

The **NASWA** Journal

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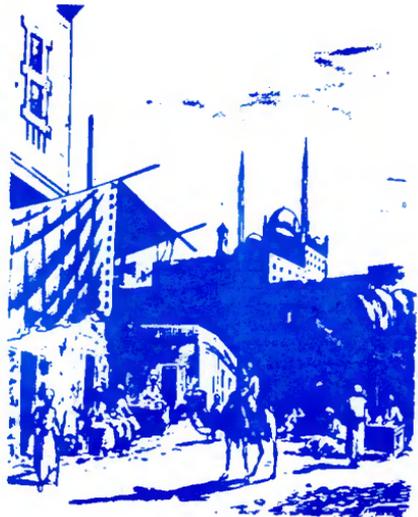


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NASA Notes

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

Don't forget to make your plans to attend the 13th annual Winter SWL Festival in Kulpville on 10-12 March 2000. This is North America's premier gathering of radio hobbyists. As usual, the program will offer a little something for everyone who attends. Please register early since this really helps with the planning of the weekend. NASWA's unpaid staff of elves is lead by Mr. and Mrs. Hospitality, **Richard Cuff** and **John Figliozzi**. Check out the Calendar of Events and the registration form, which is in this edition of the *Journal* or in last month's *Journal* (page 60). Messrs. Cuff and Figliozzi promise a good time for all in attendance so make your plans to be in Kulpville once again. If you have never attended a Fest, what are you waiting for? It just wouldn't be the same without you!

What is the role of a shortwave club as we move into a new century? Has the trend been set with the emergence of various electronic technologies? Or is there still a viable role for the paper bulletin? One of the most outspoken members of the shortwave monitoring community is **Bob Padula**. In this month's *Musings* column he offers some very interesting insights into this subject. Naturally, feedback from the membership is eagerly sought.

From the Danish Shortwave Club International's Shortwave News bulletin, **Risto Vahakainu** and **Anker Petersen** provide some details about the European DX Council conference held in Copenhagen in early November. As expected, the crowd was small with about 25 DXers and broadcasters, representing 10 countries, in attendance. The organizers of the event were Tor-Henrik Ekblom, Petersen and Vahakainu. The meeting opened with a silent moment respecting the memories of Arne Skoog and Jens Frost.

During the conference, Risto announced that he and assistant secretary general **Arto Mujunen** are planning to leave their posts at the end of 2000, so the fall 2000 election will see the selection of new officers to serve a three year term commencing January 2001. The conference featured a trip to Anker's home where the EDXC was founded 32 years ago.

The New Zealand Radio DX League noted in its bulletin, the *New Zealand DX Times*, that it has called for the South Pacific Association of Radio Clubs ("SPARC") to conclude its business and close down. In recent years SPARC has had to overcome many problems. The first was the death of its long time leader, **Arthur Cushen**. In more recent years, two of its four members clubs closed their doors. Allan Wallace is proposing the formation of a Federation of Radio Enthusiasts of New Zealand ("FRENZ") to take its place.

I mentioned last month that the club's *Country List* and *Awards Program* booklet is still available from The Company Store (**Dan Cashin**, 1335 Harrington Rd., Havertown, PA 19083) or headquarters. However, I got the price wrong! The correct price is US\$3.00 on North American and US\$5.00 worldwide. Thanks to former Company Store Manager **Kris Field** for the catch. Remember that you can keep your country chasing statistics up-to-date with the club's latest edition of the hobby's best country list. Also, don't forget about our special need of keeping **Dr. DX** busy will awards applications. That would be considered our little gift to Mrs. Dr. DX!

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

Our Motto is - "Unity and Friendship"

Calendar Of Events

- Feb 18 Meeting. Philadelphia Area NASWA Chapter.** Kulpville Holiday Inn, Kulpville, PA at 7:30 PM. For more information contact Dan Cashin at 610-446-7831.
- Feb 18 Meeting. Boston Area NASWA Chapter.** 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/>>.
- Mar 10-12, 2000 Convention.** The 13th Annual Winter SWL Festival will be held at the Kulpville Holiday Inn (Exit 31 on the Northeast Extension of the Pennsylvania Turnpike) on 10-12 March 2000. Richard Cuff and John Figliozzi co-chair the organizational committee.
- Mar 11-13 Contest. 2000 North American DX Championships.** For further information you can send a self-addressed stamped envelope to 2000 NADX, c/o Dr. Harold Cones, 2 Whits Court, Newport News, VA 23606. Rules will also be posted eventually at <<http://www.anarc.org/>>, and are published in this month's Awards column in the Journal.
- Mar 10 Meeting.** The Tidewater SWL's meet at 6:30 PM. For more information plus meeting location contact Joe Buch at joseph.buch@dol.net
- Mar 10 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>. For additional information about MONIX, check out their web site at <<http://www.siscom.net/~mmeece/monix.html>>
- Sep'00 Contest. AWR Contest.** Number of different QSL stamps in the listener's collection. More details to follow.

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

FRENDX: Twenty Five Years Ago....

Charlie Wooten, NASWA SWC Editor and ANARC Frequency Recommendation Committee Chairman, was searching for qualified monitors with an ability to read frequencies to the nearest 5 kHz for the committee. Larry Magne's *Special Clandestine Bulletin* column appeared in February. Dan Ferguson reports that Mac Leonhardt will be taking on the job of distributing reprints and special publications. Charlie Loudenboomer reported on the new "Coat Hanger" antenna that was available from PILFER. Awards Manager Dan Henderson provided information on the 29 awards available through the club's revamped awards program. Dr. Richard E. Wood reports on a presentation at the Denver Hilton about "Radio in Foreign Language Teaching."

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.

Musings

This column provides a forum where 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 solely 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.

Richard Cuff, <rdcuff@sprintmail.com>, 327 Spring House Road, Apt. 102, Allentown, PA 18104

The Winter SWL Fest is less than two months away, and John Figliozzi and Richard Cuff, 'Fest Co-chairs, are hoping to see many NASWANS amongst the long-time 'Fest faithful, along with any first-time 'Festers. We believe you'll have a great time with a bunch of like-minded radio enthusiasts!

Since NASWA is now the sponsoring organization for the 'Fest, it's our collective responsibility to handle everything required for a smooth running 'Fest. In that regard, we would like to ask that all NASWANS attending the 'Fest be willing to help out with various tasks while in Kulpville. For example, we'll need help with the following:

- Assistance with antenna setup on Thursday afternoon
- Setup and breakdown of tables for the Swap Meet, Silent Auction, and Hospitality Room on Thursday, Friday, and Saturday
- Setup and breakdown of vendor tables on Friday and Saturday
- Creative ideas for 'Fest improvements and enhancements

If you already know you'll be available to help at some point from Thursday afternoon through Sunday morning, please drop either of us a note at rdcuff@sprintmail.com (Richard) or jfiglio1@nycap.rr.com (John).

Thanks in advance for your willingness to help out.

We're looking forward to seeing you at the 'Fest!

73's, Richard Cuff & John Figliozzi

Richard D'Angelo <rdangelo3@aol.com>, 2216 Burkey Drive, Wyomissing, PA 19610

Our second DXpedition of the season, and fifth overall, to French Creek State Park is now history. This DXpedition followed the more traditional Thursday through Sunday pattern. Although it is much easier to erect antennas here rather than Gifford Pinchot, I managed to take a nasty spill down the hill after setting up my 500-foot wire. As I stood at the top of the ridge, a quick but furious snow and sleet storm burst out. Talk about a lonely feeling—500 feet from the cabin over a slippery when dry terrain—being stuck in that weather. Fred Kohlbrenner, Ed Mauger and Mike Wolfson rounded out the group.

Possibly the most noticeable change in our habits has been in the food department. For the most part, TV dinners are a thing of the past. Watching Fred prepare a steak dinner, including a vegetable of all things, is a sight to behold. I now scramble a couple of eggs and make some home fries for breakfast. On Saturday there were freshly baked brownies to eat. What is this world coming to? Thankfully, there were only two portable TV sets this trip. One was for Fred to watch *Frasier* while the other belonged to a football crazed Ed. Go figure! Unfortunately, there was no TV DX'ing taking place.

Listening conditions seem to be getting worse, not better. Although noise levels weren't bad, propagation conditions were nothing to write home about. Nothing was jumping out of the ether the entire weekend with India and Indonesia being too quiet. It must be the food we bring; Ed Mauger ate a salad one evening. What is going on here? Perhaps it was first time French Creeker Mike Wolfson's fault? There were a couple of good east African openings but not much else until Saturday evening. Thankfully, Fearless Fred of Radio Garbonzo made a Saturday evening appearance, which was very entertaining and there was a glut of late night Euro pirates which made for some lively listening at the very end for me.

73 -RAD

Bob Padula <BPadula@compuserve.com>, 404 Mont Albert Road, Surrey Hills, Victoria 3127, Australia

(Bob's comments originally appeared in the *Electronic DX Press* No. 151)

As we move towards a new year (or century and millennium!), I would like to share some thoughts with you about radio monitoring and how I see the future - you may of course not agree with my views, and your own comments would be welcomed.

In the January (1999) issue of the *AUSTRALASIAN SHORTWAVE DIGEST*, I suggested that hard-copy printed newsletters supporting radio-monitoring endeavors would ultimately vanish, eventually being subsumed by electronic delivery of timely data. There is a growing trend for more and more shortwave monitors to move to electronic access for the information and news they require, with much of this available free, some of it coming "down the line" virtually as it is happening!

For example, the BBC Monitoring Service phased out its printed schedules some time ago, and delivery is now exclusively via E-mail!

The number of monitoring Clubs across the world has declined, as has their memberships. Historical reasons for tuning in to shortwave broadcasting stations, such as for the thrill of hearing a "foreign" broadcaster, or for entertainment or information, may no longer be important, due to such offerings easily available via Internet RealAudio, satellite, cable, free-to-air TV, rebroadcasting through local high quality FM outlets, CDs, and DVDs.

The Internet provides ready and easy accessibility to a vast array of free resources and information about radio broadcasting in general, and shortwave in particular. That trend will continue, impacting on hard copy, expensive printed materials. QSL collecting has also been subject to significant decline, with fewer and fewer stations, whether domestic or international, having the capacity or interest to respond. Some stations will only reply via E-mail, and will only accept E-mailed reports. Others will not respond at all. The days are long gone when stations diligently examined each item in reception reports for "authenticity" prior to issuing a QSL! In fact, it is possible to prepare "reception reports" of any of several thousand broadcasters merely by accessing their RealAudio feeds! The term "QSL" these days really refers to "acknowledgment of reception", which is the classical definition for validation of a two-way contact, and we have just about turned the full circle. In days gone by, it was really a kind of game: "please check my report and if it is correct send me a QSL"—I had always wondered why people bothered to send reports if they were unsure of what they were hearing. I also wondered where those zillions of IRCs, mint stamps, dollar bills and myriads of inducements ended up in peoples' quest for QSLs...!

The number of stations using the tropical bands is also steadily decreasing, due to the rapid development of FM for regional broadcasting. Whenever a regional SW broadcaster vanishes, enthusiasts decry its loss, not realizing that stations do not exist merely as monitoring targets!

More and more international broadcasters are moving to Internet and satellite delivered programming, with a gradual transition from traditional shortwave transmissions. Several broadcasters have terminated broadcasts in what they regard to be the less-important languages: Deutsche Welle this month closes down its very popular Japanese service. Shortwave broadcasting, unlike VHF, LW, and MW, has never paid its way from direct commercial advertising, and has relied in the main on government funding or sponsorship from religious entities.

Here in Australia, the "hobby" of structured, guided long-distance radio monitoring has virtually disappeared, with only one general Club remaining, with its membership around 150, following the abandonment of all other groups over the past two years. That club, the Australian Radio DX Club, of which I am a Life and Founding member, devotes enormous physical and monetary resources into the production of a small printed newsletter 11 times annually, with several weeks production delay, the usefulness and timeliness which of course must be seriously questioned. It does not offer any soft-copy material to members. Such antiquated activities may have been accepted, and logical, when the Club was founded some 35 years ago, but we are now almost in the 21st century!

My view of shortwave radio monitoring is that it is no longer a pastime for younger people; sitting in front of a radio in the middle of the night wrapped in a blanket, or in a freezing car in a swamp is not the idea of a hobby to most people, of any age! Young people are the lifeblood of any field of endeavour, and I sympathise when colleagues from around the world tell me "there are no young people in our Club any more". Here in Australia, a statistic made available from the Australian Radio DX Club recently was that the mean age of its members is 65 years, with only a handful of members under the age of 35 years! Much the same sort of age profile appears to exist with the main clubs in other countries. I am not even sure whether the term "hobby" applies any more to these activities; radio listening is part of everyday living, and the concept of people meeting to "discuss" their reception of radio broadcasters is not very exciting.

As we move into the 21st century, I believe that all hobby-based radio-monitoring groups need to take stock of their situations, and review, and redefine what their objectives are. Some Clubs may say "our main objective is publishing a newsletter each month"—that is not an objective at all, but an outcome. Anyone can put out a newsletter on radio or any other conceivable subject, either in hard copy or any other form, but it needs to be linked to a defined need, and not issued merely for historical reasons.

Global trends suggest that interest in SW monitoring is now concentrating on non-broadcast stations, such as "utility", where distance reception is of relatively low importance. Check the advertisements in any recent edition of the big American radio publications, such as *Popular Communications* and *Monitoring Times* and you will see what I mean. Personally, I have no interest in scanners, monitoring police cars, aircraft, trucks, yachts, beacons, railways, buses, ambulances, personal communications' systems, digital transmissions, or take-away-food shops: if others wish to do that, then that is their affair.

EDXP has now reached its 151st edition, and it's my objective to continue to offer this service to those who wish to participate in it, to the limits of my capability and resources. BP

Robert E. Montgomery <Rmonty3@worldnet.att.net>, Levittown, PA USA

After sending my NRD 535Db to Kiwa for the complete set of mods, I was impressed with the receiver and decided not buying a new one. I considered adding a computer control program to make the setup complete. There are a number of control programs available on various web sites but after downloading a sample copy from the Fineware Web site and seeing what it could do, I ordered the registered copy. With a standard computer cable and null modem hooked to the serial port of my laptop and the receiver, and loaded software, I was in business. I would suggest printing the instruction manual, as this is not a novelty program. I have to say that Mark Fine did a fantastic job on the program and writing easy to read concise instructions. The more I use it the better I like it. It can import the Cumbre Lite listing, produce logs for your favorite publication, has a spectrum analyzer, propagation program, and the list goes on. Provisions for additions to several databases including the installation of English schedules Fineware provides on an annual subscription basis. They are updated weekly and no eyestrain as required by the semi annual printing in the *Journal*. There is a sizable partial list of non-English stations, medium wave and utility stations such as fax and aero frequencies included in the database with plenty of room to add more. I noticed Fineware has a number of control programs available for other receivers such as the Drake, Lowe and Kenwood and others. You might give the web site a check and try the program. <http://users.erols.com/fineware>.

Bob Fraser, P. O. Box 174, Cohasset, MA 02025-0174

I read Marty Kane's question in the January *NASWA Journal's Musings* and it brought back memories of my early days in radio. As all new radio hobbyists, he feels the most important part is the receiver. As we all have found out, a good antenna is the answer, not a fancy radio. Unfortunately Marty has only an e-mail address and I am computer illiterate. Hence this musing.

So, Marty Kane, now you will find out that you are a true radio hobbyist. That is, you will think of things about your reception not just sit there and listen passively as if it were your tv.

I have no restrictions to outside antennas but I have tried a number of inside ones with varying successes. The best was thumbtacking a length of insulated wire around two sides of my room at the top of the walls. Another was to run a wire from the radio antenna to the metal curtain rod.

Others I have heard are: a wire to a metal outside window frame or sliding door frame, to a vertical metal rod stuck behind drapes, a long wire under the rug, even to a metal flag pole mounted on the outside of the house (making sure you fly a flag if this is the real problem). Of course, Radio Shack does sell a reel type antenna (278-1374) but that seems an easy way out.

The only caution in trying these antenna is not to get it close to any power source or even near a metal object that has power such as a floor lamp. All you would hear would be noise at best and at worst, you'd get fried and that is no fun.

Good luck Marty. You'll probably hear from a number of hobbyists on this. Who knows, maybe you'll come up with something completely different that we will all have to try.

73, Bob

Scott Walker <N3SW@worldnet.att.net>, New Cumberland, PA

As a *NASWA Journal* subscriber I wanted to write and express my appreciation for the inclusion of Mr. Figliozi's *Program Guide* in the January issue. I have found it very useful in planning my shortwave listening schedule. I like the division into "Morning" and "Evening" listening from a North American perspective.

Add this feature to the bi-annual *English Schedules* by Mark Fine, which came out in December, and you have a very handy way to find out what's on when for our listening area.

My only comment/request...I remember back when Mr. Sundstrom was producing the *English Schedules* they were printed in the center folios of the *Journal*, and could be conveniently removed and re-stapled into a separate reference. Wouldn't it be great if this could be done again?

Thanks for your efforts. The *Journal* continues to be a valuable tool for me. 73.

Welcome to the following new NASWA members

Jim Boynton, Newton, MA

Anthony D. Capobianco DO, Glen Cove, NY

Mike Cooper, Stone Mountain, GA

John Courbrough, Huntington Beach, CA

Ed Diamond, Evansville, IN

Nancy Jordan Fako, Elmhurst, IL

John F. Madden, Falls Church, VA

Thomas K. Redden, Cincinnati, OH

William Schaffner, Levittown, PA

Rev. Ronald I. Schupp, Chicago, IL

Willima Shaner, Ridley Park, PA

Marc R. Silvers, Laytonsville, MD

Membership Questions?

If you have any questions concerning your membership, renewals, change of address, etc please contact **Bill Oliver** by postal mail (45 Wildflower Road, Levittown, PA 19057) or e-mail (boliver@bboard.com).

NOTICE: The *Journal* covers for the year 2000 are copies of old **FRENDX** covers of the past. The January cover was originally used October 1987 and this month's cover is from September 1982.

Easy Listening

Richard D. Cuff • 327 Springhouse Road, Apt. 102 • Allentown, PA 18104 • rdcuff@sprintmail.com

Long-Form Programming Returns to the VOA

Kim Elliott passed along some good news the other day: **The Voice of America (VOA)** will be reestablishing 25-minute long feature programs on weekends beginning in February. **Communications World** will revert to a single program, and several new programs will also debut. A program on science and the environment, tentatively entitled **One World**, and a human interest program, **Kaleidoscope**, are also on the new schedule. The tentative schedule for **Communications World** directly on the VOA is Saturdays at 0136, 0536, 0936, 1336, 1736, and 2136 UTC; the WBCQ, WWCR, and VOA double sideband airings are expected to continue.

While the **News Now** rolling news format has its place in the VOA schedule, much like **The World Today** has a place in the BBC World Service schedule, the schedule currently is too much **News Now** and not enough feature programming. Perhaps a decent news analysis program and American sports program might be added next to the schedule. Also, perhaps the VOA would consider producing a daily or weekly business & finance program. As the home to the world's largest economy, our shortwave broadcaster ought to reflect the vibrancy of the US economy to the world. A few minutes an hour doesn't cut it.

Music Programming

While spoken word programming is of value only if you understand the language being spoken, that restriction doesn't apply to music programming. Here are some suggestions from participants in the swprograms E-mail discussion group:

First, from Donna Ring:

"Besides the tropical band music I hear around sunset through the fading and static, giving it almost a psychedelic touch, or should I say **New (short)Wave** sound, my two favorite music programs on shortwave happen weekends on **rci**. **The Global Village**, very well produced, Sunday UTC at 0000 can be heard on 5960 and 9755. For nearly an hour one can travel to different lands through music. Similarly, again after the news about 00 UTC Monday, **Roots and Wings** is an eclectic experience, less polished, but equally entertaining when I must do boring chores such as finish dinner or wash dishes. Exotic listening one can enjoy with even a portable."

While one doesn't normally have their DX rigs near their kitchen sink, Donna has one valid argument for having a decent quality portable you can use around the house or on the road.

Scott Walker of New Cumberland, PA, added his two cents:

"Two of my favorite music programs are: **Music Time in Africa** on **VOA Africa Service**, an all-music feature Sunday at 1730 and 1930; **Kilimandjaro** on **Afrique Numero Un**, Gabon, weekdays 1700-1900 on 15475 (when I'm lucky enough to be home on a weekday), a variety program in French, with good Afropop music scattered throughout."

Larry Nebron suggested the following hit and miss. "First, the hit: **Music from Flanders** with Paul Rans, a good mix of Classical, Folk, and the odd. Heard on **Radio Vlaanderen International** Saturdays and downloadable from the **wrn** website. The worst, a disgrace it's on the air: **Sounds Good** (really Sounds Awful) heard the third Saturday of the month from **Swiss Radio International**."

So what's your favorite? Your contributions always welcome via e-mail, snail mail, or fax.

The best programs not on short-wave

An odd headline, perhaps, but the availability of international broadcasting via the Internet leaves me to believe that English language broadcasters squander opportunities to include interesting domestic programs in their international offerings. The CBC program *Ideas*, in my opinion, would be a wonderful replacement for a portion of the weekday morning 1200-1400 UT programming block.

Then there's the VOA. One would think the VOA could strike an arrangement with NPR or PRI to air some of their content. For example, *This American Life* would easily find an international audience, as well as PRI's *Marketplace*. One would think the VOA could obtain rights for these programs for a reasonable fee, while still providing reflections on the USA to an international audience.

Also consider the BBC. Now that the BBC's domestic **Radio 4** service is mostly available via the web, there's a rich mix of programming, especially my favorite genre, documentaries, that could fill some of the program slots now taken up by *The World Today*.

What's the remedy? As usual—take the initiative and contact the broadcasters!

BBC's *Insight: Omnibus Lite*

I was long a fan of the *Omnibus* on the BBC World Service, and I was disappointed when the BBC removed *Omnibus* from the World Service schedule last fall. One program that has the variety of subject matter as *Omnibus*, albeit only 15 minutes long, but with the counterbalancing benefit of five different programs each week is *Insight*. A single topic is discussed / analyzed for 15 minutes, and the topics cover everything from recent news stories to background pieces on a particular subject. By not requiring itself to be attached to current news, the program can approach issues with much more

thoughtfulness and investigation than a typical news analysis program. There is no single program host, but a given presenter covers an entire 15-minute story, and is given credit for writing and presenting the program. I normally catch the 0345 Tuesday-Saturday airing; additional broadcast times are weekdays 1645 and 2345.

BBC World Service February Highlights

General Features

Tuesdays, beginning February 29th, 1130; repeated Wednesdays, 0230, and Fridays, 1530: *The Bitter Pill* is a new series that examines the nagging worldwide problems of inadequate health care for the world's poorest people, looking at the economic and social costs of human illness.

Tuesdays through Saturdays, 0230: *The Essential Guide to the 21st Century* is a significant, 40-installment ongoing series of 30-minute programs where leading minds make their predictions for the 21st century. The series continues through February 26th, with these topics: *Education* (February 8th-12th), *The Environment* (February 15th-19th), and *Global Politics* (February 22nd-26th).

Tuesdays through Saturdays, 0055:

Visionaries is a daily 5-minute mini-feature, in the same time slot as *My Century*, with short views of the future from the experts featured on *The Essential Guide to the 21st Century*. This series also continues February 26th. Speaking of *My Century*, select segments from last year's series are re-aired at the same 0055 time slot beginning February 29th.

Mondays, 1615, and Tuesdays, 0430: *Take Ten Teachers* is a ten-part 15-minute weekly series interviewing schoolteachers from various locations and cultures.

Fridays 0645: *Talking Peace* is a new 3-part 15-minute series that looks at the challenges posed by language difficulties faced

by military organizations in peacekeeping activities. Much as the English language is the language of the Internet, English is also the linking language used by NATO members engaged in peacekeeping missions.

Thursdays, 1130 and 1615, beginning February 17th: **Assignment** returns to the World Service schedule. This weekly half-hour program is one of the few 30-minute topical programs remaining on the World Service schedule. February's features include coverage of the wedding of the king of Lesotho on the 17th.

Tuesday, February 29th, 0230: **Hundred Year House** is a single 30-minute documentary from a publisher's perspective, looking at the expulsion of Jews from Leipzig, Germany in 1938, and his family's attempts to return to the house following German unification.

Light Entertainment

Sundays, beginning February 13th, 2230; repeated Wednesdays, 2530; special edition Sunday, February 27th, 0430: **Just A Minute** returns for a seven-part series of 30-minute programs. I find this program marvelously entertaining—because I believe I'd make a fine contestant. Anyone who's been to the Winter SWL Fest can attest to the fact that I can ramble endlessly. The program's creator, Ian Messiter, passed away late in 1999, but the program continues with Nicholas Parsons as host. The premise: Panelists must speak without hesitation, repetition, or deviation on a subject of the host's choosing for 60 seconds.

Drama and the Arts

Play of the Week titles for February include:

February 12th—**Growing Old Disgracefully**—Oliver Wymark's play about loss, love, and learning to live again.

February 19th—**Your Ashen Hair Shulamit**—Bernard Kops' play is inspired by the poetry of Paul Celan, a major 20th century German-Jewish poet, and features a

central character, Sarah Harris, who interviews elderly World War II survivors. Her relationship with one man challenges her professional and personal lives.

February 26th—**Secret Window, Secret Garden**—this adaptation of a Stephen King novel is about a successful author accused of plagiarism and its consequential terrifying effects. Running time is 90 minutes.

Sundays 1515, beginning February 6th, and repeated Fridays 0630, beginning February 11th: **Short Story** returns with stories penned by writers from various countries. February's features include *Small Creatures*, by Rory Kilalea of Zimbabwe; *The Good Samaritan*, by Christian Isaac of Sierra Leone; *It's About A Dog*, by S. S. Barrie of France, and *An Introduction* by Hahnaz Malik of Pakistan.

Tuesdays through Saturdays, 0445: Many folks drift off to sleep with the readings of **Off The Shelf**. February books feature *Headlong*, Michael Frayn's novel, from February 8th through the 19th, and Seamus Heaney's acclaimed new translation of *Beowulf*, the Anglo-Saxon epic poem written sometime between the 7th and 10th centuries, beginning February 22nd.

Popular Music and Youth

Thursdays, 0530 and 2230, beginning February 24th: **R&B With DJ EF** is a new six-part 30-minute music series focusing on classic R&B and hosted by Estelle Bingham. About one-third of each week's show will be celebrity interviews. Ms. Bingham previously contributed to **The Edge** on the World Service, and also has worked on the **Megamix** series.

Classical Music

Sunday, February 20th, 1601: The **Millennium Concert** is from Rio de Janeiro this month; Elza Soares, Brazil's Queen of Samba, is the featured artist. Soares' singing has retained wide appeal over four decades. The concert also celebrates the 500th anniversary of Brazil's founding.

Sundays, except February 20th, 1601:

Concert Hall presents the Viderunt Project, a commissioning of young composers to write short pieces based on the 12th century *Viderunt omnes*, often considered one of the key works that define European music. The most distinctive of the 26 contributions is featured this month.

Religion

Saturdays, beginning February 5th, 0430; repeated Mondays 1515: **Parting Gifts** is a six-part 15-minute series with members of many faiths describing how they would like their families to live after their death. These people describe their beliefs, ideas, and customs they'd like their family to carry on afterwards. Kind of an "ethical will", as *BBC On Air* magazine describes it.

Wednesdays, 0430, and Fridays, 1515: **Creation Myths: Earth, Air, Fire and Water** is a nine-part 15-minute series looking at creation stories from various world religions. Rosemary Hartill looks at a variety of creation stories, and analyzes what they have to say about the origin of life, the relationships between humans and animals, and the inevitability of death.

Winter SWL Festival

As you have probably seen elsewhere in the Journal, John Figliozzi and I have agreed to co-chair the Winter SWL Festival for NASWA. We plan to co-host a forum session on program listening, and we'd appreciate any ideas you might have for program topics, issues, ideas, or other fodder for a discussion on programming. Please drop me a note to let us know what you're interested in hearing about, especially if it's something we haven't covered in recent years.

SWL Program Guide Overflow

Last month, John filled in for me with his *SWL Program Guide—Winter 1999–2000 Edition*. Unfortunately, a couple of items had to be cut for space reasons, so we're presenting them this month:

Voice of Vietnam 5940

0100 D News; 0105 D Current Affairs; 0110 Su Weekly Review, M Sunday Show, Tu-Sa Press Review; 0115 Su Music, Tu Vietnam Land and People, W Culture and Society, Th Talk of the Week, F Vietnam Economy, Sa Rural Vietnam; 0120 Th Letterbox, Sa Literature and Arts. [Ends at 0130.]

0230-0300 (as 0100-0130.)

YLE Radio Finland 9655, 11665

0300 D News; 0305 Su Capital Cafe, Sa Week in Review; 0308 M Weekend Finland, Tu Economic Report, W Environment Report, Th Culture Report, F Profiles in Finnish History; 0315 F/Sa Starting Finnish; 0323 M Nuntii Latini; Tu-Sa Finnish Press Review.

Member response to John's column last month was positive (see this month's *Musings* column for an example), so you can expect to see it in the future as a twice-yearly column in the NASWA Journal, in addition to *Easy Listening*.

Internet Mailing List on Shortwave Programming

We've had several interesting threads in our shortwave programming/international broadcasting discussion group, and it's not too late to join in the two-way dialogue. If you're interested in advance program information that comes in too close to air dates to be used here, or are interested in this two-way programming discussion, check out the *swprograms* E-mail reflector. You can easily subscribe in one of two ways: 1) Visit the URL <http://www.topica.com/lists/swprograms>; or, 2) Send a blank E-mail to swprograms-subscribe@topica.com.

Until next month,

73 DE Richard



Listener's Library

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Well I hope everyone is making their calls to the Kulpville Holiday Inn to join in the fun at this year's Winterfest. Further details and information can be found in another place within the Journal.

Each new year brings us a new edition of :

PASSPORT TO WORLDBAND RADIO 2000 Edition

Lawrence Magne Editor in Chief

592 pages

\$19.95

ISBN 0-914941-45-3

International Broadcast Services, Ltd.

Box 300

Penn's Park, PA 18943

<http://www.passband.com>

I sometimes wonder what is left for me to say about *Passport* other than buy it because you really need it to do this hobby right. But each year Larry Magne and his minions come up with new ideas and information worth noting here in *Listener's Library*.

One of the things that Larry really doesn't get enough credit for is *Passport's* ability to bring new people into the hobby. To some degree, *Passport* has always had enough introductory information that a person could take it down from a bookstore shelf and go home and enjoy shortwave listening. Oh they'd need to get their hands on a shortwave receiver but all the information needed for this can be found in each edition of *Passport* as well. This latest edition's "Complete Idiot's Guide to Getting Started" could be distributed as a separate pamphlet to get folks hooked on our hobby. For those of us who are already well involved in the shortwave world, these pages could be used to explain our obsession to spouses, significant others, bosses who wonder why you wander in an hour late and all bleary eyed.

This year's edition includes a series of fine feature articles authored by Manosij Guha that concentrate on the Central Asian radio,

especially in the areas of Afganistan, Tajikistan, Uzbekistan, Kyrgystan and Kazakstan. Personally I have not been a big Central Asian DXer but these articles have me tuning around with aroused interest. The socio-political and religious issues of this region bear watching. One of the greatest things about our hobby is that when folks at our jobs begin to talk about a news event, chances are we have already been following it. Much of our ability to do this in part thanks to books such as *Passport to Worldband Radio*.

This years reviews of portable and desktop receivers continues in the high standards of years past. There appears to be a growing trend toward vest pocket sized shortwave rigs. Also there is a breakout section for what *Passport* calls "Portatop" receivers such as the Drake SW8 and the Lowe HF-150. Another great feature is the first large scale coverage of the "black box" PC controlled receivers. This is a growing market and innovations in both the areas of hardware and software are worth following by any serious enthusiast. Also examined is the growing market of "Emergency" radios, many with alternative power sources. I was also pleased to see coverage given to the Ten-Tec Model 1254 kit receiver. Home built receivers may be wanting in some levels of performance but it is still fun to put something together and have it work when you are done. Larry and his staff help sort out style and substance on every class of receiver that a new or experienced listener might be interested in so the reader can make an intelligent purchase.

Next comes the section of the book I probably use most throughout the year. "What's On Tonight" is truly a shortwave hobbyist's "TV Guide". *Passport's* selections point the listener to programming that is always a cut above the average. This, along with the "Worldwide Broadcasts in English" section will provide any listeners with hours of fun and entertainment.

If you enjoy the QSL game you will find this year's "Address Plus" section to be very comprehensive with many good tips and suggestions. There is a section on "Tips for Effective Correspondence" that helps the reader learn how to use proper international etiquette when writing to station.

Finally, we come to one of the best tools a DXer can have, the *Passport* "Blue Pages". Every year one of the first things I do when I get my new *Passport* is to go through the Blue Pages working out my "Hit List" for those countries that I want to add to my log. The Blue Pages are also a great tool for trying to ascertain what a signal might be during a band scan or random tuning.

Now we come to my favorite part of my annual *Passport* review. By long standing tradition I go misogynist for a few brief moments (when my spouse is out of the room) to pick *Passport's* Prettiest Person for the 2000 edition. This edition bought about a number of problems. Given the heavy coverage of the political issues surrounding radio in Central Asia there was an overabundance of pictures of bearded men. Further, there was a noticeable paucity of redheads among the females shown throughout *Passport's* pages. This again can be attributed to the Asian angle of this edition I think. Still, I am a man of duty. Page 61 has a wonderful picture of Deutsche Welle's "Inside Europe" producer Helen Seeny. In the absence of red hair I'll go for blue eyes every time!!!

Regardless of if you are a beginner or an expert in the shortwave hobby, your use of *Passport* and all your other resources is going to improve significantly if you pay a certain amount of attention to your antenna system. Our brothers and sisters in the amateur radio community put a lot of thought into effective antennas and the listening community can always take this information to it's own purposes.

73 VERTICAL, BEAM AND TRIANGLE ANTENNAS

by Edward M. Noll W3FQJ

159 pages

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MFJ Enterprises continues to do a great service to the radio hobby by republishing key radio books that have gone out of print. Ed Noll's classic 1970 antenna design book is now back in the hands of experimenters everywhere. Ed Noll know more ways to string wire than anybody I have ever run across. Regardless of the size or shape of the piece of real estate you have access to for antenna projects, this book has a number of excellent antenna strategies. One of the books major themes is that wire antennas can be configured for directionality. For anyone trying to grab a rare signal from the other side of the planet, putting up the right configuration of wire can make all the difference. Also, quad or triangle loop antennas structures can cut down on noise to help you pull in those really weak signals that barely come up above the noise floor. Another interesting design idea for somebody who really wants to point there antennas toward the DX is the use of phasing principals to get a number of antennas to zero in on those hard to hear stations. While these designs are a bit more complex, the ability to steer your signal capturing is amazing.

Ed's specialty throughout all of his antenna books is to get the most bang for the buck. All of Ed's designs require common inexpensive materials available from most any home center or hardware store. Why spend hundreds of dollars on an antenna system when you can obtain similar performance from a few dollars worth of well strung wire? Along the way Ed go into great detail explaining the how and whys of his designs. This is always done in a very readable way.

Ed also includes a number of design's for antenna tuners. While these are of primary interest to those of us who also like to transmit as well as receive, study of these designs can further the readers overall understanding of antenna theory.

Ed Noll's classic book would make an excellent addition to any serious antenna experimenter's bookshelf.



Shortwave Center

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Early Radio Astronomy: The Ham Radio Connection

By Dave Finley, N1IRZ, National Radio Observatory, Socorro, NM

Editor's Note: This material was provided to SWC by George Glotzbach, Santa Fe, NM, via Fred Kohlbrenner.

Radio Astronomy is a direct descendent of Amateur ("ham") radio.

Following Guglielmo Marconi's successful transatlantic communication in 1901, commercial use of radio mushroomed. Ships were equipped with radio, huge commercial stations were set up to handle intercontinental messages after the fashion of the telegraph companies, and many other uses were found for the new technology.

In those days, it was thought that the only really useful frequencies for long-range communication were the very long wavelengths (i.e. very low frequencies). Thus, when the first government regulations were imposed on radio in 1912, the amateur operators ("hams"), whose interest in radio was personal and experimental, rather than commercial, got the short end of the stick. They were given the use of wavelengths of 200 meters and shorter—roughly the frequencies above the current AM broadcast band. These were generally thought useless for long-range communication. The wavelength restrictions were rather loosely enforced prior to U.S. entry into WWI in 1917, when all amateur and other non-government use of radio was shut down. When amateur operations resumed in 1919, it was much more imperative to abide by the rules, so the hams had to find out just what they could do with the shortwaves. Starting in 1921, amateurs made concerted, organized efforts to communicate across the Atlantic with short-

waves. In December of 1921, an amateur station in Connecticut was heard by an American amateur sent to Scotland with state-of-the-art receiving equipment. On November 27, 1923, amateurs in the U.S. and France made the first transatlantic two-way contacts on shortwave frequencies. In the following two months, 13 European and 17 American amateur stations had made two-way transatlantic shortwave contacts. Within a year, amateurs had communicated between North and South America, South America and New Zealand, North America and New Zealand, and London and New Zealand.

These accomplishments proved beyond a doubt that ionospheric refraction could enable world-wide communication by shortwave radio (*Editor's Note: And led to our current hobby*). Further amateur experiments showed that, by using a variety of frequencies in the shortwave region (3-30 MHz), long-range communication could be maintained both day and night. In addition, the shortwave communications were accomplished with transmitters on only modest power, unlike the giant, many-kilowatt transmitters needed for long-range communication at the lower frequencies.

Naturally, once the hams showed the value of shortwave radio, many commercial firms became interested. One of these commercial interests was the telephone company, which thought that shortwave links might be used to carry intercontinental telephone calls, saving the expense of laying cable on the ocean floor. However, as any ham or shortwave listener today knows, shortwave communication is subject to much noise and static. The telephone company sought to identify and find ways to mitigate the noise.

At AT&T Bell Labs in Holmdel, New Jersey, a young radio engineer named Karl Jansky was given the task of identifying the sources of shortwave noise. He built a highly directional antenna to work at about 22 MHz, and began to make systematic observations. Most of the noise he found was due to thunderstorms and other terrestrial causes. However, he found one source of static that seemed to appear four minutes earlier everyday. As most amateur astronomers know, that is a telltale sign of something beyond the Earth. Indeed, what Jansky had found was radio noise emitted from the center of our own Milky Way Galaxy. He discovered this in 1932 and announced it in 1933. His announcement was reported on the front page of the *New York Times* on May 5, 1933.

To most professional astronomers, Jansky's discovery was a mere curiosity, and they did not follow up on it. In Wheaton, Illinois, the news eventually reached Grote Reber, another radio engineer who was an avid ham operator. Reber had spent much time making long-distance contacts on the amateur shortwave bands. He had "worked" all continents and 60 foreign countries. In those days, that was quite an achievement, and it left Reber thinking, as he later wrote, "that there were no more worlds to conquer." When he read of Jansky's discovery, he found some more worlds.

In 1937, Reber built his own 32-foot diameter parabolic dish antenna in his backyard, to seek cosmic radio emissions. In an era when artificial satellites were only a dream and television had not yet emerged from the laboratory, this antenna drew amazed remarks from his neighbors.

An avid VHF/UHF experimenter, Reber worked with equipment that then was pushing the envelope of high-frequency performance. In the spring of 1939, he was able to detect cosmic radio emissions with his equipment. In 1941, he made his first survey of the sky at radio wavelengths. Reber's radio astronomy work continued for a number of years, and his results were published in the *Proceedings of the Institute of Radio Engineers*, the *Astro-*

physical Journal, *Nature*, and the *Journal of Geophysical Research*.

As the world's second radio astronomer, Grote Reber laid the groundwork for the achievements that would follow. After WWII, the great advances in microwave technology that had produced radar became available to astronomers, who began to seriously pursue radio observations.

Today, Reber lives in Tasmania, still experimenting with radio astronomy. His original parabolic dish antenna now resides on the grounds of the National Radio Astronomy Observatory at Green Bank, West Virginia, along a full-scale replica of Jansky's antenna.

Thus, the accidental discovery of cosmic radio emissions was a direct result of radio amateur's success in developing shortwave communications. Then, for several years after this original discovery, the only person following up with systematic and well-designed radio astronomy observations was a radio amateur.

Today, the connection between radio astronomy and amateur radio remains strong.

(Editor's Note: Over the Thanksgiving 1999 weekend, I took a trip to New Mexico and stopped to visit the Very Large Array on the Plains of San Agustin. The VLA can be easily reached by taking U.S. 60 west from Socorro, New Mexico. The Plains of San Agustin are covered by yellow grass (in the dry season) sans trees. The plains are an old inter-montaine lake basin filled with clayey sediments. The local trees don't like the soil there, so grass predominates. The VLA consists of 27 individual parabolic dishes, each 25 metres across, spread out in a Y shaped pattern over several kilometers. The antennas can be moved by a crane on rails into several configurations. There is a very nice visitor's center and one can visit the assembly building where the antennas are taken for maintenance. {there is a spare 28th antenna so one is always in the shop} These antennas are not exactly tiny things, each weighs 230 tons. Numerous,

permanently installed concrete bases, each with complete power and wave guide connections, allow the antennas to be moved into four standard configurations with spacings

from 1 km to 36 km. This place is worth going to on any trip to the southwest. The following information was obtained from the VLA Visitor's Center.

Very Large Array

The Very Large Array Telescope is located about 50 miles west of Socorro, NM on U.S. Highway 60. The VLA is one instrument of the National Radio Astronomy Observatory (NRAO), a facility of the National Science Foundation. The VLA is operated by Associated Universities, Inc., under a cooperative agreement with NSF.

Radio astronomy depends upon receiving extremely weak naturally-generated radio-frequency signals from celestial objects. The signals detected by the VLA and other radio telescopes are millions or even billions of times weaker than those used for communications systems. For example, a 100 mW transmitter, such as that used to control toy cars, if placed on the moon would produce a signal on Earth that would be considered quite strong by radio astronomers.

Frequency Bands

The following bands are utilized for radio astronomy observations:

72-74 MHz	400 cm
300-340 MHz	90 cm
1.37-1.73 GHz	20 cm
4.3-5.1 GHz	6 cm
7.6-9.0 GHz	3.6 cm
14.3-15.7 GHz	2 cm
21.7-24.5 GHz	1.3 cm
40-50 GHz	7 mm

Resolution

The VLA's resolution varies with the array's configuration and with the wavelength being observed. The larger configurations provide greater resolution than the smaller ones and the shorter wavelengths provide greater resolution than the longer wavelengths. (There are some great images on the Web site mentioned below demonstrating

this.) Depending on frequency, each antenna's beam size ranges from 10 degrees of arc to 2 minutes of arc. The width of the synthesized beam using the entire array ranges from 25 seconds of arc to 0.08 second of arc.

Users and their Research

The VLA is used by scientists from around the world whose research spans an extremely wide range of areas. *The Economist* magazine described the VLA as "one of the most productive observatories of the past decade." Though the VLA operates 24 hours a day, seven days a week, there are more requests for its use than can be filled. Astronomers who wish to use the VLA submit proposals outlining their research projects. Observing time on the VLA is awarded to proposers based on scientific merit of the projects and their ability to effectively use the VLA's capabilities.

Research Projects pursued using the VLA cover the range of objects found in the Universe. VLA observations can yield valuable information about our own Earth as a planet and about quasars, the most distant bodies in the Universe, billions of light years distant. Between these extremes, the VLA is used by solar physicists to study the sun, by planetary scientists to study other planets in our solar system, and by astronomers studying "neighbor" stars in our Milky Way galaxy. Astronomers also use the VLA to study the mysterious inner portion of the Milky Way, giant gas clouds where new stars are forming, and galaxies from a few million light-years to several billion light-years away.

The VLA was used to receive faint radio signals from the Voyager spacecraft as it passed Neptune in 1989. In 1995, the VLA received signals from the Galileo probe as it

plunged into Jupiter's atmosphere. Although the VLA is a purely a passive receiving system with no transmitters of its own, it is regularly used as a receiver for experiments in planetary radar astronomy. These experiments use powerful transmitters in California to send signals to planets, moons, comets and asteroids, then receive the reflected radio waves at the VLA to provide new information about these bodies. Radar astronomy projects using the VLA have revealed new details of objects, including Mercury, the closest planet to the sun, and Saturn's moon Titan, nearly a billion miles from Earth.

Radio Astronomy and Interference

Radio Astronomy is the study of distant objects in the universe by collecting and analyzing the radio waves naturally emitted by those objects. Though radio astronomy is little more than a half-century old, it has been a major factor in revolutionizing our concepts of the universe and how it works. Radio observations have provided a whole new outlook on objects we already knew, such as galaxies, while revealing exciting objects such as pulsars and quasars that had been completely unexpected. Radio telescopes today are among the most powerful tools available for astronomers studying nearly every type of object known in the universe.

Radio signals arriving on earth from astronomical sources are extremely weak. Because the cosmic radio sources are so weak, they are easily masked by man-made interference. Possibly even worse than complete masking, weaker interfering signals can contaminate the data collected by radio telescopes, potentially leading astronomers to erroneous interpretations.

A number of frequency bands are allocated to radio astronomy by international agreement. Radio transmissions are prohibited in some of these bands and restricted to a varying extent in others, but this type of regulation does not prevent an increasing amount of interference to important radio astronomy programs. Much interference

comes from transmitters emitting spurious or harmonic signals outside the band allocated to their own radio service. This type of interference is particularly troublesome for radio astronomy when it comes from satellites. An increasing number of low power transmitters are being used in devices such as garage door openers, wireless computer networks, home security systems, and others. Many of these are quite capable of interfering with radio astronomy. In addition, many types of equipment not normally considered to be radio transmitters, particularly computers or systems incorporating microprocessors, emit undesirable radio signals.

In addition, radio astronomers often seek to detect frequencies that indicate the presence of particular elements or molecules. These frequencies, called spectral lines, often either fall outside of the bands allocated to radio astronomy or are Doppler shifted out of those bands by the large relative velocities resulting from the expansion of the universe.

Radio astronomers constantly seek to minimize the effect of interfering signals on their observations. A wide variety of techniques are used, ranging from locating radio telescopes away from urban centers whenever possible to designing a new generation of antennas less susceptible to sidelobe interference. Still, there are many ways that other users of the radio spectrum can help.

First, transmitters of all types should incorporate methods to prevent out-of-band signals such as spurious sidebands or harmonics. This is particularly important for transmitters aboard satellites. Systems using spread spectrum techniques should exercise care to prevent spurious sidebands. The amount of filtering required to prevent interference to radio astronomy frequently is considerably greater than that ordinarily used to prevent same-service interference.

Near radio astronomy facilities, shielding of many types of electronic equipment, particularly computers, can prevent much in-

terference. Finally, communication between radio astronomers and other users of the radio spectrum is vital. Engineers at radio telescope facilities often can help with suggestions for ways to minimize interference. If, for some reason, interference is inevitable, astronomers would like to know when it will be transmitted so they may avoid its effects to the extent possible.

The NRAO web page is at:

<<http://www.nrao.edu>>

Tourist information, Fundamentals of Radio Astronomy, and Press Releases about results of research are available (*including great images*). The AstroWeb link will lead to numerous Web resources on astronomy.

Some published articles of interest:

Kellermann, K. I., "Radio Astronomy in the 21st Century," *Sky & Telescope*, February 1997, p. 26-33

Gordon, M. A., "VLBA—A continent-Size Radio Telescope," *Sky & Telescope*, June 1985, p. 487-490.

Kellerman, K.I., and A. R. Thompson, "The very Long Baseline Array," *Scientific American*, January 1988, p. 54-63.

Thompson, A. R., and others, "Interference and Radioastronomy," *Physics Today*, November 1991, p. 41-49.

Other NRAO Sites

Administrative headquarters for NRAO are at Charlottesville, Virginia. The principal telescope sites are at Green Bank, West Virginia, Socorro, New Mexico, and Kitt Peak, Arizona. Visitor's centers for tourists are maintained at Green Bank (where Reber's and Jansky's antennas are on display) and at the VLA in New Mexico described previously. A 12 meter diameter millimeter wave length antenna is operated at Kitt Peak and can be viewed on a walking tour. Kitt Peak is also home of a major optical telescope. Check the web sites for more information.

Very Long Baseline Array (VLBA)

At the risk of boring the reader to death with radio astronomy stuff, there is another radio astronomy concept you need to be aware of because of its power of resolution of celestial radio sources. The following is taken from the NRAO website and was originally produced by Dave Finley, Public Information Officer.

The VLBA is a continent-wide radio telescope system offering the greatest resolving power of any astronomical instrument today. Also operated by the National Science Foundation, VLBA is a system of ten identical radio-telescope antennas controlled from a common headquarters and working together as a single instrument. The radio signals received by each individual antenna contribute part of the information used to produce images of celestial objects with hundreds of times more detail than Hubble Space Telescope images.

The system was completed in 1993 and has produced dramatic new information in these areas:

Stars: With the VLBA, astronomers have tracked gas motions in the atmosphere of a star other than the sun for the first time; made the first maps of the magnetic fields of a star other than the sun; and studied the violent dances of double-star pairs in which one of the stars is a superdense neutron star or a black hole.

Starbirth: The VLBA has provided scientists with some of the best views yet of very young stars and the complex regions in which they were born. VLBA images have shown outflows of gas from young stars and disks of material orbiting these new stars-material that later may form planetary systems.

Supernovae: The VLBA has directly measured the expansion of a shell of exploded debris from the supernova SN 1993J, in the galaxy M81, some 11 million light years from Earth. This has allowed scientist to learn new details about the explosion itself and its surroundings as well as calculate the distance to the supernova by using the VLBA data in conjunction with information from optical telescopes. VLBA images have shown regions of shocked gas in supernova remnants.

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.....

The Milky Way: Radio waves from extragalactic objects, such as quasars, are affected by variations in the interstellar medium of the Milky Way Galaxy. By measuring these effects with the VLBA, scientists are gaining valuable information about this tenuous component of our own Galaxy. Similar studies can tell about the distribution of hydrogen gas in our Galaxy. The great resolving power of the VLBA will allow astronomers to directly measure the distance to the galactic center, some 30,000 light years away, and has detected the tiny apparent shift in its position caused by our solar system's motion around that center. The solar system takes more than 200 million years to complete an orbit of the Galaxy's center, but the VLBA can detect that motion in less than a month!

Other Galaxies: The sharp resolution of the VLBA at radio frequencies has allowed scientists to study other galaxies in unprecedented detail. Numerous VLBA studies have focused on active galactic nuclei - the "monsters" at the hearts of many galaxies thought to harbor supermassive black holes at their cores. The black hole is thought to be sur-

rounded by a rotating disk of material being sucked into it, and jets of subatomic particles accelerated to nearly the speed of light by the gravitational energy of the black hole. VLBA studies have given strong support to this "standard model" of an active galactic nucleus, showing the accretion disk in several such systems, and even measuring the motions of one such disk. VLBA observations also have provided strong evidence that the material in the jets may be a mixture of matter and antimatter.

Cosmology: The VLBA's resolving power has allowed the farthest direct distance measurements yet made, of galaxies up to 23 million light years away. Farther still, the VLBA is being used to study gravitational lenses in attempts to use such lens systems to accurately measure extremely great distances, and thus refine estimates of the size and age of the universe. VLBA observations also are being used to detect possible structure in extremely distant objects, to learn about the nature of the universe when it was but a fraction of its current age.

The VLBA is operated from the NRAO Array Operations Center in Socorro, NM. VLBA antennas are located at St. Croix, USVI; Hancock, NH; North Liberty, IA; Fort Davis, TX; Los Alamos, NM; Pie Town, NM; Kitt Peak, AZ; Owens Valley, CA; Brewster, WA; and Mauna Kea, HI.

The antennas are 25 meter dish antennas, each weighing 240 tons. They are equipped with receivers capable of detecting signals at frequencies ranging from 300 MHz to 86 GHz in non-continuous bands. During observations, data is collected at each station and loaded on magnetic tape. A special purpose super computer at Socorro then processes the tapes and builds composite radio images of the observed objects from the individual stations' data. The resolution gained by the great distance between receiving stations is less than a thousandth of a second of arc. Such resolution is equivalent of standing in New York and reading a newspaper in Los Angeles. The VLBA also works in concert with radio telescopes around the world and in space. For more information see the VLBA web site.

 VLBA

Technical Topics

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Collaborative Receiver Design The RX320 Saga

Hello Dolly

Sevierville Tennessee is famous for three things. One is TenTec. Two are country music legend Dolly Parton. TenTec is the only full-line manufacturer of ham radio equipment and short-wave receivers remaining in the United States. Like Dolly Parton, TenTec often pleasantly surprises us with capabilities that are not immediately obvious at first glance.

Rave Reviews

Back in December 1988, Alan Johnson reviewed the new TenTec RX-320 receiver in the NASWA Journal. Alan's review introduced NASWA members to a first class radio. While it had no knobs or display, it sold at a price below that of some portable radios. If you have never read that review, I encourage you to go back and read it now. If you are new to NASWA, and you have Internet access, you can read the review on the NASWA web site at: <http://www.anarc.org/naswa/issues/1298/equip1298.html>. This page also has a link to an independent review for Radio Netherlands by NASWA member Tom Sundstrom. If that doesn't do it for you, check out the year 2000 issue of *Passport To World Band Radio* for a review by NASWA member Chuck Rippel and Dave Zantow.

All these reviews were very positive. Chuck recently wrote that he ran a side-by-side comparison with a Watkins-Johnson HF-1000A receiver. Here is what he said, "I continue to be amazed at the performance of this receiver. It will literally hear about 80% of what my WJ HF-1000A will....I used it yesterday evening and logged CPBS-1 in China on 4.850 during their sunrise grayline."

The HF-1000 is considered by most hard-core DXers to be the ultimate in modern receiver

design. It should be at a sticker price of nearly \$4000. The RX-320 achieves a performance level of 80% of the WJ (in Chuck's opinion) for a price under \$300. Anyway you look at it, the RX-320 by TenTec is a first class radio for an entry-level price.

Open Architecture—A Key to Success

The folks at TenTec took a page from IBM's playbook. When IBM developed the Personal Computer (PC), they decided to use an open architecture. Anyone was welcome to develop improvements to the hardware and software. Anyone was welcome to manufacture compatible computers whose guts could be interchanged and upgraded to achieve the desired level of enhanced performance. The availability of alternative manufacturers and upgrades led to the popularity of the PC over its earlier era competition. Soon Atari, Commodore, Wang, and even Apple were hanging on by their fingernails while the PC manufacturers were scrambling to keep up with demand.

TenTec designed the RX-320 to work with the ubiquitous PC as a control and display device. This approach saved parts and reduced the size and cost of the radio. But the real kicker is that they decided to make their version of the control software freely available to anyone who wanted to improve on their basic design. The upgrades are now nearing a state of maturity that gives the RX-320 a flexibility exceeding most off-the-shelf radios.

The Internet Facilitates Design

Best of all, the better enhancements have been developed by hams and short-wave listeners who know what they want in performance. In an excellent example of how

the Internet can be used for collaborative efforts by people all over the world, SWLs are working together to improve both the hardware and software. Some of them are sharing their work freely with anyone who wants to use it.

Better Software

Foremost among the free software upgrades is a program written by Clifton Turner. By using the Internet, listeners have given Clifton their wish lists. "Make it do this." "It sure would be nice if it could do that." Clifton has diligently worked to meet their needs. Chuck Rippel recently wrote, "Clifton's software really helps put the 'icing on the RX-320 cake....' I installed the latest version along with the database yesterday. Clifton has indeed done an excellent job with his software effort. I only wish we had this version in hand when Dave Zantow and I wrote the Passport 2000 review. We will hopefully revisit this issue in Passport 2001."

Turner's software provides features only found on the most expensive stand-alone receivers. For instance, the software can compensate for non-linearity in the receiver tuning to provide frequency accuracy within a few Hertz after calibration. You can download the latest version of his free software at URL: <http://members.tripod.com/kf5oj/>. The site also has the latest version of the ILG database in a form that can be used by the software.

Brian Denley tells us about a new commercial program. "DXtra has announced their soon-to-be-released Java version of WorldStation for Win95/98/NT. This is a commercial control program for the RX-320 with sophisticated graphics, functions and database capabilities. You can see more details of this program on the DXtra website at: <http://www.dxtra.com>.

Better Hardware

A computer can be a nasty noise source. Here again SWLs have answered the call. Alan Matheson in New Zealand says, "I have installed an RX-320 20 metres away from my

computer using polymer fibre optic (cable) to totally eliminate electrical connections between the computer and receiver. Result has been a 25-30 dB decrease in computer generated noise level compared to having the receiver near the computer and coupled with shielded serial cable, and about 15-20 dB improvement over the receiver 20 metres away and connected by shielded copper serial cable. Most improvement was between 1 and 15 MHz."

No Computer Needed

Dave Pearson has developed an accessory to help use the RX-320 on a DXpedition. Dave says, "I have a kit... that will control the RX-320 without a computer. The software can be very easily adapted to provide both a keypad and knob interface to the PC based program. A description and pictures are at: <http://www.members.home.net/skytron/>. I've been using my prototype unit for the last 2 weeks and it's amazing how much better the whip antenna works with no computers generating noise. I added a function that allows you to use the knob to scan through the stored stations.... The microprocessor software can be updated in two ways...it can be removed from it's socket and replaced (or) a programmer will allow you to download the latest code from my website and program it yourself, without removing the chip. ...I will also bundle this programmer in the kit as an option. The schematic, PCB layout and program code for the programmer will be on my website for free download."

Open architecture was a brilliant marketing decision that enabled the PC to succeed where others had failed. TenTec may have a similar tiger by the tail with their open architecture software for the RX-320. And their sync detector is still to come. You can track progress and confer with those on the leading edge of this ad hoc development team via the RX-320 e-mail reflector. Send your blank e-mail to:

RX320-subscribe@ONElist.com.

Until next time, stay tuned.



Listener's Notebook

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AFGHANISTAN Kabul noted Dec 29 (and subsequent days) on 1107 during local evening, including regular English slot at 1500-1515 including talk on Islam and Islamic-style choruses sung in English by male voices—lyrics such as “(indistinct) *Afghanistan, your holy religion is Islam, your constitution is Koran,*” closing at 1515 with announcement to effect: “*thanks for listening, see you again at same time tomorrow*” followed by ID in unknown lang including phrase “Kabul, Afghanistan.”

Unfortunately signal always fades under co-channel Indian station when an English ID should be audible at top of hour, so I'm not sure exactly what they call themselves now. No trace of them on 7200 which is dominated by VOIRI Teheran at that time. There is a strong and distorted signal audible here at 0515-0600/0645v on 7199.5v, but I've no idea whether it's them—working on it. (2-Jan/Davies-IND/BC-DX/Bueschel-GER)

ANGOLA 3375 & 7245 *Radio Nacional de Angola*—Luanda 2350, music program 2358 ID in English, French and Portuguese as “*This is Luanda National Radio of Angola*” 0000 time pips and news in Portuguese by woman. 3375 poor and fair on 7245. (19-Jan/Vaghjee-MAU/BC-DX/Bueschel-GER)

Radio Nacional de Angola is to have a modern transmitter in Feb 2000. RNA Dir-Gen Rabelaes says the transmitter will replace the existing SW transmitter at Mulenvos. (BBCM/DX Listening Digest/Hauser-OK/BC-DX/Bueschel-GER)

ARMENIA New schedule for *Voice of Armenia* in English: 0940-1000 Sun 15240; 2055-2115 Mon-Sat on 4810, 9965. (2-Jan/Southwell-UK/DX LISTENING DIGEST/BC-DX/Bueschel-GER)

BANGLADESH 7184 and 9558 *Bangladesh Betar* Dhaka, 1921-1929, booming in on both freqs. ID given by female right at tune-in, followed by what I presume was the news. Another ID at 1927. 54544 for 7184, with only a little more QRM on 9558. (23-Jan/Veldhuis-HOL/BC-DX/Bueschel-GER)

BELARUS 3346.00 *Mayak* 0317 presumed Belarusian, with popular music interspersed by man and woman talking. Interval signal given twice at 0329, followed by woman apparently reading the news. Signal was poor, hampered by intermittent CW and static crashes. (30-Dec/Fine-VA)

BENIN 7200 *Radiodiffusion du Benin* 2305-2329 West African music interspersed with messages and greetings from DJ in French, 2320 “*emettant du Cotonou,*” also heard “*Radiodiffusion Nationale*” and “*RT du Benin*” as he wound the transmission down. 2328 national anthem and off. (22-Jan/Barracough-UK/BC-DX/Bueschel-GER)

BHUTAN BBS Thimpu since December is following this sked:

0400-0900	Dzongkha	6035 Su
0600-0900	Dzongkha	6035 Sa
0800-1115	Dzongkha	5030 Mo-Fr
0900-1000	Nepali	6035 Sa/Su
1000-1100	English	6035 Sa/Su
1115-1200	Nepali	5030 Mo-Fr
1200-1300	English	5030 Mo-Fr

(das Gupta-IND)

BOLIVIA 4802v *Radio Mamore*, Guayaramerin, 0034 “*Estan en sintonia de CP 147, Radiodifusora Mamor, transmitiendo en los 4815 kilociclos, en la banda de 60 metros, desde Guayaramerin, en la Republica de Bolivia*” (26-Dec/Fontenelle-BOL/Hauser-OK)

4766.5 *Radio Constelacion*, Guanay, 1050, “*Desde Guanay, capital de la 2o seccion de la provincia Larecaja, del Departamento de La Paz, Radio Constelacion Guanay en Sintonia,*” “*Esperamos en la Calle Boston de Guanay, Nr. 123, y atendemos llamadas al telefono 0811-6296 con Casilla de Correo en La Paz 15012*” (An employee of the station gave me something completely different on the phone) (25-Dec/Fontenelle-BOL/Hauser-OK)

4796.44 *Radio Mallku*, Uyuni; was heard at 1003-1008 fair. After playing a nice Bolivian huayno, the canned identification was given as follows: “*Desde el salar de Uyuni y para todo el sudeste potosino, transmite Radio Mallku en la frecuencia de 4795 kc banda tropical de 60 metros onda corta.*” Note: The station which formerly identified itself Radio A.N.D.E.S. under the slogan “*la voz de los trabajadores campesinos,*” was established and operated by FRUTCAS “*Federacion Regional Unica de Trabajadores Campesinos del Altiplano Sud*” (the Unique Regional Federation of Peasants in the Southern Highland) which has members in five provinces in the Department of Potosi. The initials making up the station name stand for the first letter of the five provinces: Antonio Quijarro, Nor Li-

pez, Daniel Campos, Enrique Valdivieso and Sud Lipiz. According to the "Diccionario Quechua-Español" (published by the Municipality of Cusco, in 1995), the "Mallku" has two meanings: the Inca Divinity invoked by the Andean diviners; Varayoq del Aylu (the authority of the social organization in the Andes) nominated each year. It was symbolized by a totem of condor (kuntur), in the Inca civilization. According to the "Gramatica y Diccionario Aimara" 2th edition (published by Juan Enrique Ebbing; printed by Editorial "Don Bosco" in La Paz, Bolivia, in 1981), it is written as "Mallko" in Aymara and has two meanings: chief and condor. Consequently, Radio Mallku may be translated as "Radio Chief" which signified the peasants federation's chief being invoked by diviner, or "Radio Condor" which signified the authority of the peasants federation, symbolized by a condor. (31-Dec/TIN-JPN)

Radio Juan XXIII, San Ignacio de Velasco is now on 6055 [ex-4965 as planned], heard at 2300, but somewhat difficult with heterodynes. I don't know how well this will work in the target area. (20-Jan/Fontenelle-BOL/DX Clube Paulista/DX Listening Digest/Hauser-OK)

BRAZIL ZYE858 Radio Transmundial on new 11735v heard in Portuguese from *0705 w/sermon, low modulation. All ID's are for "Radio Transmundial Bonaire," no mention of Radio Nova Visao, the listed station name. New frequency is worse than old 11705v, last noted 24 Dec from 2300. (26-Dec/Behr-ON)

ZYE727 Radio Tupi de...?? Noted since August with this new ID, not Radio Universo, on 9565 and 6060. Haven't seen any reports of the new station name; anyone have a complete ID? (Behr-ON)

Here is some first-hand information I obtained about **Radio RGS** here in Porto Alegre. An official of the station told me on the phone: SW frequencies are 6160, 9550 and 11895. Programming is the same as Sistema Mundial LBV, from Rio de Janeiro. Some programs are produced here in Porto Alegre, as well as futebol games of the Gremio and International teams. Station is located at Avenida Sao Paulo No. 722, Bairro Sao Geraldo, Porto Alegre, Rio Grande do Sul, Brasil. Postal code: 90.230-160. Phone: (51) 337.6416. Station director: Paulo Cesar Rodrigues. Sistema LBV is a radio network which presents the lectures and preaching of journalist Jos de Paiva Netto, who is the worldwide director of the organization. LBV stands for Legiao da Boa Vontade (Good Will Legion). It is some kind of religious sect which preaches goodwill and help for the needy as a way of life. Their site is: <http://www.lbv.org> info@lbv.org (Romais-BRZ/Hauser-OK)

CAMBODIA National Radio of Cambodia External Service Station identification in Cambodian: "Vit-

thyu Cheat Kampuchea" (National Radio of Cambodia).

0015-0015	English	11940v
0015-0030	French	11940v
0030-0045	Thai	11940v
0045-0100	Lao	11940v
0100-0115	Vietnamese	11940v
1200-1215	English	11940v
1215-1230	French	11940v
1230-1245	Thai	11940v
1245-1300	Lao	11940v

(BBCM)

CANADA Deutsche Welle via Sackville noted on new 9765 (x9790), for English 0100-0145. (31-Dec/Padula-AUS/BC-DX/Bueschel-GER)

CHINA Xinjiang PBS switched to winter freqs. Chinese to 6100 from 7385. Kazakh to 4330 from 5440. Uighur to 5800 from 7195. Mongolian remains unchanged on 4980, 5060. (8-Jan/Alm-SWE/BC-DX/Bueschel-GER)

New schedule for **CNR-04**, the minorities language services; freqs in brackets are via relays:

0030-0127	Uighur	15670 11630 11375 10260
		[5800 see above and below]
0130-0227	Kazakh	15670 11630 11375 10260
1000-1057	Korean	9920 8566
1100-1157	Mongolian	5420 4190
1200-1257	Tibetan	12080 11740 9565 9390
		8566 (6200 6130 6110 5995
		5950 4820 4035)
1300-1357	Uighur	15670 11630 11375 10260
1400-1457	Kazakh	11630 10260 9390 8566
		(5440) [4330 see above]
1500-1557	Mongolian	11630 10260 9390 8566
		(4980) [5060 see above]
2130-2227	Korean	5420 4190
2230-2327	Mongolian	5420 4190
2330-0027	Tibetan	15670 12080 11710 11375

(12-Jan/Aoki-JPN/EDXP/Padula-AUS/BC-DX/Bueschel-GER)

Xinjiang PBS is heard here on 5800 during local night and early morning. Language is Uighur. They begin at 0000 and are still there at 0402. ID looks like "Sheen-Jan Khalyk Radiostantsi." Station announces some MW channels and SW 4735, 7195, 5800, 9595 and 3990, but is only audible here on 5800. (10-Jan/Mezin-RUS/HCDX/BC-DX/Bueschel-GER)

CRI heard on new 6020 (Beijing) with Polish 2000-2027; also heard on new 5970 (Beijing) (x5965) with German 1930-1957*.

CNR Taiwan service heard on new 6015, 1900-2100, Chinese langs. (10-11-Jan/Padula-AUS/EDXP/BC-DX/Bueschel-GER)

The below mentioned Xian transmitter was also exchanged on 7800 from 1730, now perfectly clean again after many months of disastrous audio. (20-Jan/Alm-SWE/BC-DX/Bueschel-GER)

RFI tested from a different transmitter at Xian on 11800 khz in English at 1400-1500 for few days in the first week of January to judge whether their 11610 transmitter causing het problem. Now this has been observed that Xian transmitter is faulty and now they are using a different transmitter and back on to 11610 kHz in English at 1400-1500 to South Asia. (das Gupta-IND)

CHINA—TAIWAN Radio Taipei International broadcasts in Chinese identify as "Taipei Guozi Zhesheng" (Taipei International Voice). Relays via WYFR (Florida) and Merlin (Skelton, UK)

0000-0100	Hakka	11745
0000-0100	Cantonese	5950 7520 9690 15440
0100-0200	Hakka	15345
0100-0200	Japanese	11745 15270
0100-0200	Cantonese	9690 11550
0115-0200	Mandarin	11825 15215WYFR
0200-0300	Amoy dialect	603 11550 11745 11915
0200-0300	Cantonese	9610 9690
0200-0300	English	5950WYFR 9680WYFR 11740WYFR 11825 15345
0200-0400	Hakka	7130
0300-0400	Amoy dialect	603 7130 11550 11915
0300-0400	English	5950WYFR 9680WYFR 11745 11825 15345
0300-0400	Cantonese	9690 11740
0400-0500	Cantonese	7285 9610 9690 11915 15270
0400-0500	Hakka	11745
0400-0500	Spanish	11740WYFR
0415-0500	Mandarin	5950WYFR 7130 9680WYFR 11825 15270 15345
0500-0600	Cantonese	5950 9680 11825 11915 15270 15345
0500-0600	Amoy dialect	603 11745
0600-0700	German	9355WYFR
0600-0700	Spanish	5950WYFR
0600-0700	Thai	15270 15345
0600-0700	Hakka	9610
0700-0800	English	5950WYFR
0700-0800	French	9355WYFR
0715-0800	Mandarin	7130
0800-0900	Indonesian	7130 11550 11915
0800-0900	Amoy dialect	747 11745
0800-0900	Japanese	9610
0900-1000	Hakka	1206 7285 15345
0900-1000	Cantonese	9690
0915-1000	Mandarin	7445 9610 11550 11745 11915
1000-1100	Amoy dialect	747 7130 11550 11745 15345

1000-1100	Mongolian	11905
1000-1100	Hakka	1206 11860 15345
1000-1100	Cantonese	7285 7445 9610 9690 11915 15270
1100-1200	Cantonese	9690 15270
1100-1200	Hakka	1206 11860 15345
1100-1200	Tibetan	11905
1100-1200	Indonesian	11550
1100-1200	Japanese	7130 11745
1200-1300	Uyгур	11905
1200-1300	English	7130 9610
1200-1300	Indonesian	15345
1200-1300	Cantonese	9690 9765
1215-1300	Mandarin	11745 15270
1300-1400	Amoy dialect	7130 11745 11860
1300-1400	Korean	9610
1300-1400	Cantonese	9690 9765 15345
1300-1400	Hakka	1206 15270
1305-1400	Russian	11745 15695
1400-1500	Japanese	7130 11745
1400-1500	Thai	9610 11860 15270
1400-1500	English	15125
1400-1500	Hakka	1206 9765 15345
1500-1600	Vietnamese	11745 15345
1705-1800	Russian	9955
1800-1900	French	17510WYFR
1800-1900	German	9955
1800-1900	English	3965-uk
1900-2000	German	6180-uk
1900-2000	French	3980
1915-2000	Mandarin	9955 15600WYFR 17750WYFR
2000-2100	French	9355WYFR 9955
2000-2100	Spanish	11665WYFR 15715
2000-2100	Arabic	9630 11550
2100-2200	Korean	11550
2100-2200	German	5810WYFR 9355WYFR
2100-2200	Spanish	9610
2200-2300	Thai	585 7445
2200-2300	English	5810WYFR 9355WYFR
2200-2300	Spanish	7140
2300-2359	Vietnamese	11745 15345
2300-2359	Spanish	9690 11720

Central Broadcasting System - News Network

Station identification in Standard Chinese: "Taipei Guozi Zhesheng" (Taipei International Voice)

0000-0100	Mandarin	6040 7105 7250 9610 9630
0100-0200	Mandarin	6040 7105 7250 9630
0200-0300	Mandarin	6040 7250
0300-0400	Mandarin	6040 7250 9610
0400-0600	Mandarin	6040 7105 9610 11725
0600-0900	Mandarin	7105 11725
0900-1000	Mandarin	6180 7250
1000-1100	Mandarin	6180 11775
1100-1200	Mandarin	7250 9610 11775
1200-1400	Mandarin	7250 11775
1400-1500	Mandarin	7250 9610 11775
1500-1600	Mandarin	7250 11775
1600-1900	Mandarin	6040 7250 9630 11775
1900-2100	Mandarin	6040 7250

2100-2200	Mandarin	6040 7250 9630
2200-2300	Mandarin	6040 6180 7250 9610 9630 11725
2300-2359	Mandarin	6040 7250 9610 9630 11725

CBS Variety Network Station identification in Standard Chinese: "Taipei Guozi Zhesheng" (Taipei International Voice)

0000-0100	Mandarin	3335
0100-0200	Mandarin	3335 9280
0200-0400	Mandarin	9280 11970
0400-0500	Mandarin	6085 6180 9280 11775 11840 11970
0500-0600	Mandarin	6085 6180 11775 11840 11970
0600-0700	Mandarin	6085 6180 11775 11840 11970
0700-0800	Mandarin	3335 6085 6180 7285 11840 11970
0800-0900	Mandarin	3335 6085 6180 7285 11840 11970 15125
0900-1000	Mandarin	3335 6085 7285 11840 11970 15125
1000-1100	Mandarin	3335 6085 7285 11775 11840 15125
1100-1200	Mandarin	3335 6085 6180 11775 11840
1200-1300	Mandarin	3335 6085 6180 11775 11840
1300-1500	Mandarin	3335 6085 6180 9690 11775 11840
1500-1700	Mandarin	3335 6085 6180 9690 11775 11840 15125
1700-1800	Mandarin	3335 6085 6180 9690 11775 11840
1800-1900	Mandarin	3335 6085 6180
1900-2200	Mandarin	3335 6085 6180
2200-2359	Mandarin	3335 6085 6180

CBS Voice of Asia transmissions in Chinese may also include material in Amoy and Cantonese. Identification in Standard Chinese: "Ya Zhou Zhi Sheng."

0500-0700	Mandarin	7285
0700-1100	Mandarin	9280
1100-1200	English	585 1206 7445
1200-1300	Indonesian	585 7445 11860
1300-1500	Mandarin	585 7445
1500-1600	Thai	585 7445 15270
1600-1700	Indonesian	585 7445 11745
2300-2359	Thai	585 7445 15270

(BBCM)

Monitored schedule on 11550:

0000-0100	RTI	Amoy
0100-0200	RTI	Cantonese
0200-0300	RTI	Amoy
0800-0900	RTI	Indonesian
0900-1000	RA	English
1100-1200	RTI	Indonesian
1200-1300	CSPS	English
1300-1400	FR	English

2100-2200	RTI	Korean
2300-2400	RA	Indonesian

CSPS=Christian Science Publishing Society

FR=Family Radio

RA=Radio Australia

RTI=Radio Taipei International

(16-Jan/Hashimoto-JPN/BC-DX/Bueschel-GER/DX Listening Digest/Hauser-OK)

CLANDESTINE—AFRICAN Radio Voice of United and Free Ethiopia / Voice of the Democratic Path of Ethiopian Unity (Amharic: *Finote Demokrasi Ye-Ethiopia Andinet Dimts*) was first observed by BBC Monitoring in December 1999. It reportedly uses a hired Deutsche Telekom transmitter in Germany.

Several similar Ethiopian opposition radio stations, which have also broadcast only on Sundays and Wednesdays, have been heard over the past few years: Voice of Ethiopian Patriotism (heard in 1992); Free Radio Voice of Ethiopian Unity (heard in 1993-94); Radio Voice of United and Free Ethiopia/Voice of One Free Ethiopia (heard in 1997-99).

0800-0900	Amharic	21550 Su
1600-1700	Amharic	11670 We

(BBCM)

Here's a translation of the Amharic ID of the new **Ethiopian Voice of Unity** as monitored 2/16-17 on 11670: "This is Foneta Demokrasi, Ethiopia's Voice of Unity. Foneta Demokrasi, Ethiopia's Voice of Unity, begins transmitting Ethiopia's program in Amharic language for those in Ethiopia and in communicant countries, on the days and hours and likewise meter bands revealed below. We humbly remind you to listen to the programs transmitted on Wednesday, from 1 hour until 2 hours in the evening Ethiopian time, on the 25 meter band or at 11670 khz; Sunday, from 5 hours until 6 hours in the morning on the 13 meter band or at 21550 khz. Foneta Demokrasi-Ethiopia's Voice of Unity—is a network established to guarantee a situation in the struggle made to safeguard Ethiopia's national existence, to bring a unity based upon the equality of Ethiopia's peoples, to induce respect for the existence of Ethiopia's people, to spread democratic order in Ethiopia, to guarantee respect for human rights, to promote the rule of law and fair justice, to guarantee equality of genders, religions and ethnicities, and to promote social security. In order to serve and continue that the region's wealth harmonize with the people, it seeks contributions and democratic Ethiopian moral support and cooperation from all countries. Foneta Demokrasi, Ethiopia's Voice of Unity." (Liangas-GRC)

CLANDESTINE—ASIA Echo of Hope 3985/6003 again s-on at 1100 today, Monday, so seems to be a schedule change. Also noted past 2100 last evening on 3985, s-off of 3985 has been confirmed as 2300. So the schedule is 1100-2300 now (x0900-2100).

6003 not heard evenings, so may have an early s-off. (27-Dec/Alm-SWE/BC-DX/Bueschel-GER) [likely emanates from South Korea-AQ]

Free Voice of Jammu Kashmir ("Sadaay Huriat jammu kashmir") is observed from 1300-1415 on 5101 fair to good signal. English news at 1400. S/on at 1300 with Allah-hu-Akbar theme. (5-Jan/Goonetilleke-SRI/UADX/BC-DX/Bueschel-GER) **Voice of Free Jammu & Kashmir** is currently regularly heard in Europe opening at 0230 on 5988.6 kHz, but beware of Radio Liberty in Uzbek splashing over from 5985 kHz at this time. (26-Jan/Kernick/HCDX/DX Listening Digest/Hauser-OK)

CLANDESTINE—MIDEAST 4755u **Voice of Iraqi People** 1810-1840, announcements and local music to news 1827, off 1840 with ID and brief anthem. ID was "Idha'at sawt al-sha'b al-iraqi, idha'at al-hizb al-shuy'i al-iraqi." (2-Jan/Barracough-UK/BC-DX/Bueschel-GER)

ERITREA 7100 **Voice of the Broad Masses** 1852 typical Horn of Africa vocals interspersed with announcements in presumed Tigrinya or Oromo. Weak at first, then built to fair level by 2030 or so, with nearly constant QRM from ham SSTV and CW. // 7175 somewhat better at first, then found to be nearly buried at 2115 recheck. Evidently on extended sked for New Year's Eve. (31-Dec/Hill-MA)

GERMANY Deutsche Welle uses transmitters in Antigua, Bonaire, Canada, Germany, Madagascar, Portugal, Russia, Rwanda, and Sri Lanka.

0000-0100 Russian 5925 6035 7285 11965
12045 15135 15600
0000-0200 German 3995 6075 6100 7130 9545
11785 13750 15105 15275
15410
0100-0145 English 6040 6145 9640 9700 9765
0100-0150 Bengali 7285 9615 11965
0200-0245 English 7285 9615 9765 11965
0200-0400 German 3995 6075 6100 6145 7130
9545 13780 15205
0300-0345 English 6045 9535 9640 9700
11750
0300-0400 Swahili 7280 9565 9765 11965
0400-0445 English 7280 9565 9765 11965
0400-0500 Russian 6055 7145
0400-0600 German 3995 6075 6145 7225 9545
9640 9650 9735 15205
0500-0515 French 9565 9615 11785
0500-0545 English 6100 6120 9670 11795
0530-0630 Russian 5980 7155
0600-0630 Bulgarian 6110 7195
0600-0645 English 7225 9565 11785
0600-0650 Turkish 9750 11680
0600-0800 German 3995 6075 9545 9690 9735
11795 11865 13780 21640
21780
0600-1900 English 6140
0645-0700 Albanian 6110 7195

0700-0715 Bosnian 6110 7195 9705
0700-0730 Hausa 11810 15185 17860
0715-0730 Serbian 6110 7195
0730-0800 Macedonian 6110 7195
0800-0830 Croatian 7195 9640 11905
0800-0900 German 6075 9545 9690 9735
11795 11865 13780 21640
21780 25740
0830-0900 Albanian 7195 9640 11905
0900-0915 Dari 17895 21695 21800
0900-0945 English 6160 11785 12055 15105
15410 15470 17800 17820
17860 21600
0900-1000 German 6075 9545 9690 9735
11795 11865 13780 15135
21640 21780 25740
0915-0930 Pashto 17895 21695 21800
0930-1030 Romanian 11615 15545
1000-1030 Persian 17810 21695 21780
1000-1030 Macedonian 9640 11905
1000-1050 Mandarin 5895 7390 15185 17895
21640
1000-1050 Swahili 9565 11785 15410 21600
1000-1200 German 6075 7315 7340 9545 9900
13780 15135 15490 17845
21790 25740
1030-1100 Serbian 9640 11905
1030-1100 Bulgarian 11615 15545
1100-1145 English 15410 17800 21780
1100-1145 Indonesian 11895 15525 21695
1100-1150 Bulgarian 9640 11615 11905 15545
1200-1230 Albanian 7175 9770 11865
1200-1300 French 15360 15370 15410 17800
21600
1200-1400 German 6075 7315 7340 9545 9900
12055 13780 15135 15490
17560 17570 17650 17730
17765 17845 21790 25740
1230-1330 Bosnian 7175 9770 11865
1300-1330 Polish 7130 9700
1300-1350 Hausa 15370 15410 17800 21600
1300-1600 Arabic 12015 15360 17860 21460
21755
1300-1600 English 6140
1330-1355 Mandarin 5895 7305 13790 15210
17835
1330-1400 Croatian 7175 9770 11865
1330-1400 Dari 17825 21695
1400-1425 Indonesian 11825 15145 17835
1400-1430 Macedonian 7175 9770 11865
1400-1450 Amharic 11810 15410 21540
1400-1600 German 6075 9545 9655 12055
13780 15135 15275 15285
17730 17765 17845 21790
17825 21695
1400-1420 Pashto 6170 7225 15380 17870
1430-1515 Urdu 7175 9770 11865
1500-1600 Serbian 9735 11785 15145 17800
1515-1600 Hindi 6170 7225 15380 17810
1530-1600 Albanian 7175 9755
1600-1630 Albanian 7175 9755 15470 17835

1600-1645 English 6170 7225 9735 11785
15145 15380 17800 17810

1600-1700 German 6075 9545 9655 11795
12055 13780 15135 15275
15285 17730 17765

1600-2200 Russian 5945 5980 7145 7395 9715

1630-1700 Romanian 7130 12010 15470

1630-1700 Macedonian 7175 9840

1700-1730 Bulgarian 12010 15470

1700-1750 Turkish 7225 11865 15285

1700-1800 French 9735 11785 11810 15390
17800

1700-1800 Serbian 6130 7130

1700-1800 German 6075 9545 9655 11795
12055 13780 15135 15275
3995 7240

1730-1800 Polish 11810 13610 15135

1800-1900 Hausa 5935 5965 7175

1800-1900 Persian 3995 6075 9545 9735
11795 13780 15275 17860

1800-2000 German 6130 7130 9805 11885

1830-1900 Albanian 11765 11810 13610 15390
17810

1900-1945 English 6130 9705 11885

1930-2000 Bosnian 6000 9615

2000-2030 Romanian 9725

2000-2045 English 9875 11785 13610 17560

2000-2050 Portuguese 5980 7145 9715

2000-2200 Russian 3995 6075 9545 9735
11795 13780 15275 17810
17860

2000-2200 German 7245 9705

2100-2115 Serbian 9615 9690 9765 15135
15410 17560

2100-2145 English 7245 9705

2115-2130 Albanian 9505 9815 11865

2200-2250 Indonesian 3995 6075 6100 7375 9545
9715 11785 11795 11840
13780 15105 15275 15410
17860

2200-2359 German 9525 9815 13690

2300-2345 English

Croatian Radio Zagreb (via DTK Juelich) is now using 7285 (ex-9925) from 0400-0600. (9-Jan/Era-mo-ARG/EDXP/Padula-AUS/BC-DX/Bueschel-GER)

Brother Stair's **Overcomer Ministry** is based in the USA and hires airtime on a number of commercial shortwave stations including: WBCQ, WINB, WRMI, WRNO and WWCR.

This schedule, which details broadcasts via Deutsche Telekom transmitters in Jülich, Germany, is based on monitoring observations and information from Deutsche Telekom.

0600-0700 English 13810

0800-0900 English 13810

1100-1400 English 5850

1400-1700 English 5850 13810

2200-2300 English 7285

(BBCM)

Radio Vilnius broadcasts to North America via a hired Deutsche Telekom shortwave transmitter in Germany. Radio Vilnius may also carry religious or other programming on a commercial basis.

0000-0030 Lithuanian 6120

0030-0100 English 6120

0900-0930 Lithuanian 9710

0930-1000 English 9710

1000-1030 Lithuanian 9710

1030-1200 Lithuanian 9710

1330-1425 Multilingual 9555

1425-1435 Lithuanian 9555 Mo-Fr

(BBCM)

GUAM XTWR is now using 15545 (ex 15595 to avoid IBB) at 1330-1415 in Indian vernaculars. Also they have added Bengali/Tamil (varying days) at 1400-1415. Also in A2000 they will start a new Javaneese service at 1200-1230 hrs on 15540 kHz. (das Gupta-IND)

GUINEA 7125 Radiodiffusion TV Guineenne 2000 news and bulletin of meteo by two men in French and the news bulletin ended as "Et Voila Messieurs ce la fin de ce edition de Guinee et avant de vous quitter les fort temp." Here you are Gentlemen, we came to the end of this edition of Radio Guinea and before we leave here is the main point. [it seems that there are only men who listen to Radio in Guinea]. (20-Jan/Vaghjee-MAU/BC-DX/Bueschel-GER)

INDIA There are enough additions to the **AJR** External Service sked published here in 12/99 to justify running this current, more complete version:

0000-0045 Tamil 4790 9835 9910 11740
13795

0000-0045 English 7410 9705 9950 11620
13625

0015-0100 Urdu 6155 9595

0100-0130 Burmese 9950 13630

0100-0200 Sindhi 5990 7125 11790

0100-0430 Urdu 6155 9595 11620

0130-0200 Tibetan 9565 13700

0130-0227 Nepali 3945 6045 9810 11715

0215-0300 Pashto 9910 11735 11895 13620

0300-0345 Dari 9910 11735 11895

0315-0415 Hindi 15075 15180 17710

0400-0430 Persian 13620 15780

0415-0430 Gujarati 15075 17710

0430-0530 Arabic 13620 15780

0430-0530 Hindi 15075 17710

0700-0800 Nepali 7250 9595 11850

0830-1130 Urdu 9595 11620

0845-0945 Indonesian 15780 17485

1000-1100 English 11585 13700 15020 17485
17840 17895

1115-1200 Thai 15340 17895

1115-1215 Tamil 13700 15075 15770 17620
17860

1145-1315 Mandarin 15780 17705

1215-1245 Telugu 13700 15770 17620

1215-1315 Burmese 11620 11710 15475
 1215-1330 Tibetan 9565 11695
 1230-1500 Sindhi 6165 9620 11585
 1300-1500 Sinhala 9700 15020
 1315-1415 Dari 7140 9910
 1330-1430 Nepali 3945 4860 6045 11695
 1330-1500 English 9545 11620 13710
 1415-1530 Pashto 7140 9910
 1430-1930 Urdu 4860 6045
 1500-1600 Baluchi 6165 9620 11585
 1515-1600 Gujarati 11620 15175
 1515-1615 Swahili 9950
 1615-1715 Russian 15140
 1615-1730 Hindi 7410 9950 12045 13720

13770
 1615-1730 Persian 7230 9910 11585
 1730-1945 Arabic 9910 13620
 1745-1945 English 7410 9950 11620 11935
 13750 15075 15200
 1945-2030 French 9910 13750
 1945-2045 Hindi 7410 9950 11620
 2045-2230 English 7150 7410 9650 9910 9950
 11620 11715
 2245-2359 English 7410 9705 9950 11620
 13625
 2300-2359 Hindi 9910 11740 13795
 (BBCM)

INDONESIA 3905.0 *RRI Merauke*, 1208 Jakarta news relay. 1227 military program. 1259 SCI, then Jakarta news relay again. Fair. (16-Jan/Yamada-JPN/Jembatan DX)

3976.1 *RRI Pontianak*, 1403 Local news which the ending music was "Garuda Pancasila." 1410 continued news program. 1423 telephone talk-back program. 1458 SCI, then Jakarta news relay *Aneka Berita*. 1511 telephone talk-back program again. Fair. (8-Jan/Yamada-JPN/Jembatan DX)

4874.5 *RRI Sorong*, talk by M at 2142. Music program at 2151. Faded out at 2158. Poor. (15-Jan/Yamada-JPN/Jembatan DX)

5040.0 *RRI Pekanbaru*, 2200 opening music with opening announcement by male then Islamic religious program. Faded out around 2233. Fair to poor. (15-Jan/Yamada-JPN/Jembatan DX)

Voice of Indonesia now on 11784.9 (ex-15149.8) from 1730-1800 Spanish, 1800-1900 German, 1900-2000 French, 2000-2100 English (17-Jan/Observer-BUL/BC-DX /DX Listening Digest/Hauser-OK)

IRAN *Voice of the Islamic Republic of Iran*—Arabic Service

0000-0130 Arabic 6135 7125 9575
 0130-0230 Arabic 7125
 0230-0330 Arabic 7155 9895 11660 11680
 0330-0430 Arabic 7155 9895 11660 11680
 13670

0430-0530 Arabic 9895 11660 13670 15125
 0530-0630 Arabic 9895 11660 15125
 0630-0730 Arabic 11660 15125
 0730-1030 Arabic 11660 15125 21490
 1030-1300 Arabic 11795 15125
 1300-1330 Arabic 11795 13735 15125
 1330-1400 Arabic 11660 11795 13735 15125
 1400-1530 Arabic 11660 11795 13735
 1530-1630 Arabic 11660 13735
 1630-1700 Arabic 6015 6025 7120 11840
 1700-1730 Arabic 6015 6025 6200 11840
 1730-1830 Arabic 6015 6025 6200 7120 11840
 1830-2130 Arabic 6015 6025 6200 7120 9885
 11840
 2130-2359 Arabic 6135 7125 9575
 (BBCM)

IRAQ 7157 *Radio Baghdad* s/on at 1700 with national anthem, announcement in Arabic then followed by recital of Koran to 1730. ID and press reports then songs, mainly Kurdish, presented by woman until 1859 then program (probably in Turkmen) with news at 1900 and songs after the news went off around 2100. (7-Jan/Vaghjee-MAU/BC-DX/Bueschel-GER)

ISRAEL Changes to last month's *Kol Israel* schedule:

0500-0510 English add 7475
 1500-1630 Persian 9985 11605
 1700-1830 Yiddish 5825
 1830-2000 Russian 5825
 2000-2030 English 9395

(20-Jan/Oren-BEZEQ/DX Listening Digest/Hauser-OK)

Take yer pick: *Defence Forces Radio Galei Zahal* has moved to 6895 from 6898. Poor reception at 1710 and 1950. (22-Jan/Vaghjee-MAU/BC-DX/Bueschel-GER) Israel *Defence Forces Radio Galei Zahal* in Hebrew heard 24 hrs on new 7345 (x6898). (17-Jan/Observer-BUL/BC-DX/Bueschel-GER)

KOREA (NORTH) *Radio Pyongyang* additional freq 11460 0000-0100 English, 0100-0200 Spanish, 0200-0300 French. (29-Dec/Hashimoto-JPN/BC-DX/Bueschel-GER)

LITHUANIA (see GERMANY)

MADAGASCAR 3215 *Adventist World Radio (AWR)*, Talata-Volondry, 1629-1632, M talk in VV, then announcements in English with ID "Adventist World Radio, Voice of Hope," I/S then off @1632 (7-Jan/Willis-UK)

3268 & 3287 and 5010 was on the air until 0000 with a live program in Malagasy and French for its first anniversary of ORTM [l'Office de Radio Television Malgache] ID'ed many times in French as ORTM. (22-Jan/Vaghjee-MAU/BC-DX/Bueschel-GER)

For the last few days **Radio Madagascar** has been heard on 6575 at 1600 and also on 3268 [and 3287 see above]. (20-Jan/Vaghjee-MAU/BC-DX/Bueschel-GER) 6575 = 2 x 3287.5 (22-Jan/Hauser/BC-DX/Bueschel-GER)

Radio Nederland special English test program called "Voice of Hope" beamed to EaAF, every Sat, started Jan 1: 0430-0525 12070 and 15320. (17-Jan/Ivanov-BUL/Observer-BUL/BC-DX/Bueschel-GER)

JORDAN Radio Jordan in Arabic back on the air via 3rd transmitter:

0300-0855	15435
1100-1255	15290
1300-1625	13630
1630-2155	7155
2200-0255	11930

(17-Jan/Observer-BUL/BC-DX/Bueschel-GER)

MALAWI MBC sked per QSL letter:

0257-0810	3380
0357-0810	5995
1515-2210	3380

(1-Jan/G. Van Horn/DX Listening Digest/Hauser-OK)

MYANMAR 5985.8 Radio Myanmar, Yangon, 1429-1436, IS-like tune, opening announcement by W in English, with ID as "Good evening, this is Myanmar Radio, Yangon." Then pop songs with short announcements in between. (23-Jan/Veldhuis-HOL/BC-DX/Bueschel-GER)

NEW ZEALAND Radio New Zealand International now closes at 1205 (ex-1005) daily. These extra hours on 17690 are beamed to NZ peace keeping forces in East Timor. (19-Jan/Hartley-NZL/BC-DX/Bueschel-GER)

NICARAGUA According to a personal letter dated Nov. 26, 1999, from Sr. E. Mercado P., Director **Radio Miskut**, the station has been off the air [5770] since July 1999. The reason is the failure of power supply unit of the transmitter. (9-Jan/Hirahara-JPN/Radio Nuevo Mundo/DX Listening Digest/Hauser-OK)

NIGERIA Radio Nigeria-Lagos Channel 1

0425-2305 English 3326

(BBCM)

PERU 4420.4 Radio Bambamarca, 0020-0130 mx huayno ID "Un saludo para todos los amigos de frecuencia lider deRadio Bambamarca" ID "7 de la noche con 32 minutos en su Radio Bambamarca" programa Frecuencia Lider. (26-Dec/Arrunategui-PRU/Chasqui DX)

4534.1 **Radio Horizonte**, Chiclayo, Lambayeque; 2350-0024 music ID "Radio Horizonte y su musica vernacula" music ID "Radio Horizonte, 760

Khz. de amplitud modulada" music ID "Que buena es Horizonte, que muy temprano me levanta con la musica de mi tierra" advs ID "Sintoniza Radio Horizonte y ya estas en el dial...", *Radio Horizonte, cobertura nacional...*" (17-Jan/Arrunategui-PRU/Chasqui DX)

4780.0 **Radio Satellite**, Santa Cruz, Cajamarca; 0000-0045 ID "Comunicados por Radio Satellite" programa avisos y comunicados atencion, despues de la misa sirvanse pasar al domicilio en esta ciudad de Santa Cruz music ID "Muy pronto en esta ciudad de Santa Cruz y por su Radio Satellite..." (8-Jan/Arrunategui-PRU/Chasqui DX)

4814.6 UNID, 1055-1150 music pasillo y luego tocan un san juanito, hablan en quechua y despues en espanol sobre religion. Note: this is NOT Radio Cora, which I could hear on 600 KHz, and the programs were not in parallel. (15-Jan/Arrunategui-PRU/Chasqui DX)

4824.4 **Radio La Voz de la Selva**, Iquitos; 1040-1103 hablan sobre la violencia familiar, programa mx La Salud ID "Nos vamos hasta el proximo sabado a partir de las 5 de manana, como siempre a travs de Radio La Voz de la Selva" music tropical ID "Muy buenos dias amigos de Radio La Voz de la Selva..." music. (22-Jan/Arrunategui-PRU/Chasqui DX)

4855.5 **Radio La Hora**, Cusco; 1057-1136 mxf ID "Muy buenos dias Cusco, te ofrecemos el primer informativo bilinge del pais por Radio La Hora de Cusco..." advs en quechua ID "Por Radio Cusco, en el ano de la lucha contra la violencia familiar." (19-Jan/Arrunategui-PRU/Chasqui DX)

6045.44 **Radio Santa Rosa**, 1040-1100, Program of beautiful OA harp and vocal music hosted by M announcer after every song, and sometimes during songs. UTC-5 time checks. Mentions of Peru, Inca, "...para todo el Peru," and Santa Rosa at 1056. Doesn't seem to be on at this time everyday. (13-Jan/Valko)

6060.9 **Radio J.S.V.**, Huanuco, 1330-1425 music ID "Por Radio JSV, desde Huanuco, cubriendo todo el territorio nacional..." music. (9-Jan/Arrunategui-PRU/Chasqui DX)

6173.8 **Radio Tawantisuyo**, 1055-1144 music ID "Radio Tawantisuyo, presenta esta tarde su programa es mi provincia" mxf ID "Radio Tawantisuyo, esta presentando las noticias..." news ID "Radio Tawantisuyo trasmite a nivel local, regional e internacional..." music ID "Radio Tawantisuyo, presenta su noticiero Tawantisuyo..." news ID "Radio Tawantisuyo, transmitiendo desde Cusco, capital arqueologica del Peru..." (28-Dec/Arrunategui-PRU/Chasqui DX)

6188.0 **Radio Oriente de Yurimaguas**, 2125-2250 music tropical programa Cuarenta grados tropicales, un saludo para nuestros amigos que nos escuchan de la ciudad de Juanji, Rioja. Despues de un

largo periodo de escucha, recin a las 22.27 UTC dan su ID "Pon alegria a tu vida, con Oriente toda tuya..." music. (31-Dec/Arrunategui-PRU/Chasqui DX)

6195.6 **Radio Cusco**, Cusco; 0105-0215 ID "Esta es su Radio Cusco..." musica px Ecos del Peru music ID "Mas mensajes desde las ondas de su Radio Cusco..." music ID "Somos de Radio Cusco y llegamos a todo el Peru..." music ID "Desde el corazon de Cusco, transmite Radio Cusco..." (4-Jan/Arrunategui-PRU/Chasqui DX)

6250.0 **Radio La Voz de Andahuaylas** (t), 2105-2210 musica huayno y todo el programa lo hablan en quechua incluido los advs. (22-Jan/Arrunategui-PRU/Chasqui DX)

6479.70 **Radio Altura**, Huarmaca; 1130-1145 weak signal. Programa *Bue nos Dias Hermano Campesino* with a couple of huaynos. ID was given as "Esta es Radio Altura que transmite desde Huarmaca, en onda corta internacional en la banda de los 49 metros." (14-Jan/TIN-JPN/Relampago DX)

6520.4 **Radio Paucartambo**, Cusco; 2255-2334 ID "Paucartambo su radio" ID "Escucha Radio Paucartambo, un saludo para nuestro amigo Donato Quispe..." px en quechua y espanol mxf con quena ID "Radio Paucartambo..." music ID "FM Stereo con el corazon de Paucartambo Radio..." music tropical ID "Estas son las notas musicales de Paucartambo Radio..." advs Pepsi Cola y Ferreteria Kike... (31-Dec/Arrunategui-PRU/Chasqui DX)

6535.78 **Radio Difusora Huancabamba**, Huancabamba; 1130-1140 poor signal. M talk and some huaynos. ID "Estan en la sintonia de Difusora Huancabamba, su radio." (22-Jan/TIN-JPN/Relampago DX)

6674.0 **Radio Super Nueva Sensacion**, Huancabamba; 2245-2350 programa religioso La Voz de la Esperanza ID "Radio Sensacion con potencia y nitidez" music ID "Somos Radio Super Nueva Sensacion, la original" music san juanita ID "Radio Super Nueva Sensacion de Huancabamba, 6 y 10 de la tarde en todo el territorio nacional, Radio Super Sensacion de Huancabamba" px Nohechitas Musicales advs Fotos Gutierrez en plena plaza de armas de Huancabamba, Restaurante campestre La Isla del Conejo ubicado en el malecon los hroes del Cenepa. ID "Radio Super Nueva Sensacion al servicio de la comunidad, en sus 99.8 MHz FM y su onda corta" advs Servicio turistico Civa, lo lleva a la ciudad de Piura y tambien servicio directo a Lima, transporte Civa en la calle Grau 308 de Huancabamba..." (1-Jan/Arrunategui-PRU/Chasqui DX) [Pedro copied this same station a day earlier calling itself Radio Difusora Huancabamba.-AQ]

6895.4 **Radio San Miguel del Faique**, Huancabamba, Piura; 0050-0155 estamos comunicando a

todos los moradores del distrito de Canchaque...music corazon serrano ID "Por Radio San Miguel..." music ID "Y bien amigos, proseguimos con Radio San Miguel del Faique..." music. (6-Jan/Arrunategui-PRU/Chasqui DX)

7003.4 UNID, 0120-0205 y 31/12 1140-1206 music with the usual hamband QRM; woman announcer speaks quickly and is hard to understand, but her dialect is that of the northern part of Peru. I did copy that they sign on at 1000 UTC. Tentatively **La Voz de la Huarinas**. (28-Dec/Arrunategui-PRU/Chasqui DX)

PHILIPPINES FEBC changes English: 0000-0130 (ex-0200) 15175; 0930-1100 11710 is deleted. (17-Jan/Ivanov/Observer-BUL/BC-DX/Bueschel-GER)

PORTUGAL RDP Internacional

0000-0300	Portuguese	9715 11655 11980 13700
		13770 Tu-Sa
0400-0600	Portuguese	11550
0600-0745	Portuguese	11675 11960 15140 Mo-Fr
0745-0800	Portuguese	11660 11675 11960 15140 Mo-Fr
0800-0900	Portuguese	11660 11960 15140 Mo-Fr
0900-1100	Portuguese	11960 15140 Mo-Fr
0800-0930	Portuguese	11875 15575 21655 21830 Sa/Su
0930-1100	Portuguese	11875 11995 15575 21655 21830 Sa/Su
1100-1300	Portuguese	11875 15575 21655 21830 Sa/Su
1100-1300	Portuguese	15540 Mo-Fr irreg, special occ
1400-1600	Portuguese	13650 Mo-Fr
1500-1800	Portuguese	13660 13790 15540 17745 21655 21800 21830 Sa/Su
1700-2000	Portuguese	11800 11860 13625 17680 21655 21800 Mo-Fr
1800-2100	Portuguese	13790 15540 17680 21655 21800 Sa/Su
2000-2359	Portuguese	11800 11860 13625 13770 15540 17680 21800 Mo-Fr irreg, special occ
2100-2359	Portuguese	11800 13770 15540 17680 21800 Sa/Su

(BBCM)

Station has ceased special broadcasts to East Timor. (17-Jan/Ivanov-BUL/Observer-BUL/BC-DX/Bueschel-GER)

RUSSIA Voice of Russia has just extended its Farsi program from 60 to 90 minutes: 1530-1700 on 9840 (St. Petersburg) // Samara 5925 and 5935. Additional Voice of Russia frequency for Russian service: 12030 1600-1700 (St. Petersburg) (26-Jan/Timofeyev-RUS/DX Listening Digest/Hauser-OK)

St. Petersburg—Popovka no longer carries **Voice of Russia** "Kosovo" but 2000-2200 on 6205 VoR reg-

ular Russian service instead. A check around 2045...2100 showed, that these also regards 7320 (Moscow area) as well as MW 621 from Grigoriopol-Maiac (Moldova/Pridnestrovye), hence VoR evidently discontinued it's special Kosovo service. (Timofeyev-RUS/Ludwig-GER)

Radiostantsiya Tikhyy Okean, Vladivostok

0130-0215	Russian	21750
0815-0900	Russian	7175 7210 7490 10344u 12045 17675
1900-1945	Russian	7345 9885 9900

(BBCM)

Call of Hope via IBRA Radio, a Christian station in Arabic I noted 2000-2100 on 5935, also scheduled 7420 7425 1170 from transmitters in Krasnodar, Samara and Moscow. Addresses: Call of Hope, P.O.Box 100827, 70007 Stuttgart, Germany, also P.O.Box 57420, Limassol 3315, Cyprus. e-mail info@call-of-hop.com; Internet <http://www.call-of-hope.com> (Barraclough-UK/WDXC Contact/Hauser-OK)

The station "**Tatarstan Awazy**" (**Voice of Tatarstan**) now confirms listeners' reports with QSL cards. You may address you reports to: QSL manager, P.O.Box 134, Kazan, Tatarstan, 420136, Russia. Return postage is 1 IRC for Russia and CIS states, and 2 IRCs (or 1 US\$) for the rest of the world. The station also introduced the honorary diploma. To receive it, applicants must send in 12 correct reports during a year. The diploma costs 2 IRCs for Russia, and 4 IRCs for abroad.

Voice of Tatarstan—Schedule valid until 25 March 2000

0500-0600	15105
0700-0800	15105
0900-1000	11915

Language is mostly Tatar. Regular broadcasts in Russian go out only on Wed (3rd transmission) and Thu (1st and 2nd transmissions). Irregularly they appear on Mon (3rd transmission) and Tue (1st and 2nd transmissions). On weekdays, station transmits news bulletins in Russian. All programmes are produced in Kazan studios and relayed via powerful Samara site. Broadcasting is intended for ethnic Tatars who live outside their national republic. (27-Jan/Mezin-RUS/Barrera-ARG)

SEYCHELLES Voice of Forgiveness, another Christian station in Arabic. I heard broadcasts 0345-0430 on 15530 and 1100-1300 on 15535. On the last frequency they have a programme in special English at 1245 on Saturdays only. I noted this station after 1300 too. VoF announce address in Beirut, Lebanon. Fax in Lebanon: 00961453021; e-mail: webmaster@arabicradio.org; <http://www.arabicradio.org> (Petraitis-LIT/WDXC via Barraclough/Hauser-OK) It is **FEBA**, exactly matching Arabic daily scheduling

in BBCM issue of Dec 22. Altho in the past some broadcasts on the FEBA schedule have been from other sites, there is nothing in this listing to indicate anything other than Seychelles. See also <http://www.feba.org.uk> (Hauser)

SOLOMON ISLANDS 5020 SIBS (p) 1400 BBC relay heard w/news and talks to 1530 fade-out; // other BBC frequencies, but 1 second delay. (4-Jan/Behr-ON)

SOMALIA The pro-Husayn Muhammad Aydid station, **Radio Mogadishu, Voice of the People of the Somali Republic**, which has been off the air since 26th July 1999, was observed on 16th Jan broadcasting on 6750. According to a report in the Somali newspaper 'Xog-Ogaal' on 16th Jan, the radio resumed broadcasts after undergoing refurbishment. 1500 s/on, Somali. 1700 news in Somali. 1801 English broadcast; 1815 Arabic broadcast; 1830amharic broadcast; 1900 s/off. During the one-hour broadcast in foreign languages, the radio carried music instead of news bulletins. (16-Jan/BBCM/Hauser/DX Listening Digest/BC-DX/Bueschel-GER)

Radio Gaalkacyo is a local station in the Puntland region of Somalia. It announces that it broadcasts on the 31 and 41 meter bands, although has so far only been confirmed by BBC Monitoring on 41 meters (7012 kHz).

It carries a current affairs program called *Xog-ogaal* (Inside Information) devoted to social, political and economic issues in Puntland, as well as items on health, environment, culture and religion. Station identification: "*Halkani waa rediyo Gaalkacyo, Idaacadda Dowlad Goboleedka Puntland.*"

1600-1700 Somali 7012v
(BBCM)

Commenting on a recent BBCM report that this station announces 31 and 41 mbs, but is only heard on 41 m, Sam Voron offers this explanation: The 31 mb freq is via a small 5 Watt relay in Bossasso. Sam adds that they used to operate on 9415 or 9420, but he isn't sure of their current freq. The annts seem to indicate that it is still on the air, however. (11-Jan/DIRECT/Johnson/Cumbre DX/BC-DX/Bueschel-GER)

SPAIN Radio Exterior de España Some frequencies are relayed by transmitters in China-ch and Costa Rica-cr.

0000-0100	Spanish	6125 9540 9620 9765crx 11880crx 11945 15170crx
0000-0200	English	6055
0100-0200	Spanish	3210crxx 5970crxx 6125 9540 9620 9630crxx 11945 11945
0115-0145	Ladino	11795 Tu
0200-0300	Spanish	3210crxx 5970crxx 6055 6125 9540 9620 9630crxx

0300-0400 Spanish 3210crxx 5970crxx 6055
6125 9540 9620 9630crxx
0400-0500 Spanish 6055 6125 9540 9620
0415-0445 Ladino 9650 Tu
0500-0600 English 6055
0500-0600 Spanish 9730 11920 17665
0600-0700 Spanish 9705 11880 12035
0700-0800 Spanish 9705 12035 17770 21610
0800-0900 Spanish 12035 17770 21570** 21610
0900-1000 Spanish 15585 21540 21570** 21610
1000-1100 Spanish 9660-ch 15585 21540 21570
21610
1100-1200 Spanish 5970cr** 11815cr**
15170cr** 15585 17595**
21540 21570 21610
1200-1300 Spanish 5970cr** 9500-alt 13720
11815cr** 11910 15170cr**
15585 17595 21540 21570
21610 21700*
1300-1400 Spanish 5970cr** 11815cr* 11910
15170cr(not SaSu 15585
17595** 21540 21610
21700*
1400-1500 Spanish 9765cr* 15125cr* 15170cr*
15585 17595** 21540
21570 21610 21700*
1500-1600 Spanish 9765cr* 15125cr* 15170cr*
15585 17755 21570 21700
21770
1600-1700 Spanish 15375 17755
1600-1700 Spanish 9765cr* 15125cr* 15170cr*
15585 21570 21700 21770
1700-1730 Russian 15195 Mo-Fr
1700-1800 Spanish 7275 9665* 9765cr*
15125cr* 17715 17755
17850cr* 21700
21770
1700-1900 Arabic 525 9665 Mo/Th
1730-1800 German 9665 Mo-Fr
1800-1900 French 7275 9665* 9765cr 11815cr
1800-1900 Spanish 15125cr 17715 17755 17850
21700*
1825-1855 Ladino 17770 Mo
1900-2000 French 7150** 9595-(not Su)
12035*
1900-2000 Spanish 7275 9665cr* 9765 15110
15125cr 17755-(Su) 17850cr
21700*
1900-2100 Arabic 7270 12035 Mo-Fr
2000-2100 English 9595 9680 Mo-Fr
2000-2100 Spanish 7275 9665* 9765cr 15110
15125cr 17755(Su) 17850
21700*
2000-2200 Arabic 7270-(fm 2100 Su) 12035
Sa/Su
2100-2200 Spanish 7275 9665 9765cr 15110
15125cr 17850 21700-(Sa)
2105-2200 French 9595 Su
2200-2300 Spanish 7270 7275 9765cr 11880cr
15110cr 15170
2205-2300 English 9595 9680

2300-2359 French 6055
2300-2359 Spanish 6125 9540 9595 9620 9765cr
11880cr 11945 15170cr

*=Saturday and Sunday ONLY
**=NOT Saturday or Sunday
x=Sunday and Monday ONLY
xx=NOT Sunday or Monday
(BBCM)

SRI LANKA Radio Free Asia will, as of Monday, use SW from the new U.S. relay facility at Iranawila, Sri Lanka. Via Iranawila, RFA Lao is at 0000-0100 on 11830 and 1100-1200 on 15555. RFA Khmer is at 2230-2330 on 7185 and 1200-1300 on 13725. VOA News Now vacates 21550 at 1200-1300 to make room for that new RFA Khmer transmission. (22-Jan/Elliott-VOA CW/Norfolk/DX Listening Digest/BC-DX/Bueschel-GER) 24)

TANZANIA 7280 Radio Tanzania, Dar es Salaam heard at 2030 until went off at 2100 and parallel to 5050 while 5985 was very strong the previous day but nothing to-day as well as the co-ch Congo. (22-Jan/Vaghjee-MAU/BC-DX/Bueschel-GER)

UNITED KINGDOM Merlin Network One SW schedule:

Roy Masters

1700-1800 6185 Mo-Fr

Imagination, from Stafford Broadcasting Society

1900-2000 6010 Fr

Celtic Notes, from Wales Radio International

0300-0330 9735 Sa
1130-1200 17650 Sa
2130-2200 6010 Fr

Global Sound Kitchen

0000-0200 3985 6180 7165 Sa
1400-1600 9605 13640 15510 Sa
1600-1800 3965 9655 13640 Sa
2200-2300 6170 7165 9615 Fr
2300-2359 3985 6170 7165 Fr

(12-Jan/BBCM/DX Listening Digest/Hauser-OK/BC-DX/Bueschel-GER)

UNITED STATES OF AMERICA KAIJ will soon be moving to another 50+ mb frequency at night, 5755 authorized by FCC, in an effort to find one that works better than 5835 (McClintock-TN/DX Listening Digest/Hauser-OK)

WGTG, McCaysville (GA)

0000-0700 English 5085u 6890u
1300-2300 English 9400u 12172u
2300-2359 English 5085u 6890u

(BBCM)

Some changes of **RFE/RL**

1300-1400	Kyrgyz	new 11670 (ex-11990)
1500-1600	Russian	new 15265 (x15445)
1600-1730	Belarussian	new 7195, new 15460 (x6170, x7155)
1700-1800	Armenian	new 6170 (x7195)
1900-2000	Latvian	new 6150, new 7125 (x5955, x7255)
2000-2130	Belarussian	new 9845 (x6025)

Freq change on **WYFR** English: 1900-2145 an
new 11565 (45544) (x5760).

Some freqs changes on **Voice of America**

0000-0100	English	new 17740 via TIN (x17735)
0030-0230	Hi/Ur/Pa/	addit 9750 via IRA Da
0100-0300	English	new 11820 via UDO (x9740)
0300-0330	Amharic	deleted 7145, 7210, 9775
0530-0600	Croat	new 6180 via BIB (x6020)
1200-1300	English	new 21550 via IRA (x17820)
1300-1315	Albanian	deleted 11850, 13745, 17680
1300-1400	English	new 11920 via SAI (x9355), new 21550 via IRA (x21665)
1400-1500	English	addit new 21555 via IRA
1500-1800	English	deleted 21555 via IRA
1600-1700	Hindi	new 9820 via KAV (x9595)
1900-1930	English	deleted Mon to Fri broadcast to AF
2300-2400	Spanish	new 13710 via GR (x13750)

(17-Jan/Ivo Ivanov-BUL/Observer-BUL/BC-DX/Bueschel-GER)

UZBEKISTAN Radio Tashkent Some programs in
Uzbek for Uzbeks abroad identify as "Radio Vatandosh"
(Vatandosh=Homeland).

0000-0030	Uyгур	5040
0100-0130	English	5955 5975 7105 7285 9540
0130-0200	Dari	5955 5975 7285
0200-0230	Pashto	5955 5975 7285
0230-0330	Uzbek	5955 5975 7105 7285 9540
1200-1230	English	5060 5975 6025 9715
1230-1300	Urdu	5060 5975 6025 9715
1230-1300	Uyгур	5040
1300-1330	Hindi	5060 5975 6025 9715
1330-1400	English	5060 5975 6025 9715
1400-1430	Urdu	5060 5975 6025 9715
1430-1500	Mandarin	5040
1430-1500	Hindi	5060 5975 6025 9715

1520-1550	Dari	5975 6025 7285
1530-1600	Uyгур	5040
1550-1630	Uzbek	5975 6025 7285 9540
1630-1700	Persian	5975 6025 7285 9540
1700-1730	Arabic	5975 7105 7285 9540
1700-1730	Turkish	15165 15330
1730-1830	Uzbek	5975 7105 7285 9540
1830-1900	Persian	5975 7105 7285 9540
1900-1930	Arabic	545 5975 6025 7285 9540
1935-2030	German	5035 7105 9540 11905
2030-2100	English	7105 9540
2130-2200	English	7105 9540
2330-2359	Mandarin	5040

(BBCM)

ZIMBABWE 6045 **Radio 2** at 2048 most likely
Gweru with highlife vocals and announcements in
what seemed vernacular; chorus at 2156, buried by
VOA/THA s/on at 2158. Weak with constant stop
from both sides. Not sked on 6045 during this time
period, but Anker Petersen recently reported them
here after 1900. Not here or not audible since. (27-
Dec/Hill-MA)

UNIDENTIFIED TUNING OBJECT Unid Asian on
6003.97. I am looking for some help in IDing an
Unid Asian station heard on 6003.97 at 0045 on
18th Jan. Two small recordings of this station ap-
pear on the HF Latest Loggings page of the Online
DX Logbook at: <http://www.dxsheigra.freereserve.co.uk>
(20-Jan/Powell-UK/BC-DX/Bueschel-GER)
[Probably S. Korean clandestine Echo of Hope - see
CLANDESTINE-ASIA, above.-AQ]

"OA MX" JUST DOESN'T CUT IT ANYMORE

Henrik Klemetz and Jay Novello are pleased to
announce the Latin American Music Styles web
page, located at <http://havana.iwsp.com/radio/lamusic>. To assist in the identification of different
Latin music styles, they present 90 samples for your
listening enjoyment. Some of the styles represented
are tropical, vallenato, cumbia, huayno, huaylas,
chicha, pasillo, charanga, danzon, mambo, samba
and forro, as well as the possibly less familiar
joropo, bambuco, pasaje, bailecito, carrilera, zamba,
chamame and milonga. [It's a great resource and
quite entertaining in its own right-AQ] 

NOTICE: Ads from members are printed in the Journal at no cost whenever
space permits. Send all ads to NASWA, 45 Wildflower Road, Levittown, PA 19057.
Please use as few abbreviations as possible and then only standard ones. You want
your ad to be as understandable as possible.

Pirate Radio Report

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

Hello and welcome to the February 2000 edition of the **PIRATE RADIO REPORT**. Sorry about missing the column for January. A hectic pre-Christmas schedule and a last minute flu bug all contributed to the no-show.

Europirate Season Again

This is the time of year to try DXing those Europirates who inhabit the frequency spectrum between 6200-6400 kHz, especially if you live on the East Coast of North America.

The best time to try is between 0700-0900 UTC when many of these stations sign on, on Sunday morning. Reception should be possible through the middle of February, so give it try, you never know what you'll find. If you do hear any Europirates, send those logs into us at the Pirate Radio Report!

Loggings...

RBCN, Radio Bob's show #21 was heard on January 16th at 0048 UTC. Rock, jazz and original comedy were noted. Maildrop is: Box 24, Lula, GA 30554. [Zeller-OH]

RADIO AESOP was logged on December 19th at 0001. They played the "Fable Of Vases" and announced an email address of radioaesop@yahoo.com. [Wolfson-OH]

RADIO FREE SPEECH, the station that Bill O. Rights built, was noted on December 19th at 0149 UTC. Programming included Porky Pig singing "Blue Christmas", a Regis ad, a 1-900 Santa phone number. [Wolfson-OH]

RADIO GARBANZO was heard on December 18th at 2322 UTC. Sign on started with talk about the Lost In Space TV Show. Talk about Harry Penis, assistant DJ [now a porn star] and an ad for the "New Miricle Dick". [Wolfson-OH]

The **VOICE OF BONO** was heard on January 14th at 2200 UTC on 6954.93 kHz. Most likely a relay by another station, announced the long defunct Wellsville, NY [now Belfast, NY]. [Costello-NJ]

The **VOICE OF CAPTAIN RON SHORTWAVE** was logged by George Zeller on January 15th at 2329 UTC. Program was mainly rock music with reception reports requested at captainronsw@yahoo.com or else to the Free Radio Weekly newsletter. [Zeller-OH]

The **VOICE OF GREEN ACRES** was heard on December 18th at 0250 UTC on the usual 6955 kHz USB. The program began with the theme music from the TV show of the same name, a station ID by a male who then sang the words from the TV theme before signing off at 0302 UTC. [Neal-TX]

WHYP, was heard with their Christmas Special on December 18th at 2253 UTC. This was a Xmas tribute show to James P. Brownyard. The show closed with the theme song from the Dukes Of Hazzard. [Wolfson-OH]

WMFQ, aka as "Where's My F—ing QSL?" was logged on January 9th at 0531 UTC on the usual 6955 kHz. The Providence, RI maildrop was announced. Singing, whistling and music was played. [Neal-TX]

Many thanks to the following for logs. Pete Costello-NJ, Gary Neal-TX, Mike Wolfson-OH and George Zeller-OH.

Until next month, Happy Pirate DX! 

QSL Report

Sam Barto • 47 Prospect Place • Bristol, CT 06010



RADIO NACIONAL DE ANGOLA

via Kris Field

Caro Senhor

Acusamos a recepção da sua carta, sobre as condições de escuta da nossa estação emissora, na frequência de 2.225 KHz. aos 22.55 J no período das _____ às _____ e das 22.45 às 22.55 horas GMT.

Char Monsieur

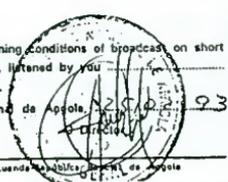
Nous agrecons votre lettre et vos informations sur nos conditions d'auditions sur la fréquence de _____ KHz. le _____ des _____ heures TMG.

Dear Sir

We received your letter listing conditions of broadcast on short wave frequencies of _____ KHz. listened by you _____ from _____ G.M.T.

Rádio Nacional de Angola

Cx. Postal 1329 • Telex 3066 Emissora AN — Luanda, Angola



Q
S
L

ASCENSION ISLAND: Radio Telefis Eireann

21630 via BBC f/d "Ireland" cd. in 2 mo. (Barto-CT).

ASIATIC RUSSIA: Voice of Russia 15465 and 15425 via Komsomolsk on Amur f/d "Mountain w/ Trees" cd. in 48 ds. (Humenyk-ONT).

15595 personal ltr. w/ questionnaire & schedule in 149 ds. (Glotzbach-NM). Deutsche Welle 12000 via Petropavlovsk f/d "Brandenburger Gate" cd. in 79 ds. v/s Horst Scholz,

15490 and 13810 f/d cd. in 3 mo. (Barto). Trans World Radio 5895 via Petropavlovsk f/d "Listeners" cd. w/ schedule in 2 mo. (Barto) Voice of Vietnam 7250 f/d "World Map" cd. in 73 ds. (Borokowski-NY).

AUSTRALIA: Radio Australia 6020, 9580 and 11650 via Shepparton f/d "Sunrise Behind The New Pacific Aerial Group - Shepparton" cd. w/ schedule and an ARDXC folder in 44 ds. v/s John Wright. (Humenyk-ONT). 11650 f/d cd. w/ schedule in 56 ds. (Glotzbach).

BULGARIA: Radio Varna 9774.7 f/d cd. in 3½ mo. (Barto-CT).

CANADA: CPVP 6030 f/d ltr. in 22 ds. (Glotzbach). Radio Telefis Eireann 13640 via Sackville f/d "Ireland" cd. in 2 mo. (Barto)

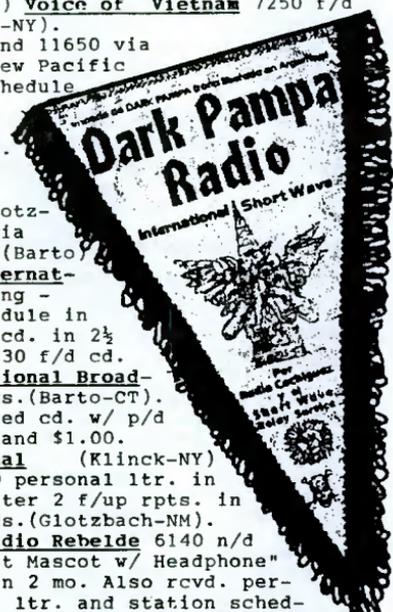
CHINA, PEOPLES REP. OF: China Radio International 11730 via Kunming f/d "Tuancheng - Round City" cd. w/ postcard and schedule in 2½ mo. (Barto). 15210 via Jinhua f/d cd. in 2½ mo. (Barto). China National Radio 11630 f/d cd. in 23 ds. (Klinck-NY). Guangxi Educational Broadcasting Station 5010 f/d cd. in 7 wks. (Barto-CT).

COLOMBIA: Ecos del Atrato 5019.8 prepared cd. w/ p/d ltr. in 12½ mo. for a SP rpt., tape and \$1.00.

COSTA RICA: Radio For Peace International (Klinck-NY) 15050 personal ltr. in EG after 2 f/up rpts. in 278 ds. (Glotzbach-NM).

CUBA: Radio Rebelde 6140 n/d "Heart Mascot w/ Headphone" cd. in 2 mo. Also rcvd. personal ltr. and station schedule. (Humenyk). China Radio International 9570 via Habana f/d "Yunnan State Forest" cd. w/o site in 6 wks. (Barto).

CYPRUS: Cyprus Broadcasting Corporation 9760 via Zyvi f/d "Building



Name: Henry Weissborn

Confirming Reception Report

Date: May 26, 1966

Time: 1301 to 1330 U.T.C.

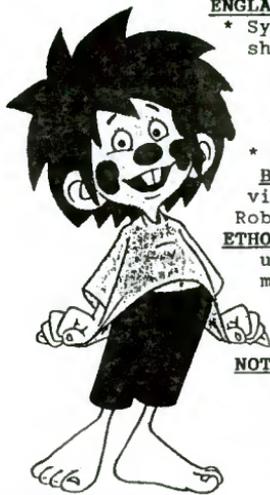
Freq: 11715

★ RADIO KJES QSL

KING JESUS ETERNAL SAVIOR
50 KW SW
THE LORD'S RANCH
MESQUITE, NEW MEXICO 88048

Thank you for your letter. God Bless you. Mike & Ruth

B Bayerischer
Rundfunk



w/ towers" cd. in 11 ds. v/s Pavlos Soteriades, Director general. (Humeny-ONT). f/d cd. in 18 ds. for an E-mail rpt. (Neal-TX).

ENGLAND: Global Sound Kitchen 7325 f/d "Global Sound

* System / Levi's / Ginger" cd. w/ program info. sheet in 10 wks. "GSK" is a joint venture between Levi Strauss ad agency and Ginger Media Group. My QSL was marked #10. (Craighead-KS). **Radio Korea International** 3980 via **Skelton** f/d "Seoul World Cup Main Stadium" cd. in 5 wks.

* w/ schedule and a newsltr. (Barto-CT). **Stafford Broadcasting Society "Imagination Radio"** 6010 via **Skelton** f/d cd. w/ personal ltr. in 1 mo. v/s Robert Leighton. (Barto-CT).

ETHIOPIA: Radio Ethiopia 7110 f/d blue cd. w/ schedule, station decal and an Ethiopian Tourist Commission brochure in 63 ds. for a taped rpt. and \$1.00. v/s Woinshet Woldeyes, Audience Re-

NOTES: Jose Moura of C.P. 42.670, Sao Paulo - SP, Brasil 04299-970 recently sent me a note. He is an avid collector of radio station stickers decals and station pennants. Anyone sending him something for his collection would be appreciated. Maybe, Jose could be of assistance in obtaining some of those elusive Brazilian QSLs.

lations and Programme Exchange Services Secretary. (Stewart-MO).

EUROPEAN RUSSIA: Voice of Russia 9890 and 9470 via **Samara** f/d cd. in 2 mo. w/ schedule. (Barto). 7260 via **Krasnodar** f/d cd. in 2 mo. (Barto). 7440 and 7390 via **Saint Petersburg** f/d cd. in 2½ mo. (Barto-CT). **Deutsche Welle** 15540 via **Moscow** f/d "Osterloog 1953 - Nauen 1998" cd. in 2 mo. (Barto). **Voice of Russia** 7125, 7300 and 9480 via **Moscow** and **Krasnodar** f/d "Mountain w/ Trees" cd. in 48 ds. w/ ltr. and schedule. (Barto).

GERMANY: Deutsche We-
lie 15275 via **Wert-**

Patriotische Union Kurdistan (P.U.K.)

Büro für Internationale Beziehungen

Postfach 21 0231, 10502 Berlin
Telefon: (030) 3448738 - Telefax: (030) 345 21 80
<http://www.puk.org>

Voice of the People of Kurdistan Radio

Samuel Barto

Dear Sir :

By order of our radiostation „Voice of the People of Kurdistan“ we hereby will confirm, that our radiostation was sending its program at the time you gave: 21 November 1996, from 03.30 - 03.40 h UTC on frequency 4189,9 kHz, and 27 November 1998, from 03.31-03.44 h UTC on frequency 4120 kHz.

We are very glad about your interest in our radioprogram, and we hope, the program could inform you about Kurdish culture and the Kurdish case in general.

The widening of informations about Iraqi-Kurdistan in the U.S.A. is very important to us. Therefore we ask you to spread your knowledge about the possibility to receive our program to other people in the U.S.A.

The broadcasting Station is located in the Northern non fly zone of Iraq, in the city of Suleimaniyah. Unfortunately, don't have any stickers, pins etc.

More information is available by internet.

You can find our internet address at the head of this letter.

We wish you also in future good reception.

Yours sincerely

S. Rashid
Salah Rashid

achtal f/d
"View from
Cologne" cd.
in 80 ds.

(Humeny-ONT)

Good News

World Radio

9405 via **Ju-**
lich f/d cd.
in 1 mo. (Bar-

to-CT). **RTBF**

International

21565 via **Ju-**
lich f/d cd.

w/ sticker &
schedule in
5 wks. (Barto)

* **Bayern 2 Rad-**

io 6085 via

Bayerischer

Rundfunk f/d

cd. in 9 wks.

* (Barto). **Mid-**

diedeutscher

Rundfunk 6085

via **Ismaning**

p/d "Logo" cd

w/ 3 refrig-

erator magnet

book, pencil

and sharpener



22nd November 1999

17675 KC

via Uhler 1803 - 1835 UTC

RADIO NEW ZEALAND INTERNATIONAL

PO BOX 2092, WELLINGTON 6000, NEW ZEALAND
TELEPHONE (64 4) 474 1437 FACSIMILE (64 4) 474 1433
E-Mail Address :- adrian@actrix.gen.nz

in 1 mo. v/s K. Grasse. (Craighead-KS). Hrvatska Radio - Televizija Croatia 9925 via Julich no QSL from Croatia so I sent rpt. to Deutsche Telekom for the QSL in 1 mo. Rcvd. schedule. (Glotzbach-NM).

GREECE: Voice of Greece

17705 f/d "Skyrian Jewerly" cd. in 18 ds. for \$1.00. Schedule and post-card rcvd. (Uhler-OR).

GUAM: Adventist World Radio

KSDA 11660 f/d "Tarzan Falls" cd. w/ schedule,

calendar and station sticker in 3 mo. (Barto). Trans World Radio KTRW 15330 via Merizo f/d "Antenna Slew Switches" cd. in 34 ds. w/ pocket calendar, personal ltr., rpt. forms and gospel literature. GUATEMALA: HRVC La Voz Evangelica 4820 f/d cd. w/ ltr. (Humenyк-ONT). calendar and schedule in 1 mo. v/s Modesto Palma, Director, Depto.



Комитет по телевидению и радиосвязи исполнительного комитета Мурманского областного Совета народных депутатов

РАДИОЦЕНТР (RTU)

11042 Мурманск, улица Пролетаров

на 18.03.91 № 122

на № _____ Удар. Мр. Eric Svedberg

Confirming your listening of our signals "RADIO MURANSK" on the 17th of November, 1978 at 18.15 to 11.00 Moscow time. Frequency 5930 khz (Monchegorsk Radiostation).

Sincerely /Честно инженер/ Peradar! D.V.
S. Murmansk 18.02.91.

to the QSL Column. Yes, George - your reports are fine and keep sending them in using the format which is easiest on you.....Sam.

de Trafico. (Humenyк-ONT).

IRAQ (Northern No-Fly Zone): Radio Kurdistan - Voice of the

* Kurdish Socialist Democratic Party

4120 f/d ltr. in 2 mo. for a rpt. to: Patriotische Union Kurdistans, Postfach 21 0231, 10502 Berlin. v/s Salah Rashid. (Barto-CT).

Voice of Iraqi Kurdistan

4189.9 f/d ltr. in 2 mo. Same addr. and v/s as above. (Barto-CT).

ISRAEL: Kol Israel 15650 f/d blue cd. in 60 ds. w/ schedule and report forms. (Humenyк-ONT). 11605 same in 44 ds. w/ schedule. (Humenyк). Galei Zahal 6442 f/d cd. in 3 mo. (Barto-CT).

JAPAN: Radio Japan 11715 via Yamata f/d cd. in 34 ds. w/ schedule and report forms. (Borokowski-NY).

KOREA, DEMOCRATIC PEOPLES REP. OF: KCBS

13650, 11335, 15230 and 9975 f/d "Floral" cd. in 3½ mo. w/ schedule. (Barto). 13759.8, 9335.2, 6575 and 11710 "Gateposts" cd. w/ schedule in 2½ mo. (Barto).



Stafford Broadcasting Society
PO Box 346
STAFFORD
ST21 6PU
United Kingdom

This QSL card confirms your reception of our soft rock music radio station 'IMAGINATION'.

Date: 26/11/99 Modulation: A3E

Time: 1952 UTC Tx power: 250kW

Freq: 6010kHz Tx location: Skelton, UK

Comments:

Dear Samuel, thank you for your letter and report, what a shame you caught only the last few minutes. Best wishes, Robert Leighton

Thank you for listening, tune in again soon!

RADIO NEW ZEALAND INTERNATIONAL

TE REKIRANGI O AOTEAROA O TE WHANAU MAORI

WWW.RNZI.COM



RTBF international



KOREA, REPUBLIC OF: Radio Korea International
15575 f/d "Seoul World Cup Main Stadium" cd. in 45 ds. w/ schedule and newsltr. (Stewart).
KALININGRAD: Voice of Russia 7330 and 7310

f/d cd. w/ schedule and station pin in 3 mo. (Barto-CT).

NEW ZEALAND: Radio New Zealand International 17675 f/d "Red, White and Blue Kiwi Bird / Flag" cd. w/ ltr. signed by Myra Oh in 29 ds. for \$1.00. Schedule and stickers were rcvd. (Uhler-OR).

PORTUGAL: Deutsche Welle 13720 via **Sines** f/d "Osterloog 1953 / Nauen 1998 Transmitter Sites" cd. in 80 ds. (Humenyk-ONT).

ROMANIA: Radio Romania International 15390, 17775 and 17790 f/d "Ox Driven Carts" cd. in 2 mo. w/ schedule. (Barto-CT).

11970 and 11810 f/d "The Draw Well by N. Grigorescu" cd. in 9 wks. w/ sticker and schedule. (Barto). 15365, 9690 and 11740 f/d cd. in 2 mo. w/ sticker and schedule. (Barto).

RUSSIA: Voice of Russia 5940 old style "Radio Moscow" cd. in 41 ds. (Klinck-NY). 9965, 9810, 7350 and 6185 f/d cd. w/ schedule in 2½ mo. (Barto-CT).

RWANDA: Deutsche Welle 17860 via **Kigali** f/d cd in 94 ds. (Humenyk-ONT).

SAO TOME: Voice of America 6035 and 11975 via

Pinheira f/d "Mammoth Mountain, California and National Monuments" cds. in 56 ds. (Humenyk-ONT).

SAUDI ARABIA: Broadcasting Service of the Kingdom of Saudi Arabia 15345 p/d ltr. in 2 mo. w/ colorful schedule. (Barto)

SINGAPORE: Swiss Radio International 13735 cd. in 2 mo. w/ schedule (Barto)

SLOVAKIA: Radio Slovakia International 9440 via **Rimavska Sobota** f/d "Bratislava - Michal's Tower" cd. in 96 ds. (Humenyk-ONT).

SOUTH AFRICA: Adventist World Radio 6015 via **Meyerton** f/d "3D Flower" cd. w/ calendar in 96 ds. for \$1.00. Addr: AWR - Africa, P.O. Box 42276, Nairobi, Kenya. (Clement-GA).

SWEDEN: Radio Sweden International 18960 f/d cd in 18 ds. w/ schedule. (Borokowski-NY).

TAIWAN: Radio Australia 11550 f/d "ABC Southbank Centre" cd. w/ site * in 2 mo. (Craighead-RS). f/d "Regent Bowerbird" cd. in Cambodian in 68 ds. v/s John Wright. (Humenyk-ONT).

TURKEY: Voice of Turkey 9445 f/d "Woman in Headdress" cd. in 61 ds. w/ schedule and tourist brochures. (Humenyk). 7300 cd. and schedule in 284 ds. after 2 f/up rpts. I also rcvd. a receipt for the \$5.00

I enclosed for the Turkish Earthquake Relief Fund. (Glotzbach-NM).

Not enough material to justify another page. Best of QSLing till next month...73s

Sam



Net Notes

Tom Sundstrom • P.O. Box 2275 • Vincentown, NJ 08088-2275 • Fax: 609-859-3226 • trs@trsc.com
<http://www.trsc.com>

Some persons insist real radios must glow in the dark and weigh more than 20 Kg. Such were the classic British Eddystone receivers that gave users hernias. (We did our share of straining with the numerous Hammarlunds in the 1950's and 1960's.) Now there is a Web site titled "The Story of Eddystone Radios from 1898 to 1973." Read the background and history, and review the models at <http://www.qsl.net/eddystone/>.

David Kernick has one of the better Web sites with interval signals. He posted this information into a newsgroup in early January: "Takhar Radio broadcasts from the north of Afghanistan in support of the anti-Taliban Northern Alliance led by Ahmad Shah Masud and Borhanoddin Rabbani. It can currently be heard in Europe from 0230/0235 till 0330-0335 gmt on 7000 kHz." You can hear a clip of this station signing-on at <http://home.clara.net/dkernick/>.

Another DX'er's resource has appeared on the Web. Knowing the backgrounds and the knowledge of the persons involved, this site is a good one for those who listen for the Latin American stations on MW and in the tropical bands. The press release states:

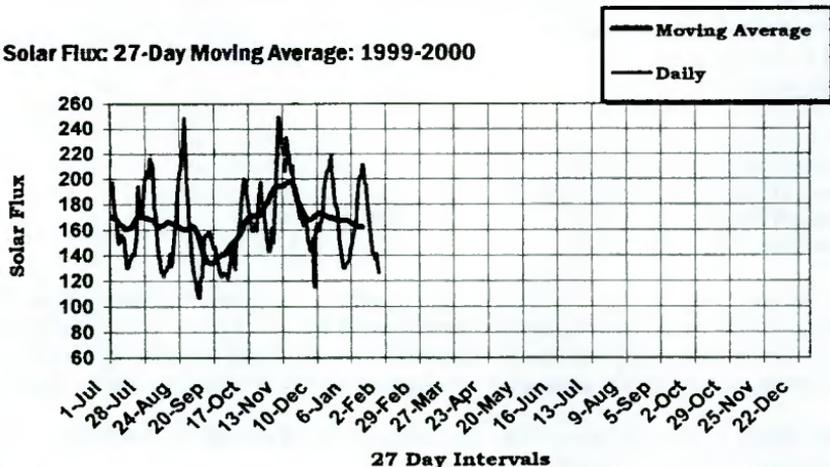
"Henrik Klemetz and Jay Novello are pleased to announce the Latin American Music Styles web page, located at <http://havana.iwsp.com/radio/lamusic/>.

If you have the Ten-Tec RX-320 PC receiver, check out this one-stop page for everything you ever wanted to know about the unit: <http://www.geocities.com/CapeCanaveral/Lab/5137/rx320.html>.

The Winterfest forums schedule is now available on our Web site.

Software notes. Listening around the world to the New Year's Eve celebrations was a fun experience. We used a combination of shortwave and the Internet to hop through the timezones, moving westward just before the top of each hour. Taping off the receiver was no problem, but we wanted to record some of the RealAudio streams too. Windows balked at two devices using a driver at the same time. The solution? High Criteria's Total Recorder. This nifty — and inexpensive — software package can intercept and record while RealMedia's RealPlayer is sounding off. You can find it at High Criteria's Web site at <http://www.highcriteria.com/>. The registration cost is only \$11.95. We consider it a bargain.

Solar Flux: 27-Day Moving Average: 1999-2000



Contributors' Page

Fred S. Kohlbrenner • 2641 S. Shields St. • Philadelphia, PA 19142 • fkohl@ix.netcom.com

DEADLINE FOR CONTRIBUTIONS IS THE 10th OF THE MONTH

The following members sent in contributions:

Brian ALEXANDER, Mechanicsburg, PA NRD-545 AOR AR-7030 100' LW
Ralph BRANDI, Tinton Falls, NJ R8 PRI150 Dressler ARA60, 250' LW
Ross COMEAU, Andover, MA R8 325' LW
Peter COSTELLO, Matawan, NJ AR3030 DX-390 YB400 70' LW Tur-4A
Rich A. D'ANGELO, Wyomissing, PA R8 HF150 FL-3 AD Sloper LW
Nicolas ERAMO, Buenos Aires, ARGENTINA Sony 2010 ICF-7600 7600G LW's
Marlin FIELD, Hillsdale, MI NRD-535D Eavesdropper LW
Jeff FINDLATER, Los Angeles, CA
Mark FINE, Remington, VA
Bob FRASER, Cohasset, MA Sony ICF-2003 ICF-SW100s 2m LW
George GLOTZBACH, Santa Fe, NM R8B ARA-60
Bob HILL, Littleton, MA Sony 2010 120' dipole at 35'
Ron HOWARD, Monterey, CA NRD-535D 60' LW
Mark HUMENYK, Weston ONTARIO Magnavox D-2935 AN-60 DX-SWL sloper
Jerry KLINCK, East Aurora, NY R8 HQ-180AX 80' LW 60m dipole
Fred KOHLBRENNER, Philadelphia, PA R8 NRD-525 Datong FL-3 ANC-4 Sloper
Harold LEVISON, Philadelphia, PA R8 R70 YB400
Jerry LINEBACK, Scranton, KS Icom 746 beverage antennas
Jack LINONIS, West Middlesex, PA DX-375 DX160A NCX-20 65' LW Sloper
George MAROTI, Mt. Kisco, NY R8B 2010 T2FD 30/45m dipoles
William McGUIRE, Cheverly, MD DX-380
Jim MOATS, Ravenna, OH FRG-7700 LW
Bob MONTGOMERY, Levittown, PA R388 DX Pro active antenna
Gary NEAL, Sugarland, TX Grundig YB-400
Don NELSON, Beaverton, OR (3)HF1000A's NRD-545 Collins 2050 R7A
Ed NEWBURY, Kimball, NE WJ-1000 R8 60'Sloper 20' loop
Scott NEWMAN, Indianapolis, IN Sony 2010 Eavesdropper 42' dipole
Jay NOVELLO, Wake Forrest, NC R8A LW's
Takayuki Inoue NOZAKI, Tokyo, JAPAN NRD515 NRD535 FRG7000
Dale PARK, HI
Denis PASQUALE, New Brighton, PA DX-440 with a 10 meter long wire
Sheryl PASZKIEWICZ, Manitowoc, WI R8 NRD-525 60' LW Eavesdropper
Bob RAYMOND, Nashua, NH R8B 20m 5/8 wave vertical
Chris RIGAS, Wood Dale, IL R-2000 Sony 2010 AD Sloper LW
Chuck RIPPEL, Cornland, VA WJ-HF1000A R8B R390A/SE-3 51s-1 LW's
Betsy ROBINSON, Clinton, TN Sony 2010 Indoor antenna
Giovanni SERRA, Rome, ITALY NRD-525 AD Sloper
Randy STEWART, Springfield, MO FRG-100 w/Collins filters
Gerald WITHAM, Keaau, HI R8 ANC-4 135' LW
Mike WOLFSON, Ashland, OH Drake SW-8

Don Nelson's logs are from his December dxpedition to Graylands, Washington on the shores of the Pacific Ocean. He was accompanied by Guy Atkins. They strung several beverages on poles in front of their cabin which looks right out to the ocean. After a storm the whole area where the beverages were strung became flooded and looked like a lake.

Don't forget to send in your totals for the Scoreboard column by February 15th. The spotlight for the next column is Europe.



Tropical Band Loggings

Sheryl Paszkiewicz • 314 Riverview Drive, Apt 16 • Manitowoc, WI 54220 • spasz@dataplusnet.com

- 2310 AUSTRALIA CAAMA R 1/8 1119 EG pops, poor (Line-KS) 12/31 1014 Mx call in pgm (Nels-OR)
- 2325 AUSTRALIA CAAMA R 1/8 1119 EG pops, fair (Line-KS) 12/31 1014 mx call in pgm (Nels-OR)
- 2390 MEXICO R Huayacocotla 12/17 0108* talks, local vocals, s/off ID & freq anmt, NA w/o mx (D'An-FCDX) 12/28 0055 full ID in s/off routine, short theme, sung NA (Nove-NC) 12/17 0031 talk, mx, deep fades (Wolf-OH)
- 2410 NEW GUINEA R Enga 12/18 *0700-1300* strong w/PNG mx, EG nx //4890 (Nels-OR)
- 2485 AUSTRALIA CAAMA R 1/8 1119 EG pops, fair (Line-KS) ABC 12/28 0942 jazz pgm & ID (Nels-OR)
- 3215 MADAGASCAR AWR 12/20 1550 hymns, IS, IDs (Nels-GRAY)
- 3215 SULAWESI RRI Manado 1/1 1219 IN YL, poor (Line-KS) 12/31 1010 weak w/IN mx (Nels-OR) 12/20 1535 EZL mx, talk (Nels-GRAY)
- 3220 ECUADOR HCJB 12/31 1025 Andean ballads, ID (Nels-OR)
- 3220 NEW GUINEA R Morobe 12/12 0812 Pidgin talks by OM (Nels-OR)
- 3223 INDIA AIR Shimla 12/18 1545 SC mx, Hindi talk (Nels-OR)
- 3245 NEW GUINEA R Gulf 0828 pop PNG mx (Nels-OR)
- 3250 HONDURAS R Luz y Vida 12/31 1145 ID, continuous mx (dead air btwn songs) ID 1225 (Nels-OR)
- 3260 NEW GUINEA R Madang 1/9 OM in Pidgin, EG nx 0900 (Nels-OR)
- 3264.7 SULAWESI RRI Gorontalo 12/20 1306 Jakarta nx, Bagimu Negeri anthem, ID 1311, lagu romantik (Nels-GRAY)
- 3265 SULAWESI RRI Gorontalo 1/1 1219 IN YL, poor (Line-KS)
- 3279.6 ECUADOR LV del Napo 12/18 1027 talk, prayer (Wolf-OH)
- 3285.7 UNID 12/21 2221 pop vocal, far too weak to spend serious time on. Namibia noted on both 3270 & 3290 at this time. (Hill-MA)
- 3300 GUATEMALA R Cultural 12/17 1020 YL talk in SP (Wolf-OH)
- 3310 BOLIVIA R Mosoj Chaski 12/17 2320 long talks, rustic vocals 2328 ID, poor (D'An-FCDX) 12/29 0058 tuned in at ID time guitar mx, talk (Nove-NC) 1/9 0938 Andes mx, OM in lang, tent ID 0951, mx, ID 1000 (Nels-OR)
- 3315 ADMIRALTY ISL R Manus 12/12 0803 YL anncr, nx, church mx, deep fades (Nels-OR)
- 3315 INDIA AIR Bhopal 12/18 1555 SC mx (Nels-GRAY)
- 3324.8 GUATEMALA R Maya 12/17 1040 mx, talk in SP (Wolf-OH) 12/31 1230 guenos dias, ID (Nels-OR)
- 3325 PNG R North Solomons 1/9 0822 PD talk, EG nx (Nels-OR) Is this back on Bougainville Island or still relayed by New Brit?--sp
- 3325 SUMATRA RRI Palangkaraya 12/20 1308 Jakarta nx, anthem (Nels)
- 3335 NEW GUINEA R E Sepik 1/9 0824 EG nx 0900 (Nels-OR)
- 3345 INDIA AIR Jaipur 12/13 0057 SC mx, weak, abrupt 0100* (Nels)
- 3345 MOLUCCAS RRI Ternate 1/1 1220 IN OM (Line-KS) 12/18 0851 Koran, YL ment Ternate (Nels-GRAY)
- 3345 NEW GUINEA R Northern 1/9 0902 PNG mx, Pidgin anmts (Nels-OR)
- 3346 BELARUS R Mayak 12/30 0317 pop mx, talk, IS 0329, YL reading nx (Fine-VA)

- 3365 **INDIA AIR Delhi** 1/7 1321 SC mx, ute QRM (Line-KS) 1/3 1538 nx //others ment Indian Airline jet, fade (Nels-OR)
- 3366 **GHANA GBC** 1/9 2352 EG cmtry, fair (Line-KS)
- 3370 **GUATEMALA R Tezulutlan** 12/20 0228 marimba mx, ID 0230 (Nels-GRAY)
- 3373.5 **UJAPAN NHK Osaka** 12/31 0851 JP talks //3607.5, 6005 (Nels-OR)
- 3375 **NEW GUINEA R W Highlands** 0831 PNG mx, OM (Nels-OR)
- 3380 **GUATEMALA R Chortis** 1/8 1200 ID, marimba mx (Nels-OR)
- 3385 **NEW BRITAIN RENB** 1/4 1326 EG & lang pops, no anmts (Line-KS) 1/9 0825 rel mx, preaching, EG nx //4890 (Nels-OR)
- 3395 **NEW GUINEA R E Highlands** 1/02 0831 PNG mx (Nels-OR)
- 3607.5 **UJAPAN NHK Osaka** 12/31 0851 JP talk //3373.5 (Nels-OR)
- 3905 **IRIAN JAYA RRI Merauke** 12/29 1159 SCI, nx, fair (Line-KS) 12/18 0830 superb sig, Koran, ID (Nels-GRAY) 1/10 1153 instl Mx, ID, SCI, another ID, nx (D'An-PA)
- 3905 **NEW IRELAND R New Ireland** 12/12 0809 C&W mx, faded in & out (Nels-OR)
- 3925 **JAPAN NSB** 12/31 0903 //6055, 9595, excited JP talk, seemed like horse racing pgm, not baseball (Nels-OR)
- 3935 **NEW ZEALAND ZLXA** 12/17 0944 talk, 5+1 TP, ID, nx (Nels-GRAY)
- 3945 **JAPAN NSB** 12/31 0903 //6115 JP trad mx (Nels-OR)
- 3976 **KALIMANTAN RRI Pontianak** 12/29 1159 SCI, nx (Line-KS) 12/31 1038 lagu romantik, ID, call ro prayer (Nels-OR)
- 3985 **S KOREA Echo of Hope** 12/31 1106 long talk in KR (Line-KS) 12/11 1740 KR dance & opera mx, OM, jammed (With-HI)
- 3995 **GERMANY DW** 12/17 0228 talking in GM (Wolf-OH)
- 4000.2 **SULAWESI RRI Kendari** 12/29 1146 IN talk, poor (Line-KS)
- 4003 **SUMATRA RRI Padang** 12/12 2204 SEAs mx, YL anmts thru muffled audio (G&R)
- 4460 **CHINA CNR-1** 12/12 1725 CH mx, Poet & Peasant Overture, YL, anthem to 1730* (With-HI)
- 4471.7 **BOLIVIA R Movima** 12/17 0926 Andean vocals, 0929 ID, long talk, poor (Kohl-FCDX)
- 4485.4 **PERU R Frecuencia VH** 12/17 2318 SP anmts, LA mx, some rel mx (Kohl-FCDX)
- 4534.2 **PERU R Horizonte** 12/19 0338 OA vocals, man w/ID & mentions of Peru, poor. (D'An-FCDX)
- 4606 **IRIAN JAYA RRI Serui** 12/29 1159 SCI, poor (Line-KS) 12/20 1339 IN anmts, Jakarta nx, Bagimu Negeri anthem, ID (Nels-GRAY)
- 4725 **MYANMAR R Myanmar** 1/7 1238 pres Bamar (Line-KS) 12/20 1148 SEAs vocals, YL anncr, slow flute mx or IS, poss nx (Nels-GRAY)
- 4753.3 **SULAWESI RRI Ujung Pandang** 12/17 2143 talk, SCI, Jakarta nx, weak sig (D'An-FCDX) 12/12 2130 talk, ment RRI (G&R) 1/8 1201 local anmts, nx w/no SCI (Line-KS)
- 4760 **AND ISL AIR Pt Blair** 12/18 1157 talk, Hindi vocal, IDs 1200, more talk, fair at tune in but dropped like a rock (D'An-FCDX) 12/5 1147 Hindi film mx, S5 sig (Maro-NY) 12/18 1545 SC mx, Hindi talk (Nels-OR)
- 4765 **BRAZIL R Emis Rural** 1/10 0957 romantic vocals, ID, Close Encounters theme, ads, nx (D'An-PA)
- 4770 **NIGERIA R Nigeria** 12/19 0540 weak talk, Afr mx (Nels-GRAY) 12/31 2255 EG talk, NA, tone & off (Bran-NJ)
- 4775 **INDIA AIR Imphal** 12/18 1530 EG regional nx //others (Nels-OR)
- 4775 **PERU R Tarma** 12/17 1008 Andean mx, Tcs, EG ID 1029 (Kohl-FCDX) 12/31 1015 mx, anmts, IDs (Raym-NH) 11/26 1005 lively cumbias, IDs (Newm-IN)

- 4779.8 **GUATEMALA R Cultural Coatan** 12/19 1118 singing, talk, ID (Wolf)
- 4782.3 **ECUADOR R Oriental** 12/17 1035 ID, Tcs, Xmas mx (Kohl-FCDX)
- 4789 **IRIAN JAYA RRI Fak-Fak** 1/02 1223 Islamic pgm (Line-KS) 12/31 0946 IN talk, mx, ID (Nels-OR)
- 4790 **INDIA AIR Chennai** 12/13 0050 SC mx, anmts, heavy QRM from 4790.4 Pakistan (G&R) 12/20 0045 SC mx, anmts, sitar (Nels)
- 4790 **PAKISTAN Azad Kashmir R** 12/20 0140 call to prayer, discussions Koran, ID, nx (Nels-GRAY)
- 4790 **PERU R Atlantida** 12/17 1004 long talk, FC, Tcs, IDs interspersed w/OA vocals & flute mx (D'An-FCDX) 11/26 1026 huaynos, Buenos Dias Amazonia (Newm-IN)
- 4796.5 **BOLIVIA R Mallku** 12/17 2310 M talking to W, brief mx, ID 2312 (D'An-FCDX)
- 4799.7 **GUATEMALA R Buenas Nuevas** 12/17 1114 piano mx (Wolf-OH)
- 4800 **INDIA AIR Hyderabad** 12/13 0030 SC mx, anmts, dominated freq till 0045 when Latins took over (G&R) 12/18 1530 Hindi OM, EG nx, ID 1545 (Nels-GRAY)
- 4800 **LESOTHO R Lesotho** 12/19 0326 church svc w/gospel singers, hymns. Talk in pres Sesotho (Kohl-FCDX) 12/18 1615 bouncy Mbganga harmonies (Nels-GRAY)
- 4815 **BURKINA FASO R Burkina** 12/16 2213 FR talk by OM (Wolf-OH)
- 4824.4 **PERU LV de la Selva** 11/26 1034 ballads, govt anmts, IDs (Newm-IN)
- 4825 **BRAZIL R Cancão Nova** 12/28 0510 Braz mx, ment Mardi Gras, ad jingle, ID 0532 (Nels-OR)
- 4828 **ZIMBABWE ZBC** 12/18 1638 continuous lang talk (Nels-GRAY) 12/24 *0300 choral NA, lang talk, church mx, Afr mx, EG tlk (Alex-PA)
- 4830 **VENEZUELA R Tachira** 12/17 2315 talk, LA mx (Wolf-OH) 1/1 0345 horn mx, anncr screaming "dos minutos!" NA at 0400 (Bran-NJ)
- 4835 **AUSTRALIA CAAMA R** 0723 EG mx, poor (Line-KS)
- 4835 **GUATEMALA R Tezulutlan** 12/12 2230 Indian mx, SP talk, ment Guatemala (G&R)
- 4840 **ECUADOR R Interoceanica** 12/18 *0959 NA & comatose man w/opening anmts, ID. Vocal, 1005 TC (D'An-FCDX)
- 4840 **INDIA AIR Mumbai** 12/13 0035 SC mx, anmts, ad, talk (G&R) 1/7 1322 SC mx, fair (Line-KS) 12/30 1525 SC mx, YL anncr, ment Mumbai, 1558 ID (Nels-OR)
- 4845 **MAURITANIA ORTM** 12/19 2330 AR discussion, ME mx (Nels-GRAY) 12/23 2320 AR talk, Koran, on late for Ramadan (Alex-PA)
- 4845 **MOLUCCAS RRI Ambon** 1/8 1129* IN vocals, brief anmts (Line-KS) 12/31 0930 talk to crowd, IN mx, ID 1000 (Nels-OR)
- 4850 **CAMEROON Yaounde** 12/16 2104 EG nx, ID, mx, poor (Kohl-FCDX) 1/8 2054 EG Afr mx, anmts, EG nx 2100 (Raym-NH)
- 4850 **CHINA CNR-1** 1/02 2207 EG lessons, SEAs mx, exc (Ripp-VA)
- 4850 **INDIA AIR Kohima** 12/18 1226 Hindi vocals, flute mx, TP at 1230 EG ID & nx (D'An-FCDX) 1/7 1323 SC mx under China (Line-KS) 12/18 1610 SC mx. CH opera in background (Nels-OR) 12/31 1220 Hindi vocals, IS, EG ID (D'An-PA)
- 4860 **INDIA AIR Delhi** 12/13 0107 constant SC mx, YL anncr (G&R) OK, G&R is Germanotti & Rippel, not Guns n Roses—sp 1/8 1247 SC mx //3365 (Line-KS) 12/20 0107 SC mx, ad (Nels-GRAY) 12/3 1730 EG nx, Hindi nx, Indian mx //4910, 4920, 4950 (With-HI)
- 4870 **ECUADOR LV del Upano** 11/26 1050 prayers recited by children (Newm-IN)
- 4875 **IRIAN JAYA RRI Sorong** 1/8 1154* IN vocals, poor (Line-KS)
- 4875.3 **BOLIVIA R la Cruz del Sur** 12/27 2355 YL in local lang & some SP words, ID & ad string, mournful vocals w/guitar (Nove-NC) 1/10 0955 SP preaching, 1008 ID (Nels-OR)

- 4880 **INDIA AIR Lucknow** 1/7 1323 man in lang, het (Line-KS) 12/20 0115 Hindi anncrs, SC mx, flute, ad, jingle (Nels-OR)
- 4885 **KENYA KBC** 12/18 2108* Afr vocals, YL anncr, TP 2100, nx, poss anthem to s/off (Kohl-FCDX)
- 4890 **GABON RFI** Relay 12/28 0431 FR pgm (Nels-OR)
- 4890 **PAPUA NBC** 12/19 1137 singing, talk, pop mx (Wolf-OH) 12/19 1035 Xmas mx, EG talk, ID, TC (Kohl-FCDX) 1/02 2015 mx variety pgm peaking nicely (Ripp-VA) ***1/9 0825 PD church svc "yu pickanni belong Mi. I liken Him tu much (describing God's view of His Son). Nx later-"World War 2, thats 2, people die, no good time yet." 12/31 1231 phone in pgm, TCs (D'An-PA)
- 4895 **SARAWAK R Malaysia** 12/30 1501* //7270 Malay pop mx, anthem (Nels-OR)
- 4895.2 **INDIA AIR Kurseong** 12/21 0052 tones, IS, Vande Mataram, muffled speech, snarly flutes (Hill-MA)
- 4910 **INDIA AIR Jaipur** 1/7 1324 SC mx, poor (Line-KS)
- 4915 **BRAZIL R CBN** 1/1 0158 mx, phone calls, abruptly off at 0203 along w/Bandeirantes. Thought maybe Y2K related but was because of storm in area (Bran-NJ)
- 4915 **CHINA?** 12/16 2115 talk in what sounds like CH (Wolf-OH)
- 4915 **GHANA GBC** 12/19 0615 EG talk abt Afr politics, ID (Nels-GRAY) 1/12 2204 nx, ID, coming in better than I've hrd in months (Bran-NJ)
- 4920 **INDIA AIR Chennai** 1/7 1321 YL in lang (Line-KS) 12/19 0058 SC mx, ID 0100, talk (Nels-GRAY) Atkins was at this dpxpedition.
- 4925 **SUMATRA RRI Jambi** 12/18 2149 AR instl mx, YL anncr, SCI 2159, ID, poor (Kohl-FCDX) 12/29 1159 SCI (Line-KS)
- 4930.6 **HONDURAS R Costena** 12/18 0011 songs (Wolf-OH) 1/1 0240 SP mx & IDs (Raym-NH)
- 4940 **VENEZUELA R Amazonas** 1/1 mx pgm, 0500 sirens indicating New Year (Fiel-MI)
- 4950 **ANGOLA R Nacional** 12/19 2351 PT talk, fair, tent (Nels-OR)
- 4950 **KASHMIR AIR Srinagar** 1/3 0135 //4860 Hindi nx, call to prayer SC mx (Nels-OR)
- 4950 **SÃO TOME VOA** Relay 12/19 1950 hilife mx, EG ID. This strn is opening the band even b4 Ghana 4915 (Ripp-VA)
- 4950 **UNID Srinagar?** 12/31 1210 prayers hrd under China (lang ID'd as Hindi by Vaghjee) mx passages, talk, Auld Lang Syne on flute. No TP 1230, stronger than usual so may not be Srinagar (Maro)
- 4950.1 **PERU R Madre de Dios** 12/18 1012 SP prayers, hymn, Andean vocals fair sig (Kohl-FCDX)
- 4960 **DOMINICAN REP R Villa** 12/17 0310 LA mx, talk, ID 0315 (Wolf-OH)
- 4960 **VANUATU R Vanuatu** 12/18 0605 EZL mx, island mx, EG, into FR 0700, sing-sing mx. Drum/bird call IS, TC (Nels-GRAY)
- 4965 **BRAZIL R Alvorada** 1/10 1002 nx, ID, ad (D'An-PA)
- 4965 **NAMIBIA NBC** 1/1 0358* EG EZL mx, s/off anmts (Line-KS)
- 4965 **ZAMBIA Christian Vo** 12/18 1620 EG BBC excerpt, ID, TC (Nels)
- 4970 **INDIA AIR Shillong** 1/7 1325 SC mx, poor (Line-KS) 12/13 1608 SC mx (Nels-GRAY)
- 4975 **PERU R del Pacifico** 12/17 0952 anncr w/ID & tlk, mx bridge, poor (D'An-FCDX)
- 4976 **UGANDA R Uganda** 12/18 2100* EG Afr mx, ID, NA (Raym-NH)
- 4985 **BRAZIL R Brasil Central** 12/31 0908 PT nx, ID 0915 (Nels-OR) 11/30 2356 PT cmtry, poor (Hume-ON)
- 4991 **SURINAM R Apintie** 12/18 0330 LA & US pop mx, ads, ID 0339 (Kohl-FCDX)
- 4995.6 **PERU R Andina** 1/10 1013 excited talk & ID, Good, Bad and the Ugly theme mx, ads, talk (D'An-PA)

- 5005 **NEPAL R Nepal** 12/18 1206 talks (Wolf-OH) Check for TP on the quarter hour—sp 12/20 1415 EG nx, ment Macao handover (Nels) 12/31 1222 f-g string mx, talk //7164.4 (D'An-PA)
- 5009.6 **MADAGASCAR RTV Malagasy** 12/20 1645 nx, mx, poss ID (Nels-GRAY) 1/19 0255 IS (Pasz-WI)
- 5010 **CHINA CPBS-2** 12/12 2215 SEAs mx, YL in CH, EG lesson 2240 (G&R)
- 5010 **INDIA AIR Thiruvananthapuram** 1/3 0059 ID, Hindi nx, SC mx, long talk (Nels-OR)
- 5015 **TURKMENISTAN Turkmen R** 12/19 0116 instls, brief talk (poss narration) IS on guitar like inst. ID 0200 (Maro-NY)
- 5020 **NIGER LV du Sahel** 12/19 0555 C&W or SP sounding mx, 0800 FR ID, EG nx, R&B mx (Nels-GRAY)
- 5020 **SOLOMON ISL SIBC** 12/31 1231 EG Millennium pgm, phone calls, carrier floating around (Fine-VA) 12/16 1058 //1035 kHz (wow) Strong sig, EG full ID (Nels-GRAY) 12/31 1227 dance mx, TC, millennium show (Bran-NJ)
- 5025 **AUSTRALIA ABC** 12/18 0815 sports talk, pop mx, //4910 (Nels-GRAY)
- 5027 **PAKISTAN Quetta** 12/20 0140 Islamic call to prayer //4790. 4790 not // for following discuss. //for Koran, ID (Nels-GRAY)
- *5030 **BHUTAN BBS** 12/22-23 1153 OM vocal, brief talk, high pitched YL vocal w/flutes, EG anmts, theme mx, full EG ID. Hrd TP but suspect that was China mixing in. (Maro-NY) Way to go!!
- 5030 **COSTA RICA Dr Gene Scott R** 1/1 0825 //9725 (D'An-PA) 1/1 0420 EG rel talk, Gene Scott, big band mx //9725 etc (Alex-PA)
- *5034.8 **VIETNAM Dia Tieng Noi** 12/28 1205 solo YL vocal, anmts, ID'd by //6165 (Nove-NC)
- 5039.2 **PERU R Libertad** 12/18 1033 pgm of huaynos & IDs between songs poor w/lots of QRN (D'An-FCDX) 12/31 1124 ballad, echo ID, mx (Nels-OR)
- 5047 **TOGO R Lome** 12/16 2105 YL singing (Wolf-OH) 12/19 2342 jazz tune, R&B mx, s/off anmts (Nels-GRAY)
- 5050 **TANZANIA R Tanzania** 12/16 2055 YL singing, ID (Wolf-OH) tent on 12/22 1735 radio drama, children's chorus (With-HI)
- 5220 **CHINA CRI feeder** 12/4 1735 EG China Scrapbook, mx, ID (With-HI)
- 5240 **TIBET Xizang PBS** 12/6 1144 armchair level ID followed by CH songs (Maro-NY)
- 5256 **BELARUS R Mayak** 12/19 0610 RS talk, IS (Bran-NJ)
- 5500 **ETHIOPIA Vo Tigray Rev** 12/18 *0357 IS, woman w/ID, brief drum segment, OM w/nx, good (D'An-FCDX) 12/18 *0354 IS, talk over string mx, pres nx, instls //6315 (Kohl-FCDX) 1/18 0413 OM in lang, stringed inst (Pasz-WI)
- 5678 **PERU R Ilucan** 12/18 1006 OM talking over mx w/ID & huaynos, fair (D'An-FCDX) 1/1 0247* anmts, folk mx, ID w/o NA (Alex-PA)
- 5699.9 **PERU R Frecuencia San Ignacio** 12/18 0005 SP YL, Andean mx (Kohl-FCDX)
- 5835 **USA KAIJ** 12/22 0610 Dr. Gene Scott with rel tlc, ID (With-HI)
- 5840 **GERMANY TWR** 12/25 1730 lang IS, OM talk, Xmas mx, 1745* (With)
- 5845 **BULGARIA R Bulgaria** 12/17 2156 mx, talk, accordion, end of FR service (Wolf-OH)

Thank you to all. This month contributors from 14 states I think and 1 Canadian province. Nice turnout! I'm getting back into the DX groove myself now. 

International Band Loggings

Wallace C. Treibel • 357 N.E. 149th Street • Seattle, WA 98155 • nwhikers@gte.net

- 5900 **BULGARIA R Bulgaria** Sofia in RS 0345, tlk, RS dance and fun mx, p, //7400 (Witham HI 12/16)
- 5930 **RUSSIA R Netherlands** via Khabarovsk in DT *1329-1425*, mostly tlk, f-g (Field MI 12/22)
- 5940 **RUSSIA V of Russia** via Armavir in EG 0305, ID, natl & econ nx, g (McGuire MD 12/23)
- 59551 **COLOMBIA Caracol Villavicencio** in SP 0935, cmntry, TC, ID 0943 (Brandi NJ 1/12)
- 5960 **CANADA R Japan** relay in JP 0320, ezl mx, JP mx, NHK ID, JP vocals, f (Witham HI 11/29)
- 5975nf **BOLIVIA RN Cochabamba** in SP 1005, ID, tlks, romantic SP songs, xylophones (Nelson OR 1/9) 1kw
- 5975 **UNITED KINGDOM R Japan** relay in EG 0635, study of JP mx, ID, //11840 (Witham HI 12/21)
- 5975 **ANTIGUA BBC** relay in EG 0000, Big Ben bonging in the 21st century, exc (Newbury NE 1/1)
- 59858 **MYANMAR R Myanmar** in Burmese? 1210-1241, ads?, tlks, "bong mx" bridges (Maroti NY 12/26)
- 5985 **PAPUA NEW GUINEA NBC** Rabaul Karai Svce in EG & Pidgin 0705, sked, mx, ID, children's pgm "Puss in Boots" probably from the BBC, f (Witham HI 11/29)
- 6005 **ASCENSION ISLAND BBC** relay in EG 0700, ID, nx, cmntry, interviews, f (Findlater CA 12/21)
- 6005 **SEYCHELLES BBC** relay in SH 1750, nx abt Africa, repts, ID, QRM from 6003, f (Witham HI 12/1)
- 6010nf **UNITED KINGDOM Imagination Radio** via Merlin Network One Skelton in EG 1944, pop mx: Bob Dylan, ID including web site and Xmas greetings, p-f, off 1959, Fridays only (Fine VA 12/24)
- 6015nf **GERMANY Radio RSG** Solingen with once a yr special relay of its FM pgm in GM 0836-0914, pop & rock vcls in EG, DJ, ads, jingles, nx 0900, f-g-p at t/o, co-channel QRM (D'Angelo PA 1/1)
- 6015 **CANADA R Austria** relay in GM/EG 0525, opera mx, into GE 0530, ID, rpt, f (McGuire MD 1/2)
- 6020 **AUSTRALIA RA** in EG/Pidgin 0906, sing-sing mx, salute to military in Bougainville, RA ID and ID's as "R Bougainville"?, ment of volcanic eruption in 1994, exc (Nelson Dxpdition 12/18, Wolfson OH)
- 6035 **BOTSWANA VOA** relay in EG 0344, phone interview about Russia, f (Humenyk ONT 11/30)
- 6045 **ZIMBABWE ZBCC** in Gweru? 2048, hilfe mx, anmts, chorus, buried by VOA 2158* (Hill MA 12/27)
- 6050 **NIGERIA RN Ibadan** in EG 2058, drum mx, ID, pips, nx, features, mx pgm, p-f (D'Angelo PA 1/8)
- 6055 **SPAIN REE** Noblejas in EG 0010, Russia sends US diplomat home for spying, g (Newbury NE 12/2)
- 6060nf **OMAN BBC** via Masirah Is relay in EG 1800, "Starship English" sci-fi comedy, g (Witham HI 12/1)
- 6100nf **NORTH KOREA R Pyongyang** in KR 0800, IS, tlk, lcl mx, weak sig, //93449 (Alexander PA 12/12)
- 6105 **JORDAN R Jordan** Home Svce in AR 2151, AR mx mixing w/R Liberty, //9830 (Brandi NJ 12/10)
- 6105 **NEW ZEALAND RNZI** (on occasional fqy) in EG 1059, bells hrd under WYFR, countdown to new millenium, fireworks, rpts from around the country, nx, Kiwi mx (Brandi NJ, Moats OH 12/31)
- 6110 **CANADA R Japan** relay in EG 0500, rpt on Y2K, possible effects on financial affairs (McGuire 1/4)
- 6115 **PERU R Union** Lima in SP 0740, SP & Xmas mx, echo ID, TC (Raymond NH, D'Angelo FCDX-PA)
- 6120 **GERMANY R Vilnius** relay via Jülich in EG 0035, xmsn to ECNA, details on Lithuanian nuclear power, "station is Y2K ready", g (Pasquale PA 12/14) ED: Daily 1/2 hour transmission
- 6125 **URUGUAY SODRE** Montevideo in SP 0029, pips, ID (Radio "Sew-Dray"), tlking, classical opera, Xmas mx, Navidad and "America Hoy" mentioned, mx pgm (Nelson OR 12/24)
- 6130 **LAOS Lao National R** in lang 1145, mx, tlks, "Big Bells" IS 1159, then NA?, f-g (Maroti NY 12/12)
- 6150nf **COSTA RICA World Univ Net**, Dr G Scott in EG 0355, rel tlk, ID, fqy, sked, f, //9725 (Witham 12/6)
- 6165 **CHAD Rdif Nationale Tchadienne** in FR 2126-2230*, Afro pops, tlk, nx 2200, ID "Ici N'Dajmena...." at 2227, close w/NA (Newman IN 11/7, Brandi NJ 12/10, D'Angelo FCDX-PA 12/16)

- 6170 **SRI LANKA Deut Welle** relay in EG 1640-1645*, pgm on cryptology, ID, many //s (Witham 12/17)
- 61738 **PERU R Tawantinsuyo** Cusco in SP 1039, series of clear ID's, rustic vcls, f (D'Angelo PA 1/10)
- 6175 **CANADA BBC** relay Sackville in EG 0030, ID, African nx, rpt on health care, g (McGuire MD 12/16)
- 6195 **ANTIGUA BBC** relay in EG 1100, Yeltsin announces resignation, PM to succeed (Newbury NE 12/31)
- 6210 **ETHIOPIA R Fana** in lang *0408, group vcls, Horn of Africa mx, //6940 (D'Angelo PA, Wolfson OH)
- 6240nf **ARMENIA TWR Europe** relay via Yerevan in EG 0039, IS 0045, relig mx, tlk in a slow methodical preaching speech by OM, target C Asia, s/on 0015, s/off 0045, 100 kw xmtr (Costello NJ 1/4)
- 64797v **PERU R Altura** in SP 0055-0406*, ancmts, folk mx, ID, no NA, p (Alexander PA 12/19, Field MI 1/4)
- 65358 **PERU R Huancabamba** in SP 0010, frequent canned ID's, Andean flute mx, accordion mx, varied s/off times (D'Angelo PA 12/25, Brandi NJ 12/22, Alexander PA 12/19, Raymond NH 12/15, Field 12/25)
- 65749 **NORTH KOREA R Pyongyang** in SP 1840, martial mx, ID, tlk, muffled audio, f (Witham HI 12/1)
- 6674v **PERU R Nueva Sensacion** in SP 2340, chatty OM ancmts, ad string, OA vocals, nice echo effect ID over a song, f (D'Angelo FCDX-PA 12/16, Alexander PA 12/19, Field MI 12/17)
- 67976 **PERU R Ondas del Rio Mayo** in SP 2305-0150*, ancmts, OA folk mx, ID's, back to back huaynos (Alexander PA 12/19, Klinck NY 12/30, Rippel VA 1/2, D'Angelo FCDX-PA 12/16, Field MI 12/20)
- 7100nf? **ERITREA V of the Broad Masses** in Tigrinya or Oromo 1852, typical Horn of Africa vcls between ancmts, constant ham QRM, //7175, p-f (Hill MA 12/31)
- 7115 **BOSNIA R Yugoslavia** relay in EG 0100, NATO jurist investigating charges against NATO, France giving humanitarian aid, ID (Pasquale PA 12/14, Newbury NE 12/24, McGuire MD 12/22)
- 7125 **GUINEA Rdf Nationale** in FR *0604, abrupt s/on with "Ici Conarky", Afro pops & lcl folk mx, FR songs, many "Radio Guinee" ID's, strong sig (Alexander PA 12/31)
- 7125 **MOLDOVA V of Russia** relay in EG 0423+, tlk on NATO, ID, mailbag (Newbury NE, McGuire MD)
- 7130 **IRAN VOIRI** Teheran in lang? 2018, AR mx, ancmt, ID, no mention of New Year (Brandi NJ 12/31)
- 7175 **RUSSIA R Tikhyy Okean** Khabarovsk in RS *0815-0900, opens w/mx, nx(p), long dialogue, ID 0835, frequent mentions of Kamchatka, orch mx, more ID's, //7210, 7490 (Nelson OR 12/12)
- 7184 **BANGLADESH R Bangladesh** in EG 1234, nx, cmntry, lcl mx, ID "Bangladesh Batar", financial rpt, vg signal altho slow deep fades (Fine VA 12/28)
- 71904 **SRI LANKA SLBC** in Hindi(p) *0020, drums, native chorus, chanting, ID's, weak sig w/severe QRM from presumed VOA/PHL, improved after 0100, better signal on //11905 (Hill MA 12/18)
- 7225 **PORTUGAL Deut Welle** relay in EG 0625, human rights violations in Korea, ID (Witham HI 12/4)
- 7230 **INDIA AIR** Delhi in lang? 1800-1830*, clear "All India Radio, Delhi" ID, new pgm time? (Hill 12/23)
- 7230 **UNITED KINGDOM R Japan** relay in EG 0640, Xmas mx, ID's, into JP 0700, p (Witham HI 12/25)
- 7255 **NIGERIA V of Nigeria** in EG/FR 0637, int'l & business nx, ID 0657, then into FR, drums IS, audio muffled (Brandi NJ 12/19) in EG 1932, nx about military legal system, f (Humenyk ONT 11/30)
- 7270 **MALAYSIA RTM Kuching** Sarawak in ? 1501*, lcl pop mx, NA, no anmts, //4895 (Nelson OR 12/30)
- 7285nf **ITALY RAI** Rome in EG 1936, bird chirps IS, ID, cmntry (Humenyk ONT) ED: 20 min xmsn to WEu
- 7295 **MOROCCO VOA** relay in EG 0500, ID, African svce, rpt on hijacking, f (McGuire MD 12/28)
- 7295 **MALAYSIA RTM Radio 4** in EG 1144, pop mx w/DJ anmts, f with occ ham QRM (Brandi NJ 11/28)
- 7300nf **TURKEY V of Turkey** in TU 0050, interview, bridge mx, cmntry, //9445, 11980 (Humenyk ONT 12/9)
- 7325 **AUSTRIA ROI** Moosbrunn in EG 0245, ID, rpt on Armenia & Turkey, ment skiing (McGuire MD 1/5)
- 7365 **USA KNLS** Alaska in EG 1300, IS, ID, sked, Bible reading, rock mx, features, f-p (Moats OH 1/5)

- 7405 **CHINA CRI** Jinhua in EG 1600, "The holy fire of the Chinese nation is lit", Y2K (Newbury NE 12/31)
- 7445 **TAIWAN V of Asia** in EG 1105, YL with the nx, many ments Taiwan (Kohlbrenner FCDX/PA 12/18)
- 7500 **ROMANIA R Moldova Int** relay in EG *0430, nx, cmntry, ID, good level but the usual poor audio (Alexander PA 12/18) ED: Daily 25 minute xmsn to ECNA.
- 7545 **ISRAEL Kol Israel** Tel Aviv in HB 0055, tlks, mx, pips, ID, rpt on Syrian peace tlks (McGuire MD 1/5)
- 9450nf? **GERMANY R Samtec** via Jülich relay in SP 0245-0257*, tlk by OM, ment Denmark, ID at s/off, p //9470, 9810, 9860, 9945 (Witham HI 12/2) ED: LN for November (pg 28) lists R Samtec, Die Komische Welle (Cosmic voice?) but the ILG database lists the Voice of Russia for this fgy as well as all of the listed parallels from 0100-0300 in SP. Is Samtec a Russian outlet using Jülich relay?
- 9465nf **USA R Taipei Int** via WYFR in EG 0005, pgm on New Years celebrations in Taipei, ID's for WYFR and R Taipei Int, exc (Alexander PA 1/1) Probably a spec bcst for New Years. Not hrd next nite.
- 9505 **PHILIPPINES R Veritas Asia** in IN *2300-2325*, ID, relig tlk, hymns, //11820 (Findlater CA 12/18) hrd in EG 1158 with ID "This is Radio Veritas Asia, Quezon City, Philippines (Brandt NJ 12/17)
- 9505 **JAPAN R Japan** Tokyo in EG 1500, nx, Y2K glitch in Korea, court notices dtd 1900 (Newbury 12/31)
- 9515 **CANADA BBC** relay Sackville in EG 1400, Y2K Mozart concert in Salzburg, g (Newbury NE 12/25)
- 9520 **SPAIN R Liberty** relay in RS 0600-0700*, nx, "Santa Claus is Coming to Town", f (Findlater 12/20)
- 9535 **CANADA D Welle** relay in EG 0336, cmntry on whaling off coast of Iceland, exc (Humenyk 11/30)
- 9550 **CUBA RHC** in EG 2230, feature on hurricanes in Cuba, Venezuelan politics, exc (Robinson TN 1/1)
- 9570 **SOUTH KOREA R Korea Int** in EG 0800, nx, cmntry, local mx "Technical Corner" with book review on Joe Carr's Loop Antenna Handbook, f (Alexander PA 12/12)
- 9580 **AUSTRALIA RA** in EG 1250-1305+, Y2K tlk, countdown to midnight, Melbourne fireworks, nx rpts on hijacking crisis (Moats OH, Brandt NJ 12/31) pgm on Bougainville crisis 1120 (Fraser MA 12/14)
- 9590nf **SINGAPORE R Singapore Int** in EG 1149, Xmas mx, ID, tlks (Klinck NY 12/18) in EG 1115, pgm on asteroids hitting Earth (Wolfson OH 12/18) in EG 1150, pop mx, covered by CRI* 1156 (Brandt 12/17)
- 9590 **NORWAY RNI** in NO 1602, mx, tlk, IS, s/off 1630, into relay of R Denmark (Wolfson OH 12/18)
- 9595 **JAPAN R Tampa** in JP 0903, excited tlk by OM & YL, horse racing?, //6055, exc (Nelson OR 12/31)
- 9610 **CONGO RTV Congolaise** in FR 1647-1701*, ments of Congo & Brazzaville, brief soukous mx, off abruptly at 1701, g (Nelson Dxpediton WA 12/18)
- 9611 **TAIWAN R Taipei Int** in EG 1206, many nx items, wx rpt, high 16 cent, full ID (Brandt NJ 12/17)
- 9620 **URUGUAY SODRE** Montevideo in SP 0029, ID (Sew-Dray), classical opera-like mx, SP version of Silent Night, 5+1 time pips 0100, "America Hoy" mx pgm . //6125 (Nelson OR 12/24)
- 9620nf **GERMANY Swiss R Int** relay Jülich in IT 1644, nx, language lesson, ID 1658 (Wolfson OH 12/18)
- 9630 **SEYCHELLES BBC** relay in EG 2000, world nx, rpt on Indonesia, ID, p (McGuire MD 12/20)
- 9640 **PORTUGAL Deut Welle** relay Sines in EG 0300, IS, ID, rpt on peace tlks in M East, g (McGuire 1/4)
- 9645 **BRAZIL R Bandeirantes** São Paulo in PT 0150, concert, speeches, canned ID, abruptly off 0157 but back on by 0228 (Brandt NJ 1/1) in PT 0435, mix PT/US mx, ID, //11925 (Kohlbrenner FCDX-PA)
- 9650 **CANADA R Korea** relay in EG 1138, electronics firm upgraded by Std & Poors, ID (Fraser MA 12/14)
- 9655 **TURKEY V of Turkey** in EG 2300, "DX Corner", feature on TK Cypriots, ID, exc (Robinson TN 1/1)

- 9660 **VATICAN STATE** *Vatican R* in FR 0247, interview pgm broken up by R Japan *0300 (Newman IN)
- 9665nf **SINGAPORE R** *Singapore Int* in IN 1218, mostly tlk (Brandi NJ 12/17) ED: See Dec LN (pg 22)
- 9685 **JAPAN R** *Japan* Tokyo in JP 0800, nx, coverage of Kyushu Grand Sumo Tournament (Park HI 11/22)
- 9690 **SPAIN REE** Noblejas in Ladino 0415, IS, ID, lcl nx, SP mx, fqy, sked (McGuire 12/28) ED: Tues only
- 9765nf **CANADA D** *Welle* relay in EG 0100, ID, nx bulletins, "Newslink", f, //6040, 9640 (Moats OH 1/6)
- 9770 **THAILAND VOA** relay Udon Thani in EG 2235, rpt on Mid East tlks, speech, ID, p (McGuire 12/15)
- 9780nf **ECUADOR HCJB** Quito in EG 0715, "Studio 9", rpt on City of Midgets in Brazil (Witham HI 12/16)
- 9790nf **JAPAN R** *Japan* Tokyo in JP 2305, baroque mx, Handel piano arrangem'ts, //17810 (Witham 12/17)
- 9795nf **GERMANY** *Overcomer Ministries* relay Jülich in EG 2230-2259*, Brother Stair sermon on number "666", book promos, //9875 (Newman IN)
- 9835 **HUNGARY R** *Budapest* in EG 0210, nx re changes in the Romanian govt, f (Pasquale PA 12/14)
- 98551 **KUWAIT R** *Kuwait* in AR 0250, mx w/DJ, TP's, ID at 0300 (Brandi NJ 1/12) Listed sked 1800-2400
- 9860nf **RUSSIA V of Russia** via Armavir relay in SP 0131, "Mundo el Dia" world nx (Newman IN) 1000 kw!
- 9870 **SAUDI ARABIA BSKSA** Riyadh in AR 2130, continuous chanting, f, //9555 (Findlater CA 1/11)
- 9885 **BOTSWANA VOA** relay in EG 0301, "VOA News Now", f-p QRM, //7105, 7340 (Moats OH 1/1)
- 9900 **EGYPT R** *Cairo* in EG *2300-2400, AR mx, nx, Happy New Year greetings from R Cairo employees, pips, ID, strong sig w/clean audio (Alexander PA 12/31, McGuire MD 1/1)
- 9945nf **NORWAY R** *Norway Int* in NO 0000, nx, ID, //9935 (Findlater CA 1/10) ED: Must be repl for 9940
- 9990 **EGYPT R** *Cairo* in EG 2130, 1999 in review, Happy New Year wishes at 2200, bad hum made it a painful experience to listen (Brandi NJ 12/31)
- 10330 **INDIA AIR** Delhi in HD? 0134, nx, ID, subcont mx, chants (Nelson OR 12/13, Wolfson OH 12/19)
- 11570 **PAKISTAN R** *Pakistan* in Urdu 1751-1901*, ID's, Pakistani vocals during mainly mx pgm, closed w/ choral NA, f (D'Angelo PA 12/25) in EG 1437, mx, cmntry by OM, f (Humenyk ONT 11/30)
- 11620 **INDIA AIR** Bangalore in EG 1810, nx, local classical mx, ID, //7410 (Newman IN) in EG 1815, PM's New Year's tlk, ID, "New Century" feature (Brandi NJ) in EG 2102, nx, feature, //11715 (Wolfson OH)
- 11660nf **GUAM KSDA** Agat AWR relay to C Asia in EG 1016, nx, Xmas mx, tlk re England (Field MI 12/24)
- 11675 **CHINA** *China R Int* Kunming in EG 1209, xmsn to SE Asia, nx, ID's (Klinck NY 12/18)
- 11690 **JORDAN R** *Jordan* in EG 1640, countdown of pop songs on Xmas eve, g (Newbury NE 12/24)
- 11705 **BRAZIL R** *Nova Visão* Santa Maria in PT 2305, sermon, relig mx, ID (Klinck NY 12/9)
- 11710 **ARGENTINA RAE** Buenos Aires in EG 0255, in-studio New Years celebration, tango mx (Brandi NJ) in EG 0240, rpt on judicial reforms and usual tango mx, f (Pasquale PA 12/14)
- 11725nf **TAIWAN WSHB** Herald BC relay in EG 0930-1000*, Boston QTH, xmsn to C Asia (Field MI 12/25)
- 11725 **GERMANY VOA** relay Lampertheim in RS *1000, lang lesson?, s/on after Taiwan s/off (Field 12/25)
- 117341 **TANZANIA RT** *Zanzibar* in SH 1818, AR type and Congolese-style mx w/YL DJ, IS, pips at TOH, nx ID "Sawti ya Tanzania Zanzibar" (Brandi NJ 12/22)
- 11735 **MALI** *China R Int* relay in PT 1930, ID in Mandarin, nx in PT, weak but intelligible (Brandi 12/22)
- 11755nf **GUAM KSDA** Agat AWR relay to Asia in EG 1345, ID as Adventist World Radio, mx, QTH England, website, no mention of new year, much splash from RHC on 11760 (Brandi 12/31) Listed 1330-1400.
- 11765 **PORTUGAL D** *Welle* relay Sines in EG 1905, tlk on WTO, rpt on AIDS, //15390, g (Witham HI 12/1)
- 11780 **BRAZIL RN da Amazonia** in PT 0830, talk show, call-ins, ID's, p-f (Brandi NJ 12/17)

- 11785 **BRAZIL R Guaiba** in PT 0230, mx, ID, testing new xmtr beamed to Argentina, exc (Witham HI 12/11)
- 11800 **ITALY RAI** Rome in IT 2300, nx, Italian mx, dialogue (Linonis PA 11/10) in EG 0050, item on family spending and the poverty level in Italy, g (Farser MA 12/15)
- 11820 **SAUDI ARABIA BSKSA** Riyadh in AR 2300, Holy Qu'ran svce w/chanting (Linonis PA 11/11)
- 11870 **JAPAN R Japan** Tokyo in JP 0245, tlk, interview, ezl mx, ID, g, //17865 (Witham HI 12/15)
- 11885nf **SEYCHELLES FEBA Radio** in SH *0315, IS, ID, nx, relig tlk, Afro mx (Newman IN 11/29)
- 11895 **INDIA AIR** Delhi in Dari 0305, prayers, nx, regional pop mx, p, //11735 (Witham HI 12/15)
- 11895 **FRENCH GUIANA R Japan** relay in SP *0500, ID, rpt on nuclear accident, g (McGuire MD 12/22)
- 11900 **USA WWBS** Macon, GA in EG 0035-0200*, live sermon, exc (D'Angelo FCDX-PA) Weekends only
- 11905 **SRI LANKA SLBC** Colombo in lang? 1200, ID, lcl mx, tlk, xmsn to S Asia (Klinck NY 12/18)
- 11910 **GERMANY Swiss R Int** relay Jülich in AR 1915, mx, tlk, ID, fair w/echo, //13660 (Witham HI 12/1)
- 11915 **SAO TOME VOA** relay in African dialects *0330, nx re Chechnya, Yeltsin, f (Findlater CA 1/11)
- 11915 **BRAZIL R Gaucha** Porto Alegre in PT 0949, tlking over mx, vcls, ads, pips, ID, nx (D'Angelo 1/10)
- 119404 **CAMBODIA Nat'l Voice of Cambodia** in EG/FR 0010, mx at t/in, ID in EG, 30 secs of silence, IS, in FR w/OM talking over mx, nx? items, more mx, into pgm in Asian lang, p (Kohlbrener PA 12/12)
- 11960 **IRAN VOIRI** Teheran in RS 1402, cmntry, bridge mx, nx, f, //9575, 9735 (Humenyk ONT 12/9)
- 11980nf **NETHERLAND ANTILLES R Vlaanderent Int** (Belgium) relay Bonaire in EG 0400, n'tl & political nx, sports summary, wx forecast, ID, g (McGuire MD 12/28)
- 11990 **KUWAIT R Kuwait** in EG 2040, western pop mx, ID's, nx, sked, fqys, New Year's greetings/wishes, NA, pips, signal mixing with R Cairo, f (Brandt NJ 12/31)
- 12030 **GABON R Japan** relay in RS/SP/IT/SW/GM/FR *0430, tlks, nx, mx over 2 hr listening period through 0630 (RS to 0500, SPat 0500, IT 0530, SW 0545, GM 0600, FR 0630), p (McGuire MD 12/28)
- 12080nf **GERMANY Adventist World R** relay Jülich in AR 0748, tlks, ID, relig mx in AR (Nelson OR 12/28)
- 12085 **MONGOLIA V of Mongolia** Ulan Bator in Mongolian(p) 0955, 3 IS iterations 0959 (Brandt NJ 12/17)
- 12085 **SYRIA R Damascus** in AR *1400-1455*, ID, call-in pgm, varied mx, Holy Qu'ran (Robinson TN 1/2)
- 12090nf? **ALBANIA TWR** relay in Farsi 1708-1759*, refs to "Ibrahim", Monte Carlo QTH, IS (Hill MA 12/28)
- 12095 **ASCENSION ISLAND BBC** WS relay in EG 2357, tlk re London's 2000 festivities, Big Ben ringing in the new yr, "The World Today", rpt on hijacking crisis, f, //15360 Moats OH 12/31)
- 13630 **INDIA AIR** Bangalore in Burmese 0112-0130*, Burmese mx, ID? (Nelson OR 1/4) ED: 1/2 hr xmsn.
- 13645nf **MADAGASCAR RVI** Belgium relay to E Afr in DT 1900-2000*, ID, pop mx, f (Findlater CA 12/19)
- 13665 **RUSSIA VOR** Petropavlovsk relay in EG 0209, nx, "Commonwealth Update", //7180 (Moats 12/31)
- 13710 **BOTSWANA VOA** relay in EG 2215, ID, promo for HIV prevention. g (McGuire MD 1/4)
- 13750nf **INDIA AIR** Bangalore in EG 1930, election results in New Zealand, ID, HD mx, g (Witham HI 12/1)
- 13750nf **COSTA RICA World University Net** in EG 0121, Dr Gene Scott sermon, f-p, //9725 (Moats 12/31)
- 13790 **GERMANY Swiss R Int** relay Jülich in AR 1711, phone interview, cmntry, //9620, f (Humenyk 12/7)
- 13695nf **THAILAND R Thailand** via VOA xmtrs in EG 0040, sports, ID, nx recap, chimes (Brandt NJ 12/22)
- 15120 **CUBA China R Int** relay in SP 0056*, CH mx, ID, skeds, repl Mali relay, //5990, f (Findlater CA 1/8)
- 15140 **INDIA AIR** Bangalore in RS 1612, over HCJB, mx, 2 min silence, IS, ID 1615 (Brandt NJ 12/21)
- 15140 **OMAN Radio Oman** in EG *1400, ID for EG pgm, heavy HCJB QRM (D'Angelo FCDX-PA 12/17)
- 15160 **ALGERIA R Algiers Int** in EG 2000, nx, jazz mx, press review, lcl pops, ID, sked, QTH for rpts, pips, into FR 2100, //11715 (Alexander 12/25, D'Angelo 12/23) in FR 1607, tlks, pop mx (Humenyk 12/7)

- 15170 **COSTA RICA REEspana** relay in EG 2300, New Years festivities (Newbury NE, Levison PA)
- 15190 **PHILIPPINES R Pilipinas** in Filipino 1740, some EG interspersed, tlks, ID, f, //11730 (Fine 12/24) in Filipino 1930*, tlk, short selection of group vcls, ID & fqys in EG, f (D'Angelo FCDX-PA 12/17)
- 15210 **FRANCE RFI** in EG 1710, "The Bottom Line" business nx pgm, into FR 1730 (Newman IN 11/25)
- 15215 **SOUTH AFRICA Channel Africa** in PT 0530, ID in EG 0600, headline nx, g (Findlater CA 1/10)
- 15225 **UNITED KINGDOM BBC** Wooferton in RS 1630, nx, cmntry re Chechnya (Linonis PA 12/10)
- 15250 **SRI LANKA VOA** relay Ekala in EG 0129, "VOA News Now", "Communications World", ancmt that the 35 kw relay xmtr at Ekala will be shut down 12/31, nx re space shuttle pgm (Brandi NJ 12/18)
- 15270 **PHILIPPINES R Pilipinas** in EG 0251-0330*, nx, pop rx, ID 0301, p (Kohlbrenner PA 12/17)
- 15270 **ARMENIA V of Armenia** Komo in EG 1015, mailbox pgm, promo for SP pgm (Linonis PA 11/16)
- 15315 **NETHERLAND ANTILLES R Nederlands** relay in DT 2130, chimes, ID, fqy, sked, rpt on New Years activities, g (McGuire MD 1/1)
- 15400 **FINLAND R Finland** in FN 1408, nx, fqy, mx by singing group, g, //17660 (Humenyk ONT 11/30)
- 15410 **ANTIGUA Deut Welle** relay in GM 2240, classical Xmas mx by GM composers (Newbury NE 12/24)
- 15445 **SEYCHELLES FEBA** in Bangla 1413, IS, ID, horn fanfare at 1415, p (Kohlbrenner FCDX-PA 12/18)
- 154852 **PAKISTAN R Pakistan** in lang? 0215, sub-continental mx, very muffled audio (Germanotta 12/13)
- 15540 **PORTUGAL RDP** Lisbon in PT 1300, ID, NA, nx of Madeira, great mx, exc (Robinson TN 1/2)
- 15575 **SOUTH KOREA R Korea** in EG 0220, EU ministers pledge more trade w/Korea (Pasquale PA 12/14)
- 17630nf **OMAN BBC** relay Masirah Island in EG 1625, live soccer game, p, //9740 better (Treibel WA 12/26)
- 17675 **NEW ZEALAND RNZI** in EG 1725, "Sports Week", Xmas mx, mailbag (Park HI 12/8) in EG 1846, rare mid-day reception on ECNA, Xmas mx (Fine VA 12/24) Messiah mx 0045 (Newbury 12/24)
- 17760 **THAILAND BBC** relay Nakhon Sawon in EG 0330, nx, bridge mx, cmntry, ID (Humenyk ONT)
- 17810 **ANTIGUA Deut Welle** relay in GM 2030, traditional Xmas mx in GM Xmas eve (Newbury NE 12/24)
- 17830 **ASCENSION ISLAND BBC** relay in EG 1900, ID, ex-nun tells abt life in nunnery (Findlater 12/22)
- 17840 **ANTIGUA BBC relay** in EG 1600, Queen's holiday message to subjects, g (Newbury NE 12/25)
- 17870 **SOUTH AFRICA Channel Africa** in EG 1800, nx, sports pgm, ID (Klinck NY 12/19)
- 21800 **PORTUGAL RDP** Lisbon in PT 1500, YL chorus singing w/orch, much applause (Levison PA 12/19)
- 25930nf **COSTA RICA RFPI** in EG 2010, tlk of econ development in 3rd world countries (Wolfson OH 12/18)

Clandestine, Tentatives, Presumed, or Unknown

- 80007 **ERITREA V of Sudan** in lang 0400, choral s/on, ments of Sudan, AR mx, tlk, gradual fading under JYJ time signals, p (Witham HI 12/15)
- 9920 **KAZAKHSTAN V of Tibet** in Tibetan 2309-2359*, OC w/tones until 2312, three pips & instrmtl mx prior to opening ancmts & ID, long tlk pgm, closedown ancmt 2358, f (D'Angelo FCDX-PA 12/18)
- 11590nf? **CHINA (p) China Huayi BCC(p)** in CH 1039-1110, operatic vcls, 5+1 pips 1100, ID?, mix of mx and tlk by OM & YL, f-p (D'Angelo FCDX-PA 12/17)
- 155196v **BANGLADESH (t) R Bangladesh (t)** in lang? 1527-1550, much nx, probably lcl, frequent mentions of Bangladesh throughout, some instrum'l mx, f/o under noise 1550 (Comeau MA 12/20)
- 15665 **NORTHERN MARIANAS R Free Asia** via Saipan relay in CH 0500, tlks, ID, p //17615 (Findlater 1/9)
- 17730 **MONGOLIA R Free Asia** relay Ulan Bator in Tibetan 0110, OM & YL tlks, p, //15225 (Witham HI)

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