						
1215-1300	mtwhfa	<b>BBC World Service</b>	9580.0as	9740.0as	11955.0as	15280.0as			
1215-1330		<b>Radio Calro</b>	17595.0as						
1220-1240	w	<b>Radio Almaty, Khazakhstan</b>	9620.0eu	11840.0eu					
1230-1240		<b>Radio Mogadishu</b>	6870.0af						
1230-1245		<b>BBC English Teaching</b>	5875.0eu	9635.0eu	9745.0eu	11680.0eu	11895.0eu	13670.0eu	
			15105.0af	15260.0eu	15325.0eu	17555.0af	17610.0eu	21640.0af	
1230-1245	smtwh	<b>BBC English Teaching</b>	7140.0me	11820.0me	13660.0af	15180.0af	15555.0me	17585.0af	
1230-1255		<b>Voice of Vietnam</b>	5940.0as	7270.0as	7400.0as	9839.9as	12019.5as		
1230-1257		<b>Radio Prague Int'l</b>	6055.0eu	21745.0as					
1230-1300		<b>Radio Bangladesh</b>	7185.0as	9548.0as					
1230-1300		<b>KSDA Guam</b>	15225.0as						
1230-1300		<b>AWR Europe, Forli</b>	7230.0eu						
1230-1300		<b>Radio Korea</b>	6055.0as	7285.0as	9570.0as	9640.0om	13670.0as		
1230-1300		<b>Voice of Mongolia</b>	12085.0au						
1230-1300		<b>Radio Sweden</b>	15240.0af	17870.0na	21810.0na				
1230-1300		<b>Radio Thailand</b>	9655.0as	9810.0as	11905.0as				
1230-1300		<b>Sri Lanka B'casting Corp.</b>	9730.0as	15425.0as					
1230-1630		<b>Voice of Greece</b>	9420.0eu	9690.0na	12105.0eu	15175.0eu	15630.0af		
1240-1250	smtwh	<b>BBC Slow Speed News</b>	7140.0me	11820.0me	13660.0af	15180.0af	15555.0me	17585.0af	
1240-1300	t	<b>Radio Almaty, Khazakhstan</b>	9620.0eu	11840.0eu					
1245-1300		<b>BBC English Teaching</b>	5875.0eu	9635.0eu	9745.0eu	11680.0eu	11895.0eu	13670.0eu	
			15260.0eu	15325.0eu	17610.0eu				
			5950.0na	11830.0na	11970.0na				
1245-1300		<b>WYFR Okeechobee FL</b>	4850.0va						
1300-1315		<b>Cameroon Radio-TV</b>	9640.0na	13650.0na	17715.0na				
1300-1330	s	<b>Radio Canada Int'l</b>	15190.0as						
1300-1330		<b>Universal Life, Germany</b>	9535.0eu						
1300-1330		<b>WYFR Okeechobee FL</b>	5950.0na	11550.0as	11830.0na	11970.0na	13695.0na		
1300-1345		<b>Polish Radio, Warsaw</b>	6095.0eu	7270.0eu	9525.0eu	11830.0eu			
1300-1355		<b>China Radio Int'l</b>	9945.0pa	11660.0as	11675.0pa	11715.0pa	11980.0as	15180.0as	
1300-1356		<b>Radio Romania Int'l</b>	15335.0na	15390.0eu	17735.0eu	17745.0na	17805.0eu		
1300-1400		<b>KNLS Anchor Point AK</b>	7365.0as						
1300-1400	a	<b>Good News World Radio</b>	15190.0va						
1300-1400		<b>KFBS Salpan, Marlanas</b>	9495.0as	9670.0as	11650.0as				
1300-1400		<b>BBC World Service</b>	5965.0na	5990.0as	6190.0af	6195.0va	9410.0eu	9515.0na	
			9590.0na	9740.0as	11750.0as	11760.0me	11940.0af	12095.0eu	
			15220.0am	15310.0as	15420.0af	15485.0eu	15565.0eu	15575.0as	
			17640.0eu	17705.0eu	17785.0as	17830.0af	17885.0af	21660.0af	
			9430.0na	9455.0am					
1300-1400		<b>WSHB Cypress Creek SC</b>	5070.0na	7435.0na	13845.0na	15685.0na			
1300-1400		<b>WWCR Nashville TN</b>	11900.0af	17895.0af	21530.0af				
1300-1455	s	<b>Channel Africa, S. Africa</b>	11995.0as						
1300-1500		<b>FEBC Manila</b>	9985.0as						
1300-1530		<b>KHBN Palau</b>	11875.0na	15745.0eu					
1300-1600		<b>WEWN Birmingham AL</b>	6040.0eu	15105.0am					
1300-1600		<b>WHRI Noblesville IN</b>	6165.0eu	7185.0eu	9830.0eu				
1305-1310		<b>Croatian Radio, Zagreb</b>	5030.0do	6035.0do	9615.0do				
1315-1330	w	<b>BBS, Bhutan</b>	15715.0as						
1325-1530		<b>Voice of Hope, Germany</b>	5030.0do	6035.0do	9615.0do				
1330-1345	m wh	<b>BBS, Bhutan</b>	15105.0af	17810.0af	21640.0af				
1330-1345		<b>BBC English Teaching</b>	5940.0eu	7270.0eu	7400.0eu	9839.9eu	12019.5eu		
1330-1355		<b>Voice of Vietnam</b>	6150.0as	9535.0as	9640.0na	13650.0na	17715.0na		
1330-1359		<b>Radio Canada Int'l</b>	6155.0eu	13730.0va					
1330-1400		<b>ORF Vienna</b>	15400.0na	17660.0na					
1330-1400		<b>Radio Finland</b>	11660.0as						
1330-1400		<b>KSDA Guam</b>	9425.0as	13740.0as	15240.0as				
1330-1400		<b>Radio Sweden</b>	13630.0eu	13675.0eu	15395.0eu	21605.0eu			
1330-1400		<b>Radio Dubai, UAE</b>	6110.0as	9645.0as	9760.0as	11705.0as	15425.0as		
1330-1400		<b>VGA</b>	5060.0as	5975.0as	6025.0as	9715.0as	11905.0as	15295.0as	
1330-1400		<b>Radio Tashkent</b>	17775.0as						
			11835.0au						
1330-1400		<b>Radio Yugoslavia</b>	15295.0as	17815.0eu					
1330-1430		<b>Voice of Turkey</b>	9545.0as	11620.0as	13710.0as				
1330-1500		<b>All India Radlo, Delhi</b>	9420.0eu	9690.0na	12105.0eu	15175.0eu			
1340-1350		<b>Voice of Greece</b>	5030.0do	6035.0do	9615.0do				
1345-1400	w	<b>BBS, Bhutan</b>	5950.0na	11550.0as	11830.0na	13695.0na			
1345-1400		<b>WYFR Okeechobee FL</b>	13765.0au	15500.0au					
1400-1414		<b>Vatican Radio</b>	11570.0af	15169.1af	15465.1af				
1400-1415	smtwhf	<b>Radio Pakistan</b>	11860.0af	15420.0af	17880.0af	21490.0af			
1400-1430		<b>BBC English Teaching</b>	5995.0va	6080.0as	9580.0va	9660.0va			
1400-1430	smtwhf	<b>Radio Australia</b>	9640.0na	13650.0na	17715.0na				
1400-1430		<b>Radio Canada Int'l</b>	21745.0va						
1400-1430	s	<b>Radio Prague Int'l</b>	9710.0eu	9955.0am					
1400-1430	mtwhf	<b>Universal Life, Germany</b>	3380.0do						
1400-1430		<b>Malawi B'casting Corp.</b>	5985.0na	9705.0na					
1400-1430		<b>Radio Mexico Int'l</b>	9530.0as	9655.0as	11905.0as				
1400-1430		<b>Radio Thailand</b>	5990.0as	6190.0af	6195.0as	9410.0eu	9515.0na	9590.0na	
1400-1430		<b>BBC World Service</b>							



			9740.0as	11750.0as	11940.0af	12095.0eu	15220.0na	15310.0as	
			15485.0eu	15565.0eu	15575.0as	17640.0eu	17705.0eu	17830.0af	
			17840.0am	21470.0af	21660.0af				
1400-1456		<b>China Radio Int'l</b>	7405.0na	9535.0as	9700.0as	11675.0as	11825.0as	13685.0af	
			15125.0af						
1400-1500		<b>Radio France Int'l</b>	7110.0as	11910.0as	12030.0as	15405.0as	17560.0af		
1400-1500		<b>Radio Japan</b>	9505.0na	11730.0as	11880.0af				
1400-1500		<b>KHBI Salpan, Marianas</b>	9355.0as						
1400-1500		<b>Swiss Radio Int'l</b>	9575.0as	15185.0as					
1400-1500		<b>Overcomer Ministries</b>	5965.0eu	13810.0me					
1400-1500		<b>VOA</b>	6110.0as	7125.0as	7215.0as	9645.0as	9760.0as	11705.0as	
			15205.0me	15395.0as	15425.0as				
1400-1500		<b>WYFR Okeechobee FL</b>	5950.0na	11550.0as	11830.0na	17760.0na			
1400-1600		<b>KFBS Salpan, Marianas</b>	9465.0as	9495.0as	9670.0as				
1400-1600		<b>SBC Radio 1, Singapore</b>	6150.0do						
1400-1600		<b>KJES Vado NM</b>	11715.0na						
1400-2200		<b>WWCR Nashville TN</b>	9475.0na	12160.0na	13845.0na	15685.0na			
1400-2400		<b>KAJF Dallas TX</b>	13815.0va						
1415-1420		<b>Radio Nepal, Katmandu</b>	3230.0as	5005.0as					
1415-1430 s		<b>BBC English Teaching</b>	11860.0af	15420.0af	17880.0af	21490.0af			
1430-1500		<b>Radio Canada Int'l</b>	9555.0va	11915.0va	15325.0va				
1430-1500 smtwhf		<b>Radio Canada Int'l</b>	9640.0na	13650.0na	17715.0na				
1430-1500		<b>KSDA Guam</b>	11980.0as						
1430-1500 s		<b>Radio Telefls Eireann</b>	15625.0af	21670.0sa					
1430-1500		<b>Radio Myanmar</b>	5986.0do						
1430-1500		<b>Radio Sweden</b>	13740.0va	15240.0na	17870.0af	21810.0na			
1430-1500		<b>BBC World Service</b>	6190.0af	9410.0eu	9515.0na	9590.0na	11750.0as	11940.0af	
			12095.0eu	15220.0na	15310.0as	15485.0eu	15565.0eu	15575.0as	
			17640.0eu	17705.0eu	17830.0af	17840.0am	21470.0af	21660.0af	
1430-1500 s	a	<b>BBC World Service</b>	5990.0as	6195.0as	9740.0as				
1430-1600 mtwhf		<b>BBC Asian Service</b>	5990.0as	6195.0as	9740.0as				
1430-1625		<b>Radio Netherlands</b>	12090.0as	13755.0as	15585.0as				
1430-2000		<b>Radio Australia</b>	5995.0va	6080.0as	9500.0as	9580.0va	9660.0va	11660.0as	
1430-2100		<b>Radio Uganda</b>	4976.0do						
1445-1600		<b>Radio Nigeria</b>	3970.0do	4770.0do	4990.0do	6025.0do	6050.0do	7285.0do	
			9570.0do						
1455-1500 s		<b>BBC Asian Service</b>	11750.0as	15310.0as					
1500-1505 mtwhf		<b>Radio Burundi</b>	6140.0do						
1500-1515		<b>BBC World Service</b>	6190.0af	9410.0eu	9515.0na	9590.0na	11860.0af	11940.0af	
			12095.0eu	15220.0na	15400.0af	15420.0af	15485.0eu	15565.0eu	
			17705.0eu	17830.0af	17840.0am	21470.0af	21490.0af	21660.0af	
1500-1515 mtwhfa		<b>BBC World Service</b>	5975.0as	11750.0as	15310.0as				
1500-1515 s	a	<b>BBC World Service</b>	5990.0as	6195.0as	9740.0as				
1500-1530		<b>Kol Israel</b>	15650.0va	17535.0va					
1500-1530 smtwa	fa	<b>Radio Mexico Int'l</b>	5985.0na	9705.0na					
1500-1530		<b>Voice of Mongolia</b>	11790.0as	12085.0as					
1500-1530		<b>Channel Africa, S. Africa</b>	17870.0af						
1500-1556		<b>China Radio Int'l</b>	7160.0as	7405.0na	9785.0as	13685.0af	15125.0af		
1500-1556		<b>Radio Pyongyang</b>	3560.0eu	9640.0af	9975.0eu	11335.0va	11735.0eu	13650.0me	
1500-1600 s		<b>Radio Canada Int'l</b>	9640.0na	13650.0na	17715.0na				
1500-1600 s		<b>Radio Telefls Eireann</b>	15625.0af	21670.0sa					
1500-1600		<b>Radio Japan</b>	7200.0as	9505.0na	9750.0as	11730.0as			
1500-1600		<b>Radio Myanmar</b>	5986.0do						
1500-1600		<b>Voice of Russia</b>	6030.0eu	7440.0eu	9775.0as	9800.0as	11500.0as		
1500-1600		<b>FEBA Seychelles</b>	11600.0as						
1500-1600 s		<b>BBC Asian Service</b>	5975.0as	11750.0as	15310.0as				
1500-1600 s		<b>ANARC SWL Net</b>	3940.0lf	7240.0lf					
1500-1600		<b>VOA</b>	7125.0as	7215.0as	9575.0me	9645.0as	15205.0me	15395.0as	
1500-1600		<b>WYFR Okeechobee FL</b>	11830.0na	17760.0na					
1500-1630		<b>KTWR Guam</b>	12015.0as						
1500-1700		<b>Voice of Nigeria</b>	7255.0af	15120.0af					
1500-1700		<b>Overcomer Ministries</b>	6015.0eu	13810.0me					
1500-2100		<b>WRMI Miami FL</b>	9955.0ca						
1515-1530		<b>BBC English Teaching</b>	5875.0eu	11980.0eu					
1515-1530		<b>BBC World Service</b>	6190.0af	9410.0eu	9515.0na	9590.0na	11860.0af	11940.0af	
			12095.0eu	15220.0na	15400.0af	15420.0af	15485.0eu	15565.0eu	
			17705.0eu	17830.0af	17840.0am	21470.0af	21490.0af	21660.0af	
1515-1530 mtwhfa		<b>BBC World Service</b>	5975.0as	11750.0as	15310.0as				
1515-1530 s	a	<b>BBC World Service</b>	5990.0as	6195.0as	9740.0as				
1530-1540		<b>Radio Bangladesh</b>	4880.0as	15520.0as					
1530-1545		<b>BBC English Teaching</b>	9595.0as	11685.0as					
1530-1600		<b>KSDA Guam</b>	11625.0as	11925.0as					
1530-1600		<b>BBC World Service</b>	6190.0af	9410.0eu	9515.0na	9590.0na	11940.0af	12095.0eu	
			15220.0na	15400.0af	15485.0eu	15565.0eu	17830.0af	17840.0am	
			21470.0af	21660.0af					
1530-1600 mtwhfa		<b>BBC World Service</b>	5975.0as	11750.0as	15310.0as				
1530-1600 s	a	<b>BBC World Service</b>	5990.0as	6195.0as	9740.0as				
1530-1630		<b>VOIRI Teheran</b>	11775.0as	13605.0as	15130.0as				
1530-1800		<b>Radio Botswana</b>	3356.0do	4820.0do	7255.0do				
1530-1915		<b>Radio Tanzania</b>	5050.0af						
1545-1600 s	h	<b>Radio Bangladesh</b>	4880.0as	15520.0as					
1550-1610		<b>Vatican Radio</b>	13765.0va	15500.0va					
1600-1615		<b>Swiss Radio Int'l</b>	9575.0as	15185.0as					
1600-1615		<b>BBC World Service</b>	3915.0as	5975.0as	5990.0as	6190.0af	6195.0va	7160.0as	
			9410.0eu	9515.0na	9740.0as	11750.0as	11940.0af	12095.0eu	
			15310.0as	15400.0af	15485.0eu	15565.0eu	17830.0af	17840.0am	
			21470.0af	21660.0af					
1600-1625		<b>Voice of Vietnam</b>	5940.0eu	7270.0eu	7400.0eu	9839.9eu	12019.5eu		
1600-1630 s		<b>Radio Canada Int'l</b>	9640.0na	13650.0na	17715.0na				
1600-1630		<b>Malawi B'casting Corp.</b>	3380.0do						

1600-1630	<b>Radio Pakistan</b>	11570.2me	15169.1af	15325.0	15465.1me	17720.0af		
1600-1630	<b>Channel Africa, S. Africa</b>	6000.0af						
1600-1630	<b>Radio Dubai, UAE</b>	13630.0eu	13675.0eu	15395.0eu	21605.0eu			
1600-1630	<b>VOA</b>	6035.0af	6110.0as	7125.0as	7215.0as	9575.0me	9645.0as	
		9760.0as	11920.0af	12040.0af	13710.0af	15205.0me	15225.0af	
		15395.0as	15410.0af					
1600-1650	<b>Deutsche Welle</b>	6170.0as	7120.0va	7225.0as	7305.0as	9585.0as	9735.0va	
		11810.0va	13790.0as	15145.0va	17800.0va			
1600-1656	<b>China Radio Int'l</b>	7190.0af	9565.0af					
1600-1700	<b>Radio Aiglers</b>	6160.0eu	11715.1va	11749.9va	15160.0va			
1600-1700	<b>Radio Ethiopia</b>	5990.0af	7110.0af	7165.0af	9560.0af	9705.0af	11800.0af	
1600-1700	<b>Radio France Int'l</b>	9485.0af	11615.0af	11700.0af	12015.0af	15210.0af	15530.0af	
		17850.0af						
1600-1700	<b>a Good News World Radio</b>	11840.0va						
1600-1700	<b>KSDA Guam</b>	11980.0as						
1600-1700	<b>Radio Korea</b>	5975.0om	9515.0af	9870.0af				
1600-1700	<b>KFBS Salpan, Marianas</b>	9465.0as	9495.0as					
1600-1700	<b>Radio Nigeria</b>	3970.0do	4770.0do	4990.0do	6025.0do	6050.0do	9570.0do	
1600-1700	<b>Voice of Russia</b>	4730.0me	4940.0me	4975.0me	7210.0me	9775.0me		
1600-1700 sm	<b>Voice of Russia</b>	6005.0me						
1600-1700	<b>Merlin Network One</b>	6185.0eu	21550.0af					
1600-1700	<b>WYFR Okeechobee FL</b>	11830.0na	15215.0na	15695.0eu	17555.0eu	17760.0na	21525.0af	
1600-1745	<b>TWR Swaziland</b>	9500.0af						
1600-1800	<b>WHRI Noblesville IN</b>	13760.0eu	15105.0am					
1600-1800	<b>WSHB Cypress Creek SC</b>	18910.0af						
1600-2000	<b>KWHR Naalehu HI</b>	9930.0as						
1600-2000	<b>WEWN Birmingham AL</b>	11875.0na	13615.0na	15745.0eu				
1600-2100	<b>Radio Rwanda</b>	6055.0do						
1600-2100 smtwhf	<b>WMLK Bethel PA</b>	9465.0eu						
1600-2200	<b>Christian Voice, Zambia</b>	4965.0do						
1600-2400	<b>R. for Peace Int'l</b>	15049.1va	21460.1uf					
1600-2400	<b>KTBN Salt Lake City UT</b>	15590.0na						
1600-2400	<b>WRNO New Orleans LA</b>	15420.0va						
1615-1630	<b>BBC English Teaching</b>	6025.0eu	9915.0eu					
1615-1630	<b>BBC World Service</b>	3915.0as	5975.0as	6190.0af	6195.0va	7160.0as	9410.0eu	
		9740.0as	11750.0as	11940.0af	12095.0eu	15310.0as	15400.0af	
		15420.0af	15485.0eu	15565.0eu	17830.0af	17840.0am	21470.0af	
		21660.0af						
1615-1630	<b>a BBC World Service</b>	9515.0na						
1615-1630 s	<b>a BBC World Service</b>	11860.0af						
1630-1645	<b>Radio Cairo</b>	11875.0af	15255.0af					
1630-1645	<b>BBC World Service</b>	3915.0as	5975.0as	6190.0af	6195.0va	7160.0as	9410.0eu	
		9740.0as	11750.0as	11940.0af	12095.0eu	15310.0as	15400.0af	
		15420.0af	15485.0eu	15565.0eu	17830.0af	17840.0am	21470.0af	
		21660.0af						
1630-1645	<b>a BBC World Service</b>	9515.0na						
1630-1645 s	<b>a BBC World Service</b>	11860.0af						
1630-1700	<b>Radio Canada Int'l</b>	6140.0as	7150.0as					
1630-1700 s	<b>Radio Canada Int'l</b>	9640.0na	13650.0na	17715.0na				
1630-1700	<b>BRT Int'l, Cyprus</b>	6159.0do						
1630-1700 s	<b>FEBa Seychelles</b>	11665.0as						
1630-1700	<b>VOA</b>	6035.0af	6110.0as	7125.0as	7215.0as	9575.0me	9645.0as	
		9760.0as	11920.0af	12040.0af	13710.0af	15205.0me	15225.0af	
		15395.0as	15410.0af	15445.0af	17895.0af			
		3306.0do	4828.0do					
1630-2200	<b>Zimbabwe BC Corp.</b>	9435.0va	11605.0eu	15650.0va				
1645-1700	<b>Kol Israel</b>	7245.0as						
1645-1700	<b>Radio Tajikistan</b>	3915.0as	5975.0as	6190.0af	6195.0va	7160.0as	9410.0eu	
1645-1700	<b>BBC World Service</b>	9740.0as	11750.0as	11860.0af	11940.0af	12095.0eu	15310.0as	
		15400.0af	15420.0af	15485.0eu	15565.0eu	17830.0af	17840.0am	
		21470.0af	21660.0af					
1645-1700	<b>a BBC World Service</b>	9515.0na						
1645-1830	<b>Radio Cairo</b>	15255.0af						
1650-1750 mtwhf	<b>Radio New Zealand Int'l</b>	6145.0va						
1700-1715	<b>Radio Afghanistan</b>	4775.0do	7200.0do					
1700-1715	<b>Cameron Radio-TV</b>	4850.0va						
1700-1715	<b>Radio Voice of Lebanon</b>	6549.6me						
1700-1727	<b>Radio Prague Int'l</b>	5930.0eu	17485.0af					
1700-1730	<b>Radio France Int'l</b>	11615.0af	15210.0af					
1700-1730	<b>a Universal Life, Germany</b>	11745.0af						
1700-1730	<b>Channel Africa, S. Africa</b>	17860.0af						
1700-1730	<b>VOA</b>	6040.0af	6110.0as	7125.0as	7215.0as	9645.0as	9760.0me	
		11920.0af	12040.0af	15205.0me	15395.0as	15410.0af	15445.0af	
		17895.0af						
1700-1730 mtwhf	<b>VOA</b>	5990.0as	6045.0as	9525.0as	9670.0as	9795.0as	11955.0as	
		12005.0as	15255.0as					
1700-1745	<b>BBC World Service</b>	3255.0af	3915.0as	3955.0eu	5975.0as	6005.0af	6190.0af	
		6195.0eu	7160.0as	9410.0eu	9510.0as	9630.0af	9740.0as	
		11980.0me	12095.0eu	15400.0af	15420.0af	15485.0eu	17830.0af	
		17840.0na						
1700-1756	<b>China Radio Int'l</b>	7150.0af	7405.0af	9570.0af	9745.0af			
1700-1756	<b>Radio Romania Int'l</b>	9690.0eu	11740.0eu	15365.0eu				
1700-1800	<b>a Good News World Radio</b>	11725.0va						
1700-1800	<b>Radio Japan</b>	6090.0as	7110.0eu	9535.0na	9825.0as	15355.0af		
1700-1800	<b>KHBN Palau</b>	9965.0as						
1700-1800	<b>Voice of Russia</b>	7305.0me	9470.0me					
1700-1800	<b>Overcomer Ministries</b>	13810.0me						
1700-1800	<b>WYFR Okeechobee FL</b>	15695.0eu	17555.0eu					
1700-1900 s	<b>a Swaziland Commercial R.</b>	6155.0do						
1700-1900	<b>Merlin Network One</b>	3965.0eu	6185.0eu	21550.0af				

1700-2000		KFBS Saipan, Marianas	9465.0as						
1700-2030		Radio Nigeria	3326.0do	3970.0do	4770.0do	4990.0do	6025.0do	6050.0do	
			9570.0do						
1700-2300		Radio Africa, Eq. Guinea	5003.7af	7190.0af	15185.0af				
1700-2400		Ghana Broadcasting Corp.	3366.0do	4915.0do					
1715-1730		Vatican Radio	4005.0eu	5883.0eu	7250.0eu	9645.0eu	15595.0eu		
1730-1745	mtwh	TWR Swaziland	3200.0af						
1730-1745		BBC English Teaching	3390.0af	5875.0eu	6070.0af	9520.0af	9530.0eu		
1730-1756		R. Vlaanderen Int'l	5920.0eu	12080.0eu	13650.0me				
1730-1800		ORF Vienna	6155.0af	9655.0me	13710.0as	13730.0as			
1730-1800		R. MINURCA, Cen. Af. Rep.	9900.0						
1730-1800		Georgian Radio, Tbilisi	6180.0me						
1730-1800		KSDA Guam	9355.0as						
1730-1800		Radio Telefis Eireann	17885.0af						
1730-1800		Radio Slovakia Int'l	5915.0eu	6055.0eu	7345.0eu				
1730-1800		AWR Africa, Meyerton	12130.0af						
1730-1800	s	BBC Asian Service	7390.0as	9750.0as	11660.0as				
1730-1800		VOA	6040.0af	6110.0as	7125.0as	7215.0as	9645.0as	9760.0me	
			11920.0af	12040.0af	15205.0me	15395.0as	15410.0af	15445.0af	
			17895.0af						
1730-1800	mtwhf	VOA	5990.0as	6045.0as	9525.0as	9670.0as	9795.0as	11955.0as	
			12005.0as						
1730-1800		Vatican Radio	13765.0af	15570.0af	17550.0af				
1730-1830		Radio Netherlands	6020.0af	9605.0af					
1730-1930		Radio Pilipinas, Manila	11720.0pa	11890.0pa	15190.0pa				
1730-2310		SLBS, Sierra Leone	3316.0do						
1735-1745	t h	R. Nacional Paraguay	9737.5sa						
1745-1800		Radio Bangladesh	7185.0eu	7462.6eu	9548.0eu	15520.0eu			
1745-1800		Radio Burundi	6140.0do						
1745-1800		RTV Madagascar	3282.0do	3358.9do	5009.5do				
1745-1800		BBC English Teaching	5875.0eu	9530.0eu					
1745-1800		BBC World Service	3255.0af	3915.0as	3955.0eu	5975.0as	6190.0af	6195.0eu	
			7160.0as	9410.0eu	9510.0as	9740.0as	11980.0me	12095.0eu	
			15400.0af	15420.0af	15485.0eu	17830.0af	17840.0na		
1745-1830		TWR Swaziland	3200.0af	9500.0af					
1745-1945		All India Radio, Delhi	7410.0eu	9650.0af	9950.0eu	11620.0eu	11935.0af	13780.0af	
			15075.0af	15200.0af					
1750-1950		Radio New Zealand Int'l	11675.0va						
1800-1815		Voice of Greece	7450.0eu	9420.0eu	15485.0na	17705.0sa			
1800-1815		BBC English Teaching	6065.0as	9605.0as	11665.0as				
1800-1825		Voice of Vietnam	5940.0eu	7270.0eu	7400.0eu	7440.0as	9839.9eu	12019.5eu	
1800-1827		Radio Prague Int'l	5930.0eu	7315.0va					
1800-1830		Voice of Azerbaijan	9165.0eu						
1800-1830	s	Universal Life, Germany	11840.0af						
1800-1830		Malawi B'casting Corp.	3380.0do						
1800-1830	m	Amateur Radio League, SAF	3215.0af						
1800-1830		AWR Africa, Meyerton	5960.0af	6100.0af					
1800-1830		Channel Africa, S. Africa	17870.0af						
1800-1830		BBC World Service	3255.0af	3955.0eu	5975.0as	6180.0eu	6190.0af	6195.0eu	
			9410.0eu	9510.0as	9740.0pa	11980.0me	12095.0eu	15400.0af	
			15420.0af	17830.0af	17840.0na				
1800-1845		WYFR Okeechobee FL	15695.0eu						
1800-1855		Polish Radio, Warsaw	6095.0eu	7285.0eu					
1800-1856		Radio Pyongyang	4405.0eu	6575.0eu	9335.0am	11710.1am	13760.0am		
1800-1900	mtwhf	RAE Buenos Aires	15345.0eu						
1800-1900		Radio Bangladesh	7185.0eu	7462.6eu	9548.0eu	15520.0eu			
1800-1900		R. MINURCA, Cen. Af. Rep.	9900.0						
1800-1900		RTV Morocco	15345.0af	17815.0af					
1800-1900		Radio Maputo, Mozambique	3265.0af	4855.0af					
1800-1900		KHBI Saipan, Marianas	9355.0eu	9385.0af	13820.0as				
1800-1900		Voice of Russia	5940.0eu	5965.0eu	7305.0af	7340.0eu	9480.0eu	9890.0eu	
1800-1900		R. Omdurman, Sudan	7200.0do	9200.0do					
1800-1900		VOA	6035.0af	6040.0af	9760.0me	11920.0af	11975.0af	13710.0af	
			15410.0af	15580.0af					
1800-1900		WSHB Cypress Creek SC	13770.0af	15665.0eu	18910.0af				
1800-1900		Republic of Yemen Radio	9780.3do						
1800-1920		Radiobras, Brasilia	15265.0eu						
1800-2000		WHRA Greenbush ME	17655.0af						
1800-2100		Radio Kuwait	11990.0na						
1800-2100		Overcemer Ministries	11925.0me						
1800-2100		WHRI Noblesville IN	9495.0am	13760.0eu					
1800-2200		Radio Botswana	3356.0do	4820.0do					
1800-2200		Radio Veritas, Liberia	3450.0do						
1800-2300		Italian Radio Relay Svc	3985.0va						
1800-2400		Radio Liberia Int'l	5100.0do						
1830-1840		Radio Mogadishu	6870.0af						
1830-1845	w	BBC English Teaching	5970.0eu	7325.0eu	9685.0eu				
1830-1856		R. Vlaanderen Int'l	13745.0af						
1830-1900	s	Universal Life, Germany	11735.0af						
1830-1900	sm	Amateur Radio League, SAF	3215.0af						
1830-1900	mtwhf a	Radio Sweden	6065.0va						
1830-1900	s	Radio Sweden	5970.0va						
1830-1900		BBC World Service	3255.0af	3955.0eu	6005.0af	6180.0eu	6190.0af	6195.0eu	
			9410.0eu	9630.0af	9740.0pa	11980.0me	12095.0eu	15400.0af	
			15420.0af	17830.0af	17840.0na				
1830-1900	s	a VOA	7150.0af	9845.0af	15445.0af				
1830-1930		Radio Ivory Coast, Abidjin	11920.0af						
1830-2015		TWR Swaziland	3200.0af						
1830-2025		Radio Netherlands	6020.0af	9605.0af	9895.0af	11655.0af	15315.0af		
1830-2130		Sri Lanka B'casting Corp.	6005.0as						



1840-1850	<b>Voice of Greece</b>	12105.0af	15630.0af						
1845-1900	<b>RTV Guinea</b>	6155.0af	7125.0af	9650.0af	15310.0af				
1845-1900	<b>Radio Mali</b>	4783.4do	4835.0do	5995.0do					
1900-1910	<b>Voice of Greece</b>	7500.0eu	9375.0eu						
1900-1915	<b>BBC English Teaching</b>	11880.0af	15105.0af	17885.0af					
1900-1925	<b>Voice of Vietnam</b>	5940.0eu	7270.0eu	7400.0eu	9839.9eu	12019.5eu			
1900-1930	<b>Radio Mexico Int'l</b>	5985.0na	9705.0na						
1900-1930	<b>VOA</b>	6035.0af	7415.0af	9525.0pa	9760.0me	11870.0pa	11920.0af		
		11975.0af	13710.0af	15180.0pa	15410.0af	15580.0af			
		4950.0af							
1900-1930	<b>a VOA</b>	17555.0eu							
1900-1945	<b>WYFR Okeechobee FL</b>	9640.0af	9765.0af	11785.0af	11810.0af	13690.0af	15135.0af		
1900-1950	<b>Deutsche Welle</b>	15275.0af							
		6955.0af	9440.0af	9600.0af	11840.0af				
1900-1956	<b>China Radio Int'l</b>	6520.0af	9600.0af	9975.0af					
1900-1956	<b>Radio Pyongyang</b>	9900.0							
1900-2000	<b>R. MINURCA, Cen. Af. Rep.</b>	5975.0om	7275.0as						
1900-2000	<b>Radio Korea</b>	9355.0eu	9385.0al						
1900-2000	<b>KHBI Salpan, Marianas</b>	6205.0do	11540.0do						
1900-2000	<b>Radio Kudrat, Nigeria</b>	5920.0eu	5940.0eu	5965.0eu	7305.0af	7310.0eu	7340.0eu		
1900-2000	<b>Voice of Russia</b>	9480.0eu	9745.0af	9775.0af	9890.0eu				
1900-2000 s	<b>Amateur Radio League, SAF</b>	3215.0af							
1900-2000	<b>a Sri Lanka B'casting Corp.</b>	6010.0eu							
1900-2000	<b>Radio Thailand</b>	9535.0eu	9655.0eu	11905.0eu					
1900-2000	<b>BBC World Service</b>	3255.0af	3955.0eu	6005.0af	6180.0eu	6190.0af	6195.0eu		
		9410.0eu	9630.0af	9740.0pa	11980.0me	12095.0eu	15400.0af		
		17830.0af							
		6125.0eu	9690.0eu						
1900-2000	<b>Merlin Network One</b>	15385.0au							
1900-2000	<b>KJES Vado NM</b>	13770.0al	15665.0eu	17510.0af	18910.0af				
1900-2100	<b>WSHB Cypress Creek SC</b>	5975.0eu							
1900-2100	<b>Voice of Hope, Germany</b>	4885.0do	4935.0do						
1900-2100	<b>Kenya BC Corp</b>	7255.0af	15120.0af						
1900-2100	<b>Voice of Nigeria</b>	5020.0do							
1900-2100	<b>SIBC Solomon Islands</b>	15115.0eu	21455.0af						
1900-2200	<b>HCJB Quito Ecuador</b>	3935.0do	7290.0do						
1900-2400	<b>ZLXA New Zealand</b>	13790.0am							
1900-2400	<b>WINB Red Lion PA</b>	6235.0eu							
1905-1910	<b>Croatian Radio, Zagreb</b>	11910.0eu							
1930-2000	<b>Georgian Radio, Tbilisi</b>	12160.0am							
1930-2000	<b>Radio Telefis Eireann</b>	5915.0eu	6055.0eu	7345.0eu					
1930-2000	<b>Radio Slovakia Int'l</b>	4950.0af	6035.0af	7415.0af	9525.0pa	9760.0me	11870.0pa		
1930-2000	<b>VOA</b>	11920.0af	11975.0af	13710.0af	15180.0pa	15410.0af	15580.0af		
		6100.0eu	9720.0af						
1930-2000	<b>Radio Yugoslavia</b>	7160.0eu	7260.0eu	9022.0eu					
1930-2030	<b>VOIRI Teheran</b>	9630.0eu	9655.0af						
1930-2030	<b>Voice of Turkey</b>	5970.0eu	7120.0eu						
1935-1955	<b>RAI, Rome</b>	5047.0af							
1945-1950	<b>RTV Togo</b>	17675.0va							
1950-2000	<b>Radio New Zealand Int'l</b>	11675.0va							
1950-2000	<b>fa Radio New Zealand Int'l</b>	7465.0va	9435.0va	11605.0va	15640.0af				
2000-2025	<b>Kol Israel</b>	6135.0eu							
2000-2030	<b>Radio Finland</b>	3975.0eu	6025.0eu						
2000-2030	<b>Radio Budapest</b>	12160.0am							
2000-2030 s	<b>a Radio Telefis Eireann</b>	5935.0eu							
2000-2030	<b>a Radio Latvia</b>	3380.0do							
2000-2030	<b>w Malawi B'casting Corp.</b>	5985.0na	9705.0na						
2000-2030	<b>smt hf Radio Mexico Int'l</b>	6165.0eu	9620.0af	9885.0af	11910.0af	13700.0af			
2000-2030	<b>Swiss Radio Int'l</b>	4950.0af	6035.0af	6095.0me	7415.0af	9760.0me	11855.0af		
2000-2030	<b>VOA</b>	11975.0af	13710.0af	15410.0af	15580.0af	17725.0af	17755.0af		
		9660.0af	11625.0af	13765.0af					
		5810.0eu	7355.0eu	15565.0va	21525.0af				
		9725.0eu							
2000-2030	<b>Vatican Radio</b>	5220.0eu	6950.0eu	7170.0af	9440.0af	9920.0eu	11840.0af		
2000-2045	<b>WYFR Okeechobee FL</b>	11975.0af	15500.0af						
2000-2050	<b>Deutsche Welle</b>	11715.1va	11749.9va	15160.0va					
2000-2056	<b>China Radio Int'l</b>	3374.9	9535.0						
		9500.0as	9580.0va	9660.0pa	11880.0va	12080.0va			
2000-2100	<b>Radio Algiers</b>	5850.0eu	7535.0eu						
2000-2100	<b>R. Nacional de Angola</b>	9900.0							
2000-2100	<b>Radio Australia</b>	15149.9va							
2000-2100	<b>Radio Bulgaria</b>	7440.0eu							
2000-2100	<b>R. MINURCA, Cen. Af. Rep.</b>	13840.0pa							
2000-2100	<b>Voice of Indonesia</b>	5940.0eu	5965.0eu	7340.0eu	9480.0eu	9890.0eu			
2000-2100	<b>V. of the Mediterranean</b>	9595.0af	9680.0eu						
2000-2100	<b>KHBI Salpan, Marianas</b>	3255.0af	3955.0eu	5975.0pa	6005.0af	6180.0eu	6190.0af		
2000-2100	<b>Voice of Russia</b>	6195.0eu	7325.0eu	9410.0eu	9630.0af	9740.0pa	11835.0af		
2000-2100	<b>Radio Exterior de España</b>	12095.0sa	15400.0af	17830.0af					
2000-2100	<b>BBC World Service</b>	15405.0as							
		11755.0eu	11985.0na						
		9385.0eu	11875.0na	13615.0na					
		15460.0af							
2000-2200	<b>KWHR Naalehu HI</b>	9355.0al	11550.0al	13770.0eu	15665.0eu				
2000-2200	<b>Merlin Network One</b>	3270.1af	3289.9af						
2000-2200	<b>WEWN Birmingham AL</b>	17675.0va							
2000-2200	<b>WHRA Greenbush ME</b>	7415.0na							
2000-2200	<b>WSHB Cypress Creek SC</b>	3945.0do	4960.0do	7260.0do					
2000-2400	<b>NBC Windhoek, Namibia</b>	12085.0eu	13605.0eu						
2000-2400	<b>Radio New Zealand Int'l</b>	7180.0eu	9650.0eu						
2000-2400	<b>WBCQ Monticello ME</b>	7115.0af	9670.0af	11715.0af					
2000-2400	<b>Radio Vanuatu</b>								
2005-2105	<b>Radio Damascus</b>								
2015-2030	<b>Radio Tirana, Albania</b>								
2025-2045	<b>RAI, Rome</b>								

2030-2045		<b>Radio Thailand</b>	9535.0eu	9655.0eu	11905.0eu					
2030-2045		<b>VOA</b>	6035.0af	6095.0me	7415.0af	9760.0me	11975.0af	13710.0af		
2030-2055		<b>Voice of Vietnam</b>	15410.0af	15580.0af	17725.0af	17755.0af				
2030-2100	t h	<b>Radio Minsk, Belarus</b>	5940.0eu	7270.0eu	7400.0eu	9839.9eu	12019.5eu			
2030-2100		<b>Georgian Radio, Tbilisi</b>	7105.0eu	7210.0eu						
2030-2100		<b>AWR Europe, Germany</b>	11760.0eu							
2030-2100		<b>Voice of Mongolia</b>	9640.0af							
2030-2100		<b>Polish Radio, Warsaw</b>	11790.0eu	12085.0eu						
2030-2100		<b>AWR Africa, Meyerton</b>	6035.0eu	6095.0eu	7285.0eu	9525.0eu				
2030-2100		<b>Radio Sweden</b>	9745.0af							
2030-2100	s	<b>VOA</b>	6065.0va							
2030-2100		<b>Radio Tashkent</b>	4950.0af							
2030-2115		<b>Radio Cairo</b>	7105.0eu	9540.0eu						
2030-2130		<b>Radio Havana Cuba</b>	15375.0af							
2030-2300		<b>Radio Nigeria</b>	13720.0eu	13750.0uf						
2045-2100		<b>VOA</b>	3326.0do	4770.0do	4990.0do	6025.0do	6050.0do	9570.0do		
			6035.0af	6095.0me	7415.0af	9760.0me	11975.0af	13710.0af		
			15410.0af	15580.0af	17725.0af	17755.0af				
			5810.0eu	7355.0eu	15565.0va					
2045-2100		<b>WYFR Okeechobee FL</b>	7150.0au	7410.0eu	9650.0eu	9910.0au	9950.0eu	11620.0va		
2045-2230		<b>All India Radio, Delhi</b>	11715.0au							
2050-2110		<b>Vatican Radio</b>	4005.0eu	5883.0eu	7250.0eu					
2100-2115		<b>Cameroon Radio-TV</b>	4850.0va							
2100-2125		<b>Polish Radio, Warsaw</b>	6035.0eu	6095.0eu	7285.0eu	9525.0eu				
2100-2127		<b>Radio Prague Int'l</b>	5930.0va	7345.0va						
2100-2130		<b>Radio Australia</b>	7240.0pa	9500.0as	9580.0va	9660.0pa	11880.0va	12080.0va		
			17715.0va	21740.0va						
2100-2130		<b>Radio Korea</b>	3970.0eu	6480.0eu	15575.0eu					
2100-2130		<b>Malawi B'casting Corp.</b>	3380.0do							
2100-2130		<b>VOA</b>	6035.0af	6040.0me	6095.0me	7415.0af	11870.0pa	11975.0af		
			13710.0af	15185.0pa	15410.0af	15580.0af	17725.0af	17735.0pa		
			9615.0af	9670.0as	9690.0af	9765.0as	11785.0as	11865.0af		
2100-2150		<b>Deutsche Welle</b>	15275.0va							
2100-2156		<b>China Radio Int'l</b>	6950.0eu	7170.0af	9440.0af	9920.0eu	11840.0af	11975.0af		
			15500.0af							
2100-2156		<b>Radio Pyongyang</b>	4405.0eu	6575.0eu	9335.0am	11710.1am	13760.0am			
2100-2156		<b>Radio Romania Int'l</b>	5955.0eu	5990.0eu	7195.0eu	7215.0eu				
2100-2159		<b>Radio Canada Int'l</b>	5995.0va	7235.0va	9725.0va	9805.0va	11945.0va	13650.0va		
			13690.0va	15150.0va	17820.0af					
			9900.0							
2100-2200		<b>R. MINURCA, Cen. Af. Rep.</b>	6035.0pa	9725.0eu	11850.0pa	13630.0na				
2100-2200		<b>Radio Japan</b>	5940.0eu	5965.0eu	7300.0eu	7340.0eu	9890.0eu			
2100-2200		<b>Voice of Russia</b>	3255.0af	3915.0as	3955.0eu	5965.0as	5975.0va	6005.0af		
2100-2200		<b>BBC World Service</b>	6110.0as	6180.0eu	6190.0af	6195.0va	7325.0eu	9410.0eu		
			9740.0pa	11835.0af	12095.0sa	15400.0af				
			15460.0af							
2100-2200		<b>WHRA Greenbush ME</b>	7355.0eu	11580.0af	15565.0va					
2100-2200		<b>WYFR Okeechobee FL</b>	5020.0do	9545.0do						
2100-2230		<b>SIBC Solomon Islands</b>	6000.0eu							
2100-2300		<b>Voice of Hope, Germany</b>	11840.0as							
2100-2400		<b>Overcomer Ministries</b>	5755.0eu	9495.0am						
2100-2400		<b>WHRI Noblesville IN</b>	9955.0sa							
2100-2400		<b>WRMI Miami FL</b>	12085.0na	13605.0na						
2110-2210		<b>Radio Damascus</b>	5975.0ca	15390.0ca	17715.0ca					
2115-2130	mtwhf	<b>BBC Caribbean Report</b>	4810.0eu	9965.0eu						
2115-2145	mtwhfa	<b>Voice of Armenia, Yerevan</b>	9990.0eu	15375.0af						
2115-2200		<b>Radio Cairo</b>	5935.0eu							
2130-2135	mtwhf	<b>Radio Latvia</b>	11680.0sa							
2130-2145	t f	<b>BBC Cailing Falklands</b>	7240.0pa	9660.0pa	11880.0va	12080.0va	17715.0va	21740.0va		
2130-2200		<b>Radio Australia</b>	7105.0eu	7210.0eu						
2130-2200	t h	<b>Radio Minsk, Belarus</b>	15610.0as							
2130-2200		<b>KSDA Guam</b>	15575.0eu							
2130-2200		<b>Radio Korea</b>	5875.0eu	6050.0eu	9635.0eu					
2130-2200		<b>BBC English Teaching</b>	6040.0me	6095.0me	11870.0pa	15185.0pa	17735.0pa			
2130-2200		<b>VOA</b>	6035.0af	7415.0af	11975.0af	13710.0af	15410.0af	15580.0af		
2130-2200	smtwhf	<b>VOA</b>	17725.0af							
			6025.0af	6165.0pa	6175.0pa					
2130-2225		<b>VOIRI Teheran</b>	9525.0as							
2130-2230		<b>Voice of Turkey</b>	4835.0do							
2130-2400		<b>ABC Alice Springs</b>	5025.0do							
2130-2400		<b>ABC Katherine</b>	4910.0do							
2130-2400		<b>ABC Tennant Creek</b>	5990.0as	9675.0as	11900.0as					
2200-2225		<b>RAI, Rome</b>	7520.0eu							
2200-2225		<b>Radio Moldova Int'l</b>	5995.0va	7235.0va	9735.0va	9805.0va	11705.0as	11945.0va		
2200-2229		<b>Radio Canada Int'l</b>	13690.0va	15150.0va						
			9900.0							
2200-2230		<b>R. MINURCA, Cen. Af. Rep.</b>	3975.0eu	7250.0eu						
2200-2230		<b>Radio Budapest</b>	3380.0do							
2200-2230		<b>Malawi B'casting Corp.</b>	7215.0as	9770.0as	9890.0as	11760.0as	15185.0as	15290.0as		
			15305.0as	17735.0pa	17820.0as					
			6035.0af	7415.0af	11975.0af	12080.0af	13710.0af			
2200-2230	mtwhf	<b>VOA</b>	6100.0eu	6185.0eu						
2200-2230		<b>Radio Yugoslavia</b>	9990.0eu							
2200-2245		<b>Radio Cairo</b>	11740.0na	11580.0af	15565.0va					
2200-2245		<b>WYFR Okeechobee FL</b>	7170.0eu							
2200-2256		<b>China Radio Int'l</b>	17715.0va	17795.0va	21740.0va					
2200-2300		<b>Radio Australia</b>	7535.0eu	7545.0eu						
2200-2300		<b>Radio Bulgaria</b>	11785.0lr							
2200-2300		<b>Radio Iraq Int'l</b>	9595.0af	9680.0eu						
2200-2300	s	<b>a Radio Exterior de España</b>	5810.0eu	9985.0eu						
2200-2300		<b>Radio Taipei Int'l</b>								

2200-2300	<b>Radio Ukraine Int'l</b>	4820.0eu	5905.0eu	6020.0eu	6080.0eu	7150.0na	7205.0eu
		7380.0eu	7420.0eu	9560.0eu	9610.0eu		
2200-2300	<b>BBC World Service</b>	3955.0eu	5965.0as	5975.0am	6175.0na	6195.0va	7110.0as
		7385.0as	9590.0na	9660.0as	9915.0sa	11835.0af	11955.0as
		12080.0pa	12095.0sa	15400.0af			
2200-2300	<b>Merlin Network One</b>	7120.0eu	7170.0as	9835.0na			
2200-2300	<b>WGTC McCaysville GA</b>	6890.0uf	9400.0am				
2200-2400	<b>Caribbean Beacon</b>	6090.0am					
2200-2400	<b>Voice of Guyana</b>	3289.8do	5949.4do				
2200-2400	<b>KWHR Naalehu HI</b>	17510.0as					
2200-2400	<b>RTM Radio 4, Malaysia</b>	7295.0do					
2200-2400	<b>Nat'l BC, Papua NG</b>	3925.0do	4890.0do	9520.0do	9675.0do	11880.0do	
2200-2400	<b>WEWN Birmingham AL</b>	5825.0na	5850.0eu	13615.0na			
2200-2400	<b>WHRH Greenbush ME</b>	13760.0af					
2200-2400	<b>WSHB Cypress Creek SC</b>	7510.0eu	15285.0sa				
2200-2400	<b>WWCR Nashville TN</b>	5070.0na	7435.0na	9475.0na	13845.0na		
2230-2256	<b>R. Vlaanderen Int'l</b>	13670.0na					
2230-2257	<b>Radio Prague Int'l</b>	7345.0na	9435.0na				
2230-2300	<b>Radio Tirana, Albania</b>	6025.0eu	7160.0eu				
2230-2300	<b>ORF Vienna</b>	5945.0eu	6155.0eu	13730.0af			
2230-2300	<b>Radio Sweden</b>	6065.0va	7325.0va				
2230-2300	<b>VOA</b>	7215.0as	9770.0as	9890.0as	11760.0as	15185.0as	15290.0as
		15305.0as	17735.0pa	17820.0as			
2230-2330	<b>Radio Havana Cuba</b>	9550.0am					
2230-2400	<b>SIBC Solomon Islands</b>	5020.0do					
2230-2400	<b>SIBC Solomon Islands</b>	9545.0do					
2240-2250	<b>Voice of Greece</b>	9420.0au	11645.0au				
2245-2305	<b>Vatican Radio</b>	7305.0au	9600.0au	11830.0au			
2245-2345	<b>WYFR Okeechobee FL</b>	11740.0na					
2245-2400	<b>All India Radio, Delhi</b>	7410.0as	9705.0as	9950.0as	11620.0as	13625.0as	
2300-2325	<b>Radio Moldova Int'l</b>	7520.0eu					
2300-2329	<b>Radio Canada Int'l</b>	5960.0na	6040.0am	9535.0am	9755.0na	11865.0am	
2300-2330	<b>KSDA Guam</b>	11775.0as					
2300-2330	<b>BBC World Service</b>	3915.0as	3955.0eu	5965.0as	5975.0am	6035.0as	6175.0na
		6195.0va	7110.0as	9590.0na	9915.0sa	11945.0as	11955.0as
		12095.0sa	15280.0as				
2300-2350	<b>Deutsche Welle</b>	5990.0as	6010.0as	6045.0as	7235.0as		
2300-2356	<b>Radio Pyongyang</b>	11335.0am	11710.1am	13760.0am	15130.1am		
2300-2356	<b>Radio Romania Int'l</b>	5955.0eu	7195.0eu	9570.0na	11830.0na		
2300-2400	<b>Radio Australia</b>	9660.0pa	12080.0va	17715.0va	17795.0va	21740.0va	
2300-2400	<b>Radio Cairo</b>	9900.0am					
2300-2400	<b>Good News World Radio</b>	9405.0va					
2300-2400	<b>Voice of Hope, Lebanon</b>	11530.0me					
2300-2400	<b>SBC Radio 1, Singapore</b>	6150.0do					
2300-2400	<b>Voice of Turkey</b>	7280.0eu	9655.0va				
2300-2400	<b>Merlin Network One</b>	3985.0as	7170.0as	9835.0na			
2300-2400	<b>VOA</b>	7215.0as	9770.0as	9890.0as	11760.0as	15185.0as	15290.0as
		15305.0as	17735.0pa	17820.0as			
2300-2400	<b>WGTC McCaysville GA</b>	5085.0am	6890.0uf				
2300-2400	<b>WWBS Macon GA</b>	11910.0na					
2330-2345	<b>BBC English Teaching</b>	3915.0as	5875.0as				
2330-2355	<b>Voice of Vietnam</b>	5940.0af	7270.0af	7400.0af	9839.9af	12019.5af	
2330-2400	<b>Radio Canada Int'l</b>	5960.0na	9755.0na				
2330-2400	<b>Radio Canada Int'l</b>	6040.0am	9535.0am	11865.0am			
2330-2400	<b>KSDA Guam</b>	11775.0as					
2330-2400	<b>Radio Netherlands</b>	6165.0na	9845.0na				
2330-2400	<b>BBC World Service</b>	5965.0as	5975.0am	6035.0as	6175.0na	6195.0as	7110.0as
		9590.0na	9915.0sa	11945.0as	11955.0as	12095.0sa	15280.0as
		7450.0am	9400.0am	9420.0am	11645.0am		
2340-2350	<b>Voice of Greece</b>	7450.0am					
2345-2400	<b>BBC World Service</b>	3915.0as					
24hr	<b>CFCX Montreal PQ</b>	6005.0do					
24hr	<b>CFRX Toronto ON</b>	6070.0do					
24hr	<b>CFVP Calgary AB</b>	6030.0do					
24hr	<b>CHNX Halifax NS</b>	6130.0do					
24hr	<b>CKZN Saint John's NL</b>	6160.0do					
24hr	<b>CKZU Vancouver BC</b>	6160.0do					
24hr	<b>United Christian BC, Ire.</b>	6200.0do					
24hr	<b>AFRTS</b>	4278.5uf	6458.5uf	12689.5uf			
24hr	<b>WJCR Upton KY</b>	7490.0va	13595.0as				

Key:

Days:	Target Areas:	Other Notes:
s - Sunday	na - North America	va - Various
m - Monday	ca - Central America	do - Domestic
t - Tuesday	sa - South America	om - Omnidirectional
w - Wednesday	am - Americas	
h - Thursday	eu - Europe	ir - Irregular
f - Friday	af - Africa	oc - Occasional
a - Saturday	me - Middle East	al - Alternate
	as - Asia	lf - Lower Sideband
	pa - Pacific	uf - Upper Sideband

(Ed. note: If you want to keep your schedules up-to-date, Mark Fine sells electronic versions of this data, updated approximately weekly and available on the Internet. Contact Mark at the addresses on the first page of the schedules.)



# 12th Annual Winter SWL Festival

March 13-15, 1999

Holiday Inn  
Sumneytown Pike  
Kulpsville, Pennsylvania



Last Fest before The Millennium!



Get there any way you can!

Plan to attend your favorite forums Friday and Saturday. Enjoy meeting with your friends in the Hospitality Room. Bring radio related items for the swap meet or to donate for the Silent Auction. Check out your friends receivers, bring one of your own for others to try!



No frills, just shortwave, longwave, mediumwave, the camaraderie of your hobby friends.

pirates, and scanning. Once again you will enjoy

Registration Options include:

- FULL** — Includes forums, hospitality room, lunch and banquet — \$40
- PARTIAL** — Includes forums, hospitality room but NO meals — \$17
- SPOUSE** — Includes hospitality room and meals — \$22



**GRAND PRIZE:** To be announced

**SPECIAL:** Register early to win a SW portable! One free entry for an early bird registration received by February 12, 1999.

Please bring items for the Silent Auction. Proceeds are donated to charity.

Checks should be made payable to WINTER SWL FEST. Register directly with the hotel for your rooms by calling the Holiday Inn at (215) 368-3800. For 1999, one special rate \$69 single or double! Tell the hotel staff you're with the WINTER SWL FEST to receive this special room rate. Up to the minute info. can be heard on the ANARC SWL NET on 7240 LSB at 10 AM Sundays.

The Holiday Inn is located at EXIT 31 of the PA Turnpike Northeast Extension-Lansdale Interchange. Improved access from the south with the Blue Route—ask for details. Limo service is available from Phila. Intl Airport directly to the Holiday Inn.

Please submit the following form with your registration amount or send for more information to:



Winter SWL Festival  
PO Box 591  
Colmar, PA 18915



Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ E-Mail: \_\_\_\_\_

Circle: FULL PARTIAL SPOUSE (Spouse Name \_\_\_\_\_)

Banquet - Check: Roast Beef \_\_\_\_\_ Chicken \_\_\_\_\_ Registration Fee Enclosed: \$ \_\_\_\_\_

I wish to purchase \_\_\_\_\_ raffle tickets Tickets Fee Enclosed: \$ \_\_\_\_\_

(\$1 ea / 6 for \$5 / Special 13 for \$10) Total check/money order enclosed: \$ \_\_\_\_\_

Registration cancellations after 2/28/99 cannot be refunded, however we will refund raffle ticket money if you have to cancel.

Registration verifications can only be made if you supply an email address! Sorry if this is an inconvenience.

# Company Store

**Dan Cashin**  
1335 Harrington Rd  
Haverstown, PA 19083

All s/h charges for the following items are included unless otherwise noted. Write for shipping and handling costs for orders shipped outside N. America. Please note the new proprietor and address.

## Publications

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