

NASWA

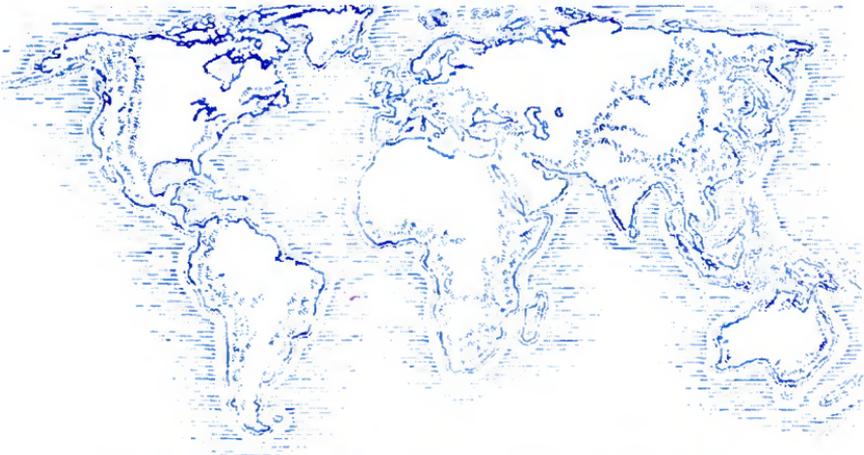
the
JOURNAL

NORTH AMERICAN SHORTWAVE ASSOCIATION

VOLUME XXXVIII NUMBER 1

JANUARY 1998

COUNTRY LIST



& AWARDS PROGRAM

NASWA

The North American Shortwave Association

Monitor MORE with advanced equipment from Universal Radio!

DRAKE

SW-1

- Full Coverage
- LW/MW/SW
- Digital Readout
- Keypad Entry
- 32 Memories
- RF Gain



The Drake SW-1 sets the stage for worldwide shortwave listening with ease, simplicity and clarity. The SW-1 offers superb sensitivity, selectivity and full audio. Coverage from 100 through 30000 kHz provides solid coverage of longwave, medium wave and shortwave in the AM mode (no SSB). This makes it an ideal broadcast receiver for the desk or bed-stand. Tuning is a snap via the keypad, manual tuning knob, Up/Down buttons or 32 programmable memories. The LED display is positively huge for easy accurate frequency readout to 1 kHz. Antenna input is via a 50 ohm terminal or SO-239 jack. A 1/8" mini jack is provided for use with earplug or headphones (not supplied). Includes AC wall adapter for operation from 120 VAC 60 Hz. 10.875"x4.375"x7.625" 4.7 Lbs. One year limited warranty. Made in Ohio! Special sale price valid to 3/15/98. List \$299.00 Order #1100 ~~\$249.95~~ Sale **\$199.00** (+*7 UPS)

WIND-UP



The BayGen Freeplay radio combines the ingenious Baylis generator with the latest in radio technology. Winding the handle for 20 seconds provides 30 minutes of listening. Here is assured radio performance, day or night without the worry (and expense) of batteries. The analog dial covers AM, FM and SW from 3 to 12 MHz. Made in the Rep. of South Africa. #3123 **\$99.95** (+*15)

The new, smaller Freeplay 2 model covers just AM & FM. #3667 **\$69.95** (+*15)

SANGEAN

ATS-808A

Smart styling, compact size and great performance combine to make the Sangean ATS-808A a favorite. Coverage includes LW, MW, all SW and FM (stereo to headphone jack). Five tuning methods: keypad entry, auto scan, manual scan, memory recall and manual two-speed rotary tuning. The attractive tricolored LCD display shows: frequency to 1 kHz, signal strength, memory status, dual UTC-local clock and band. A wide-narrow selectivity switch really helps in the crowded shortwave bands. Other features include: high-low tone control, wide-narrow switch, local-DX switch, external antenna jack (mini), 54 memories (18 for SW) and dial lock. Includes stereo earphones and case. 7 3/4" x 4 1/2" x 1 1/2" 2 Lbs. Requires 6 AA cells (not supplied) or optional ADP-808 AC adapter (#1665 \$6.95). At under \$100, this is clearly the best value in a digital full coverage shortwave portable if you don't need SSB. Special sale price valid to 3/15/98. List \$259.00 Order #0936 ~~\$149.95~~ Sale **\$99.95** (+*7 UPS)



ATS-818

The ATS-818 features the same full coverage as the ATS-808A plus also provides great SSB/CW reception. With AC adapter. #2754 **\$139.95** (+*7 UPS)

ATS-818CS

The ATS-818CS has all the same features of the ATS-818, plus a built-in cassette recorder for direct off-the-air recording. #0367 **\$199.95** (+*7 UPS)

RF systems inc.

MLB BALUN

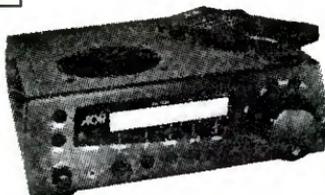


The RF Systems' Magnetic Longwire Balun makes it possible to efficiently use a coaxial lead-in cable with all forms of wire antennas, without the need for an antenna tuner. For receive only: 1-40 MHz 50 ohm SO-239. Made in Holland. MLB #1484 **\$59.95** (+*4 UPS)

AOR

AR-7030 & AR-7030 PLUS

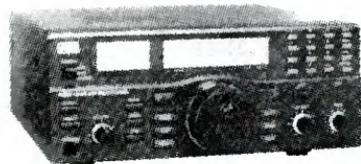
The AR7030 represents the very latest and best design featuring exceptionally strong signal handling and is bristling with enhanced features. The AR7030 has been targeted to handle strong signals that are of prime concern to European listeners. It offers greater than -35dBm IP3 (Intercept point 3) and greater than 100 dbm dynamic range. This coupled with excellent selectivity make the AR7030 a strong choice for the shortwave broadcast listener or DXer. Although performance is excellent, features have not been forgotten. You get: Synchronous AM, Passband Tuning, six levels of attenuation, dual VFOs and 24 hour clock timer. The 100 scannable memories store frequency, bandwidth, PBS, Squelch and BFO settings. The two line 48 character backlit LCD gives you the status of the receiver. The supplied full-featured 32 button infrared remote provides access to virtually all facilities including: volume, tone, numeric keypad, memories, PBT, filter selection, etc. A remote RS-232 level port (DIN) is also provided for computer control. Made in England. Includes 120 VAC wall transformer.



The "Plus" version retains all of the regular AR7030 features and includes the following: Increase balance of the mixer, high tolerance, low noise components, 400 total memories, multi-timers, alpha tagging, enhanced RF attenuator, higher spec. antenna input, ceramic metal cased 4 kHz filter. Typical bandwidths are: 9.5, 5.3, 4 and 2.2 kHz. In stock now! Call for latest pricing on the AOR AR-7030 and AOR AR-7030+

JRC

Japan Radio Co., Ltd. NRD-345



Famous for its top-gun receivers, Japan Radio Company once again pioneers with a brand new model at a surprisingly affordable price. This incredibly attractive and compact radio delivers hour-after-hour of listening pleasure with high dynamic range and synchronous AM detection to help tame fading. Dual IF filters (62 kHz) are supplied, with a third optional position available. Tuning the radio is smooth as silk via the large indented main tuning knob. The easy-to-read LCD type display shows you the precise frequency to 10 Hz! The variable Noise Blanker is effective against pulse and ignition interference. The sophisticated memory system stores 100 channels with frequency, mode, AGC, attenuator, VFO, bandwidth and NB status parameters all stored. Both memory and frequency scanning are supported. The Clock-Timer function enables the radio to turn on and off at a specific time and the clock can be set for UTC or local time. The Tone Control, AGC and 20 dB Attenuator let you refine the signal to your personal taste. Other refinements include an analog S-Meter, Tilt-Bar, Up/Down Tuning buttons, Dual VFOs and Dial Lock. Rear panel jacks include: External Speaker, Record Jack, RS232 port, FAX/RTTY Line Out and DB-25 RS-232C port. Switch selectable dual antenna inputs are featured to support both wire-type or coaxial-type lead ins. In stock now. NRD-345 List \$899.95 Order #0345 **\$799.95** (+*10 UPS)

Quality Equipment Since 1942

Universal Radio, Inc.
6830 Americana Pkwy.
Reynoldsburg, Ohio
43068-4113 U.S.A.

800 431-3939 Orders & Prices
614 866-4267 Information
614 866-2339 FAX
dx@universal-radio.com
www.universal-radio.com
Visa, Mastercard or Discover card.
Prices & specifications subject to change.



COMMUNICATIONS CATALOG

Universal's free 1998 100 page catalog covers everything for the shortwave, amateur and scanner enthusiasts. With informative photos and full descriptions. To request your copy please call toll-free:

1 800 431-3939

Twenty years is a long time. Former QSL Report editor **Bill Oliver** took over the publishing chores 20+ years ago. In January 1978 **Sam Barto** stepped in to edit the QSL Report column. Both gentlemen are still going strong after all these years serving the membership with the same high level of enthusiasm. Their dedication to the club is terrific. This premier 1998 edition of the Journal is dedicated to two hard working club staff members with the most years of continuous monthly service to our fine organization. Thanks Bill and Sam!

Thanks to the many members that sent along season's greetings. The sheer volume of cards received made individual replies next to impossible. Nevertheless, your thoughts during the holiday season were appreciated. Thanks!

Long time member and DX stamp expert **Bill Plum** (12 Glenn Road, Flemington, NJ 08822-3322) recently sent along his latest catalog of goodies. As usual the QSL hounds will find the selection and price of mint stamps terrific. However, Bill is more than just stamps. He handles any hobby related printing need from prepared cards, personal pennants and/or business cards, QSL album supplies, airmail envelopes, eyeball cards, etc. If you have never seen what he carries, send him a dollar or two and he'll stuff an envelope with valuable information. Incidentally, Bill is a regular at the annual Winter SWL Festival in Kulpsville where he usually provides one-day turn around on most items ordered on Friday.

Speaking of the Winter SWL Festival in Kulpsville, the eleventh edition of the most popular gathering of hobbyists ever as-

ANARC SWL Ham Net

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

sembled in North America will take place on 12-14 March 1998. It's time to make your plans. Check the Calendar of Events and December's Journal (page 60) for a registration form. I look forward to meeting many of our members at this year's event. See you there!

The third edition of the Australasian Shortwave Guide, covering the Winter Transmission season (W97), is available from Padula Book (Bob Padula, 404 Mont Albert Road, Surrey Hills, Victoria 3127, Australia or E-Mail: bpadula@compuserve.com). This is the authoritative, accurate and unique shortwave guide to broadcasts in English and other languages targeted to Australia and New Zealand, and English transmissions beamed to South Asia, the Far East, and the Indian sub-continent. Over 600 entries with frequencies, transmission times and days, languages, target areas, relay transmitter sites

Our Motto is - "Unity and Friendship"

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.

and other information. The data is presented in dual format: by country and UTC time. Supplementary articles include: A comprehensive listing of E-mail addresses for international broadcasters and DXing Mongolia. The Guide is produced and distributed by "Padula Books", and is compiled with the extensive support of broadcasting stations, transmission planners, frequency coordinators, technical consultants, engineering directorates and a network of worldwide expert monitors. The author is NASWA mem-

ber **Bob Padula**, OAM, who has many decades of experience at both the hobby and professional levels in international broadcast engineering. The Guide is indispensable for international broadcast monitoring, and is 28 pages, A4 format, professionally printed and bound. Price: Australian addresses - A\$10; Elsewhere - A\$20 (US\$15).

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

Musings

This column provides a forum whereas 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 - r.dangelo3@genie.com

Gary W. Thorburn, 8 Elaine Avenue, Maynard, MA 01754 <thorburn@aics.net>

This is my first contribution to musings. I've been a NASWA member for about two years. SW listening began as a child, when I salvaged a '30s era shortwave radio from my grandparents' home. Participation in the Boston Area DXers (BADX), a very active NASWA chapter, and getting to know the fine listeners and DXers in that group has enlarged the hobby for me tremendously. I am mostly a program listener, but occasionally I like to dig a bit and try to identify Africans and LA stations in the tropical bands. News and perspectives found on shortwave fascinates me, as a way of going beyond what I hear in the domestic media. In our post-cold war era, a lot of rhetoric has been toned down. But there is still plenty to listen to. Many SWLs forget what a tremendous resource SW programming is, even in our information-saturated society. For example, although I can hear BBC news many hours a day on my local Public Radio FM station, it is delayed an hour. I doubt that many of the UTC-challenged FM news junkies are aware they are getting "stale news". So even in the case of the ubiquitous BBC, if you really want to hear what they are saying NOW, you need shortwave. Many thanks are due John Figliozzi and others who keep us aware of "what's on" in the NASWA journal. But there are plenty more listenable signals in English. Between "Easy Listening" and DXing, there is a big world of listening we should not overlook.

With the aid of "Crossword Express" software, I have prepared a crossword puzzle which I think will be fun for NASWA listeners, and not too difficult for anyone really into this hobby. If you need a clue, E-mail me!

Eric Bueneman (N0UIH), 631 Coachway Lane, Hazelwood, MO 63042-1347, phone (314) 839-9751 (prepaid calls only!) (E-mail: EricB631@juno.com)

Did you ever get TWO QSLs for the same day's reception? That happened to me with the reception of ZBC Radio 4 from Zimbabwe on 3396 kHz last spring. I got one QSL for one reception in late September, then another one for the SAME reception in early October! Both QSLs are in my collection, along with an earlier reception of ZBC Zimbabwe.

I read about Randi Steele (formerly of Radio Newyork International) having gone through sex reassignment surgery (the medical term for a sex-change operation). However, Miss Steele is not the first transsexual to work in radio. Rachel Lee, a Los Angeles-based personality, does a segment on transgendered issues on "This Way Out", which airs on Radio For Peace International. She went through surgery several years ago. A Washington, DC-based journalist, Cheryl Ann Costa, stakes her claim to being the first transsexual talk show host on commercial radio, doing her show on WMET (1150 kHz) Gaithersburg, MD. A small number of male-to-female transsexuals co-host shows, either with women or gay men, on non-commercial stations across the United States. Even I interviewed a transsexual, but it was for a public affairs show on KCFV (89.5 MHz) Ferguson, MO in 1995, and it was done to educate the listening public.

I have also changed jobs, leaving all-talk WGNU (920 kHz) Granite City, IL for kids-oriented WFUN (95.5 MHz), up the road in Bethalto, IL. I now have more responsibilities, besides running the board for high school and University of Illinois football games, I also insert commercials and pre-record traffic reports during morning drive programming, and produce commercials and station promos, among other things. I'm getting a bigger paycheck at WFUN than I did at WGNU, but I'm not complaining!

Welcome to the following new NASWA members

Dexter Alexander, Somerset, KY
Jeff Bauer, Columbus, OH
John S. Bergmann, Milaca, MN
Jerry Boyd, Monroe, WA
Stephen M. Burch, Half Moon Bay, CA
Gerald E. Burkett, McKeesport, PA
Chaim Baruch Cachie, Jamaica, NY
William G. Caldwell MD, Los Angeles, CA
Raymond C. Charles, Olean, NY
David G. Choate, Bloomington, MN
Greg Christianson, Weir, TX
Nicolas Eramo, Buenos Aires, ARGENTINA
Mike Franzen, Le Sueur, MN
Melvin Friedman, Suffolk, VA
Donald Gustave, Brooklyn, NY
Edwin Hadnott, Inglewood, CA
John Hanz, Old Bridge, NJ
Charles R. Hendsbee, Rockledge, FL
Robert Hofer KB2BKV, Hamburg, NY

Joseph M. Kelly, East Setauket, NY
Fraser A. Loosley, Beaver Dam, WI
David J. Lynn, Allison Park, PA
M. A. McCrystal, Dallas, OR
Robert McElwee, Mason, OH
John T. McGoldrick, Kaneohe, HI
James Mills, TURKS & CAICOS ISLANDS
Robert L. Powell, Freeport, IL
Lennart A. Ryttsse, Leesburg, FL
Jerry Sawinski, Paden City, WV
Michael L. Schremp, St. Louis, MO
Edward C. Smith, Bellevue, NE
Floyd F. Snyder, Morrissetown, AZ
Martin Spina, Lyndhurst, NJ
Ronald N. Tommasini, Louisville, KY
Floyd Whitham, Vevay, IN
George Woolcott, Danville, KY
Newell N. Young, Toledo, OH

I also noticed Radio Marti carrying Game 5 of the World Series on SW, thanks to a tip from an unlikely source, namely Bob Costas of NBC-TV! I checked 6030 kHz, and noticed a bubble-type jamming sound underneath the usually local-like signal from Radio Marti. The game was getting through to Cuba, the homeland of Florida Marlins pitcher Liván Hernández, on radio. The Cuban government jammed TV Marti, unfortunately. That shows you that some governments still censor things, like our national pastime, that we take for granted.

73 and good DX, Eric (N0UIH)

Nick Terrence, 12 Eleanor Place, Huntington, NY 11743

Several months ago Monitoring Times ran an article regarding the G.L Comba Public School Shortwave Listening Club run by Neil Carleton in Ontario, Canada. Neil was requesting radio donations for his students for his shortwave class room lessons. Coincidentally, I had an inexpensive analog portable that I was trying to send to Africa. Instead, I sent it to the G.L Comba Public School in Ontario, Canada. He needs additional radios to pursue teaching his students about shortwave radio listening. Many of us have old cheap radios that are not being used. Neil requests that he be contacted prior to shipping any radios. Also, owners assume the responsibility of shipping costs. Attached is a letter with his complete e-mail and postal address. Perhaps this could be an incentive for our members to help our future young listeners learn about our hobby,

Regards, Nick

Neil Carlton, G.L. Comba Public School, P. O. Box 580, Almonte, Ontario, K0A 1A0, Canada <as167@freenet.carleton.ca>

Thank you so much for your donation last month of an APEX 9 band portable radio for the Shortwave Listening Club. Your support for shortwave listening in the classroom is appreciated very much.

Club members have been traveling by shortwave across time zones, over continents and oceans, to countries around the world. During our Club meetings, every Thursday after school, from 3:45–4:45 p.m., we travel the globe as geography explorers, music enthusiasts, language detectives and much more. Thank you for helping to make this possible.

We're also busy this year taking part in the Case of the Mystery Mail with students in more than a dozen other countries or classes, in four different countries. Our first parcel arrived last week from Luxembourg. We'll be sending out our first mystery box later in November. The students are really excited about shortwave listening and this international project.

Many thanks again for your help. Best wishes from all the members of the Shortwave Listening Club.

**Richard A. D'Angelo, 2216 Burkey Drive, Wyomissing, PA 19610
<r.dangelo3@genie.geis.com>**

It was a long 10 months between Dxpeditions. It must have been too long since we forgot to bring so many things. Title this trip to Gifford Pinchot State Park "Three Senile Old Men and a Radio."

GPDX #25, a number pulled out of thin air by Fred to satisfy our need to number these things, took place 4-7 December 1997. Fred Kohlbrenner and I arrived on Thursday. Bob "Mr. Coffee" Montgomery arrived the next day. The theme for this trip was based on all the routine stuff we forgot to bring. Friday evening's pasta dinner was without plates (fortunately Fred had some extras) and grated cheese. The fixings for the infamous Kohlbrenner sandwich were not to be found. All of us managed to forget dish washing soap, paper towels, sponge, etc. It wasn't easy but we did survive.

For a change, the weather was uneventful. We have faced torrential rains, ice storms, snow storms, locust, etc. over the years but this time we had sunny but cool weather conditions. While stringing antennas I noted the fabled River Johnson (aptly named after the famous Explorer Hans Johnson who "stepped in it" while stringing an antenna when the river was covered with a only a thin coating of snow and ice) was completely dry. Even the horrific Gifford Pinchot thorns seemed to co-operate. Unfortunately, the atmospheric still need a sunspot booster shot.

The highlight of the trip was Fred's fascination with the Geoclock 7.5 computer program. Tuning in tropical band Africans while watching the darkness turning to light on the computer generated maps, provided hours of entertainment. I'm not sure if Fred heard any DX of note, but he did enjoy playing with this computer program. Incidentally, the three of us brought laptop computers along. During the many years we have been doing this, laptops for everyone in the cabin is the most significant trend. That and forgetting the basics of life. If we are capable of remembering, we will try another Dxpediton before the DX season ends.

73—RAD

FRENDX: Twenty Five Years Ago....

The Loudenboomer Report presented its "Pages from the Past" with edition number 16 of the Monitor's Scroll which was issued in 1711! In the Mail Call column, Ed Shaw responds to a member seeking to know who is Charlie Loudenboomer. January 1973 saw the beginnings of two new columns in Friendx. The first was Larry Magne's Clandestine Bulletin column which was designed to provide greater coverage to this area of shortwave broadcasting; the first "Station of the Month" was The Voice of Truth. The second was designed "to foster a new trend in DX'ing" under the editorship of Glenn Hauser - Harmonic Hunting with Hauser. In Al Sizer's Shortwave Center, Don Jensen continued, "Countries, How To Count Em... And Why" while Sizer and Andy Kerr discussed DX bookkeeping and Ed Shaw presented Part IX (final) of his "Phenomenon of the Darkness Pattern Explained" series. In Gregg Calkin's QSL Report column, DX'ers Perry, Hall, Shaw, Sizer, Campbell, and Kusalik report verifications from Radio Sahara (Spanish Sahara). Due to an emergency, Ed Shaw and Dan Ferguson edit Al Niblack's portion of the Log Report at the Mountain Creek DX Resort. Fred Heutte, David Potter, and Jerry Lineback begin editing portion of the Log Report. Ed Shaw's Friendx Fotos featured pictures of Serge Neuman, Bob Zilmer, and Warren Nordgren.

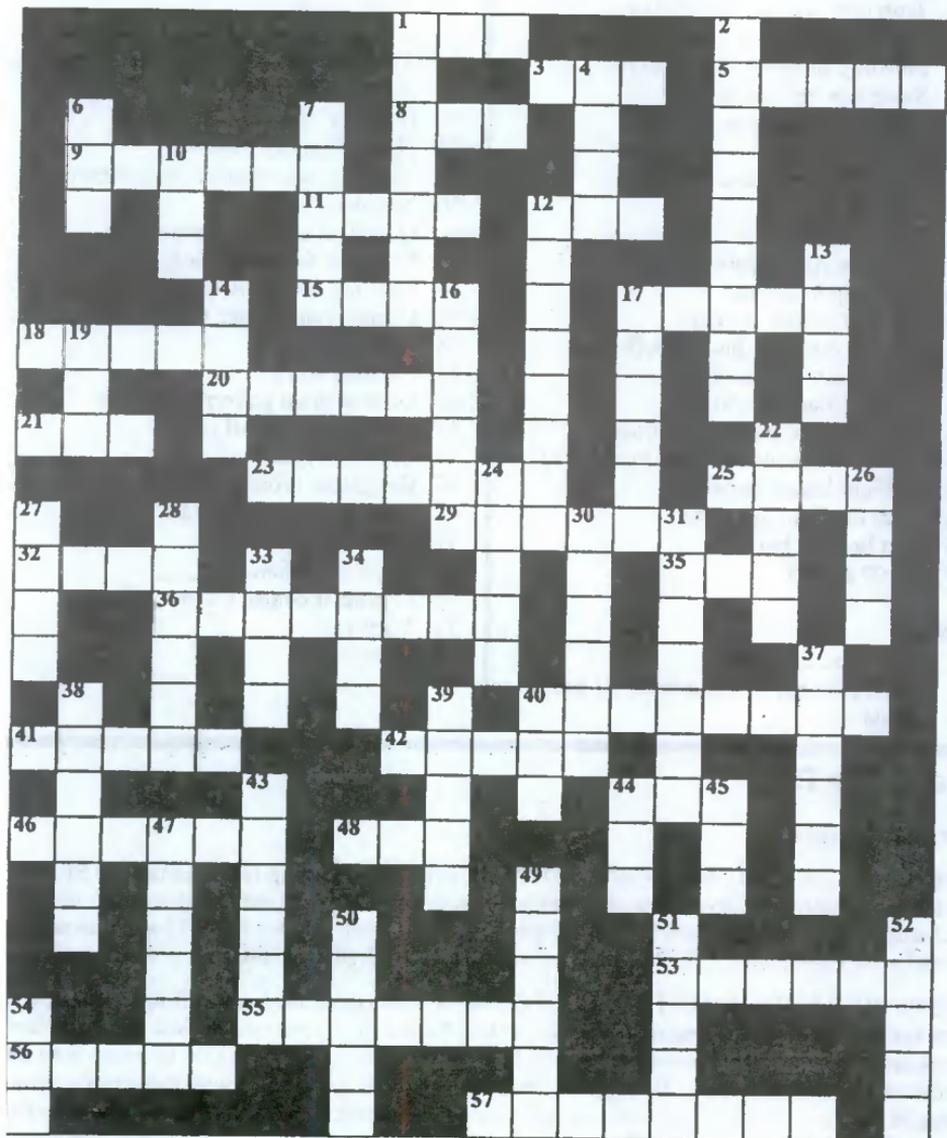
Calendar Of Events

- Jan 16 Meeting.** Philadelphia Area NASWA Chapter. Kulpsville Holiday Inn, Kulpsville, PA at 7:30 PM. For more information contact Dan Cashin at 215-446-7831.
- Jan 16 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 508-470-1971 or Internet: 74007.3434@compuserve.com. Check the BADX Web Page: <<http://www.grove.net/~badx/>>.
- Jan 17 Meeting.** The Miami Valley DX Club (all band orientation) meets at 1:00 PM. For more information plus this months meeting location contact Dave Hammer at 614-471-9973 or write to MVDXC, Box 292132, Columbus, OH 43229-8132.
- Feb'98 Convention.** New Zealand Radio DX League will hold its 50th anniversary convention at Camp Iona starting on Thursday February 5th at 3:00 PM and conclude on Sunday February 8th. Information and registration form is available from Paul Ormandy, 33 Greta Street, Oamaru, New Zealand or via e-mail <paulorm@es.co.nz>.
- Feb 14 Meeting.** The Tidewater SWL's meet at 6:30 PM. For more information plus meeting location contact Joe Buch at joseph.buch@dol.net
- Feb 14 Meeting.** Cincinnati/Dayton Monitoring Exchange (MONIX) will be touring the WLW-AM 700 transmitter site in Mason, OH. 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 513-777-5296 or e-mail at <mmeece@one.net> if you plan on attending. For additional information about MONIX, check out their web site at <<http://w3.one.net/~mmeece/monix.html>>
- Mar'98 Contest.** 1998 North American DX Championships. Further information will be published in the Journal or you can send a self-addressed stamped envelope to 1998 NADXC, c/o Dr. Harold Cones, 2 Whits Court, Newport News, VA 23606.
- Mar'98 Convention.** The 11th Annual Winter SWL Festival will be held at the Kulpsville Holiday Inn (Exit 31 on the Northeast Extension of the Pennsylvania Turnpike) on 13-15 March 1997. Organized by the infamous "gang of three" (Messrs. Brown, Cones, and Field) this all wave gathering attracts about 200 hobbyists each year.
- Apr'98 Convention.** The 35th Annual International World Wide Continental DX Association (IWWCDXA) will be held in Tahiti at the Charlie Loudenboomer Estate on April 1, 1998 from noon until midnight. Charlie will lecture continuously during this 12-hour period on a variety of boring subjects some of which may actually pertain to shortwave radio. Registration fee is a modest \$150.00 with an extra \$50.00 charge for the traditional hamburger helper banquet. More information is available from Charlie at <cl@sucker.com>.
- Aug'98 Convention.** The 36th annual European DX Council conference will be held in Gothenburg, Sweden on 28-31 August 1998. It will be organized by the Swedish DX Federation. More details to follow.
- Members are invited to submit items to be included in this calendar to Rich D'Angelo (Internet: r.dangelo3@genie.com) or Ralph Brandi (Internet: ralph@mcs.com).

NASWA

Visit our club home page on the World Wide Web at <http://www.anarc.org/naswa/>

Special Feature



CWE

d. Note: This crossword puzzle was supplied by Gary Thorburn, 8 Elaine Ave., Laynard, MA 01754, <thorburn@aics.net>. For Gary's explanation, see this month's

Musings in Rich D'Angelo's *NASWA Notes* column. (The clues are on the next page; we'll publish the answers in next month's issue.)

Across

- 1 Communication cycles ceiling
- 3 Adventist airwaves
- 5 Almost every Passport ad shows this radio
- 8 France or QRM
- 9 Heavenly Hammarlund
- 11 Palomar, Sanserino & Kiwa
- 12 Forbidden listening
- 15 Trop prop mode gone military
- 17 Best buckeye bird
- 18 Pleading prophet of perdition
- 20 Stone-age semiconductor
- 21 Worldwide wampum
- 23 MW magnet
- 25 Far east broadcaster
- 29 Late great Kiwi
- 32 Latin ticker
- 35 Dubai or Abu Dhabi
- 36 Archetypal antenna
- 40 A DXer's other woman
- 41 Bygone builder's buddy of Benton
- 42 Intermittant Mexican
- 44 Before Channel Africa
- 46 Tyrant turned transmitter trader
- 48 Israel, or a mountain pass misspelled
- 53 Brilliant boreal barrier
- 55 Most likely logged PNG
- 56 Best boatanchor
- 57 60, 90 & 120

Down

- 1 Cape Cod TA pioneer
- 2 Perilously peckish purveyor of propaganda

- 4 Big easy broadcaster
- 6 Canuck clicker
- 7 Prozac for your antenna
- 10 T-O tweakers treasure this tube
- 12 QTH Quito
- 13 Angelica's airwaves
- 14 Yaesu classic
- 16 Sizzling sounds of summer
- 17 Symmetrical skywire
- 19 Trans-world radio
- 22 S- or band
- 24 Antenna gadget that everyone wants but nobody needs
- 26 Hose for radio waves
- 27 Florida Family Radio
- 28 Aviation atmospheric announcements
- 30 Napoleon's nadir
- 31 Quizzical covert quintets
- 33 My most frequently logged station
- 34 Pegs my needle RIGHT off the scale!
- 37 Flamboyant floater flouts feds
- 38 Royalty of radio
- 39 German voice
- 40 Geneva giant governs globally
- 43 Old radios are full of it
- 44 Ciao everyone
- 45 Bangalore broadcaster
- 47 Thorpe's hot clock radio
- 49 200 miles up
- 50 Royal canadian air _____
- 51 Capitalist contra-Castro
- 52 Tiger talk
- 54 Java jives

Hardware Bits

by Alan Johnson

GROVE SP-200B SOUND ENHANCER—Although the packaging is the same, the SP200B has a completely new layout which is designed to provide lower noise and distortion product reduction. This outboard filter/amplifier/speaker combination sells for \$199.95 and is available from Grove Enterprises, P.O. Box 98, Brasstown, NC 28902; (800) 438-8155; WWW.grove.net.

NEW PRODUCTS FROM KIWA ELECTRONICS—Kiwa has introduced a couple of accessories for the Pocket Loop antenna. The first is the Pocket Regeneration Module (PRM) which increases the gain and reduces the bandwidth of the Pocket Loop. The gain increase is to the order of 18 to 24 additional dB of gain. The PRM is usable to 10 MHz with the whip antenna coupler and to 17 MHz if a direct antenna connection is used. It sells for \$48.00 and attaches to the front vertical surface of the Pocket Loop. The second is the Pocket Loop Car Radio Coupler that connects between the car radio and car antenna and allows the Pocket Loop to enhance weak signal reception. It uses Motorola type connectors (the usual car radio standard) and sells for \$35.00. Kiwa Electronics, 612 South 14th St., Yakima, WA 98902; (800) 398-1146 (orders) or (509) 453-5492 (technical information); WWW:wolfe.net/~kiwa. 

Easy Listening

John Figliozzi
45 Algonquin Road
Clifton Park, NY 12065-7703
Internet: jfiglio1@nycap.rr.com

Happy New Year! January is a time for reflections, resolutions, refocused energies and changes. Most of these are usually held close to the vest, but I have one of the latter that I need to share.

You will note the new e-mail address in the heading. The "rr" in the address stands for "RoadRunner", the marketing name for Time Warner Cable's high speed Internet modem service. The speed of the service is quite breathtaking with downloads experienced at rates approaching ten and more times that of a 28.8 modem. I'm experimenting with the RealAudio sites offering feeds from international broadcasters and early returns are that the enhanced speed and dedicated bandwidth combine to improve the readability and reliability of Internet broadcasting. More on that another time. However, be advised that I will be moving all my e-mail correspondence to the new address by the end of January. If you want to get in touch with me (and I sincerely hope doing so is high on *your* list of resolutions), it would be best to use the new address.

This first column of the New Year is heavily weighted toward **BBC World Service** highlights. As you may recall, we had to dispense with those highlights in last month's printed column in order to make room for our special presentation of advance Holiday Season programming information. Hope you found that useful!) While the entire column was available via the NASWA Web site, not everyone has access to the Web. Hence, a "recycling" of some of that information is presented here, along with World Service premieres in January.

As usual, be advised that all days and times are in UTC.

On BBC World Service This Month

Listings are for the Americas/Europe stream. Frequencies for North America at different times of the day include 5965, 5975, 6175, 6195, 9515, 9590, 9895, 11750, 11865, 15220 and 17840. In a few cases, programs can be heard via the Americas/ Europe stream but only on frequencies intended for Europe. These are denoted with an * and these frequencies usually are listenable in parts of North America at those times: 9410, 12095, 15485, 15565, 15575 and 17640. Times marked with an # means that the program can be heard in western North America via the Asia stream on 9740.

Continuing from December... **Civilization**

BBC World Service is broadcasting a 15-part history of **Civilization** (note BBC adoption of the Americanized spelling), which examines the great cultures of the past and assesses human achievement and moral values since 3000BC. Twelve programs still remain in the series, so if you have missed it up to now, there is still plenty of time to get up to speed.

Starting with the invention of writing in ancient Mesopotamia and concluding with 20th century humanitarian ideas, **Civilization** seeks out defining moments in the history of humankind. From Mesopotamia (modern day Iraq), the series moves through the ancient societies of Egypt, India, China, Persia and Greece. Later programs assess the influence of the Romans, the impact of Judaism and Christianity, the golden age of Islam, the Renaissance, the problem of colonisation, the Enlightenment and the Industrial Revolution. The last two programs during March consider different aspects of

20th century civilization which, on the one hand, has seen huge advances in science and technology, but also the devastation caused by two world wars and the brutal dictatorships of Hitler, Stalin and others.

Civilization is written and presented by Michael Diamond and is accompanied by an 80 page illustrated BBC Education booklet available by mailorder. (Sun. 1615; repeated Tue. 0330, 1130)

On Other Topics...

Four programs remain in the excellent 8-part series *Northern Lights*, which is investigating the "world music" of the northern world. Piers Hellawell, a composer who works in the remote Outer Hebrides of Scotland and has had his music performed at Arctic festivals, explores music from Canada, the Nordic states, Russia and Iceland. Composers, scholars, researchers, performers and instruments from the lands of the midnight sun are featured and provide an examination of the influences that climate, landscape and lifestyle have on the music. (Sat. 1030; repeated Mon. 0530, 2130)

Two programs remain from the 5-part series, *Matter for Debate*, which gives listeners the chance to give their views on the big moral and ethical questions of the day. Proponents argue their case in the studio before listeners are invited to call in with their opinions. Abortion, euthanasia, gay rights, capital punishment and animal rights were to be the topics under discussion. (Sun. 1401 [also #]; repeated Mon. 0815*)

Three programs also remain in a new 6-part series, *Sense and Sensibilities*. The program compares our amazing senses with those of other animals. Taste, touch—as well as our "sixth sense(s)"—remain. (Sun. 1730; repeated Wed. 0145 and Thu. 0915*)

Beginning Dec. 27, 28 and Jan. 2, *Wisdom of the World* attempts to distill 2500 years of spiritual wisdom in 13 weekly programs. The program taps into a vast well of experience and explores what over the centuries has been discovered as wisdom, which transcends culture and time. (Sat. 0815*; repeated Sun. 0130, 1515# and Fri. 1615)

Foul Play, which still has five of its six program run remaining, is a new "whodunnit" panel game which begins with the discovery of the body and a brief drama setting the scene. The players/investigators cross examine witnesses and suspects and then attempt to unmask the killer. (Sat. 0130; repeated 0730, Mon 1830*)

Premiering in January...

Starting Jan. 1 and 2, *The Learning World* returns with a new 13-week series of programs focusing on the latest developments in education for teachers around the world. (Thu. 0345; repeated 1130 and Fri. 0915*)

Beginning Jan 3, 4 and 5, two BBC program series for youth return to the schedule. *What's News* (Sat. 1930*; repeated Mon. 1430, Tue. 0730), the news and current affairs program for young people, begins a new 11 week run and, with it, a new competition carrying a prize of a tape recorder. Listen in for details. *The Lab* (Sat. 1945*; repeated Mon. 1445, Tue. 0745), hosted by experimenter-in-chief Gareth Mitchell and his team of young science reporters, looks at science from many angles but always from a young person's perspective.

From Jan. 5 and 9, ordinary Britons present audio diaries of their daily life in the 5-part series, *From Where I Stand*. These first-person accounts are intended to help the listener form an accurate and accessible picture of late 1990's Great Britain. (Mon. 0130; repeated Fri. 0630)

Also from Jan. 5 and 9, *Images of Britain* returns for a 7 week run to provide listeners with a view of how others see Britain and its people by learning what overseas journalists based in Britain have been writing about Britain and Britons for their home audiences. (Mon. 0145; repeated Fri. 0645)

Beginning Jan. 9 and 11 is a new 8 week run of the popular *Best on Record* in which an expert, after listening to all available versions of a particular classical musical piece, recommends "the" recording to be added to one's collection. Mozart's *Prague Symphony*, Mussorgsky's opera *Boris Godunov*, Schubert's *Death and the Maiden* and

Stravinsky's *Petruška* go under the microscope. (Fri. 0730; repeated Sun. 0230, 2130). The complete recommended recordings of each week's Best on Record can be heard on that week's *Concert Hall*. (Sun. 1515; repeated Tue. 0815)

On Jan. 18 and 19, *Catholicism in Crisis* assesses the problems facing the Roman Catholic Church around the globe in a radio debate chaired by Trevor Barnes with a panel of churchpeople and analysts. (Sun. 18th only, 1401; repeated Mon. 19th only, 0815*)

Starting Jan. 19 and 23, *On the Rocks* is a 6-part series with the premise that all rocks have a story to tell. With the help of experts and the latest geophysical techniques, Martin Redfern discovers the secrets held by those stones. (Mon. 0915*; repeated Fri. 1230)

Commencing Jan. 25 and 26 is a new 8 week run of *International Question Time*, the global phone-in program chaired by Sheena McDonald. To take part in the program, listeners should telephone 44-171-379-7444 starting at 1200 on Sundays. If their questions are chosen, listeners will be called back at the BBC's expense. (Sun. 1401 [live]; repeated Mon. 0815*)

Beginning Jan. 25, 27 and 29, *Just a Taste* is a new 7-part food and cookery series. Experienced cooks from Brazil, China, Italy, Russia and the British Isles will talk about ingredients used and the region the recipe comes from. Recipe sheets will also be available to listeners on request. (Sun. 1730; repeated Tue. 0145; Thu. 0915*)

Commencing Jan. 31 and Feb. 2, *Braving the Deeps* marks the International Year of the Ocean with a special 7-part series. Producer and presenter Roger Fenby talks with mariners, oceanographers, historians, fishermen and commercial seafarers to paint a portrait of each of the world's great seas and consider the future of the oceans. (Sat. 1030; repeated Mon. 0530, 2130)

Some continuing series...

Two of this month's *Play(s) of the Week* are Oscar Wilde's *The Importance of Being*

Earnest (3rd/4th) and Neil Simon's *Chapter Two* (in two part 17th/18th and 24th/25th) (Sat. 2230; repeated Sun. 0630, 1830*)

Off the Shelf this month reads *Quarantine* (beginning 5th/6th in 10 parts) by Jim Crace, which was shortlisted for last year's Booker Prize and *A Night to Remember* (beginning 19th/20th in 10 parts) by Walter Lord as adapted by Martin Jarvis, which charts with meticulous accuracy and in the words of survivors, the sinking of the Titanic. (Mon.-Fri. 0715; repeated Tue.-Sat. 0445)

Series Concluding This Month...

Journey to the Centre of the Atom concludes from November. Consult November's EZL for details. *Pick of the World* concludes from October. Consult October's EZL for details.

Westway

Well, I wasn't exactly bowled over by your response to my invitation to offer opinions on this new BBC soap. I don't know whether to take your apathy as a comment on *Westway* or on this column. But we are undaunted. Further efforts will be made in the new year to make this column more "interactive" Maybe we'll find the right combination to get you to want to be more involved.

Anyway, the one response I did get (and thank you, Don) was from Donald R. Putnick of California who observed that the actor's accents made the dialogue too much of a challenge to follow on shortwave. This is, indeed, one of the factors that broadcasters must take into account in producing this type of program for an international audience.

To start with, a soap is not one of my preferred genres of programming. To me, the program has aptly fit its description. Its content is shallow, its characters are one-dimensional and its plotline is wholly pedestrian. Quite frankly, from the scripts heard to date, it's hard for me to fathom why the BBC appears to be so high on this series. I don't begrudge anyone a little mindless entertainment, but the hype the BBC has thrown into the launch and continuing promotion of *Westway* has to be considered wholly unwarranted when comparing this series' lackluster appeal with the many examples of truly

excellent programming on offer by the BBC (see the several items above). Is the BBC truly *that* proud of this effort to dumb itself down? I hope not.

Winter Season Time Shifts That Benefit Stateside Listeners

The winter shortwave season has brought a couple of positive developments for stateside BBC listeners. First, *Composer of the Month* has been retimed to *Thu. 0730*; repeated *Fri. 0130*, the latter a much more accessible time for east coast ears. This month's featured composer is Sergei Rachmaninov. Second, *John Peel*, whose program is always at the forefront of the latest sounds, has been retimed to *Thu. 1930*; repeated *2330 and Fri. 0830**—also restoring a more accessible time for the east coast.

Radio Netherlands Documentaries

1998 brings another year of timely, incisive and award-winning RN documentaries. There's a reason why RN is considered the best in the business of producing these radio essays and January's line-up provides ample evidence. The New Year starts with an apt subject: Time!

1st/2nd—Time. Although we have many sophisticated ways of measuring time, we still have trouble defining it and its effects on our development. Michelle Ernsting takes a philosophical look at how awareness of time influences our daily activities.

8th/9th—Berlin: The Once and Future Capital. Marijke van der Meer looks at "Europe's biggest construction site", which is preparing to succeed Bonn as German capital in 1999.

15th/16th—The Netherlands—Liberalism vs. The Rules. Michelle Ernsting examines the historical, philosophical, geographical and religious ideas that have produced the mix of progressive action and social control that is Holland.

22nd/23rd—Italy: Young and Old. In 1994 Italy became the first country in the world with more people over the age of 65 than under 15. As Louise Williams explains, this will put an enormous strain on the country's social services in the first third of the next century.

29th/30th—Italy—Cultural Heritage Louise Williams stays in Italy to report on the epidemic of art thefts—35,000 pieces annually—that is challenging the country's far too small Ministry of Culture.

(*Thu. 0054 on 6020/6165 and 0454 on 6165, 9590; Fri. 2354 on 6020/6165.*)

Random Thoughts

I hope you took the time to respond to Radio Netherlands' request for feedback on the future of the *Media Network* program. As this column is being prepared, the two *Media Network* Holiday programs—on Dec 25 and Jan. 1—are greatly anticipated in this corner. *RNMN* has promised to share some of those comments along with the staff's plans for the year to come. As one of the two or three premier programs on international broadcasting and communications, those decisions are likely to be trendsetters. My thoughts on the future of shortwave and international broadcasting were more than adequately laid out in a previous column. Suffice it to say, I hope the program largely maintains its current make-up and resists the temptation to prematurely overemphasize immature technologies.... **Deutsche Well** promised that the demise of its *Tune In* quarterly magazine would not end its practice of offering advance information on its programming. DW said that it would all be available on the Internet. A check just before deadline found that this promise is not yet realized. An e-mail message to DW asking where it is, has gone unanswered for a week now.... The first day of the month-long Ramadan observance was December 31. Through the end of January, listen for extended broadcast schedules from stations originating in Islamic countries.

Until February, good listening!

SM

Shortwave Center

Hans Johnson
206-A South Loop 336 West #231
Conroe, TX 77304
CompuServe: 73042,3644
Internet: 73042.3644@compuserve.com

The following item first appeared in the April 1997 edition of The South African Shortwave Listener, the bulletin of the South African DX Club. It is via Rich D'Angelo.

In Search of the Best Antenna

by Francois Steyn

There are two ways to get the blood pressure of the SWL/Dxer going:

- Touch his receiver and his receiver's specifications.
- Touch his antenna and his antenna's specifications.

There is of course nothing wrong with a nice debate or two amongst us: It is putting a bit of fun in the hobby! At this stage I would not let myself get involved in a discussion of which current receiver is the best: I would rather stay with the vintage models. As far as antennas are concerned it is of course a different story.

Due to the technical nature of antennas and receivers, the average program listener may be chased away...in fact he may not even read this article. But I'll try and keep the theory to a minimum.

Which antenna is the best?

The antenna that works for you! (Taking into account your location and interest.)

All antennas have their pros and cons: Use the one that is best for your location and interest. If the radio amateur claims his GR5V is the best, let it so be! Let's look at a few basic requirements:

The Antenna System

The antenna is just one part of the antenna system: The other two are the feedline and the input circuitry in your receiver. It is very important to ensure that all three elements of the system are working efficiently.

The impedance of the system will dictate matters: usually 50 ohms unbalanced on modern communications receivers. (We will look at portables later.) To have the system working at its best it is important to ensure all three parts have the same impedance, i.e. 50 ohms. You cannot do much about the input of the receiver, it should have an input impedance of 50 ohms across the tuning range of the set.

The Feedline:

To have the best match with the receiver, a cable with a characteristic impedance of 50 ohms should be used (e.g. RG58 or RG213). Cheap TV coax cable or unidentified computer or video cable is not good enough.

Matching the antenna:

For best transfer of signal between antenna and feeder, the impedance of the antenna should be 50 ohms as well. This is where we open the first can of worms: Only vertical 1/4 wave groundplanes will approach this impedance! Most other antennas will offer impedance's between 30 and 600 ohms!

A BALUN (an incorrect term: it is actually a transmission line transformer). Now we simply connect the balun between the antenna and coax and everyone is happy: Good matching and minimum household interference! But it is not that easy!

Let's say you are using a balun with a 1:9 matching ratio, i.e. it will match 50 ohms to 450 ohms: The best match will be when your antenna impedance is 450 ohms. This may be true on just a few frequencies in your frequency range of interest. On other frequencies the mismatch may not be that good, in fact it may be terrible! One way to over-

come this is by using a resistive equalizer, simply put, a resistor or number of resistors across the feedpoint of the antenna to 'even matters out'. This arrangement may give the impression that the 1:9 balun is working more efficiently as the antenna impedance has been brought (by means of the resistors) near 450 ohms across the band. I have serious doubts about this practice in receiving antennas.

Let's look at the overall gain: Using the standard balun should give you an increase of around 6 db in received signal, averaged out across the band. This is still much better than not using a balun.

Antenna type and its angle of reception

Just as important as the matching game is vertical angle of pickup of the antenna. For DX purposes, this angle should be very low, as near as possible to the horizon. (DX signals have a very low wave angle.) One of the better type antennas here is the vertical type, as it has a very low angle of reception if constructed and placed properly. A downside to it is the increase of noise.

Longwire antennas have a variable angle of reception, depending on height above ground, length, and environment. To try and picture the reception angle of an average wire antenna is an impossible task. Try and string it as high as possible, keeping it away from QRM sources like power and telephone lines. A good longwire with low angle reception is the Beverage or Wave antenna. . . . unfortunately too long for most residential properties.

The Windom wire: this is a very popular antenna amongst SWL/Dxers. It is a single band antenna (low impedance) but can be used for reception across the AM and short-wave spectrum (high impedance). The windom is a variation on the standard end-fed wire: the feedpoint is at one third from the one end. For best results: feed it via a 50 ohm coax cable and balun.

Dipole: This is a good antenna if it is constructed and used within its specifications. The antenna should be at least a half wave-

length from the ground (at the operating frequency)-this means 30 meters off the ground on 5 MHZ! The standard dipole is also a single band device (except if operated on its odd harmonics as well). This is the reason why traps or multi-element dipoles may be the only way to get them working over a large part of the spectrum. These traps do not mean that the rule about the height of the antenna must not be observed.

The T2FD Antenna: This antenna has an aura of mystery around it: It is a broadband antenna (e.g. 3-30 MHZ) with a relatively constant (and predictable) feed impedance across the designed frequency range. If designed for 50 ohms coaxial feed it can be used with good results on modern communications receivers. But there is a down side as it is not a lightweight design and it needs to be mounted according to its design: At the correct angle and as high as possible. It is a compromised antenna so do not compromise it more by taking shortcuts in its construction.

What about serious portable receivers?

The antenna impedance on most portable sets is not specified by the manufacturer, but it can be determined with an antenna bridge. As portables are designed to be operated from their whip antennas, or short roll-out wires, the input impedance tend to be much higher than 50 ohms. In fact it may be as high as 200 ohms. This means a mismatch when fed via a balun and 50 ohm coax (standard RG58 or mini RG174). Apart from the higher impedance, there may also be a reactive component added to the resistive component. This simply means using another balun between coax and portable receiver may not solve the mismatch. A much better idea, will be a antenna matching device, like a T-network. I had excellent results with such a unit on my Sony 2001D, making the set come alive on stations with power outputs of 1 kW or less from Latin America.

Will that \$300 Alpha-Delta-Kilo antenna beat the home-made one? I doubt it very much! A well constructed wire antenna, designed with the above mentioned points in mind, will give superior results and it will not cost you an arm and a leg.

Wireless on the Ice

by Matt Francis

The story of the Australasian Antarctic Expedition led by Sir Douglas Mawson between 1911 and 1914 includes the first use of radio in Antarctica. The new version of 'The Home of the Blizzard' by Sir Douglas Mawson offers some intriguing insights into the use of wireless during his expedition. It is also a marvellous account of his heroic feats in sledging across the continent, and the tragic loss of his fellow expeditioners Mertz and Ninnis.

Mawson's party established their first wireless station at Macquarie Island en route to Antarctica in December 1911. A flying fox was used to transport equipment for the station from the beach to the 350 foot summit of Wireless Hill. Numerous trips were later made to Wireless Hill for repairs to the aerial which had been blown down or broken. Eventually, on February 13, 1912, Mawson recorded: "Wireless communication was established for the first time with a ship—'S.S. Ulimaroa'. Sandell and Sawyer (the wireless operators) were congratulated on their success." Further contact followed the next night with Sydney, and the ships 'SS Westralia', 'SS Ulimaro' and 'HMS Drake'. Mawson also reported:

"We heard that a wireless station had just been established in Melbourne, and that the Hobart station would be working in about one month. It was with the latter station that we expected to do most of our business. There was great joy in the camp now that this stage of practical efficiency was reached and because we were no longer isolated from the world."

A wireless station was also set up at the expedition hut at Cape Denison on the Antarctic mainland (the now famous Mawson's Hut) in the area known as Adelie Land. Mawson records the occasion of the first attempted use of the wireless at the Hut on February 15, 1913:

"...Jeffryes suddenly surprised us with the exciting intelligence that he had heard Macquarie Island send a coded weather report to Hobart. The engine was immediately set going, but though repeated attempts were made, no answer could be elicited. Each night darkness was more pronounced and signals became more distinct, until, on the 20th, our call reached Sawyer at Macquarie Island, who immediately responded by saying 'good evening'.

More signals were exchanged on February 21, and a message dispatched to the Governor-General, Lord Denman, on February 23. That message contained the news about the deaths of Mertz and Ninnis, with special messages also forwarded to the relatives of the dead explorers. The expeditioners also learned for the first time of the fateful quest for the South Pole by Captain Robert Scott and four of his companions, and received the permission of King George V to name part of the continent between Adelie Land and Oares Land in his honor.

The use of the wireless clearly played a vital role in breaking down the isolation of Mawson's party in what was a forbidding and desparately lonely part of the world. He recounts how the collection of wireless messages received overnight were eagerly discussed the following morning: "It took the place of a morning paper and we made most of the intelligence, discussing it from every possible point of view." The wireless operators worked throughout the night, sending and receiving messages between 8 PM and 1 AM.

Using the wireless in the unfamiliar Antarctic environment posed some special challenges. Among them, Mawson said, "the wireless man of Adelie Land is harassed by a special troublesome disturbance arising from St. Elmo's fire in the aerial system". The constant noise of the blizzards sweeping by the hut made listening to the wireless "very tedious work". (Mawson did not call

the Antarctic 'the home of the blizzard' without good reason!) The sled dogs sheltering nearby "were not always remarkable for their quietness", and the polar aurora also affected reception. Mawson observed that when the aurora was visible "signals would often die away, apparently 'damped' out".

Mawson was also interested in the apparent effect of ice on radio signals. With the disappearance of the sea ice on the horizon, signals "suddenly came through very strongly in the twilight of 9:30 PM, and for many succeeding nights continued at the same intensity". However, when the sea was either frozen or strewn with floe-ice, "communication was very fitful and uncertain". Mawson speculated that radio signals traveled better across water than ice.

Despite these difficulties, reception was possible of stations in Wellington, Sydney, Melbourne and Hobart, with communication with the latter possible on one occasion. Ships passing along the southern Australian coast or New Zealand were sometimes audible. Coded weather reports were sent out each night from the Antarctic base, and conveyed to the Commonwealth Weather Bureau via Macquarie Island.

Mawson does not record much detail about the wireless used. The book's appendix notes that two Telefunken wireless sets were supplied by the Australasian Wireless Company

in Sydney. I found a picture of the Telefunken wireless and its unidentified operator in a corner of the workshop in Mawson's hut in the book by Don McIntyre and Peter Meredith 'Two Below Zero: a year alone in Antarctica'. I presume the black and white picture is one of the many excellent photographs taken by expedition member Frank Hurley. Mawson's book includes a photograph of the aerial at Wireless Hill on Macquarie Island.

Mawson acknowledges the roles played by various expedition members: those mentioned in connection with the operation of the wireless include: W.H. Hannam, 26, of Sydney—a mechanic and wireless operator; S. N. Jeffryes, 27, of Toowoomba—wireless operator; C. A. Sandell, 25, of England—mechanic and operator, Commonwealth Telegraph Service; and, A. J. Sawyer, 26, of New Zealand—of wireless telegraphist, Australian Wireless Company.

More reading

- 'The Home of the Blizzard: The Story of the Australasian Antarctic Expedition, 1911-1914', Sir Douglas Mawson (Wakefield Press, South Australia, 1996)

- 'Two Below Zero: A Year Alone in Antarctica', Done McIntyre and Peter Meredith (Australian Geographic Pty Ltd, Terrey Hills, NSW, 1996)

The below first appeared in the September 1996 issue of Contact and is via Rich D'Angelo

The Barlow-Wadley XCR-30 Story

by Bob Aley

We'll say flat out the Barlow-Wadley (500 kHz to 31 MHz) is the finest portable receiver we have ever used, and we include those Transoceanics of years past. The XCR-30 is also a lot better shortwave receiver than a lot of high-priced equipment sold to amateurs and general shortwave listeners—so said Elementary Electronics in December 1975.

What they said then is also true today. It can still hold its own against any of the communication receivers on today's market.

My own 18 year old Wadley XCR-30 also has the FM module—most useful on the patio or in the garden and in my 'shack' alongside my Yaesu FRG 7 and the Grundig Satellite 700 complete with over 2000 memories. In flying terms, rather like flying a Tiger Moth, Piper Cub, and a 747-SP400!

A recent survey amongst members of the South African DX Club revealed that the Barlow Wadley was the 'most owned and used receiver' AND the most reliable.

For those not familiar with the Wadley, the name comes from Professor Wadley, South Africa's renowned expert in radio engineering and electronics (Barlow Industries were the manufacturers). Amongst his many inventions was the TELEROMETER, a radio rangefinding device for artillery. Philatelists will probably know the South Africa stamp with his portrait. His Army Radio transceivers jumped frequencies and kept transmitter and receiver in step during automatic frequency jumping.

The Wadley Loop system was subsequently used in other communications receivers, notably the Yaesu FRG-7, (the famous Frog) and other models.

The Barlow Wadley was simple to operate, just two vertical spin controls, one calibrated in kHz from 000 to 1000 in 10 kHz divisions, and the other in MHz from 0 to 30 in 1 MHz divisions. An antenna trimmer, a clever device, which enabled one to peak a signal audibly or visually via a small signal strength meter.

Two select knobs, one on/off and volume control and the other LSB AM and USB. A calibrated Clarify for LSB/USB also served as a Fine Tuning control.

Without being too technical, the basic tuning is locked to a crystal, the main tuning (MHz) dial moves precisely in 1 kHz increments. If you move from 21 MHz to 22 MHz, you are there on the dot! (nothing in between).

In practice, if you want, say 17640 kHz, you dial up 17 on the MHz dial and 640 on the kHz dial, switch on, and there's your station! That's the secret of the Wadley, the locking of the MHz by crystal. Spin the kHz dial and you can scan the band or alternatively move the MHz dial, say to 15, and you have 15640 kHz. Quite useful when some stations keep the same kHz for different bands.

There is no bandwidth switch—actually tiny micro switches on the Antenna Trim do the job, so that when a signal is peaked, the correct tuning coil is switched on and tuned. It works like a dream, and only if you are very familiar with the Wadley will you hear the switches operate. A large speaker provides excellent audio—a good feature for tireless long-term listening.

95% of all the Wadleys produced were exported to earn hard currencies, so we in South Africa had to hunt around to locate a new one in the radio shops. Today they are collectors' items, often forgotten in attics or at the back of a cupboard somewhere to await sale at a flea market.

It's amusing to see the expressions on the faces of 'state of the art' owners, when good old Wadleys pick up weak stations in the far Pacific, and their sets just produce a cheep or no signal at all!

They have become the benchmark sets for short wave listening—always taken on Dxpeditions. It's amusing to see the expressions on the faces of 'state of the art' owners, when good old Wadleys pick up weak stations in the far Pacific, and their sets just produce a cheep or no signal at all! No, they were never banned during the days of the apartheid regime—the USA simply took all they could get. In accordance with Professor Wadley's will, production ceased on the day he died. That's the story of the Barlow Wadley, a unique portable true communications receiver—a superb performer too!

Circuit diagrams, a full report and lists of upgrades are available from me, if anyone is interested. My address is P. O. Box 499, Boksburg 1460, South Africa. 

Listener's Library

T. J. "Skip" Arey N2EI

P. O. Box 236

Beverly, NJ 08010

Internet: tjarey@mosquito.com

Well here we are once again facing another year together. This always is a time of rediscovering some of those annual publications. Let's take a look at the two that have most recently crossed my desk just in time for the New Year.

Passport To Worldband Radio

1998 Edition

Lawrence Magne Editor in Chief

560 pages

\$19.95

ISBN 0-914941-45-3

International Broadcast Services, Ltd.

Box 300

Penn's Park, PA 18943

<http://www.passport.com>

As in years past, Larry Magne has done a most excellent job of bringing shortwave program data to hobbyists in an easy to use format. This, coupled with his "best in the business" equipment reviews make Passport a must have book.

Passport continues its strong program orientation that reminds even the most battle scarred DXer that listening to the stations we log can be the most interesting thing of all. I also appreciate the book's sections directed at getting people started in the monitoring hobby. Passport has probably brought more new members to NASWA than any other source direct or indirect.

The 1998 Passport includes all the standard great stuff such as the excellent equipment guide. Larry is once again including the "Portatop" category of receivers. AS small as this category is, I think the receivers in this group have a great deal to offer when the cost/performance ratio is figured. The Tabletop Receiver section will give you a good first look at the new Drake R8B while the Portable Receiver section highlights the new Grundig G2000A and Traveler III units.

I always enjoy the choices and commentary in the "What's On Tonight?" section of the book. There are really plenty of things out there in radio land to keep you from watching reruns of Laverne and Shirley on any given evening. The Worldwide Broadcasts in English also support great listening while the "Blue Pages" point to the wider DXer perspective.

I remain a regular user of Passport's "Address Plus" section. If you are looking to sort your way through the trials and tribulations of the International Postal System, you will find no better guide.

But I remind folks of these excellent sections just about every year. Now let me point out some additional reasons this year's Passport is great fun.

A special feature this year is called *Real Radios Glow in the Dark*, written by none other than Fred Osterman. Fred expounds on the joys of listening as it was in the good old days. The article doesn't just share the love of great old tube gear but also talks a little about how different the times were when the Iron Curtain was more than a memory. If you look closely you will even see a picture of Larry Magne as he looked back in 1972 when the Radio Database International, much less the Passport project was little more than a glimmer in his eye. I really like the little timeline that appears on the bottom of page 77. It shows a history of popular receivers from 1960 through 1970. I have little checkmarks next to many of them as they have been in my collection at one time or another. Alan Johnson probably has them all even as I write this. A further service to those who are thinking of taking up with ancient receivers is a guide to vintage receiver repair and parts services.

Now for yet another annual tradition, that being, Uncle Skip picking his favorite picture from Passport. Yeah, I know Barbara Osterman shows up on page 80, but I am picking page 66 this year. Here we find a picture of a redhead AND a 1942 Philco console receiver. I've never been to paradise but that sure is getting close!!! Anti misogynist diatribes can be directed to my old post office box since its forwarding has probably expired by now.

So as I say every year about this time. Get Passport and enjoy shortwave for another year.

Our next annual offering is celebrating 75 years of continuous publication.

The ARRL Handbook For Radio Amateurs

1988 Edition

Paul Danzer N111 Editor

1191 pages

\$32.00

ISBN 0-87259-178-6

The American Radio Relay League

225 Main Street

Newington, CT 06111

<http://www.arrl.org>

The first League handbook sold for \$1.00 and had a mere 160 pages. Since then over 6 million copies have been sold of the various editions of this superior reference work. Seventy-five years of growth, improvement and experimentation have led to the current "must have" radio resource that is known far and wide simply as "The Handbook".

The League has always endeavored to put out the best possible publications at the most reasonable prices so to keep costs down The Handbook remains paperbound this year after being available in a hardcover format some years past. As someone intimately involved in the insanity known as the publishing industry, I know the cost of paper is driving all manner of cost cutting measures in this field. In an additional cost cutting

measure, the disk of software that was included in the last few handbooks will no longer be found bound in the back. Since The ARRL now has the Hiram BBS system and their excellent website on line, these programs can be easily downloaded from either source at no charge. If on line access remains a problem the disk is available from the League for a \$10 fee.

The latest annual tweaking of this book includes 30 chapters divided into 5 major sections.

The Introduction section is a great place to direct someone interested in becoming a radio amateur. It is very similar in its scope to The League's other publication *Now You're Talking*.

The next section on Fundamental Theory is a great place to learn all those aspects of electronics that are essential to really advancing in the radio art. This year includes a chapter devoted exclusively to Mathematics for Amateur Radio. I've never been known for my math skills but this chapter has served me well. Further chapters in this section review DC, AC, Digital and Analog theory and components, again all with practical examples.

The largest, and traditionally the favorite section, is Practical Design and Projects. Here is where you can melt some solder and get down and dirty with radio. Whenever I get a new handbook it is always where I head first. Want to have some fun? There's a neat little Regenerative Receiver project that looks like it could be whipped together in an evening for about twenty bucks. (Less if you have a good junk box.) Why not built it and go nose to nose with the Watkins-Johnson crowd? Another intriguing circuit is a Superregenerative VHF Receiver. Build this one and we may let you get your picture taken with the Scanner Scum at Kulpsville this year.

The next section is Construction Techniques. Here you will find component data and cir-

cuit construction along with troubleshooting and test procedures. With the high cost of equipment repair this section could save you a lot of money.

The final section covers Operating Practices including regulations and electromagnetic Interference and a complete reference section for all aspects of the radio hobby.

The League has done its consistently excellent job of bringing yet another Handbook to radio amateurs and fellow travelers in the radio monitoring hobby.

Shortwave Sidelines

Getting this month's column out almost didn't happen. My main computer decided to die an untimely death and I had to go in search of a new machine. Computers may have become a desirable accessory to the radio hobby, but they have become an essential tool of the radio publishing business. Buying a new computer was no big thing. I've been looking for an excuse for about a year now. What did bring out the stress reactions was the fact that I would finally have to come to grips with Windows 95, the operating system I had so carefully avoided in favor of Windows 3.11. The transition was made far less painful than I expected with the aid of one particular book.

Using Microsoft Windows 95 (Special Edition)

Second Edition

Ron Person, Robert Voss, et al.

1174 pages

\$39.99

ISBN 0-7897-1381-0

Que Corporation

201 W. 103rd St.

Indianapolis, IN 46290

<http://www.quecorp.com>

This latest edition in Que's computer series covers Win 95 up through the new OSR2 release and includes Internet Explorer 4.0 information. Put succinctly, the book allowed me to make the transition from Win 3.11 to Win95 with now desire to put my foot through the monitor so it may be of some service to other radio hobbyists making the transition. It's got tons of information that will take you beyond the basics quickly and allow you to customize the operating system to your particular needs. It will also help you get a good handle on the advanced integrated features that this newer operating system provides. If your ready (or need) to make the jump to Win 95, get this book and the jump will not be so steep.



Hardware Bits

by Alan Johnson

DRAKE R8B COMMUNICATIONS RECEIVER – The R. L. Drake Company continues to refine the R8 receiver. The latest incarnation, the R8B, incorporates a selectable sideband synchronous detector for better interference rejection and lower audio distortion. The number of memory channels has been increased from 440 to 1000. Contact the R.L. Drake Co. at 230 Industrial Dr., Franklin, OH 45005; (513) 746-4556; , for more information.

MFJ 270 LIGHTNING SURGE ARRESTOR – MFJ Enterprises has introduced the MFJ-270 Lightning Surge Protector to protect radio equipment from damaging static electricity and lightning induced surges (but not direct lightning strikes). The '270 is designed to be used with 50 coaxial cable and has an insertion loss of less than 0.1 dB. It can handle transmitters up to 400 watts PEP and can be used at frequencies up to 1000 MHz. It sells for \$29.95. MFJ Enterprises can be reached at 300 Industrial Park Rd., Starkville, MS 39759; (800) 647-1800 WWW:mjenterprises.com.

Equipment Reviews

Alan Johnson
2490 Sharon Way
Reno, NV 89509
CompuServe: 76665,1756
Internet: 76665.1756@compuserve.com

The Drake R8B Communications Receiver

A frequent complaint that SW listeners and DX'ers have had for years has been that receiver manufacturers don't listen to what hobbyists say they need and want in receivers. I'm pleased to say that the R. L. Drake Company has invalidated that argument with their R8 series of communications receivers.

The initial offering, the R8, was a good receiver as regards basic performance, but had several ergonomic drawbacks, most notably the "carousel" or "step-through" method of mode and IF filter selection as well as the location of the passband shift and notch tuning knobs. These shortcomings were duly noted and addressed in the R8A, which followed the original by four years. The R8B represents a refinement of the "A", with the major alterations being the incorporation of the sideband selectable synchronous detector that was introduced in the SW8 and increasing the number of memory channels from 440 to 1000. All the other features of the R8A were retained.

A Complete Receiver

The Drake R8B is fully configured and ready to go straight out of the box, with the exception of a decent antenna. That's one reason that I consider the receiver to be such a good value, as there are no accessories that are actually "necessities". The R8B is a general coverage receiver, with a frequency range of 100 to 30,000 kHz. The frequency coverage can be expanded to 35-55 and 108-174 MHz with the addition of the optional VHF converter. All reception modes are supported including RTTY and FM. The R8B has a large array of features that make it very flexible, but the control interface is uncomplicated and easy to learn. This is not a

receiver that requires keeping the manual alongside to use. The controls, filters and audio response permit all types of listening, from critical DX'ing to "arm chair copy" program listening. The R8B also has several types of control available, ranging from hands-on bandscanning, memory channel scanning and remote control via a computer.

An examination of the back panel shows thoughtful design, with attention to flexibility. There are two antenna inputs, one for coaxial cable and one for either a high or low impedance wire antenna. These antenna inputs are switchable from the front panel. There is a jack for an external speaker and switch to select either the internal, external or both speakers. There are two line level audio outputs for tape recorders, audio processors or decoders. A DIN connector provides the control line from the timer for unattended recording. There are connectors for an external DC power source (11-16 volts at 2 amps) for portable/mobile use. The AC cord is detachable (a welcome improvement over the original R8) and a switch is provided for using the receiver on a variety of AC voltages. The easily broken plastic elevation feet on the R8 have been replaced with a sturdy metal tilt bail.

This well thought out design also extends to the front panel. The R8B has been provided with nearly all of the interference-fighting features that a DX'er could want. There is a notch filter (which operates in the audio stages of the receiver) that provides a very sharp notch of up to 40 dB over the frequency range of 500 to 5000 Hertz. There is a passband shift control to allow for adjusting the passband of a selected IF filter for maximum intelligibility/fidelity. The R8B includes a

full range of IF bandwidths: 6, 4, 2.3, 1.8 and 0.5 kHz @ -6 dB, all with shape factors (measured at -6 /-60 dB) of less than 2:1 with the exception of the 0.5 kHz filter, which is rated at 3:1. The new synchronous detector not only yields low-distortion audio reproduction, it can also be an aid to interference reduction due to its high degree of alternate sideband rejection. There is a 10 dB attenuator as well as a 10 dB preamp, either of which can be selected as necessary to handle strong or weak signals. The AGC has been improved for better response on SSB signals and either a fast or slow decay time can be selected. The AGC can also be configured to provide an "AGC Off" position, for those who desire that listening option. For program listeners, the final audio amplifier provides a roomfilling 2.5 watts of power output and the tone control is a major improvement over that of the R8.

Operating Flexibility

The R8B has a very intuitive control interface and a variety of control options. The smoothly turning main tuning knob (although I was sorry to see that the heavy metal knob on the R8 has been replaced by a plastic one on the R8B) can be set to tune in 1, 0.1 and 0.001 kHz steps. The Up/Down tuning buttons will tune in 5 (9 or 10 kHz in the MW band in AM mode) or 100 kHz steps—quite handy for stepping through the international broadcast bands or for rapid tuning. The numeric keypad can be configured to allow for input in either mHz (decimal required) or kHz format. Unfortunately, the pushbuttons on the R8B retain the rubbery feel of the original R8. There are 1000 memory channels and each channel can be labeled with an eight character alphanumeric tag. The memory channels can be organized into "lists" of ten consecutive memory channels per list. Once configured, these lists can be linked for scanning purposes.

For those who prefer more automated methods of tuning, the R8B offers nine different scanning modes. Scanning can be of unlocked memory channels, "lists" of frequencies or between two user-defined frequency limits. Scanning can be set to either stop on

active frequencies, pause for 5 seconds on active channels or hold on active channels until the carrier drops for five seconds. There is a RS-232 computer interface which permits remote control of all receiver functions, with the exception of those functions which are normally controlled by the front panel rotary controls (with the exception of tuning).

The R8B has two clocks which can be set to two different time zones and two independent On/Off timers for unattended program recording. The main display can be toggled between showing the tuned frequency or either of the two clocks. The user can set the level (in three steps—off, dim and bright) of the display/S-meter illumination for both the power on and off states. This is a small detail, but it shows the attention to flexibility on the part of the designers.

Operation/Performance

Operation of the R8B is in a word, flawless. Now that there are separate pushbuttons for mode and bandwidth selection, tweaking the receiver for best reception under varying conditions is quick and easy. Selecting some of the features, such as AGC times, preamp, etc. does require pressing the "Function" button to toggle the assignment of the six pushbuttons below the display window, but this is much simpler than the hierarchical menus used on the AORAR-7030. Using the selectable sideband feature of the synchronous detector involves selecting the sync detector by pressing the "AM/SYNC" button (if the receiver is in AM mode) and then pressing either the "LSB" or "USB" button to select the desired sideband. Returning the mode to regular LSB/USB requires two keypresses of the "AM/SYNC" button—one to put the radio into double sideband sync mode, the other to return to regular AM mode. The sync detector locks quickly and holds sync very well during signal fades. The behavior of the sync detector during passband tuner adjustment is very civilized as well. The sync loses lock for a split-second as the PBT control is turned, but this is manifested as a flashing of the sync indicator light—none of the howls and growls that accompany this maneuver with the original R8.

I have always extolled the virtues of selectable-sideband synchronous detectors due to their ability to reduce adjacent channel interference. The R8B does a very effective job in this regard. My practical test for this feature is to tune to the CHU time signal which is transmitted as USB with carrier. With the R8B in LSB Sync mode, only the time pips (no voice announcements) were faintly audible. Listening tests on the international broadcast bands confirmed the detector's usefulness. I have been less convinced of the other touted benefit of sync detectors—their ability to reduce distortion due to fading. However, I am pleased to relate that there is a definite audible benefit to using the sync detector with the R8B. It not only reduces the distortion due to selective fading, but also seems to reduce overall audio distortion. Subjectively, the overall sound quality of the R8B seems much better than the R8. There is less noise and the tonal range is fuller, even with just the built-in speaker. The R8B really shines when a good quality outboard speaker is connected.

The sensitivity of the R8B is more than ample—it is rated at 1.5 microvolts in AM mode, dropping to 1.0 microvolt with the 10 dB preamplifier engaged. On my R8 (which may be due to my location rather than the receiver itself) switching on the preamp introduces hum. This does not happen with the R8B. Selectivity is excellent, with ultimate selectivity rated at 95 dB. The variety of filter bandwidths available, coupled with the pass-

band tuning control, allows the user to achieve the optimum balance between interference rejection and preservation of intelligibility. The only specification that is not top-notch on the R8B is the third order intercept point, which is listed as -20 dB at 5 kHz signal spacing. However, the filter bandwidth used for this measurement is not specified, so comparison with other receivers is impossible. I must say that I was unable to detect any instances of receiver overload during my time with the R8B.

Time To Upgrade?

With the series of upgrades that Drake has made in the R8 line, the R8B has evolved as a world-class tabletop receiver. In my side-by-side comparison with a very early R8, the R8B wins hands down. In short, the R8B owner won't have to make any apologies for his equipment—if the signal is propagating, there's an excellent chance this receiver will snag it. For those hobbyists looking for a receiver in the one to two thousand dollar price range, the R8B warrants serious consideration. I'd like to effusively thank fellow NASWAN John Wagner for loaning me his newly purchased R8B for this review. He had it shipped to me first—now that's dedication to the hobby! Hmmm, I wonder if he'd notice if he got my R8 instead? The street price for the R8B is below \$1200. Contact the R. L. Drake Co. at 230 Industrial Dr., Franklin, OH 45005; (513) 746-4556; www.rldrake.com. 

Hardware Bits by Alan Johnson

NEW PRODUCTS FROM MFJ ENTERPRISES—I received a press release about the MFJ-118 JUMBO LCD clock. It displays a single time zone in either 24 or 12 hour format. The clock digits are 1.25 inches high for easy visibility. The year, month, day and day of the week (in either English, Spanish, German or French) are also displayed. It runs on a single AAA battery and sells for \$29.95. The overall case size is 5 3/4 x 2 1/2 x 1/2 inches. The press release doesn't mention backlighting.

The 1988 MFJ catalog lists several new goodies. The one that caught my eye is the MFJ-1048 passive preselector to provide an extra measure of front-end selectivity over the range of 1.6 to 33 mHz. It has a RF sensing switch allowing it to be used with transceivers. It sells for \$119.95. The \$99.95 MFJ-1046 is for receive-only applications. I also spotted the MFJ-762 step attenuator. It provides up to 81 dB of attenuation in one dB steps. It is designed to work with 50 ohm loads, uses BNC connectors (SO-239 adaptors are supplied) and sells for \$69.95. MFJ Enterprises can be reached at 300 Industrial Park Rd., Starkville, MS 39759; (800) 647-1800; www.mfjenterprises.com.

Digital SW Broadcasting

(Part 5)

During an international broadcasting conference in 1997, Thomcast, a unit of the French company Thompson, demonstrated its "Skywave 2000" system for conference attendees. This was the first public broadcast of digital short-wave radio that actually used the ionosphere to bounce the signal back to earth. This month we will learn about that experiment and some of the technology behind it.

Every morning during the exhibition, Radio France International was digitally broadcast from the TDF (TéléDiffusion de France) SW station located in the center of France (Issoudun) and received at the Thomcast exhibit at the IBC show in Amsterdam.

This transmission used a standard Thomcast TRE 2355 pulse duration modulated, 500 kW, SW transmitter without any modifications. The digital program was supplied by a Skywave 2000 coder/modulator which is based on Thomcast's proprietary modem design.

Skywave 2000 was tested under real HF environmental conditions. The digital program was transmitted on 6175 kHz and fit in a standard 10 kHz ITU channel.

The test was performed in the presence of multipath reflections from both the E and F layers (incident angles of 17° and 40°). The vertical plane antenna pattern did not discriminate between the two reflections in order to provide a demonstration that stressed the multipath discrimination capability of the equipment and processing software.

Multipath reflections are a concern to digital system designers. The paths will have slightly different delay times because one signal travels farther than the other. This delay can cause errors in the reception of digital signals. Multipath reflections cause a degradation known as "intersymbol interference". Simply, this effect can be pictured as a smearing of the digital transitions so the detector has trouble accurately figuring out which state was sent.

In part 3 of this series I mentioned Shannon's law of information transmission theory. Shannon defined the maximum data rate that could be sent over a channel as a function of the signal to noise ratio and the bandwidth. Communications engineers have been working for the past 50 years to develop modulation and coding techniques which allow their systems to approach closer to Shannon's ideal capacity limit. They found, just as Shannon predicted, you can send more information in a given bandwidth by using advanced modulation and coding techniques if a high enough signal to noise ratio can be maintained.

One technique engineers have developed to get closer to Shannon's ideal is known as Quadrature Amplitude Modulation (QAM). QAM is used in telephone modems like the kind you may have on your computer. QAM allows engineers to squeeze 56 kbps digital data rates down a phone line originally designed to only pass 3 kHz analog voice signals. Of course telephone line signal to noise ratio and phase stability are normally much better than those experienced on short-

wave radio links. Today, engineers are working to design a system that can tolerate the errors that the short-wave propagation medium causes.

Here is how QAM works in principle. Before I get into this too deeply, I should clearly define some terms. The signal is characterized and the bandwidth is determined by the number of signaling intervals or transitions that are transmitted each second. Each interval is called a baud so the number of baud per second can be described as the "baud rate". The units are transitions per second. The term "bps" stands for bits per second. So, bps is equal to the bauds times the number of bits per baud.

A now obsolete definition of a baud was that a baud was identical to the number of bits per second. Using this old definition, "baud rate" would have units of bits per second per second, a forever increasing number of bits per second. Clearly "baud rate" was an incorrect usage back when one baud was equal to one bit per second.

This definition evolution over the past 40 years has caused much confusion among technical people trying to communicate with each other about digital signaling. It all depends upon when somebody last read up on the subject. The terms "bit rate" and "baud" are often confused because early modems transmitted only 1 bit per baud. An early 1200 baud telephone modem also transmitted 1200 bps.

These days, we need higher speeds. So the objective is to try and "pack" as many bits as you can into a baud. A modem operating at 9600 bps is still only transmitting at 1200 baud. But it is "packing" 8 bits into each baud. Thus 9600 bps equals 1200 baud times 8 bits per baud. One technique for "packing" multiple bits into a baud is called quadrature amplitude modulation.

QAM uses simultaneous amplitude modulation of two carriers that are 90 degrees apart in phase to transmit multiple bits per baud.

An unmodulated signal exhibits only two possible states, ON or OFF, allowing us only to transmit a zero or a one. (Morse code transmission using ON/OFF keying is an example of this.) With QAM, it is possible to transmit many more bits for each amplitude state.

This scheme works by adding amplitude modulated cosine and sine waves. These two components, being 90° out of phase, are said to be in quadrature. Hence the name Quadrature Amplitude Modulation. By simultaneously amplitude modulating both signals, we can transmit more bits for every transition or baud. One convenient way to represent the possible states is to use a constellation pattern diagram such as the one shown in Figure 1 where amplitude is represented by the distance away from the axes' intersection and phase is the angle measured counterclockwise from the 0 degree reference. By convention the zero angle reference is normally to the right.

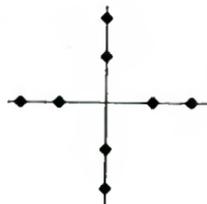


Figure 1: A signal with this phase/amplitude structure is called 8 QAM because it has the ability to signify 8 different states.

In this pattern we see that the states are represented at different amplitudes and phases. Points on the 0, 90, 180, and 270 degree axes can each have two possible amplitudes resulting in eight different states. With eight unique states, it is possible to transmit 3 bits in every state as shown in Table 1.

Table 1 shows a table of amplitude and phase states which can generate 8QAM and the corresponding binary bit pattern each state might convey. For example, if the modulated

signal is of amplitude 1 at 0 degrees, the receiver decoder senses three zeros (000).

Amplitude	Phase	Bit Pattern
1	0	000
2	0	001
1	90	010
2	90	011
1	180	100
2	180	101
1	270	110
2	270	111

Table 1: Possible states and the resulting bit patterns for 8 QAM

If the modulated signal starts as a 1 at 90 degrees, then goes to a 2 at 270 degrees, then a 1 at 0 degrees, and then a 1 at 180 degrees, the resulting bit pattern is (010111000100). In only 4 bauds, twelve bits have been transmitted.

Today, modern communications needs require modulation schemes exhibiting more dense constellation patterns such as the one shown in Figure 2.

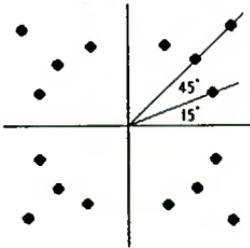


Figure 2: Four bits per baud 16 QAM

Figure 2 depicts a 16 state constellation pattern resulting in the transmission of four bits in every baud. The number of states grow exponentially to the number of bits transmitted. This is a disadvantage since transmitting eight bits per baud would require 256 possible states resulting in a very dense constellation pattern.

As the constellation pattern becomes more dense, the receiver has more trouble distinguishing which position is the real one that was sent. Amplitude noise or phase disturbances, caused by the transmission path, have more impact as the pattern becomes more dense. So one consequence of increasing the packing of more bits into a baud is that the signal to noise ratio must be increased to prevent errors from rising excessively. Forward error correction techniques can also help. Shannon was right. You can trade signal to noise ratio and coding efficiencies for an enhanced data rate.



These days, we need higher speeds. So the objective is to try and "pack" as many bits as you can into a baud.



During the Thomcast experiment, different transmission modes were tested:

- Full digital modulation using 16QAM and 64QAM.
- Simultaneous transmission of an analog and a digital program in the same 10 kHz wide ITU channel.

Thomcast is now working on investigating different types of existing AM transmitters and how they work with the Skywave 2000 technique. Their objective is to develop a plug-in exciter that broadcasters can simply connect to their existing transmitters. They are also working on the implementation of an improved source coder to increase the audio quality.

In the next part of this series we will look at how the bit error rate varies with transmission channel degradation. Until then stay tuned.



Listener's Notebook

Al Quaglieri
P.O. Box 888
Albany, NY 12201-0888
FAX: (518) 453-0864
Internet: alcue@albany.net

COPYRIGHT NOTICE Items credited to BBCM are copyright by the BBC Monitoring Service and may not be reproduced without BBCM permission.

ALGERIA *Radio Algeria International* English now at 1200-1300, ex-1600-1700, on 11715 and 15160. Poor on 15160 with severe ACI from 15165 (8-Dec/Travers/Southwell-UK/WORLD OF RADIO/Hauser)

ANGOLA 9720.3 *Radio Nacional de Angola*, 1644-1802*, Mainly in ethnic languages with Portuguese announcement and ID's at 1700 and 1800, very like ex-9535 which is now inactive. (1-Dec/Timofeyev/NERRS-Monitoring/DSWCI DX-Window/Veldhuis-HOL)

ARGENTINA 13363.5 USB *Aire 12-70* (Doce Setenta), Buenos Aires, was first observed via this USB feeder outlet, at 0811-0920. Fair signal. Tango argentino and M talk. At 0820 news flash and meteorological report "Reporte 12-70." Radio Provincia de Buenos Aires has seemingly changed its station name as "Aire 12-70." (24-Nov/TIN-JPN/Relampago DX) The official name of R. Provincia de Buenos Aires is LS11 Radio Provincia de Buenos Aires, but it usually identifies itself with the slogan "Baires 12-70." This per Argentinean DXer Marcelo Cornachioni via GIB, Buenos Aires (11-Dec/Nigro-URU)

ARMENIA Sked for *Voice of Armenia*:

0200-0245	Armenian	9965
0245-0315	Spanish	9965
0330-0400	Persian	4810 Daily
0400-0430	English	4810 Sa-Su
0815-0900	Armenian	4810 15270 Su
0900-0930	French	4810 15270 Su
0930-1000	German	4810 15270 Su
1000-1030	English	4810 15270 Su
1500-1515	Georgian	4810 Mo-Fr
1500-1530	Turkish	4810 Sa-Su
1515-1530	Turkish	4810 Mo-Fr
1530-1600	Russian	4810 Mo-Fr
1600-1645	Kurdish	4810 Mo-Fr
1645-1715	Armenian	4810 Mo-Fr
1715-1800	Arabic	4810 Daily
1930-2015	Armenian	4810 9965 Mo-Sa
2015-2045	French	4810 9965 Mo-Sa
2045-2115	German	4810 9965 Mo-Sa
2145-2215	English	4810 9965 Mo-Sa

(Direct/Schotmans-BEL)

Don't you believe the [above] sked—at least, not yet. I noticed that the English broadcast on 9965 is given as 2145-2215, following a half-hour gap after German until 2115, instead of English at 2115-2145. But when I checked Dec 9 and 10, English was in fact still at 2115-2145*, rather poor and fluttery, but no signal after 2145. Dec 10 at 2116 the English opening also claimed it was at 2145-2215, so perhaps this is an upcoming change which has not yet reached the people actually responsible for putting it on the air (Hauser-OK) As of Dec 17, the English broadcast on 9965 was still starting at 2115, not 2145 (Hauser-OK)

AUSTRALIA *Radio Australia* sked updates:

1200-2130	9500 (ex-9415)
1400-2200	9590 (ex-9435)

9590 also for CC 1100-1300 and Vietnamese 1330-1430 (15-Dec/Francis/Padula-AUS/EDXP)

AUSTRIA *Radio Austria International* W97 English:

0130-0200	9870 9495 7325
0530-0600	17870 15410 13730 6155 6015C
0630-0700	6015C
0830-0900	17870 13730 6155
0930-1000	17870 15455
1330-1400	13730 6155
1730-1800	13730 13710 9655 6155
2230-2300	13730 6155 5945 1476

C-via Sackville, NB (BBCM)

BELARUS *Radio Mayak* feeders:

0600-1500	5256u
1300-1500	4855u
1500-0600	2338u 3346u

(1-2-Dec/Timofeyev/NERRS-M/DSWCI DX-Window/Veldhuis-HOL)

Usage of transmitters in the Ukraine by *Radiostanzya Belarus* (currently 1900-2000 on 6010 and 7205) likely ended on 31/12. Already two months ago they told on air about this "likely" cancellation, mentioning as reason the combination of rising rents for transmitters + feeder lines and constantly disappointing reception quality. ("Radiojournal" magazine/Ludwig-FRG/EDXP/Padula-AUS)

BELGIUM *RVI* freq changes: Sats only sports program in Dutch 1900-2100 from 9850 & 11725 to 9925 & 11890; 1/12, the daily program in Dutch to EEU 1700-1730 from 7255 to 7410 (via Julich). (Schothmans/EDXP/Padula-AUS) 13795 is new for Dutch @*0830 (Padula-AUS/EDXP)

BOLIVIA 4719.8 *R. Abaroa* back on usual frequency, ex-4720.2, 2334. (19-Nov/Klemetz-COL/Dateline Bogota)

4732.22 *R. Palabra*, Santa Ana del Yacuma, Beni, 2310 tentative with group recitation of rosary running until 2325, when sat upon by RTTY. Reasonable signal before that. (11-Dec/Novello-NC)

4923.2v *R. San Miguel*, slightly off usual 4926.5, 2330. (6-Dec/Klemetz-COL/Dateline Bogota)

5153.4 *R. Galaxia*, reactivated on a readjusted frequency, 0050. (2-Dec/Rodriguez/Klemetz-COL/Dateline Bogota)

BRAZIL 5979.91 *Radio Guaruja*, Floreanopolis, 0846-0858 fair. M talk and religious mx. (22-Nov/TIN-JPN/Relampago DX)

6040.42 *Radio Clube Paranaense*, Curitiba, 0753-0804 fair w/religious program. 0801 canned ID "ZYJ200 Radio Clube Paranaense, onda media 1430kHz. ZYE725 ondas curtas: 25 metros 11935kHz, 31 metros 9725, 49 metros 6040. Emisora da Fundacao Nossa Senhora do Rocio integrando Sistema Clube da Radio. Radio Clube 50kW Curitiba, Parana..." (22-Nov/TIN-JPN/Relampago DX)

6135.11 *Radio Aparecida*, 0748-0753 fair signal. MPB (musica popular brasileira). At 0751 nice SJ was heard. (22-Nov/TIN-JPN/Relampago DX)

9585.02 *Radio Globo*, Sao Paulo, *0800-0820 fair signal. MPB and "Radio Globo" jingles. This 31 mb outlet formerly used by CBN, part of the Globo Network (Rede Globo). (30-Nov/TIN-JPN/Relampago DX)

9630.12 *Radio Aparecida*, 0750-0800 fair signal. Religious mx. 0800 M ID. (14-Dec/TIN-JPN/Relampago DX)

9725.00 *Radio Clube Paranaense*, Curitiba, heard at 0800. fair signal // with the 49mb outlet. (22-Nov/TIN-JPN/Relampago DX)

11804.82 *Radio Globo*, Rio de Janeiro, *0802-0908 fair signal. S/on w/Sunday morning show *Bom Dia Globo* (14-Dec/TIN-JPN/Relampago DX)

CHINA *China Radio International* uses relay stations in Canada, France, French Guiana, Russia, Spain and Switzerland. CRI's Mali relay station is currently believed to be off air This schedule was compiled entirely from monitoring observations and only includes those transmissions heard recently by BBC Monitoring. English portions only:

0300-0400 9690
0400-0500 9730
0500-0600 9560-Canada

0900-1000 15400 11755 9785
1000-1100 15400 11755 9785
1200-1300 11980 11675 11660 9945 9715 9565 7385 6950
1300-1400 11980 11675 11660 9945 7385 6140 1341
1400-1500 11825 9535 7405 7260 7160
1500-1600 9785 7405 7160
1600-1700 9620 9565
1700-1800 9700 9570 7405 7160 7150 5220
1900-2000 11840 9870 9440 6955
2000-2100 11840 9920 9635 9440 7160 6950 5220
2100-2200 9920 9670 9535-(to 2130) 7180-(to 2130) 7170-(to 2130) 6950 5220
2200-2230 3985-via Switzerland
2200-2300 7170
(BBCM + Francis/EDXP/Padula-AUS)

Central People's Broadcasting Station (CPBS) sked, based entirely on monitoring observations.

First program (all in Chinese):

0000-0030 11800 9290 9080 7935 7530 7504 7345 6840 6750 6295 6125 6110 6030 5995 5915 5880 5320
0030-0100 15480 12120 11800 9290 9080 7935 7530 7504 7345 6840 6750 6295 6125 6110 6030 5995 5915 5880 5320
0100-0200 15550 15480 12120 12030 11825 11800 9080 7935 7530 7504
0200-0230 15550 15480 15390 12120 12030 11825 11800 9080
0230-0600 17605 15550 15480 15390 12120 12030 11825 11800
0600-0855 17605 15550 15480 15390 12120 12030 11960 11825 11800 9290 7504 6840 6180 6030 We-Mo
0855-0900 17605 15550 15480 15390 12120 12030 11960 11825 11800 9290 9080 7504 6180 6030
0900-1000 15550 15480 15390 12120 12030 11960 11825 11800 9290 9080 7504 6180 6030
1000-1030 15550 15480 15390 12120 12030 11960 11825 11800 9290 9080 7935 7504 7290 6180 6030 5030
1030-1100 13610 12030 11960 11825 11800 9290 9080 7935 7504 7290 6180 6030 5320 5030
1100-1130 13610 12030 11960 11825 11800 9800 9290 9080 7935 7504 7290 6180 6125 6030 6125 6030 5880 5320 5030
1130-1230 13610 11960 11825 9800 9290 9080 7935 7504 7290 6750 6180 6125 6030 5880 5320 5030 4460 3220
1230-1330 13610 11960 9800 9290 9080 7935 7504 7345 7290 6750 6180 6125 6030 5880 5320 5030 4460 3220
1330-1400 13610 11960 9800 9290 9080 7935 7504 7345 7290 6750 6180 6125 6030 5880 5320 5295 5030 4460 3220

1400-1430 13610 11960 11730 9800 9290 9080
7935 7530 7504 7345 7290 6750 6180
6125 6030 5880 5320 5295 5030 4460
3220

1430-1730 13610 11960 11730 9800 9290 9080
7935 7530 7504 7345 7290 6750 6180
6125 6110 6030 5880 5320 5295 5030
4460 3220

1730-1735 13610 11960 11730 9800 9290 9080
7935 7504 7345 7290 6750 6180 6125
6110 6030 5880 5320 5295 5030 4460
3220

1958-2100 9290 9080 7935 7345 6840 6750 6295
6125 6030 5995 5915 5880 5320

2100-2230 9290 9080 7935 7530 7504 7345 6840
6750 6295 6125 6030 5995 5915 5880
5320

2230-2400 12120 9290 9080 7935 7530 7504
7345 6840 6750 6295 6125 6030 5995
5915 5880 5320

Second program (all in Chinese):

0000-0030 11740 11610 10260 9775 9064 7770
6890 5163 4800

0030-0100 11740 11630 11610 9775 9064 7770
6890 5163 4800

0100-0200 15500 11740 11630 11610 9775 9755
9064 6890 4800

0200-0800 17700 15500 11610 11040 9064

0800-0900 15500 11610 11040 9064

0900-1000 11740 11610 9064 7770 6890

1000-1030 11740 11610 9755 9064 7770 6890
5163 4800

1030-1100 11740 11610 9775 9755 9064 7770
6890 5163 4800

1100-1130 11740 11630 11610 9775 9755 9064
7770 7516 7440 6890 5163 4800

1130-1200 11630 11610 9775 9064 7770 7516
7440 6890 5163 4800

1200-1300 11630 11610 9064 7770 7516 7440
6890 5163 4800

1300-1600 11740 11630 11610 9775 9064 7770
7516 7440 6890 5163 4800

2058-2230 11740 11630 11610 10260 9064 7770
7516 6890 5163 4905 4800

2230-2330 11740 11630 11610 10260 9775 9064
7770 7516 6890 5163 4905 4800

2330-2400 11740 11610 10260 9775 9064 7770
6890 5163 4800

National Minorities:

0000-0026 Tibetan 11630 11375 8566

0030-0056 Uighur 11375 10260 8566 4735

0100-0126 Kazakh 11375 10260 8566

0430-0456 Korean 9920 9775 8566

0500-0526 Mongolian 9920 9775 8566

0530-0556 Tibetan 15670 11630 11375

0600-0626 Uighur 15670 11375 10260

0630-0656 Kazakh 15670 11375 10260

1000-1026 Korean 9920 9775 8566

1030-1056 Tibetan 11630 11375 8566

1100-1126 Uighur 11375 10260 8566

1130-1156 Kazakh 11375 10260 8566

1200-1226 Korean 9775 5420 4190

1230-1256 Mongolian 9775 5420 4800 4190

1300-1326 Tibetan 11630 8566 5995 4035-
Lhasa

1330-1356 Uighur 10260 8566 4735-Urumqi
3990

1400-1426 Kazakh 10260 8566 4970-Urumqi
4330

1430-1456 Mongolian 10260 8566 5060-Urumqi
4980

2130-2156 Korean 9775 5420 4190

2200-2226 Mongolian 9775 5420 4800 4190
(BBCM)

Hunan People's Broadcasting Station

0000-0600 Chinese 4990

0855-1500 Chinese 4990

2125-2400 Chinese 4990
(BBCM)

Zhejiang People's Broadcasting Station identification in Standard Chinese: "Zhe-jiang ren-min guang-bo dian-tai" This station does not broadcast on Tuesdays between 0505-0855.

0000-1505 Chinese 2475

2130-2400 Chinese 2475
(BBCM)

6185 **Huayi Broadcasting Corp.**, Fuzhou has been signing on @0858, preceded by Chinese & English IDs. The latter is, "This is CHBC, China Huayi Broadcasting Corporation." Programming is in Chinese & power is listed as 15 kw. (Famularo-JPN)

CHINA-TAIWAN The *Voice of Free China* announced Dec. 1 that effective Jan. 1, 1998, when the station becomes *Taipei Radio International*, part of its broadcast schedule will also change. Japanese service will change to:

1100-1200 JJ 7130 11745

1400-1500 JJ 7130 11745

2100-2200 JJ 7130 11745 15345

(Ashimori/DSWCI DX-Window/Veldhuis-HOL)

CLANDESTINE-AFRICA *Radio Kudirat Nigeria* is now 1900-2000 (x-2005) on 6205. (25-Nov/PanI-view-BUL/WWDXC TopNews/Bueschel-FRG)

Voice of Democratic Eritrea—The Voice of the Eritrean Liberation Front Revolutionary Council (Arabic "Sawt Eritrea al-Dimuqratiya -Sawtu Jabhat al-Tahrir al-Eritrea") is hostile to the government of Eritrea. It appears to share transmitting facilities with two other Eritrean opposition radio stations on the same frequency, Voice of Free Eritrea and Voice of Truth. The transmitter may be located in Sudan. 1500-1530 Arabic 9230
(BBCM)

The *Voice of Free Nigeria* changed from 11715 to 11645, Saturdays 1900-2000. (Free Nigeria Movement/Krone/DSWCI/DX Window)

7999.6 *V.O. Sudan*, 1645, Arabic, ID. Not found on or near 9025/12008, maybe due to poor conditions? Jammed (24-Nov/Krone/DSWCI DX-Window/Veldhuis-HOL)

9230.0 *V.O. Truth* (Eritrean claud), 1615-1629*. Into Arabic ID ["*Sawt al Haqq*"] at 1626, gunfire and off 1629. So seems new time for this, ex 1500-1545, but this is too early for me to check further. (24-Nov/Krone/DSWCI DX-Window/Veldhuis-HOL)

CLANDESTINE—MIDEAST *Democratic Voice of Iran* (Persian: *Seda-ye Azadi-khahan-e Iran*, literal translation "Voice of Iran's Freedom-Seekers"), hostile to the current Iranian government, says that it is not affiliated to any particular political or religious association, group or party. It is believed to broadcast via a hired transmitter in Central Asia. France: Fax: +33-1-43999565; Sweden: Fax: +46-8-8314148; Address: Box 555, 11479 Stockholm, Sweden; UK: Fax: +44-541-525051; Address: BCM Box 5842, London WC1N 3XX, UK
1830-1900 Persian 6210 5835

(BBCM)

4140 *Voice of Iraqi Kurdistan*, 1630-1641, M speaker in Kurdish with full ID at 1638 as: "*Aria dangi kurdestana Iraqa*," followed by Turkish kind of music with Kurdish W songs. (29-Nov/van Rooy/DSWCI DX-Window/Veldhuis-HOL)

Voice of Palestine, Voice of the Palestinian Islamic Revolution (Arabic: *sawt al-filistin, sawt al-thawrah al-islamiyah al-filistiniyah*) operates from Iran:

0400-0500 Arabic 9670 6020
1930-2030 Arabic 7230

(BBCM)

7094.95 *Voice of Southern Azerbaijan*, 1716-1730*, W talking in Azeri with another station underneath—also W talk. Telephone No's ann'd. Schedule read. Fair. M noted on frequency after sign-off of Azerbaijan, but extremely weak (24-Nov/Krone/DSWCI DX-Window/Veldhuis-HOL)

Voice of the Communist Party of Iran (Persian: "*Seda-ye Hezb-e Komanist-e Iran*"): 1700-1800 Persian 4375v 3920v

(BBCM)

7295 *V. of the Islamic Revolution of Iraq* 0353 Diatribe in Arabic with many mentions of Iraq, two IDs of "*Idha'a-t i-saut-i thaurah-t il-islamiyah-t il-iraq*." Quite strong and in the clear till 0400, when RFE came on and mixed. (1-Dec/Hill-MA)

4065.9 *Voice of the People of Kurdistan*, 1715-1809*, //4085.4. 4065 seemingly used to disturb V.O.Iraqi Kurdistan. "*Era dengi gelli kurdestana*" at 1734. 4065.9 fair but not as strong as 4085.4 (24-Nov/Krone/DSWCI DX-Window/Veldhuis-HOL)

4105.90 *Voice of the People of Kurdistan*, 1657-1705, M speaker in Arabic with news with

mentions of Iraqi Kurdistan, Turkey daily news several times also mentioning of PKK and "*sha'b al Iraqi*" clear at 1803, at 1804 end of news with full ID as: "Huna sawt sha'b Kurdistan, sawt al—ittihadi al—Watani al—Kurdistani," followed by Arabic music with Arabic M songs. // 4010.50 where weaker. (29-Nov/van Rooy/DSWCI DX-Window/Veldhuis-HOL)

CLANDESTINE—RADIO FREE ASIA latest sked:

0030-0130	Burmese	13710-BI 11580-UL 7530-DB 7515-AA 7455-KA
1130-1230	Lao	17535-KA 15660-DB 7540-AA
1230-1330	Khmer	11510-KA 9930-HR 7540-AA 7520-DB
1300-1400	Tibetan	15385-HO 9400-KA 7530-DB
1400-1500	Vietnamese	9930-HR 9455-BI 9400-KA 6240-DB
1500-1600	Burmese	9400-KA 7540-AA 6240-DB
1500-1630	Chinese	11945-BI 9910-BN 9805-DL 9445-BI 7530-DB
1530-1630	Korean	9955-BN 7475-KA 5855-UL
1630-1700	Chinese	11945-BI 9910-BN 9805-DL 9455-BI 7530-DB
1700-1800	Chinese	11945-BI 9805-DL 9455-BI 7530-DB
2100-2200	Chinese	11980-DL 9910-BN 9795-BI 9775-BI 9650-LS 7530-DB
2200-2300	Korean	11980-DL 9650-LS 9455-BI 7530-DB 7495-KA 7460-UL
2200-2300	Lao	9910-BN 9570-BI 7550-KA 6240-DB 5865-AA
2230-2330	Khmer	11510-KA 7540-AA 7520-DB
2300-2400	Chinese	13800-BI 11870-DL 9910-BN 9650-LS 7530-DB
2300-2400	Tibetan	9875-HO 7550-KA 7415-DB
2330-0030	Vietnamese	13710-BI 11580-UL 9980-BN 7520-DB

DL=Delano, California AA=Almaty, Kazakhstan LS=KNLS, Alaska HO=Holzkirchen, Germany HR=KWHR, Hawaii BI=KHBI, Saipan DB=Dushanbe, Tajikistan BN=KHBN, Palau KA=Kamo, Armenia UL=Ulan Bator, Mongolia (25-Nov/Aoki/Asian Broadcasting Institute webpage)

COSTA RICA AWR Costa Rica:

0000-0100	Portuguese	15460 13750 9725 6150 5030
0100-0130	French	15460 13750 9725 6150 5030 Mo-Fr
0100-0200	Arabic	15460 13750 9725 6150 5030 Sa-Su
0130-0200	Spanish	15460 13750 9725 7375 6150 5030 Mo-Fr
0200-0230	Papiamento	15460 13750 9725 6150 5030 Sa

0200-0230	Spanish	15460 13750 9725 6150 5030 Su-Fr	1200-1300	Spanish	6000 6070 9550 11760 15340
0230-0300	Spanish	13750(Mo-Fr) 9725 6150 5030	1300-1400	Spanish	6000 6070 11760 15340
0300-0400	Spanish	13750(Mo-Fr) 9725 7375 6150 5030	1400-1500	Spanish	11760
0400-0500	Spanish	9725 7375 6150 5030	1500-1530	Esperanto	11760 Sa/Su
0500-0600	English	9725 7375 6150 5030	1930-2000	Esperanto	13715 Sa/Su
0900-1000	Portuguese	7375	2000-2030	French	13605 13715
1000-1100	Spanish	7375 6150 5030	2000-2030	Portuguese	11760 13680
1100-1300	English	13750 9725 7375 6150 5030	2030-2100	Portuguese	11760 13680
1300-1400	Spanish	13750 9725 7375 6150 5030	2030-2130	English	13605u 13615
1400-1500	Spanish	13750 11870(Sa/Su only) 9725	2030-2130	English	13715
1500-1600	Spanish	13750 11870 9725 Sa/Su	2100-2300	Spanish	9830u 11760 13680
1600-1700	English	13750 11870 9725 Sa/Su	2130-2200	French	13605 13715
2300-2400	English	15460 13750 9725 6150 5030	2130-2230	Creole	6000

(BBCM)

Radio For Peace International sked, all programs in English and Spanish:

0000-1200	7385 6980u
1200-1700	21465u 7385
1700-2200	21465u 15050
2200-2400	21465u 15050 7385

(BBCM)

CROATIA Latest official sked for *Croatian Radio*:

0000-0200	9520J
0200-0400	5840J 6120J
0600-0700	6175 7185
0700-0800	6175 7185 11730J
0800-1000	6175 7185 11730J
1000-1500	6175 7185
1500-1530	6025 7185
1530-1830	6025 7150
2100-2200	9590J

English news: Mon-Fri at 0703, 0903, 1303, 2203;
Sat/Sun: 0803, 1303, 2203. J=Jülich relay. (Croatian
Radio/Padula-AUS/EDXP)

CUBA *Radio Havana Cuba* sked:

0000-0030	Creole	6180
0000-0100	Spanish	5965 6000 6070 9505 9550 9820 11760 11970 13715
0030-0100	French	6180
0100-0130	Creole	6180
0100-0200	Spanish	5965 6070 9505 9550 11760 11970 13715
0100-0500	English	6000 9820 9830
0130-0200	French	6180
0200-0300	Spanish	5965 6070 6180 9505 9550 11760 11970 13715
0300-0500	Spanish	5965 6070 6180 9505 11760 13715
0500-0700	English	6180 9820 9830
0700-0730	Esperanto	9820 Sa/Su
1100-1200	Spanish	6000 9550 11760

1200-1300	Spanish	6000 6070 9550 11760 15340
1300-1400	Spanish	6000 6070 11760 15340
1400-1500	Spanish	11760
1500-1530	Esperanto	11760 Sa/Su
1930-2000	Esperanto	13715 Sa/Su
2000-2030	French	13605 13715
2000-2030	Portuguese	11760 13680
2030-2100	Portuguese	11760 13680
2030-2130	English	13605u 13615
2030-2130	English	13715
2100-2300	Spanish	9830u 11760 13680
2130-2200	French	13605 13715
2130-2230	Creole	6000
2200-2230	Portuguese	15340
2230-2300	French	6000
2230-2300	Guarani	15340
2230-2330	English	6000
2300-2330	Portuguese	11970 15340
2330-2400	Esperanto	11760 Sa/Su
2330-2400	French	6000
2330-2400	Guarani	15340
2330-2400	Portuguese	11970
2330-2400	Quechua	15340

(Coro/EDXP/Padula-AUS)

1640 **Radio Moron**, 2355, Cuban music selections in what sounded like a pre-produced program with a W announcer. Every couple of songs a Viennese waltz theme would play and W would talk over the top. Modulation in FM mode, full quieting at times. ID 0100: "CMIX, Radio Moron, 1530 kHz (cock-a-doodle doo), desde la ciudad del gallo (?), Municipio Turistico de Ciego de Avila, Cuba." Followed by "Axel F" theme and new program. Also heard Nov 27-29. Deliberate? (26-Nov/Novello-NC)

CYPRUS *Cyprus Broadcasting Corporation* (CyBC) broadcasts to Cypriots in the United Kingdom from the BBC East Mediterranean Relay Station near Lissol.

2215-2245	Greek	9760 7105 6180 Fr-Su
-----------	-------	----------------------

(BBCM)

ECUADOR *HCJB's* W97 English sked:

0000-0700	21455U 9745
0700-0900	21455U 9645 9365 5865
0900-1100	21455U 9645
1100-1600	21455U 15115 12005
1900-2200	21455U 12015

(BBCM)

4870 **R. Dif. Cultural**, Macas 0112 ID by W, radio classroom by M/W. Voice traffic ute QRM. (3-Dec/Ni-gru-URU)

ERITREA *Voice of the Broad Masses of Eritrea* (VOBME) is the official government-run radio of Eritrea. ID in Arabic: "Huna Asmara, Idha'at Sawt al-Jamahir al-Iritriyyah." ID in Tigrigna: "Ezi Kab Asmara Zemehalalef Medeber Radio Demtsi Hafash Eritrea Eyu." ID in Amharic: "Yeh be Asmera ketema

yemigegne yesifw yeritrea hezeb demts yeamarigna
agelgilot new."

0300-0400	Arabic	7390v 4000
0300-0400	Tigrigna	7085 5000 Mo-Fr
0400-0500	Tigre	7085 5000
0500-0700	Tigrigna	7085 5000 Sa
0930-1030	Arabic	7390v 4000
0930-1030	Tigrigna	7085 5000 Mo-Sa
1100-1200	Tigrigna	7085 5000 Su
1200-1300	Tigrigna	7085 5000 Sa/Su
1500-1600	Kunama	7085 5000
1600-1700	Afar	7390v 4000
1600-1700	Tigre	7085 5000
1700-1800	Arabic	7390v 4000
1700-1830	Tigrigna	7085 5000

(BBCM)

FINLAND *Radio Finland* W97 English:

0900-0930	15225 9760
1330-1400	15400 11735
2030-2100	9875
2100-2130	6135

(BBCM)

FRANCE *Radio France Internationale* (RFI) uses transmitters in France and at relay sites in China, French Guiana (Montsinery), Japan (Yamata), Gabon (Moyabi), Russia and South Africa. [None of which are identified here-AQ] English only shown:

1200-1300	17575 15540 15195 15155 13625
	11600 9805
1400-1500	12030 7110
1600-1700	15530 12015 11700 11615 9485
1700-1730	11615 9485

(BBCM)

Radio Neige, the low-power NBFM transmitters at ski resorts are again being heard on 11m; the second time this season was December 10 until fade around 1600 in parallel on 25710, 25900 and 26070 (Roberts-PQ/WORLD OF RADIO 921/Hauser)

FRENCH POLYNESIA *RFO Tahiti*, which appeared to be silent during an October visit, has been heard again in Australia on 15167 during the period 2000-0300. (10-Dec/Padula-AUS/EDXP)

GABON 9685 *Radio Gabon*, Moyabi-Moanda, 1000-1020, French. M reading World news. 1010 W with ID "Radio Gabon" at 1010 on to talk on local items. 1015 I/D was repeated and followed by a music program. 32332. This station has not been heard on this frequency since, can also find no record of it on 9685!—Test, or Sunday's only program? Ideas anyone? (23-Nov/Clemiston/DSWCI DX-Window/Veldhuis-HOL)

GERMANY *AWR* via Jülich, Germany (an expansion upon LN 11/97):

0400-0500	Bulgarian	5840
0500-0530	Romanian	5890
0800-0900	Italian	7230
1630-1700	Kazakh	9835 Su/We

1630-1700	Kyrgyz	9835 Mo/Th
1630-1700	Russian	9835 Sa
1630-1700	Uzbek	9835 Tu/Fr
1700-1800	Bulgarian	5890
1900-2000	Romanian	9890 5890
2030-2130	English	9835
2100-2130	English	9835
2130-2200	Dyula	9835

(BBCM)

GREECE *Voice of Greece* W97 English:

0000-0350	Greek/English	9425 7450 6260 5895
0600-0800	Greek/English	15650 15420 11645
		9775D 9425 7450 7430
1200-1250	Gk/AA/EE	11645
1200-1350	Greek/English	15630 15175 9690G
		9690 9420
1900-1910	English	9380 7480
2100-2250	Greek/English	11645 9420

D-via Delano G-via Greenville (BBCM)

Radio Station Macedonia

0600-1400	Greek-1	11595 9935
1400-2300	Greek-1	11595 9935 7430

(BBCM)

GUAM *Trans World Radio* (KTWR) W97:

0740-0915	English	15200
0825-0855	Hakka	11665
0855-1000	English	15330
0900-1100	Chinese	11670 9465
0915-0930	Balinese	15200 Mo/Tu
0915-0930	Madurese	15200 Fr-Su
0915-0930	Torajanese	15200 We/Th
0930-1100	Indonesian	15200
1000-1100	English	9865
1100-1130	Chinese	11670 9590 9465
1130-1300	Chinese	11670 9820 9590
1140-1155	Vietnamese	9870
1200-1300	Japanese	15330
1300-1400	Chinese	11670 9820
1330-1345	Assamese	15200 Mo/Tu
1330-1345	Boro	15200 We-Su
1330-1400	Swatow	9870
1345-1400	Santali	15200
1400-1415	Cantonese	9870 Sa
1400-1415	Tamil	15195
1400-1445	Cantonese	9870 Mo-Fr
1400-1500	Cantonese	9870 Su
1400-1530	Chinese	9820 9545
1415-1500	Amoy	9870 Sa
1430-1515	Burmese	9430
1445-1500	Amoy	9870 Mo-Fr
1500-1630	English	15105
1515-1530	Vietnamese	9430
2030-2130	Korean	9475
2100-2200	Indonesian	11810
2100-2200	Japanese	11690
2130-2330	Chinese	11995
2200-2215	Cantonese	11650 Fr
2200-2245	Cantonese	11650 Su-Th
2200-2245	Indonesian	15195
2200-2300	Cantonese	11650 Sa

2215-2300 Amoy 11650 Fr
2245-2300 Amoy 11650 Su-Th
(BBCM)

AWR/KSDA Guam in English:

0130-0200 17645
1000-1030 7455
1030-1100 9530 7455
1230-1300 13720
1330-1400 13720 9650
1430-1500 7400
1600-1700 7455
1730-1800 7510
2130-2200 9495
2300-2330 11775
2330-2400 11775 Mo-Fr
(BBCM)

GUATEMALA *AWR's* worldwide sked no longer lists their station here, but it's still on the air, albeit distorted and off frequency. At 1218 found distorted Spanish preaching on 5980.84, in *Voz de la Esperanza* program, also mentioned *La Biblia Hoy*. 1232 full ID "Desde Guatemala en Centroamerica transmite Union Radio, 1330am,—FM, 5980, banda internacional de 49 metros onda corta, Radio Mundial Adventista, La Voz de la Esperanza, Union Radio...." (Ritola-FIN/Hauser/WORLD OF RADIO)

GUYANA 5949.43 *GBC*, Georgetown (tentative on this NF), 0855-0903, M annr in EE with 1940's-style vocals, instrumental version of 'Happy Holidays' at 0958, Hindi vocal at 0901 followed by *PSA*. Good signal but rather poorly modulated audio. 3290 kHz was silent. (11-Dec/Clark-ONT)

HUNGARY *Radio Budapest* W97 English sked:

0200-0230 6030 9580
0330-0400 9840 6010
2000-2030 3975 9835
2200-2230 3975 9840

(R. Budapest website/Vissers-BEL/DX-Antwerp website)

INDIA *Radio Kashmir*, Srinagar, 4950.00, 1533 M speaker, sounds like English, 1600 presumed ID, Indian flute, M speaker, Kashmiri folk songs. (30-Nov/Schaay-HOL)

INDONESIA 2960.17 *RPDT2 Manggarai*, vy weak at 1121 w/mellow W vocal lagu. (22-Nov/TIN-JPN/Relampago DX)

3215.08 *RRI Manado*, 1115-1120 fair. Pacific vocals. (22-Nov/TIN-JPN/Relampago DX) 1115-1132, talks with music bridges, lagu country oleh seorang biduan. (24-Nov/Schulze-PHL/Yamada-JPN/Jembatan DX)

3224.8 *RRI Tanjung Pinang*, 1135-1158, Local news, lagu lagu Melayu, 1158 ID, no SCI heard, relay *RRI* Jakarta "Warta Berita," off at 1213. (24-Nov/Schulze-PHL/Yamada-JPN/Jembatan DX)

3231.88 *RRI Bukittinggi*, fair at 1123 w/lagu hiburan. (22-Nov/TIN-JPN/Relampago DX)

3224.86 *RRI Tanjung Pinang*, 1114, good modulation, W vocal lagu populer. (22-Nov/TIN-JPN/Relampago DX)

3254.65 *RRI Gorontalo*, 1125 fair, M vocal lagu populer. (22-Nov/TIN-JPN/Relampago DX)

3324.97 *RRI Palangkaraya*, 1511-1520. Until 1520 Jakarta news relay, then ID "Inilah Radio Republik Indonesia Palangkaraya." (22-Nov/TIN-JPN/Relampago DX)

3344.87 *RRI Ternate*, 1129-1134 fair. EE pops, 1133 ID "Inilah Radio Republik Indonesia Ternate programa dua...gelombang-gelombang 89.68 meter, 76.4 meter dan 102MHz FM." (22-Nov/TIN-JPN/Relampago DX)

3355.30 *RRI Sumenep*, 1953-2016 fair signal but poor modulation, radio-novel, Jakarta news relay at 2000-2005. (22-Nov/TIN-JPN/Relampago DX)

3394.98 *RRI Kupang*, poor at 1134 w/instrumental mx. (22-Nov/TIN-JPN/Relampago DX)

3904.8 *RRI Banda Aceh*, 2332, Long talks and some music. Love Ambon, ID and news at 2400. Bad modulation. (26-Nov/Bernardini/DSWCI DX-Window/Veldhuis-HOL)

3905.0 *RRI Merauke*, 1959, SCI followed by *Warta Berita* by M, at 2007 W reporter followed by *Love Ambon-tune* at 2008. At 2009 W with ID as: "Radio Republik Indonesia Merauke" (4-Dec/van Rooy/DSWCI DX-Window/Veldhuis-HOL)

3976.04 *RRI Pontianak*, strong at 1130 IS and pips, then into local nx, 1138 ID "Inilah Radio Republik Indonesia Pontianak." (22-Nov/TIN-JPN/Relampago DX)

3959.71 *RRI Palu*, weak at 2020 w/M talk in Indonesian. (22-Nov/TIN-JPN/Relampago DX)

3996.10 *RRI Kendari*, fair, lagu-lagu populer until 2027, then Holy Koran. (22-Nov/TIN-JPN/Relampago DX)

3996.2 *RRI Pontianak*, 1645-1706, Popular music, nothing noted on 3976. 1659 SCI relay *RRI* Jakarta "Iktisar Berita," till 1705 "Bagimu Negri," 1706 & 1730 ID. (12-Nov/Schulze/DSWCI DX-Window/Veldhuis-HOL)

4000.14 *RRI Kendari*, 1450-1500 fair w/traditional folk mx. At 1457 ID "Inilah Radio Republik Indonesia Kendari dengan warta berita central dari Jakarta" followed by *Rayuan Pulau Kelapa* and Jakarta news relay at 1500. (22-Nov/TIN-JPN/Relampago DX)

4606.42 *RRI Serui*, 1606-1616* Music, Indo NA, ID (4-Dec/Boogert/DSWCI DX-Window/Veldhuis-HOL)

4753.2 **RRI Ujung Pandang**, 0909 "Siaran ABRI" (military program), 0929 IS, local news at 0930, 0938 local pops, 0950 Islamic pgm. Fair. (22-Nov/Yamada-JPN/Jembatan DX)

4789.0 **RRI Fak Fak**, 2058, Love Ambon, ID, news, talks (24-Nov/Bernardini/DSWCI DX-Window/Veldhuis-HOL)

4925.00 **RRI Jambi**, 1105-1115 fair signal. lagu hiburan and M talk. (22-Nov/TIN-JPN/Relampago DX)

4927.0 **RRI Jambi** 1640-1700*, ID by M, popular music, earlier s-off at 1700, new s-off time? (Schulze/DSWCI DX-Window/Veldhuis-HOL) Here at 1521 with fair signal. (22-Nov/TIN-JPN/Relampago DX)

6071.0 **RRI Jayapura** (p), 1718 telephone conversations and local pops, 1759 SCI, Jakarta news relay at 1800. Poor. (23-Nov/Yamada-JPN/Jembatan DX)

7230.9 **RRI Fak Fak** (p) 1454 local pops. At 1456 closing anmt by W, sign off. Poor. (20-Nov/Yamada-JPN/Jembatan DX)

Voice of Indonesia—scrap last month's sked and try this one on for size [note: I have added languages per all info available to me at press time-AQ]

0030-0100	Spanish	11785C
0100-0200	English	11785C
0200-0300	Indonesian	11785C
0300-0400	Arabic	11785C
0800-0900	English	11785C
0900-1000	Malay	9525C
1000-1030	Thai	9525C
1030-1130	Chinese	9525C
1130-1200	Japanese	9525C
1200-1300	Indonesian	9525C
1730-1900	Spanish	15150C
1800-1900	German	15150C
1900-2000	French	15150C
2000-2100	English	15150C

Radio National Satu:

0000-1500	9565B 9630B	11760C	15125C
1500-1510	11760C	15125C	
1510-1610	11760C		
2100-2155	9565B 9630B		
2155-2400	9565B 9630B	11760C	15125C

[4777K is not listed but likely still active a1100-2300-AQ]

Radio National Dua:

0000-0200	9680C	11750B	11885B	15150C
0900-1300	9680C	11750B	11885B	15150C
2200-2400	9680C	11750B	11885B	15150C

B=Bontosongu C=Cimanggis K=Kebayoran (Jones/EDXP/Padula-AUS)

RRI Samarinda on 9614.2 has not heard since November 2. (Schulze-PHL/Jembatan DX/Yamada-JPN)

Next Ramadan in Indonesia will start on December 31, 1997 and end on January 29, 1998. Many Indonesian stations will broadcast the special program in the local early morning in this season. (Yamada-JPN/Jembatan DX)

IRAN Voice of the Islamic Republic of Iran (VOIRI) observations varying from last month's sked:

0315-0330	Azeri	9615
0330-????	Pashto	
0430-0530	Turkish	9520 (ex-9540)
0530-0730	Arabic	5995 7130 7220 15350
0730-1230	Arabic	15125 15350
2030-2130	English	6165 6175 (ex-2130-2225)
2100-2130	Arabic	7190
2215-????	Arabic	5995 7260 9022

(Padula-AUS/EDXP + Timofeyev-RUS/DSWCI DX Window)

VOIRI regional program from Mashhad, the capital of Khorasan province in northeast Iran. Station identification in Persian: "Inja Mashhad ast, Seda-ye Jomhuri-ye Eslami-ye Iran, markaz-e Khorasan." ("This is Mashhad, the Voice of the Islamic Republic of Iran, Khorasan center.")

0100-0300	Dari	7180
1330-1530	Dari	7180
1530-1600	Uzbek	7180
1600-1730	Tajik	7180

(BBCM)

ISRAEL Kol Israel in English:

0500-0515	17545	9435	7465
1130-1135	15650	15640	
1500-1530	12080	9365	
1645-1700	11605	9435	7465
2000-2025	15640	9435	9365 7465

(BBCM)

ITALY RAI - Radiotelevisione Italiana in English for W97:

0050-0110	11800	9675	6010
0425-0440	7270	6010	
1935-1955	7225	6015	
2025-2045	11840	9685	7125
2200-2225	11900	9675	6150

A=Ascension, S=Singapore (BBCM)

W97 HS relays (Italian):

6060	Rome	2300-0500	Notturmo dall'Italia
6110	Rome	0530-1300	Radio Uno
7240	Rome	0600-1300	Radio Uno
6060	Caltanissetta	0500-2300	Radio Uno
7175	Caltanissetta	0500-2300	Radio Due
9515	Caltanissetta	0500-2300	Radio Uno
15240	Rome	0600-1300	Radio Uno
21520	Rome	0600-1300	Radio Uno

Note that the Sunday afternoon/evening sporting program in Italian, "Tutto il calcio minuto per minuto" and "Domenica Sport," is available from 1345-1700: 6060 9855 17780 21520 21535 21710.

The Arabic program, for the Mediterranean, 1430-1445, is on 6035 7290 9690, from Rome, Mondays to Fridays, and also from Caltanissetta on 6060 and 9515, pre-empting the regular Network-1 program. (RAI/Padula-AUS/EDXP)

Adventist World Radio (AWR) via Forli, Italy:

0630-0700	French	7270
0700-0800	Arabic	7270
0800-0900	Italian	7230
0900-0930	German	7230
1000-1100	Arabic	11795
1100-1200	Italian	7230
1200-1230	German	7230
1300-1330	French	9665
1330-1430	Arabic	9665

(BBCM)

JAPAN Radio Japan W97 English:

0000-0030	13650	13630
0000-0100	6180uk	6155uk
0100-0200	21610	17810 15590 15570 13630
	11890s	11860k 11790
0300-0400	17685	
0500-0530	15230	11895f 9835
0500-0600	11920k	11840 6150uk 6110c
0600-0700	17810	15570 15550 11920k 11840
	11740k	9835 9505 7230uk 6190
	5975uk	
0700-0800	17815a	17810 15570 15230g 11920k
	11850	11840 11740 7230uk
	11815	7125 6120c
1100-1300	7200	
1400-1500	15355g	11730 9750 9535 7240 7200
1500-1600	11880s	11730 9535 7225 7200 7110
1700-1800	6190	6035
2100-2130	6090	
2100-2200	13630	6035k

a=Ascension Island

c=Sackville, Canada

f=Montsinery, French Guiana

g=Moyabi, Gabon

k=Kranji, Singapore

s=Ekala, Sri Lanka

uk=Skelton and Woofferton, United Kingdom

(BBCM)

Revised sked for **Radio Tampa** as of 7-Dec:

JOZ	3925	50kW	Program-1
JOZ4	3925	10kW	Program-1 (*)
JOZ5	3945	10kW	Program-2
JOZ2	6055	50kW	Program-1
JOZ6	6115	50kW	Program-2
JOZ3	9595	50kW	Program-2
JOZ7	9760	50kW	Program-2

* is Sapporo—others Nagara, Chiba (east of Tokyo).

Program-1: 2025-1500 3925 6055 9595, except 2300-0800 3925 Sapporo; Program-2: 2300-1300 3945 6115 9760 3945 is in parallel with program-1 at 2025-2300 and 1300-1500. (16-Dec/Asian Broadcasting Institute website/EDXP/Padula-AUS)

3402 (harmonic) **JOQR**, Bunka Hosō (Cultural Broadcasting), Tokyo was heard on 3 x 1134 mediumwave @2048 with an ad for a concert in Tokyo & rather long, dull talk by M. Nothing was heard on 2268 where the 2nd harmonic might be expected. The fundamental freq, although strong, was QRMed by co-channel KBS, Hwasong, Korea. I don't know how far afield this can be heard, but as Tokyo is a 3-hour bullet-train ride from Osaka, I consider this more than just a local harmonic. Fair to Poor reception. (20-Dec/Famularo-JPN)

JORDAN Here is a current monitored schedule of **Radio Jordan:**

0000-0100	Arabic	15435
0100-0200	Arabic	6105
0400-0900	Arabic	11810 15435
0900-1500	Arabic	11810
1100-1730	English	11690
1600-1800	Arabic	6105
1800-2200	Arabic	6105 9830
2200-2400	Arabic	6105 15435

(25-26-Nov/Timofeyev/NERRS Monitoring/DSWCI DX-Window/Veldhuis-HOL)

KAZAKHSTAN 5260 **Kazakh Radio 2**, Almaty, 1255, Piano music with Kazakh M songs, at 1259 Kazakh W speaker with mention of Almaty followed by short piece of EZL, 1300 ID. (29-Nov/van Rooy/DSWCI DX-Window/Veldhuis-HOL)

Radio Almaty International: transmissions in German at 1000-1020 on 9620 and (new) 11840 on Monday, Wednesday, Thursday and Sunday. Presumably in EE the remaining days on the same frequencies. (7-Dec/RVI/van Oudheusden/EDXP/Padula-AUS)

From Dec 10 the new capital of the country is Akmola, situated in the north of Kazakhstan. All state departments, Kazakh Parliament, foreign embassies, etc have already moved to Akmola. (10-Dec/Pashkevich-RUS/WWDXC TopNews/Bueschel-FRG)

KIRIBATI 9809.93 R. **Kiribati**, 0601-0615 W with local news in EE instead of usual R. Australia off-air relay. Quite good signal. (6-Dec/Clark-ONT)

KOREA—NORTH **Radio Pyongyang** has been down a lot lately. They do a varying but small percentage of scheduled broadcasts, and give up the rest. Power shortage, or too busy jamming RKI, RFA, etc.? (Ashimori/DSWCI DX-Window/Veldhuis-HOL) Power shortage seems to have worsened in recent weeks in North Korea. While Radio Pyongyang transmitters continue to be frequently down as I reported last week, many that are up are silent because the relay from the studio is down. A long silence is often followed by an attempt apparently to make do with the backup feeders (3560/4405), hence containing lots of noise, CW QRM and fading. Note that RP is being sacrificed to keep the all-important jammers on. Obviously the last thing they would give

up is the jamming against KBS, RKI, VOP, EOH, RFA, AWR... (all KK) to name a few. This is the country that can't afford to feed its people or light the capital's streets at night. Some priority. (Ashimori/DSW-CI DX-Window/Veldhuis-HOL)

Korean Central BS regional station (presumed Chongjin) on 3945 has moved to NF 3940. First noted Dec. 6. Airc KCBS 2000-1800 (//2850 etc.) and relays Pyongyang BS 1800-2000 (//3250 etc.). When this was on 3945, the serious jammer from ROK even barred daytime reception in Japan of the local Radio Tampa. (Ashimori/DSWCI DX-Window/Veldhuis-HOL)

KUWAIT Radio Kuwait W97:

0000-0200	Arabic	11675
0200-0400	Arabic	6055 11675 15495
0400-0445	Arabic	6055 11675 15495 15505
0445-0530	Arabic	6055 11675 15110 15495 15505
0530-0805	Arabic	6055 15110 15495 15505
0805-0815	Arabic	6055 15110 15495
0815-0900	Arabic	6055 15110 15495 15505
0900-0930	Arabic	6055 15110 15495 15505
0930-1305	Arabic	6055 13620 15495 15505 17885
1305-1505	Arabic	9880 13620 15110 15505 17885
1505-1605	Arabic	9880 13620 15110 15505
1605-1615	Arabic	9880 15110 15505
1615-1730	Arabic	9880 11990 15110 15505
1730-1800	Arabic	9880 11990 15505
1800-2100	English	11990
1800-2130	Arabic	9855 9880 15495 15505
2130-2300	Arabic	9855 15495 15505
2300-2400	Arabic	9855 15495

(Radio Kuwait/Padula-AUS/EDXP)

LITHUANIA R. Vilnius NF for Americas is 5880 0030-0100, from Juelich. (15-Dec/RVI/van Oudheusden/EDXP/Padula-AUS)

MALAYSIA—SARAWAK Research into current SW operations for *Radio TV Malaysia Sarawak* reveals several discrepancies as compared with data appearing in WRTH and other references. It appears that "official" information is not reliable, which is the base for data given in the standard references, not validated by actual monitoring.

RIVM-Sarawak runs four networks:

- Red—Chinese and English
- Yellow—Malay
- Green—Iban
- Blue—Bidayuh

Programming on SW and MW is based on three broadcasting time periods—"morning," "midday" and "evening," broadly corresponding to 2200-0100, 0300-0600 and 0900-1600.

Current daytime (i.e. morning and midday) schedule is not known. [Note: Clark-ONT notes Sibul 5005 and Kuching-4894.97 on at 2210-AQ]

However, the monitored evening schedule in late December shows: Malay Network: Uses 7160, from fade-in at 0930. Listed //4835 unheard. Chinese/English Network: Uses 7160 for evening service, no other SW heard. Bidayuh Network: Listed 5030 audible after 1100, listed 7130 buried under Voice of Free China, operational status not known. Iban Network: Kuching 7270 audible from 0930 fade-in, //4895, audible from around 1030. Miri on 6060 audible from 0930, relaying Kuching 7270. Sibul on 6050/5005 noted with local programming 1015-1030, and 1045-1130, takes Kuching relay 1000-1015 and 1030-1045. Network news from Kuching 1030-1045 noted on 7270 (Kuching), 6050/5005 (Sibul), and 6060 (Miri).

Frequency Listing Summary for evening period—1000-:

3385	Miri	Iban—Not audible—presumed "assigned but not used"
4835	Kuching	Malay—Not audible
4895	Kuching	Iban—1000+
5005	Sibul	Iban—1000+ // 6050
5030	Kuching	Bidayuh—1000+ QRMing CNR Network 1 co-channel
6050	Sibul	Iban—0930+ // 5005
6060	Miri	Iban—0930+ relays Kuching 7270
7130	Kuching	Bidayuh—not audible—channel blocked by VOFC
7145	Kuching	Malay—not audible—now using 7160 1000+
7160	Kuching	CC/Eng—1000+
7270	Kuching	Iban—0930+

(Padula-AUS/EDXP)

MALTA Clarifications to last month's *Voice of the Mediterranean* sked:

0930-1300	II/EE/Maltese/FF/GG	9660 Su
1200-1330	Italian/EE/AA	9660

(Huettmann-VOM/Volk-FRG)

Also note that HFCC registration shows 9660 coming from RAI-Italy, which would explain a different modulation characteristic for these transmissions. (Ludwig-FRG/DSWCI DX Window)

MOZAMBIQUE 11812.3 *Radio Mocambique*, Maputo, 1529-1639*, Portuguese talks and music with many simply ID's as "Radio Mocambique," this frequency is usually in use from time to time only as 6111, 9617-9619 or 15291 (2-Dec/Timofeyev/NERRS-M/DSWCI DX-Window/Veldhuis-HOL)

9636.5v, *EP Beira*, 1930 & 2017-2032, 1930 good carrier but nil audio, weak level from 2017 retune with Afro vocals, few anmts by man, maybe Portuguese but too low to be sure. First noted on 9636.45; later drifted to 9636.51. (17-Nov/Clark/DSWCI DX-Window/Veldhuis-HOL)

NETHERLANDS Radio Netherlands W97 English:

0030-0130	11655M 9860M 7305Q 5905D
0130-0325	11655M 9860M
0430-0525	9590B 6165B
0730-0830	11895B 9830B
0830-0925	13700I 9830B 5965B
0930-1125	9810I 7260P
1130-1325	6045J 5975W
1330-1525	15585M 13700F 9895M
1730-1830	11655Z 9605M 6020M
1830-2025	15315B 11655Z 9895F 9605M 6020M
2330-0125	6165B 6020B

B=Bonaire / D=Dushanbe / F=Flevo (Netherlands) / G=Wolvertem / I=Irkutsk / J=Juelich / M=Madagascar / P=Petrovavlovsk / Q=Novosibirsk / T=Tashkent / W=Wertachtal / Z=Meyerton (BBCM)

NORWAY Radio Norway International English sked:

0100-0130	English	7545 7465 Mo
0200-0230	English	7565 Mo
0400-0430	English	7520 Mo
0700-0730	English	11625 9590 Su
0800-0830	English	11625 Su
1300-1330	English	13805 13800 9905 9590 Su
1400-1430	English	13800 Su
1600-1630	English	13805 13800 Su
1700-1730	English	7560 Su
1900-1930	English	9960 9590 7485 Su
2000-2030	English	7570 Su
2200-2230	English	7570 Su

(BBCM)

Revised Dec sked shows **NRK** and Denmark using new 18950 for SAM at 1000-1055 only (Hauser-OK) NRK info from Olav Mo Grimdalen: usage of 18950 is experimental, as 21 MHz was originally planned for this. (7-Dec/Hanlon-PA/Hauser)

PAKISTAN Radio Pakistan W97, per schedule and monitoring:

0100-0215	Urdu	15485 11760
0230-0245	English-SSN	15485 13620 11760 7485
0330-0400	Gujarati	15325
0430-0630	Urdu	17555 15170 11725
0800-0805	English-news	17835 17555-alt 15550 15530-alt
0805-1104	Urdu	17835 17555-alt 15550 15530-alt
0900-0930	Indonesian	17540 15425
1000-1030	Tamil	15465 13665
1100-1145	Hindi	13665 9515 7255
1105-1120	English-SSN	17835 17555-alt 15550 15530-alt
1200-1230	Chinese	11835 9675
1200-1245	Bengali	11975 9785
1300-1345	Persian	11975 9775
1330-1400	Urdu	15375 11570 9650
1400-1410	English-news	15375 11570 9650
1410-1530	Urdu	15375 11570 9650
1430-1500	Uzbek	6070 6040 5055

1500-1530	Russian	6070 5055
1600-1615	English-news	17720 15570 15375 11570 9650
1615-1630	English-SSN	17720 15570 15375 11570 9650
1615-1700	Hindi	9600 9525 7485 6070
1700-1900	Urdu	11570 9425 9330
1730-1800	Turkish	7340 6120
1800-1845	Arabic	7460
1800-1900	Urdu	6290
1930-2000	French	11570 9710

(BBCM)

PAPUA NEW GUINEA National Program (Karai) has reverted to 1900-1400 only. SW schedule nominally 4890 1900-2230 and 0700-1400, 9675 2230-0700, but in practice the frequency changes occur at different times each day.

Provincial network (Kundu): Now that these stations are the responsibility of the provincial governments, the following outlets have been absent for the past two months:

3205	West Sepik
3375	Western Highlands
3905	West Ireland

On 30/11, 3335 East Sepik returned. (16-Dec/Jones/EDXP/Padula-AUS)

National Broadcasting Commission, Port Moresby, 9675.00, 0819 pop songs from Gordon Lightfoot, Whitney Houston, Madonna and others, still here at 0850. (10-Dec/Schaay-HOL)

PERU 4190.4 R. San Juan, Aramango, ex-4420v, only audible in the morning around 1030z with "Amanecer en los Andes." (Klemetz-COL/Dateline Bogota)

4534 R. **Horizonte**, Chiclayo, new here, ex-4505, 2340. (17-Nov/Klemetz-COL/Dateline Bogota)

4570.55 **Radio Gotas de Oro**, 1036-40 Peruvian music. Good signal. Dwon from former 4573.20 (15-Nov/Wilkner/DSWCI DX-Window/Veldhuis-HOL)

4573v R. **Uno**, Chiclayo, 0030 Canned anncts sound very much as those R. Gotas de Oro would use, and possibly this is a change of name or slogan. Missed s/on Dec 10, 0959, by one minute. Apart from the s/on annct, all other anncts seem to be canned. (7-Dec/Klemetz-COL/Dateline Bogota)

4756.8 R. **Huanta 2000** @2340. Was on 4752.5 Nov 15, otherwise usually on 4746.8. (19-Nov/Klemetz-COL/Dateline Bogota)

4790.0 R. **Atlantida**, Iquitos, 0258-0320 mx ID "Atlantida, en los cielos del Peru y America..." mx ID "Atlantida, la fabulosa, presenta program El enfoque de la verdad." (6-Dec/Arrunategui-PRU)

4824.2 **Radio La Voz de la Selva**, Iquitos, 1035, Regional music, talk between songs, IDs, to past 1050. (28-Nov/Chambers/DSWCI DX-Window/Veldhuis-HOL)

4886.9 **Radio Villa Rica**, Huancavelica, 1055, M in presumed Quechua, into music, then in Spanish with W talk, regional music to 1101, then M alternating with W, ID @ 1102 and 1104, fair with strong het. (1-Dec/Chambers/DSWCI DX-Window/Veldhuis-HOL)

4904.7 **R. la Oroya**, La Oroya, 0100-0120 ID "Radio La Oroya, un corazon e los andes..." mx juvenil ID "La mejor musica por Radio La Oroya advs ID "Favor de comunicarse con Radio La Oroya..." (6-Dec/Arrunategui-PRU)

4950.1 **R. Madre de Dios**, Madre de Dios, 0128-0150 mx tropical advs Banco de Credito, lo mejor de la bamca...programa Avisos y comunicados ID "8 y 29 de la noche en Radio La Oroya" (6-Dec/Arrunategui-PRU) 0115 EZL and SS vocals, promo, lots of mentions of Puerto Maldonado, into comunicados read by M 0121. 0135 started signoff routine, including ID, OA anthem 0138, and off. (6-Dec/Novello-NC)

5264.8 **R. La V de Chiriaco**, new name for R. 5264, 1105, thanks to tip from Rafael Rodriguez. Does not seem to operate at night. (21-Nov/Klemetz-COL/Dateline Bogota)

5305.0 After a few days of testing as R. Frecuencia Nueva, the station on this frequency in Santa Cruz, Cajamarca, has now revealed its real identity: **Radio La Inmaculada**. So it's actually a reactivation of the station that used to be on 5556.2 a few years ago, although now on a new frequency and with a stronger transmitter. Sked per annc: 2000-0230. Prgr consists of "musica variada" and some commercial messages. (Klemetz-COL/Dateline Bogota)

5522.3 **R. Sudamerica**, sked 1130-0130, now also on the phone, 74 736090 and 737443. (Klemetz-COL/Dateline Bogota) 0134* canned closing armt by M, saying they would resume broadcasts at 1130 (0630 local time morning) (11-Dec/Nigro-PRU)

5630.0 **Radio Ilucan** (t), 1059, Nice "musica andina." Best in LSB to avoid aero traffic, good quality audio. (18-Nov/Ormandy/DSWCI DX-Window/Veldhuis-HOL)

5969.7 **R. El Sol**, Lima, in the clear after 2300 until 2358 when BBC reappears. Carries sports and news, such as "El Sol en la noticia." (Klemetz-COL/Dateline Bogota)

6339.6 **R. Arcangel San Miguel** (also: Arcangel San Miguel la radio), hrd testing past midnight. (13-Nov/Klemetz-COL/Dateline Bogota)

6675.5 **Ondas del Rio Maranon**, Aramango, on this frequency, or on alt. 6674.7, until 2330/2400 s/off. S/on is anncd as 1100. (Klemetz-COL/Dateline Bogota)

6725.5 **R. Satellite**—Mgr Sabino Llamo says in a fax that the Comms Ministry wants them to move to 4780, and that the move is imminent. Still on the

old frequency in mid December. Last year the telephone made its arrival to Santa Cruz, and the station now proudly anncs that they have two voice lines, 74 714074 and 714169, the latter also fax. With the advent of the telephone, the station now calls upon distant parties to phone in to relatives who will wait for the call at the station. (Klemetz-COL/Dateline Bogota)

7003.3 **R. La V de las Guarinjas** [spelling Guarinjas may be acceptable, too, actually, I do not know which of the two is official], 1215, poor, with music, TC and greetings. Proprietario Alfonso Garcia Silva picks up mail sent to Correo Central, Huancabamba, Region Grau. First noted by Enrique Ramirez Cortez-PRU. (17-Dec/Klemetz-COL/Dateline Bogota)

7040.4 **R. San Ignacio** has been off the air since the end of Nov, coinciding with anncs saying they'll shortly be operating on FM. (Klemetz-COL/Dateline Bogota)

7205.7 New since beginning of Nov is **R. dif Paraton**, Huarmaca, operating from 1030 to 2330/2400. Studio address, per Rafael Rodriguez, Jiron Alfonso Ugarte 109, esquina del Parque Leoncio Prado [not Pardo], Huarmaca.- Seems to frown at reception reports [and diplomas certifying that they make it further afield]. (Klemetz-COL/Dateline Bogota)

11354.4 **R. Frecuencia San Ignacio** heard at 0230-0240 on this second harmonic as well as 5677.2 Nov 28, and the next night the same from *0030 (28-Nov/Rodriguez-COL/WORLD OF RADIO/Hauser)

PHILIPPINES **Radio Veritas Asia** for W97:

0000-0025	Karen	9535
0000-0025	Sinhalese	9670
0030-0055	Kachin	9535
0030-0055	Tamil	9670
0100-0125	Bengali	15335
0100-0125	Telugu	15530
0130-0155	Hindi	15335
0130-0225	Vietnamese	15530
0200-0225	Urdu	15335
0230-0325	Russian	11805
1000-1025	Hmong	9555
1000-1155	Chinese	9520
1030-1125	Vietnamese	11850
1130-1155	Burmese	9670
1200-1225	Indonesian	9505
1200-1225	Karen	9670
1230-1255	Kachin	9670
1300-1325	Vietnamese	7265
1330-1355	Hindi	9680
1330-1355	Sinhalese	9660
1400-1425	Bengali	9680
1400-1425	Tamil	9520
1430-1455	Telugu	9520
1430-1525	Russian	9660
1500-1525	Filipino	9690

1525-1555 Filipino 9690 Su/We/Fr
 1530-1555 Urdu 9670
 1530-1555 Zomi-Chin 9525 Mo/Tu/Th/Sa
 2100-2255 Chinese 6190
 2230-2255 Filipino 6075
 2300-2325 Indonesian 11820 9505
 2330-2355 Burmese 9535
 2330-2355 Vietnamese 9670

(BBCM)

POLAND *Polish Radio Warsaw* in English:

1300-1400 11815 9525 7270 7145 6095
 1800-1900 7285 6095 6000
 2030-2130 7285 6095 6035

(BBCM)

PORTUGAL Latest *Radio Portugal* schedule:

0000-0430 Portuguese 6150 9570 9600 9655
 11840 Mo-Fr
 0000-0500 Portuguese 6150 9570 9600 9655
 11840 Sa/Su
 0430-0500 English 6150 9570 Mo-Fr
 0600-0700 Portuguese 7110 Mo-Fr
 0700-0745 Portuguese 7110 9780 Mo-Fr
 0745-0900 Portuguese 7110 9630 9780 Mo-Fr
 0800-0930 Portuguese 7110 9780 17595 17725
 21655 Sa/Su
 0900-1000 Portuguese 7110 9780 Mo-Fr
 0930-1000 Portuguese 7110 9615 9780 17595
 17725 21655 Sa/Su
 1000-1100 Portuguese 7110 9615 9780 17725
 21655 Sa/Su
 1000-1200 Portuguese 7110 9780 17725 21655
 21720 Mo-Fr
 1100-1300 Portuguese 7110 9780 17725 21655
 Sa/Su
 1200-1300 Portuguese 7110 9780 Mo-Fr
 1205-1300 Tetum 17595 Mo-Fr
 1300-1400 Portuguese 17595 21515 Mo-Fr
 1300-1500 Portuguese 7110 9780 15200 17725
 17745 21655 Sa/Su
 1400-1430 Portuguese 21515 Mo-Fr
 1430-1500 English 21515 Mo-Fr
 1500-1600 Portuguese 7110 9780 15200 17725
 17745 21655 Sa
 1500-1600 Portuguese 7110 9780 15200 17725
 17745 21515 21655 Su
 1600-1800 Portuguese 7110 9780 15200 17725
 17745 21515 21655 Sa/Su
 1700-2000 Portuguese 7110 9780 9815 11740
 21655 Mo-Fr
 1800-1900 Portuguese 7110 9780 11740 15200
 17745 21515 21655 Sa/Su
 1900-2000 Portuguese 7110 9780 11740 15200
 17745 21655 Sa
 1900-2000 Portuguese 7110 9780 11740 15200
 17745 21515 21655 Su
 2000-2100 Portuguese 7110 9780 9815 11740
 Mo-Fr
 2000-2100 Portuguese 7110 9780 11740 15200
 17745 21655 Sa/Su

2100-2130 English 7110 9780 9815 Mo-Fr
 2130-2200 French 7110 9780 9815 Mo-Fr
 (RDP/Vissers-BEL/DX-Antwerp website)

Deutsche Welle-Sines NF 9805 Bulgarian *1700-1800* (Padula-AUS/EDXP)

ROMANIA *Radio Romania International* in English, based on monitoring and published schedule:

0200-0300 11940 9690 9570 9510 7195 6155
 0400-0500 15335 11740 6155 5990
 0600-0700 6095 5965
 0640-0700 11775 9625 9510 7105
 0700-0800 17775 15365 (+11775?)
 1300-1400 17745 17735 15390 15250
 1700-1800 11940 9690 7195
 2100-2200 7195 6175 5990 5955
 2300-2400 11830 9570 7195 5955

(BBCM + Newlyn + RVI/Van Oudheusden)

RUSSIA *Radio 1 Kultura* (ex Radio 1) uses additional frequencies:

0300-0600 7525
 0600-1300 15465
 1300-1600 11630
 1600-2200 7525

Voice of Russia uses two new out-of-band frequencies, neither listed in the printed schedule:

0100-0400 Spanish 7570
 0600-1200 English 17495

Voice of Russia World Russian Service, updated W97 schedule:

0000-0100 7350 9890
 0200-0400 6065 7125 7260(12000*) 7350 9890
 9895
 1300-1500 6205 7170 7185 7195 7235
 7245(9490*) 9470(9780*) 11820
 12015(15550*) 12055
 1600-1700 7235 7355 9450 9560 9695 9715
 9830(15470*)
 1800-1900 7125 7160 7185 7255 7310 7340 7355
 9450(9775*) 9480 9560 9695
 9830(15470*)
 1900-2000 7125 7160 7185 7310 7340 7355
 9450(9775*) 9480 9560 9695
 9830(15470*)
 2000-2200 7125 7160 7310 7340 9450(9775*)
 9480 9695

*=from 3/1 (Rudnev-RUS)

University Network via Russia (presumably Samara) noted on 17590 from *0800.

VOA relays:

1300-1500 Chinese 5910N
 2130-2200 Korean 7300P
 2200-2300 Chinese 6090I

RFI relays:

0000-0100 French 12025I
 0930-1030 Chinese 7420I
 1100-1300 Lao/Khmer 7305I

1200-1300 Chinese 7430N
 2200-2300 Chinese 5945N 7315V
 2300-2400 French 9830V 12025I

Radio Nederland relays:

0830-0925 English 13700I
 0930-1125 English 7260P
 0930-1125 English 9810I
 1130-1425 Indo/Dutch 7375P
 1330-1425 Dutch 5930P
 2330-0025 Dutch 12090P

I=Irkutsk, N=Novosibirsk, P=Petrovsk
 Kamchatskiy, V=Vladivostok

Radio Maryja, Poland via Samara

0600-0815 Polish 9905 Mo-Sa
 0700-0900 Polish 9905 Su
 1600-2300 Polish 7400

(Rudnev-RUS)

Trans World Radio India, via Russian sites:

0000-0015 Assamese/Kokborok 7430T
 0015-0030 Dari/Manipuri 7430T
 0030-0100 Nepali 9825I
 0100-0115 Dzonhka Hindi/Awadhi 9825I
 0130-0200 Hindi 9825I
 1130-1530 var. Indian langs* 7420I
 1330-1345 Assamese/Boro 9830I
 1345-1400 Santhali 9830I
 1400-1415 Tamil 9830I

*English 1430-1445 Sat, 1515-1530 Th-Su I=Irkutsk
 T=Tashkent (TWR/Padula-AUS/EDXP)

I wonder how many freqs **R. Tikhy Okean** really uses—found now on 9895 under/thro HOL at 0815. So that's 9895 & 7210. [9895 Komsomolsk-Amur; 2000-1800 7210 Khabarovsk] VoR EE found on 9905 [Minsk?, Samara listed 0600-0900] on air 0845-1200 off with strong fluttery multi-path signal. Could not trace 9825 today [0930-1200 Khabarovsk]. (3-Dec/Green-UK/WWDXC TopNews/Bueschel-FRG)

Radio Tatarstan, this SW service began on 1st Aug 1997 from Samara. Programming is mainly Tatar, with some Russian. Addr: Tatar Radio, Ul. M.Gorkogo 15, 420015 Kazan, Tatarstan. Tel: +7-8432-367493

0500-0600 12015
 0700-0800 6130
 0900-1000 9690

(11-Dec/BBCM)

4485 **Bashkortostan Radio** 2357 "USSR" test tones till 2400, when 6 pips and talk by M in what sounded like Russian, judging by the cadence—audio was so faint it was difficult to be sure. (6-Dec/Hill-MA)

SAUDI ARABIA BSKSA Riyadh now using 15165 for Somali 0400-0500 (ex-15335) (Padula-AUS/EDXP)

SLOVAKIA Radio Slovakia International in English:

0100-0130 9440 7300 5930
 0830-0900 21705 17485 11990
 1730-1800 7345 6055 5915
 1930-2000 7345 6055 5915

(BBCM)

AWR discontinues all SW transmissions via Rimavska Sobota, Slovak Republic, from 29 Mar 1998. Reason: The carrier announced a price increase of 100% (20-Dec/Ludwig-FRG/EDXP/Padula-AUS)

AWR Slovakia in English:

0400-0430 9465
 0600-0630 11640
 0700-0730 9435
 0930-1030 9450 Sa/Su
 1700-1730 9450 7325
 2030-2130 7265
 2200-2230 6055

(BBCM)

SOMALIA 6890 also heard on 6891 and 6900. The External Service of Somali Republic. The daily English program is of 15 minutes, from 2000 to 2015. ID as "**Radio Mogadishu**, Voice of the People," and also as V-O-P in Mogadishu. (Vaghjee-MAU/DSWCI DX-Window/Veldhuis-HOL)

6900u **R. Mogadishu**, V. of the Somali People 1935 Typical Horn of Africa vocals and Somali talk, including political harangue by W. Six pips at 1958 and into English, at which point the audio—which had been fine up till then—almost disappeared, and what little remained was distorted. (30-Nov/Hill-MA)

SPAIN Radio Exterior de Espana W97 English sked:

0000-0200 6055
 0500-0600 6055
 2000-2100 11775 6125 Mo-Fr
 2200-2300 11775 6125 Sa/Su

C=via Costa Rica, Ch=via China (BBCM)

SRI LANKA DW-Trincomalee (p) 9805 new in German 0000-0200, inaudible on listed 7225. (Padula-AUS/EDXP)

SWEDEN Radio Sweden W97 in English:

0130-0200 7265
 0230-0300 7280
 0330-0400 7115
 1230-1300 15240 13740-alt 11650
 1330-1400 13740 9705
 1430-1500 15240 11880 11650
 1830-1900 9645 6065-(not Sun)
 2030-2100 6065
 2130-2200 9655 6065 Sa/Su
 2230-2300 7325 6065

(BBCM)

SWITZERLAND Swiss Radio International W97
sked in English:

0100-0130 9905f 9885 6135
0400-0500 9905f 9885 6135
0500-0530 6165 5840
0630-0700 6165 5840
0730-0800 13635 11860 9885
0830-0900 13685 12075 9885f
1100-1130 9535 6165
1100-1200 13635 12075 9885
1300-1330 9535 6165
1300-1400 7480c 7230c
1400-1500 13635 12075 9885
1600-1615 13635 12075 9885
2000-2030 11725 9905 9885f 9620
2000-2030 7385 6165

C=via China, F=via French Guiana (BBCM + Padula-AUS/EDXP)

TAJIKISTAN 4635 Tajik Radio 1, Dushanbe, 0155, Local music with Tajik M and W songs, at 0158 M speaker in Tajik, at 0200 W speaker with ID as: "In jo Dushanbe," followed by local sitar and M speaker with presumed news with at 0206 a clear mention of Tajikistan. (29-Nov/van Rooy/DSWCI DX-Window/Veldhuis-HOL) 4975 R. Tajikistan 0145 Subcontinental vocal with orchestral accompaniment, then series of short announcements in presumed Dari by M or W interspersed with exotic Central Asian music. (6-Dec/Hill-MA)

TURKEY Voice of Turkey W97 in English:

0400-0500 17705 9685 7300
1330-1430 15290 9630
1930-2030 6175u 5960
2130-2230 7200
2300-2400 9655 6135
(BBCM)

UKRAINE According to the German "Radiojornal" magazine, usage of transmitters in the Ukraine by **Radiostanzya Belarus** (currently 1900-2000 on 6010 and 7205) will end on December 31. Already two months ago they told on air about this "likely" cancellation, mentioning as reason the combination of rising rents for transmitters + feeder lines and constantly disappointing reception quality. (Ludwig/DSWCI DX-Window/Veldhuis-HOL)

UNITED ARAB EMIRATES Radio of the UAE, Abu Dhabi D97, all in Arabic:

0200-0400 6170 9695 15315 17770 21735
0400-0500 6170 9695 21630 21735
0500-0600 9695 13755 21630 21735
0600-0700 13605 13755 21735
0700-0800 13605 13755 21630
0800-0900 13755 17885 21630
0900-1000 13755 17770 17885 21630
1000-1100 13755 17760 17770 17885
1100-1200 11690 13755 17760 17885
1200-1300 9515 11690 17760 17885
1300-1500 9515 11710 13605 17760

1500-1600 9515 9570 11710 13605
1600-1800 6180 9570 9695 9770
1800-2000 6180 7170 9695 9770
2000-2200 6180 7170 9770

(UAE Radio Abu Dhabi/Padula-AUS/EDXP)

UAE Radio & Television Dubai:

0230-0330 Arabic 12005 13675 15400
0330-0400 English 12005 13675 15400
0415-0530 Arabic 15435 17830 21700
0530-0600 English 15435 17830 21700
0615-1030 Arabic 13630 15395 21605
1030-1100 English 13630 15370 15395 21605
1130-1200 Arabic 13630 15370 15395 21605
1200-1330 Arabic 13630 15395 21605
1330-1400 English 13630 15395 21605
1400-1600 Arabic 13630 15395 21605
1600-1630 English 13630 15395 21605
1630-1645 Arabic 13630 15395 21605
1645-1700 Arabic 13630 15395
1700-2100 Arabic 13630 11795 15395

(UAE Radio Dubai + Hauser/Padula-AUS/EDXP)

USA KWHR: Effective 3-Jan: 9930 1200-1400 (19-Dec/German/EDXP/Padula-AUS)

WEWN Eternal Word Network:

0000-0500 Spanish 7425
0000-1000 English 5825
1000-1200 English 7465 5825
1000-1300 Spanish 7425
1200-1400 English 15745 5825
1300-2300 Spanish 15375
1400-1600 English 15745 11875 9455
1600-1800 English 15745 13615 11875
1800-2200 English 17695 13615 11875
2200-2400 English 13615 5825
2300-2400 Spanish 7425

(BBCM)

WRMI sked, all on 9955 w/50kW:

0000-0030 German Mo
0000-0300 English/Spanish Tu-Sa
0030-0115 Spanish Mo
0030-0415 Spanish Su
0115-0300 English Mo
0300-0400 Spanish Tu-Sa
0300-0430 Spanish Mo
0400-0530 English Tu-Sa
0415-0530 English Su
1045-1100 English Mo-Fr
1100-1430 Spanish Mo-Fr
1100-1500 Spanish Sa
1200-1300 Spanish Su
1300-1500 English Su
1430-1445 English Mo-Fr
1500-1715 Spanish Su
1715-1930 English Su
2000-2200 Spanish Sa
2100-2130 English Su
2130-2230 Portuguese Su
2200-0030 English Sa

2230-2400	Spanish	Su
2245-2300	English	Mo-Fr
2300-2400	Spanish	Mo-Fr

All days are UTC. (White/WRMI/EDXP/Padula-AUS)

On a whim, I checked 25950 for the Portland, OR pseudo-SW broadcast station at 2125, and there it was, on AM with fair signal, rock music, 2126 ID as "94-7 NRK" and 10pm call-in line 1-800-LOVE191, but fading out at 2128, and no trace at 2200 recheck. This frequency formerly carried KFXN and KGN, but now it's the third station under common ownership, **KNRK**, actually licensed to Camas, WA (22-Dec/Hauser-OK)

UZBEKISTAN Radio Tashkent English W97:

0100-0130	9540 7205 5975 5955
1200-1230	9715 6025 5975 5060
1330-1400	9715 6025 5975 5060
2030-2100	9540 7105
2130-2200	9540 7105

(BBCM + Padula-AUS/EDXP)

Radio Yunost, Tashkent, 6260.00, 1316 W Russian speaker w/weather, EE pop mx, ID. (24-Dec/Schaay-HOL)

VATICAN CITY Vatican Radio in English:

0140-0200	English	7335 5980
0250-0310	English	7305 6095
0310-0340	English	7360
0500-0530	English	11625 9660 7360
0600-0620	English	7250 5885v 4005
0630-0700	English	13765 11625 9660
0700-0745	II/FF/EE	15595 11740 9645 7250
1100-1130	II/FF/EE	17550 15595 11740 9645 5885v
1130-1200	Mass-English	17550 15595 Fr
1345-1405	English	15540 13765
1550-1610	English	11640 9875 Su-Fr
1550-1620	Mass-English	11640 9875 Sa
1700-1730	French/English	11810 9645 7250 5885v 4005
1730-1800	English	15570 13765 11625
2000-2030	English	11625 9660 7365
2050-2110	English	7250 5885v 4005
2245-2315	English	11830 9600 7305 6160-?

(BBCM)

VIETNAM 4795.3 **Tuyen Quang**, 1310-1430, Vietnamese, and dialects, political talks, 1330 ID, "...Vietnam...Tuyen Quang," hill tribe music, native songs, NOT in//v5924.5 or 4959.6. (Schulze-PHL/DSWCI DX-Window/Veldhuis-HOL)

5034.9 **Dia Tieng Noi**, 1315-1328*, Hmong service, //6165.6. Hill tribe music, at 1328 ID by W. No NA was heard. (Schulze-PHL/DSWCI DX-Window/Veldhuis-HOL)

5050.0 **Quang Tri BS**, 1058-1105, Time pips, English ID1, IS, Vietnamese, and dialects, regular noted here. (Schulze-PHL/DSWCI DX-Window/Veldhuis-HOL)

5597.0 **Radio Lao Cai**, 1351, Western music with Vietnamese M songs. Lost after 1401, s/off? ex-1500. (30-Nov/van Rooy /DSWCI DX-Window/Veldhuis-HOL)

6539.4 **Radio Cao Bang**, 1225-1305, Vietnamese, ID, 1228, Hill tribe music, at 1300 //program 6701, and 5924.5 Hanoi relay, till 1305, then local program again, x-tal defect, distorted modulation, program lasted longer than listed. 24332. (Schulze-PHL/DSWCI DX-Window/Veldhuis-HOL) 6540.30 1337-1355*, W speaker in Vietnamese, drift up to 6540.70 at 1345, to at 6540.50 at 1349. At 1349 western popmusic with Vietnamese M songs until 1355, then final announcement with mentioning of Cao Bang and S/off. Very bad modulation and drifting up and down. (30-Nov/van Rooy/DSWCI DX-Window/Veldhuis-HOL)

6700.7 **Lao Cai 1 BS**, 1015-1125, Vietnamese, political talks, 1030 gongs, march music, 1032 native songs, NOT //5597.7, but came on air in //program from 1125, then //5924.5 Hanoi relay, but QRG 5597.7 s-off at 1147*. 6700.7 is overmodulated, all announcements are echo hall effected. (Schulze-PHL/DSWCI DX-Window/Veldhuis-HOL)

7154.7 **RTV Bac Thai**, 1255-1320, Vietnamese, 1255-1300 Hanoi relay, //5924.5, then local program with ID, at 1303 starts a jammer co-channel, which S/off at 1312. Hill tribe mx. (Schulze-PHL/DSWCI DX-Window/Veldhuis-HOL)

YUGOSLAVIA Radio Yugoslavia, Belgrade, via Bijeljina, Bosnia-Hercegovina, English sked:

0100-0130	7115 6195 Mo-Sa
0200-0230	7130 6100
1330-1400	11835
1930-2000	9720 6100
2200-2230	6185 6100

(BBCM + Padula-AUS/EDXP)

UNIDENTIFIED 2559.84, 0240 fast-paced SS sports commentary, fading up to good level at times; R. Alajuela logged here by others in the past, but nothing noted in the vicinity of 5119 tonight. (24-Dec/Novello-NC)

7155, 1245 Light asian mx of indeterminate origin, few words by M around 1250. Good signal, given trouble by hams in the vicinity. Ran out of records to play at 1255, carrier stayed on until 1314. Same pattern yesterday, but music lasted until just before 1300. If there as early as 1200, was useless at that time today. Frequency seemed too exact to be Hanoi, need to check for parallels. (11-Dec/Novello-NC)

U.N. HATE-RADIO JAMMING WOULD SEND WRONG SIGNAL by Jim Mann

WASHINGTON—In foreign policy, sometimes the nobility of intentions leads to lousy ideas.

That's certainly the case with the recent curious proposal for a special United Nations "jam squad"—a special U.N. team that could be hurriedly dispatched to crisis points around the world carrying equipment to jam, or block, harmful radio and TV broadcasts.

Writing in the current issue of "Foreign Affairs" magazine, Jamie M. Metzl, a former United Nations human rights officer, proposes the creation of what would officially be called an "independent information intervention unit" at the U.N.

Its goal, he writes, would be "countering dangerous messages that incite people to violence." A U.N. unit could monitor local news media to see where crises might erupt, air its own messages of peace and, where necessary, prevent other radio or TV broadcasts from being heard.

The idea for the U.N. jam squad originated in the genocidal horrors of Rwanda. In 1994, the country's main radio station, the Radio-Television Libre des Milles Collines, then controlled by Hutu extremists, began broadcasting hate messages targeting members of the rival tribe, the Tutsis, and moderate Hutus. The Rwanda station even broadcast lists of enemies to be hunted down. "Take your spears, clubs, guns, swords, stones, everything, sharpen them, jack them, those enemies, those cockroaches," the station urged listeners. The result was one of the world's worst blood baths, in which more than 500,000 unarmed Tutsis and moderate Hutus were slaughtered. This was, certainly, as compelling a case for jamming as you can get. And Metzl has one cogent argument on behalf of his proposal: When there's an ethnic conflict in a place like Rwanda, sending in a United Nations jamming team would be considerably easier and less costly than sending in troops.

"I think it's a worthy idea," says Rep. Edward R. Royce (R-Fullerton), chairman of the House International Relations subcommittee on Africa. "I'm sure we would try to go out and jam in Rwanda if those circumstances came up again."

Indeed, the United States and its allies are conducting a somewhat similar operation in Bosnia. Two months ago, NATO troops seized and effectively shut down a station run by hard-line Bosnian Serb forces after the station broadcast inflammatory attacks on NATO forces trying to keep the peace there.

But it's a long step to go from these situations to the creation of a permanent, formal unit run by the United Nations and scouring the world in search of radio broadcasts to jam. Who would determine exactly what kinds of radio programs should be blocked and which programs could be aired? What

would ensure that the jamming decisions were not motivated by politics? Wouldn't the creation of such a United Nations operation strengthen the hand of governments that want to jam radio transmissions for much less noble reasons?

"This opens up a Pandora's box, really," says Richard Richter, the director of Radio Free Asia, the federally funded station that broadcasts into Asian countries with repressive governments. "You'd have China claiming that we American broadcasts should be jammed by the United Nations."

Ultimately, a U.N. jamming squad would give official sanction to restrictions on the free flow of information. Metzl's article has a response to this problem, but it's a weak one. "During the Cold War, when the United States faced a Soviet adversary intent on jamming the Voice of America and Radio Free Europe. . . , it made sense for the United States to promote an absolute standard for the free flow of information," he wrote. "Now, a more nuanced view should be possible."

But that's precisely backward: The free flow of information wasn't merely a temporary means to winning the Cold War, but one of the goals of the endeavor. Although the problem of hate-filled radio broadcasts is a serious one, there are ways of dealing with it that don't involve creating some huge, supranational censorship unit.

One alternative is simply to provide other, competing radio broadcasts. In Rwanda, for example, the United Nations set up its own radio stations, both in the capital of Kigali and in radio camps.

Royce's subcommittee has been exploring the possibility of creating a Radio Free Africa, similar to Radio Free Europe, Radio Free Asia and Radio Marti, which broadcasts to Cuba. There are serious questions about whether such a new organization is necessary, when VOA, the official U.S. government station, already broadcasts intensively into Africa. But the underlying idea makes sense: to transmit better, more accurate information to Africa, rather than focusing on jamming or censorship.

There are other ways of combating hate radio too. Those who directly incite violence over the airwaves can be brought to justice. At the moment, a war-crimes tribunal, set up under U.N. auspices, is prosecuting those responsible for the massacres in Rwanda. Among the suspects in custody are some of those responsible for the Milles Collines radio broadcasts.

But a worldwide, U.N.-run jamming team? As a Hollywood script, maybe the idea has possibilities. As foreign policy, it's a loser.

Copyright 1997 Times Mirror Company Los Angeles Times (5-Dec/Media for Development in Democracy/Moore-IA)

Pirate Radio Report

Chris Lobdell

P.O. Box 146
Stoneham, MA 02180-0146
Internet: lobdell@tiac.net

Welcome to the first PIRATE RADIO REPORT for 1998! I hope one of your New Year's resolutions was to send in more logs to this column!

Christmas was an active time for pirates including the new station from San Marino, *Radio San Marino International/RSMI*. This was heard by many in North America on 7580 kHz LSB on December 20th from 2045 to past 2245 UTC. Sources say this actually originated from San Marino!

The high powered Dutch pirate, *Farmers From Holland* was heard on Christmas Day on 6300 kHz, playing lots of music that sounded like beer drinking songs. We understand that the *Farmers* do like their brew!

To start off this month we have a station profile, from *WQSL* and of course, your logs.

Station Profile: WQSL

WQSL, also known as *The Verification Station*, was founded in 1994. Actually, the funniest thing about our station is that we really have no format. Our only "raison d'être" is to provide QSLs to our listeners. Yes, those worthless pieces of paper that actually mean nothing. When I was a beginning DXer, I heard a Portuguese station on 4865 kHz. It was in fact coming from the Azores, but I thought it was from Angola, so I sent the station in Angola a reception report which they then confirmed with a QSL card.

So, we at *WQSL* don't think much of QSLs, but there are lots of avid QSL seekers out there demanding these, so what the heck, why not cater to those QSL Whores as they are sometimes called.

WQSL uses a sideband transmitter with about 50 watts PEP output. Our last broadcast just took place in December. You can write *WQSL* at Box 1, Belfast, NY 14711, USA [Many thanks to Kenneth Hill at *WQSL* for the info.]

Lots of logs this month...

KNBS was heard on 6950 kHz on December 14th by David Krause at 1905 UTC. They played rock music and used the slogan "The Station With Your Mind In Mind" hosted by Phil Muzik.

PARTIAL INDIA RADIO was noted on December 21st at 1620-1658 sign off on 6955 kHz USB. Winners of The O.J. Simpson Reincarnation Contest were announced. Address: Box 146, Stoneham, MA 02180 [D'Angelo-PA]

PIRATE RADIO BOSTON was noted by Art Krugaluk in Wilmington, MA at 1554 UTC on November 23rd playing music, reading letters in the mailbag and talking about the high price of CDs. The frequency was the usual 6955 kHz.

RADIO ECLIPSE was heard on November 23rd at 1750 UTC and also by Rich D'Angelo in PA on Dec. 21st at 1457 UTC on 6952.5 kHz offering a holiday QSL to those who wrote in. [Krugaluk-MA]

RADIO METALLICA WORLDWIDE was noted in December 14th at 1505 UTC on 6950 kHz. Rock music, featuring a new lady DJ named Jude. [Krause-OH] They were also heard on 21st December by Rich D'Angelo at 1457 with a comedy bit about Miss America 1996 on 6952.5 kHz.

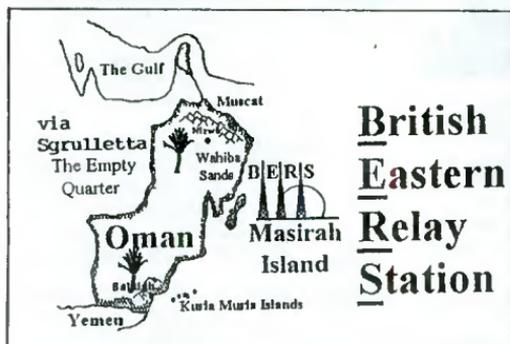
TAKE IT TO THE LIMIT RADIO, a widely heard station, was noted by Fred Kohlbrenner and Rich D'Angelo at 2018 until 2046 on December 7th on 6955 kHz in the AM mode. The program was hosted by Don Pardo and included a skit about The Black Flag Yankee Motel.

Don't forget to send in all those holiday logs for next month. Until then, Happy Pirate DX!

 SW

QSL Report

Sam Barto
47 Prospect Place
Bristol, CT 06010



British Eastern Relay Station

Hope everyone had a wonderful holiday season....Sam

ANTIGUA: Deutsche Welle 17715 and 17765 n/d cd. in 5 wks. w/ schedule. (Barto-CT). 17765 and 15285 n/d cd. in 1 mo. (Barto-CT).
ASCENSION ISLAND: Radio Tele- * fis Eireann "Irish Landscape" cd. in 53 ds. for \$1.00. (Castro-BRASIL).
ASIATIC RUSSIA: Deutsche Welle 7315, 7340 and 9480 via No-vosibirsk n/d cd. in 1 mo.

w/ program schedule. (Barto-CT).

BOLIVIA: Radio Santa Cruz 6135 ltr. w/ technical and tourist data w/ pennant in 63 ds. for a SP rpt. stamps and a postcard. v/s Ma. Yolanda Marco E.

BOTSWANA: Voice of America 7280 f/d (Castro-BRA). "Mt. Rainier" cd. in 5 wks. (Barto).

BULGARIA: Radio Bucharest 11720 and 9700 f/d cd.

NOTES: George Maroti sent along some interesting QSLs for the QSL Column. He also wishes everyone a very happy holiday season. John Sgrulletta says his QSL life is somewhat lacking - after sending follow up reports to RFI and Radio Nederland. We all know that story!...Sam. In another letter John says he has nothing brilliant or even stupid to say except that he will be (already done) vacationing in the British Virgin Island during the first week of December. If you plan to go to any of the beaches, be sure to bring sun tan lotion for your tongue!...Sam.



Confirming reception of NFM at 7520 kHz on 1, 21, 96, 11mg, 0400-0515 ZULU via Weissborn

Thank you for your reception report and your report.

w/ schedule in 5 wks. (Barto-CT).

CANADA: Deutsche Welle 13790 via Sackville n/d "Logo" cd. in 5 wks. w/ schedule. (Barto).

CHINA, PEOPLES REPUBLIC OF: Chinese Peoples Broadcasting Station 4460, 5320, 5880, 7504, 9290, 6125, 6750, 6840 and 7935 f/d cd. w/ newsltr. and schedule in 3 mo. (Barto). China Radio International 9290, 7504, 7290 and 6840 f/d "Young Girls" folder cd. w/ calendar in 7 wks. (Barto-CT).

CLANDESTINE: Radio Democratic International 15120 f/d sheet in 6 mo. (Barto-CT). Democratic Voice of Burma 11850 via Kvitsoy and

DIPLOMA

HCJB WORLD RADIO
certifies that

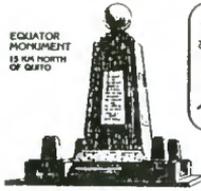
GEORGE HENRY WEISSBORN

arrived at the
Middle of the Earth
and placed his feet on the
Equator at latitude zero
of this planet Earth,
and thus became
a Citizen of the Equator

San Antonio de Pichincha Aug. 6 de 1972

Judy Bruce
John Palmer
WITNESSES

EQUATOR
MARKER
15 KM NORTH
OF QUITO



15330 via **Julich** p/d
ltr. in 1 mo. (Barto).

COLOMBIA: Radio Viva
*2460.4 (2x1230) nice
personal ltr. w a
beautiful color photo
of San Juan de Pasto
in 5½ mo. for a SP
rpt. and \$1.00. v/s
Amanda Vallejo, Sec-
retary and her husband
Roberto Chamorro. (Mo-
hrmann-VT).

ECUADOR: HCJB 12005 and
6125 f/d "La Familia"
cd. and "Colibri" cd.
w/ schedule in 5 wks.
(Barto-CT). 11615 f/d

"Pulling El Jaleo" cd. w/ schedule in 5 wks. Also rcvd. persobal ltr.
from E. Zambrano. (Barto).

EUROPEAN RUSSIA: IBRA Radio "Bismillah As Sabakh" 12020 and 12015 via
* **Moscow** f/d "Reaching Asia" cd. w/ sticker and pennant in 3 wks. (Bar-
to-CT). **Radio Moscow International** 9450, 9470, 9480, 7230, 9600,
9775, 9890, 9850, 9865 and 9810 f/d cd. printed in SP w/ station pin
and schedule. This in 9 wks. (Barto). **BBC** 12045 via **Moscow** n/d ltr.
w/ schedule in 5 wks. (Barto). 12015 via **Saint Petersburg** n/d ltr. in
1 mo. (Barto).

EUROPEAN PIRATE: Radio Nordsee International 6274.7 f/d xerox sheet in
* 6 wks. for a taped rpt. Reply came from Ytterby, Sweden. My rpt. was
sent to the Wuppertal address in Germany. The sheet contained a photo

VERIFICATION SIGNERS: Radio Tirana 6015 Laura, Secretary of the Italian Service.
* **Radio A.N.D.E.S.** 4777.8 Francisco Quisbert Salinas, Rapresentante Permanente del
Comitado Administrativo. Addr: La Voz de los Trabajadores Campesinos del Altiplano
Sud, Final Uruguay Norte s/n, Casilla n. 16, Uyuni, Potosi, Bolivia. **Quinghai**
Peoples Broadcasting Station 3950 Ghou Guo Liang, Director of the Technical De-
partment. **Voice of Democratic Iran** 5900 Shahrar Azari. **La Voz de Guaviare** 6035
Luis Fernando Roman Romero, Director. **La Voz de Llano** 6115.7 Edgar Valenzuela Ro-
mero. **Radio Cristal Internacional** 5012.4 Fernando Hermon. **La Voz de Napo** 3279.9
Ramiro Cabrera, Director. **Radio Tbilisi** 9565 Helena Aphkadze, Editor....via PLAY DX.



Mr. Castro in Brasil sent along a
photo of his "famous tree chickens"
that have taken roost in the branches.
Quite a sight...Sam.

of the original RNI card.
I enclosed a copy of mine
with the report. (Berg-MA).

FRENCH GUIANA: Radio Japan
15120 f/d "Mt. Takasaki"
cd. w/ schedule in 1 mo.
(Barto-CT).

GEORGIA: Voice of Hope 9310
f/d "Ancient Christian Mos-
aic" cd. in 2 wks. via the
UK address for \$1.00. (Dyb-
ka-TN).

GERMANY: Deutsche Welle 13780
via **Wertachtal** n/d cd. in
1 mo. (Barto). 15275, 9595
and 9545 via **Nauen** n/d cd.
in 5 wks. (Barto). 15275,
12080 and 9545 n/d cd. in
1 mo. (Barto). **Radio Liberty**
9680 via **Biblis** f/d ltr. in
6 wks. v/s Dave Walcutt.
(Barto). **Radio Nederlands**
9860 via **Nauen** f/d "50th
Anniversary" cd. in 2 wks.
(Renfrew).

GREECE: Voice of Greece 9395,
11595, 9425 and 9935 f/d

"House of Parliament" cd. w/ schedule in 6 wks. (Barto-CT).
 7480 and 9425 f/d "Diskobolus" cd. in 1 mo. (Bar-
 to). 9395 and 11595 f/d cd. in 2 mo. (Bar-
 to-CT). 11645 and 15150 f/d
 cd. in 5 wks. (Barto-CT).
 15630, 15175 and

9375 f/d "Zago-
 rohoria Epirus"
 cd. w/ schedule
 in 1 mo. (Barto).
 9425 and 9935 via

Thessaloniki f/d "The-
 odore Kolokotronis" cd.
 in 5 wks. (Barto). 9380 &
 7430 f/d cd. in 7 wks. (Bar-
 to). **Radio Liberty** 9595 via
Kavala f/d ltr. in 6 wks. v/s
 Dave Walcutt, Broadcast Operations
 Liaison. (Barto-CT).

HAWAII: KWHR 11565 "Special Test QSL"
 cd. in 1 mo. for an E-mail rpt. (Berg)

IRAN: Voice of the Islamic Revolution
 6030, 7260 and 9022 f/d cd. in 2 mo.
 QSL #500 from the Mid-East. (Barto). 9615
 and 7340 f/d "Pol-e Khaju Bridge" cd. in 2

VERIFICATION SIGNERS: Voice of Iraqi Kurdistan 4060 Addr:
 KDP Press Office, P.O. Box 4912, London SE15 4EW, United
 Kingdom. **Adventist World Radio Lira** 5030 Mariam Pottinger,
 Secretary. **Radio Rebelde** 5025 Marisel Ramos Soca, Jefe Depto.
 Relaciones Public. Addr: Ap. 6277, La Habana 6, Cuba. **La Voz del**
Napo 3280 Ramiro Cabrera, Director. Addr: Mision Josefina, Tena,
 Napo, Ecuador. **Radio Nacional Espejo** 4880 Marco Caicedo, Director.
Radio Japan (gabon) 21700 A. Hayaski, Italian Program. **La Voz de Atit-**
lan 2390 Jose Miguel Poptzina, Director. Addr: Canton Xechivoy, Santiago
 Atitlan, Depto. Solola. **Radio K'ekchi** 4845 Anselmo Cucchub, Gerente. Addr:

Fray Bartolome de las Casas, 16015 Alta Vera-
 paz. **Radio Luz y Vida** 3250 Cristal Fleck. **KBC**
 4935 Martin Ouma Ojwach, Senior Supervisor of
 Electronics....Via PLAY DX...Sam.

mo. (Barto-CT).

ITALY: Radio Internazionale 7500.4 f/d yel-
 * low and black cd. in 1 yr. (Barto-CT).
Adventist World Radio 7240 via **Forli** f/d
 cd. w/ QSL stamp mailed from Costa Rica.
 v/s E. Gysin-Ruf, Listener Mail Dept. who
 was transferred from Forli to assist in
 the engineering dept. (Berg-MA).

JAPAN: Radio Japan 12030 via **Yamata** f/d "Him-
 eji Castle" cd. in 1 mo. w/ schedule and
 newsltr. (Barto). 9750 and 9855 f/d "NHK
 Studio" cd. in 1 mo. v/s Y. Fushimi. Also
 rcvd. sticker and felt pennant. (Barto-CT).

KALININGRAD: Radio Nederlands 5835 and 6145
 * f/d cd. in 39 ds. for 2 IRCs. Site was in-
 cluded on cd. (Sgrulletta-NY).

KOREA, DEMOCRATIC PEOPLES REP. OF: Radio Py-
ongyang 13760.1 and 11335.2 n/d ltr. w/
 schedule and pennant in 7 wks. (Barto).
 9345 and 7200 n/d ltr. w/ pennant in 2 mo.

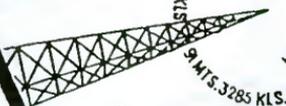
LESSER SUNDA ISLANDS: RRI Kupang (Barto)
 3385 p/d personal ltr. in 4½ mo. for an
 IN rpt. after 2 f/up rpts. v/s Drs. P.H.
 Tisera, Kepala Stasiun. (Sgrulletta-NY).

NIGERIA: Voice of Nigeria 7255 n/d ltr. in
 4 mo. after a FAXed rpt. v/s Chukwuma En-
 werekewe. (Myers-VA).

Quito, Ecuador
 via Monferini

WUJTB

via Monferini



RADIO APARECIDA
 9.115.3285 KLS.
 9.115.3285 KLS.



CLUBE DOS SOCIOS
 APOSTOLADO RADIOFONICO MARIANO
 A MALIS PODEROSA EMISSORA CATOLICA DAS AMERICAS

RADIO FELICIDAD



via Monferini



PARLONA AGENCIA DE TODAS LAS LENGUAS
 UNA EMISORA JOVEN
 CX 142
 18 DE JULIO 817 PAYSANDU URUGUAY
 TEL. 4020



PERU: Radio Comas Television 3250 p/d ltr. w/ schedule, station photo and business cd. in 7 wks. v/s Gama-niel Francisco Chahua, Programador General AM and FM. (Barto-CT).

PHILIPPINES: DZH9 FEBC Radio International 9405 f/d cd. w/ schedule and a personal ltr. in 1 mo. (Barto). **DZF9** 12005 f/d "Mayon Volcano" cd. in 1 mo. w/ personal ltr. from Dorothy Niebling and Aileen Draney. (Barto). 12005 via **Bocau** f/d "Monkey-Eating Eagle" cd, w/ schedule in 1 mo. (Barto).

POLAND: Radio Maryja 7400 f/d ltr. w/ religious material, sticker in 1 mo. v/s P. Jacek Cydzik. (Barto)....This was probably from a Russian site...Sam.

RUSSIA: Voice of Russia 9600, 9810, 9775, 9840 9480, 9450, 7260 and 7230 f/d cd. in SP in 2 mo. for a SP rpt. (Barto). 9450, 9490, 9630, 9865, 7420 and 12070 f/d cd. in PT in 8 wks. for a PT rpt. (Barto). **Radio Moscow International** 12070, 11960, 9710, 9630 and 9890 f/d cd. in FR in 2 mo. for a FR rpt. Also rcvd. schedule and several beautiful postcards. (Barto-CT).

VERIFICATION SIGNERS: Radio Centenario "La Nueva" 4855 Julio Acosta, Director. Addr: Casilla de Correo 818, Santa Cruz. **Radio Anhangueira** 6080 Domingo Vicente Tinoco, Gerente Tecnico. Addr: C.P. 4104, Goiania, GO 74823-870. **Radiodifusora Nacional de Macapa** 4915 Benedito Rostan Costa Martinus, Director. Addr: Rua Candido Medes 525 Centro, Macapa, AP 68900-100. **Radio Marumby** 9665 Jair Albano, Station Manager. Also Dr. Cesario Bernardino, President; Claudiney Nunes, Radio Jornalis-mo; Dr. Nildar Santos, Coordenador Radio. Addr: G.M.U.H. Rua Joaquim Nunes 244, Camboriu, SC 88340-000. **Radio Brasil Central** 11815 Sergio Rubens Da Silva. Addr: P.O. Box 330, Goiana, Goias 74000-0330. **Radio Aparecida** 9630 Cassiano A. Macedo, DX Editor. Avenida Getulio Vargas 185, 12570 Aparecida, SP. Station does request a one dollar bill for rp...via PLAY DX..Sam.

RUSSIA: Radio Maryja 7400 and 9670 via **Samara** nice n/d EG ltr. w/ various schedules, sticker and other promotional material. All in 6 mo. after a taped f/up rpt (Berg-MA)....Thanks....Sam.

RWANDA: Deutsche Welle 15135 n/d cd. in 1 mo. (Barto).

SOUTH AFRICA: World Music Radio 6290 via **Meyerton** f/d cd. in 2 mo. Also rcvd. **Channel Africa** station pen and a ruler. (Barto). **Channel Africa** 9585 p/d cd. in 3 mo. (Barto). **Investment Channel** 6160 rcvd. E-mail from Kathy Otto saying that the QSL is in the mail. (Renfrew).

SRI LANKA: Deutsche Welle 9620 n/d "Logo" cd. in 5 wks. (Barto-CT). 11865 n/d cd. in 1 mo. (Barto).

SWEDEN: Radio Sweden 15240 and 7290 f/d "Gotland Bone Comb" cd in 1 mo. w/ schedule and sticker (Barto).

TAIWAN: Voice of Free China 11550 f/d "1992 Olympic Silver Medal Baseball" photo QSL in 1 mo. w/ rpt. forms and schedule. (Barto).

TANZANIA: Radio Tanzania 5050 f/d "Map" cd. in 1 yr. for \$1.00. v/s B.M. Kapings,

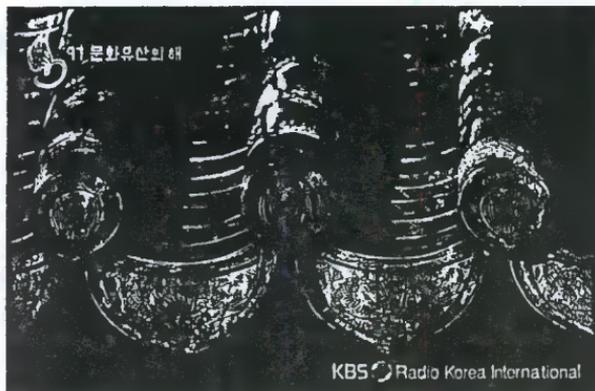
FRECUENCIA LIDER RADIO BAMBAMARCA

980 KHZ - AM

4418 KHZ OC
Banda de 60 metros
108.1 MHZ FM



BAMBAMARCA - CAJAMARCA - PERU



Director of Broadcasting. (Colton-FL)..... I also rcvd. a QSL that was stuck to mine. It was addressed to a DXer in Russia. I could read the following: 445026 Russia, Lazarev Vasilii, Moskovskii, Prospekt, d33....182(?) Toliatti. Any help?

USA: BBC 11865 via WYPR f/d cd. in 5 wks. w/ schedule. (Barto). **WEWN** 15375 f/d cd. in 2 wks (Barto). **Voice of Greece** 11730 via **Delano & 17745 via Greenville** f/d "Diskobolus" cd.

w/ schedule and 2 new stamps in 1 mo. (Barto-CT). 9590 f/d "Zagorohoria-Epirus" cd. w/ schedule in 1 mo. (Barto).

UGANDA: Radio Uganda 4976 f/d ltr. in 9 mo. after 2 f/up rpts. and \$1.00 v/s Rachel Nakibuuka. (Maroti-NY).

URUGUAY: Radio Oriental 11735 f/d prepared cd. after a f/up rpt. in SP in only 15 ds., 245 ds. total. v/s Alexi Haysaniuk, Jefe Tecnico. I also rcvd. another ltr. from Doborah Ibarra, Secretaria. (Martin-CA).

USA (Pirates): Radio Eclipse

6955 f/d large "Logo" cd. in 50 ds. for 3 ms. f/d ltr. (Neal-TX). (Stewart-MO). **KRAP** 6955 f/d cd. # 100 in 60 ds. for 3 ms. (Stewart-MO). f/d cd. in 22 ds. Also rcvd. Yoder newsltr. (Neal-TX). **WREC** 6955 f/d sheet in 4 mo. for \$1.00. for my reception of this station when

To commemorate 50 years of transmission from Shepparton Radio Australia invites listeners around the world to tell us about reception in your area.

We confirm your reception report: *Mr Marco Hoisy*

Date/time	Frequency	Call	SIG
28.9.96	17750	VAN	554
06.30			
	250 kW TX		

Dan's Radio

Radio Australia
PO Box 426
Melbourne 3001
Victoria AUSTRALIA



Transmitters:
C Canberra 11375E 2454 S
D Darwin 13073E 1225 S
S Shepparton 14525E 3620 S
B Brisbane 14770E 1930 S

VERIFICATION SIGNERS: Radio Pili-

pinas 15190 Richard Sorengo.

World Music Radio 6290 Stig

Nielsen, DXer and Producer.

Radio Sweden (Teracom Test) 11655 Magnus Nilsson, HF Frequency Planning. Addr: TERA-

COM, Svensk Rundradio AB, P.O. Box 17666, S-118 92 Stockholm, Sweden. **Radio To-**

laise 5047 Ewe Kabiye. **Radio Tanzania Zanzibar** 11734 Ali Bakari Muombwa. **Radio Val-**

era 4840 Mariela and Gladys, Receptionists. **Radio KAOS** 6955 Addr: P.O. Box 1, Bel-

fast, NY 14711.....via PLAY DX.....Sam.



I was in Hungary! 100 watts! (Maroti).

Radio USA 6955 f/d "Radio Metalica

Parody" cd. in 65 ds. w/ info.

sheet. (Neal). **Take It Easy Radio**

6955 f/d sheet w/ personal ltr.

* in 37 ds. (Neal-TX). **Radio 510**

International 6955 via **WREC**

f/d "Goodbye England's Rose" cd.

in 6 wks. w/ 2 stickers, info.

sheet, business cd. and comments

about Diana. Station is based in

Basel, Switzerland. (Barto-CT).

UZBEKISTAN: Radio Nederlands 15585

via **Tashkent** f/d "50th Anniver-

sary" cd. in 2 mo. (Renfrew).

VIETNAM: Hanoi HS 7152.8 and 5924.5

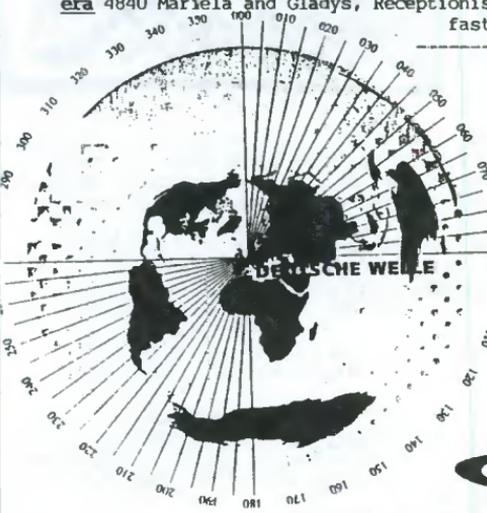
cd. w/ stickers and station penn-

ant in 3 mo. (Barto-CT).

DW VATICAN: Radio Vatican

11830 f/d "Tower" cd.

in 6 wks. (Barto-CT).





RADIO
DIFUSORA VENEZUELA

Recuerdo de Taberna del Arrabal

790-ONDA LARGA
4890-ONDA CORTA - CARACAS

DIRECTOR
RAUL VARELA

YUGOSLAVIA:
Radio Yu-
goslavia 9580

f/d cd. w/ sticker
in 39 ds. (Pagano-DC)

ZAMBIA: Radio Christian Voice
3330 ltr. in 38 ds. for \$1.00

v/s B. Phiri. (Castro-BRASIL). ZNBC
4910 f/d cd. in 58 ds. for \$1.00 (Col-

ZANZIBAR: Voice of Tanzania Zanzibar ton-FL).
f/d prepared cd. in 35 ds. after a second

f/up rpt. in 29 mo. v/s Ali Bakari Muonbwa. He

thanked me for the \$3.00 I enclosed. He also said that

I may send more money - if I want! Hi! Thanks to Henry Lazarus for the tip. (Martin-CA).

The second group of reports has just arrived from Fred K. Here's more!

VERIFICATION SIGNERS: Radio Enca 2410 Gabriel
Paiho, Station Technician. Radio East New
Britain Esekia Mael, Provincial Program Man-
ager. Radio Milne Bay 3365 Simon Muraga.
Radio Nacional de Paraguay 9737 Julio Cesar
Cardoso, Caballero y Jefe del Personal.
Radio Union 6115 Juan Zubiasa Santivanez,
Gerente. Addr: Avenida Central 717, 12 piso
San Isidro, Lima 27. Radio Nacional del
Peru 6095 Henry Xragon Ibarra, Director
General. Radio Satelite 6725 Sabino Llamo
Chavez, Director General. Addr: Joron Cut-
ervo 543, Santa Cruz, Depto. mto Cajamarca.
Radio Pilipinas 15190 Ric G. Lorenzo. Radio
Comas Television 3250 Gamaniel Francisco
Chahua, Program Gen. Addr: Avenida Estados
Unidos 327, Urbanisacion Huaquillay, Comas,
Lima 7.....via PLAY DX.....Sam.

ANTARCTICA: LRA36 f/d cd. in 8 mo. for
\$1.00 and ms. (Price).

ASIATIC RUSSIA: Voice of Russia
13790 via Khabarovsk
f/d cd. in 28 ds.
for an E-
mail rpt.
(Neal-TX).

AUSTRALIA: VL8K 2485 f/d "Map" cd. w/ stickers in
38 ds. for \$1.00. (Colton). VL8A 2310 n/d ltr.
w/ stickers in 36 ds. for \$1.00. (Colton). VL8T
2325 f/d "Map" cd. w/ stickers in 186 ds. for
\$1.00. (Colton-FL).

BENIN: Radiodiffusion du Benin 4870 p/d cd. in 9 mo.
after a f/up rpt. in FR w/ \$1.00. (Maroti-NY).

COLOMBIA: Radiodifusora Nacional 4955 n/d "Inrivation" cd
in 204 ds. for a SP rpt. and ms. v/s Athala Morris, Dir-
ectora. (Stewart-MO).

EURO PIRATE: Laser Hot Hits 6220 f/d cd. w/ various paper
* banners, small sticker and a studio tape in 7 wks. Use
Merlin addr. 200 watts. (Berg-MA).

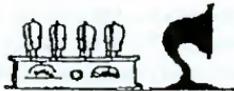
GERMANY: Deutsche Welle 13780 and 11795 via Wertachtal n/d cd.
in 5 wks. (Barto). Rcvd. ltr. from them explaining that it will
take several months for their Technical Dept. to reply. (Renfrew)
Democratic Voice of Burma 15330 via Julich (CLANDESTINR) f/d ltr
in 1 mo. v/s Harn Yawngwe. (Renfrew).

Radio

QSL 1976

INTERNAZIONALE

FREQUENCY 7500



tendent of Electronics. Addr: Maralal Transmitting Station, P.O. Box 38, Maralal. (Martin-CA).

LESOTHO: BBC 3255 f/d ltr. w/ sticker after a f/up rpt. for a 93 reception for \$1.00. (Colton-FL).

LESSER SUNDA ISLANDS: RRI Kupang 3385 f/d prepared cd. w/ station seal in 33 ds. after 3 f/up rpt. v/s Drs. P.M. Tisara. (Martin-CA).

DEAR SAM BARTO

We confirm your reception report

DATE: 20 Oct. 1996 TIME UTC: 2049-2102

FREQUENCY: 7500.4 KHz

POWER: 50 w.

TX: PADOVA

RADIO
INTERNAZIONALE
QSL MANAGER

FB's DALL

Drs. Petrus Tena. Addr: Jalan Soekarno Hatta, Bajawa. **Radio Nederlands (Talata)** Asbari Nainital Krishna. Addr: Indonesian Service, P.O. Box 222, JG 1200, Hilversum. **Radio Television Malaya Kuching** 4895 Colin A. Minoi, Director. Addr: Jalan P. Ramee, 93614 Kuching. **XEOI** 6010 Zolla Quintanar Flores.....via PLAY DX.....Sam.

f/d cd. w/ personal ltr. and "Mongol Messenger" newspaper in 7 wks. **NEPAL:** **Radio Nepal** 5005 f/d "Pokhara" cd. in 3 wks. for (Maroti-NY) \$1.00. v/s R.S. Karki. (Maroti-NY).

지난 한해동안 RKI를 애청해주신 **SUMATRA:** RRI Jambi 4927 prepared cd. rcvd. for 1988 reception. v/s Buchari Muhammad, Station Manager. 7500 watts. (Lazarus-LA).

칭취자 여러분께 깊은 감사를 드리며

새해에도 변함없는 성원을 바랍니다.

즐거운 X-MAS와 새해의 행복을
기원합니다.

Hope everyone enjoyed the QSL Column. Fred Kohlbrenner informs me that the January 98 QSL Column marks my 20th year anniversary of editing the QSL Column. Maybe some day I'll get the hang of the whole thing. Anyway I know we have the most dedicated members and the best QSL Column of any DX Club!

KBS Radio Korea International

Happy DX-ing!

Sam

Net Notes

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

We're trying something new this time. Rather than wrap the URLs into the body of the text, we have extracted them as footnotes. The URLs should be easier to read. Your comments are invited.

The BBC has been active on the Web these past months. If you cannot hear Newshour at 13 or 20 UT listen to it on demand.¹ And BBC News Online² — apparently to challenge CNN and ABC News — appeared Nov 3. Further, the BBC has announced a makeover of the Web site that should be completed by the end of 1997.

Bennie Dingo of Rock-it Radio took note of the first Net Notes column, and wrote "Rock-it Radio is a free wave broadcaster that began in March of 1996 and still exists today in various forms. We have been on at various times on 6955 kHz. along with various

relays from the IRRS and KIWI and others. Our format is unique in that we feature 1950's Rock and Roll with a special flavour towards Rockabilly and Doo-wop." Now with on-demand RealAudio, live programming is expected soon³.

Sonny Ashimori of Japan is an active DXer and his frequent contributions show up in the electronic publications. Ashimori's specialty is North Korea, and now he's assembled a Web page⁴ with a considerable amount of information therein. Take a look.

After months off the Web, Africa No. 1 has returned to a new site.⁵ (Jonathan Marks)

Updating the 1998 WRTH, the Asia-Pacific Broadcasting Union has a new Web site.⁶ (Andy Sennit)

Think Winter SWL Festival. See you there.

¹. <http://www.bbc.co.uk/worldservice/newshour/>

². <http://news.bbc.co.uk/>

³. <http://www.palmsradio.com/raindex.htm>

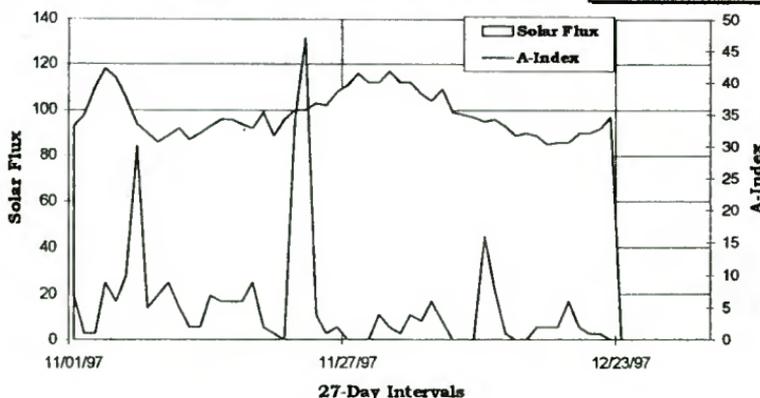
⁴. <http://www.serve.com/ashimori/dxnk.html>

⁵. <http://www.africa1.com/>

⁶. <http://www.jaring.my/abu/>

Solar Flux & A-Index: November-December '97

TRS Consultants
<http://www.trsc.co>



Scoreboard

Jerry Lineback
220 West Third
Garnett, KS 66032

The NASWA SCOREBOARD is here again. Welcome to all who participate. Speaking of which, a number of you have not updated in the past year and you will not find your name here. To keep your name on the SCOREBOARD, you must update at least once a year. Please update ALL totals when updating or entering. This time most of your updates arrived via e-mail, which is great. Consult the new NASWA Radio Country List when updating. C/H = Countries Heard and C/V = Countries Verified. The SPOTLIGHT is on South America. Next deadline is February 15 for the March Journal and the SPOTLIGHT will be on Africa once again. Thanks to all who share their totals. 73s from jalinebk@kanza.net

Name, State	Total	SA	SA	Best SA QSL
	C/H	C/V	C/H C/V	
Dan Henderson, MD	243	233	16 16	Falklands
Marlin Field, MI	240	239	15 15	R. Apinte 4794
William Flynn, OR	240	223	15 15	Falkland Is.
Jerry Berg, MA	238	236	15 15	R. Triun. Evan.
John Sgrulletta, NY	233	232	15 15	Falklands 2380
Gerry Bishop, FL	233	215	15 14	FIBS
Steven Lare, MI	230	209	15 15	Falklands
Nobuaki Takahashi, Japan	226	201	15 10	R. P. Prudente
Terry Palmersheim, WA	224	213	15 15	LV de Saquisili
Sheryl Paszkiewicz, WI	218	211	15 15	Falklands
Richard Davis, NM	218	209	15 15	Falkland Is.
Paul Buer, FL	217	205	14 14	R. Apintie
Rick Krzemien, CA	216	212		
Christos Rigas, IL	214	194	15 15	Falklands
Fred Kohlbrenner, PA	214	190	14 14	LV de Galapagos
Stephen E. Pitts, MN	207	196	13 12	R. Esperanza
Jerry Lineback, KS	206	108	15 12	Maranhao
Charlie Washburn, ME	204	163	13 11	R. Apintie
Stephen Price, PA	191	167	12 10	R. Apintie
Daniel McCarthy, GA	189	164	15 14	Falklands
Jim Renfrew, PA	183	147	14 12	BFBS Falklands
Allan Loudell, DE	182	153	12 11	SRS Surinam
John C. Eckert, PA	179	162	12 11	
Ross Comeau, MA	178	145	13 11	R. Apinte
Gary Froemming, AZ	178	44	15 4	CBV Chile
Andy Rugg, Que.	175	155	12 11	CP73 Bolivia
Bill Bergadano, NJ	175	120		
George Maroti, NY	168	123	13 11	R. Monte Carlo
Mark Hymenyk, ONT	165	134	12 7	
Richard Hankison, KS	164	141	12 9	R. Ancash, Peru
Carl Radtke, WA	153	153	12 12	Surinam
Dan Ziolkowski, NY	152	70	11 4	Argentina
Philip Atchley, CA	151	104	11 7	Peru
Bob Raymond, NH	143	114	11 7	VoChile
Robert E. Gearing II, FL	135	105	10 7	R. N. Paraguay
Joseph P. Zobro, MI	130	94	11 7	R. Rumbos
Jill Dybka, TN	123	88	10 9	R. Rumbos, Ven.
Gary R. Neal, TX	111	96	10 8	R. Satellite
Don Dacus, AR	65	31	6 3	R. Brasil
Sean Warner, MN	59	34	3 1	
Kelvin Buechert, MB	50	20	2 0	
Signee Hoffman, CA	39	28	2 2	Ecuador

Tropical Band Loggings

Sheryl Paszkiewicz
P.O. Box 152
Manitowoc, WI 54221-0152

- 2310 AUSTRALIA CAAMA 11/9 1145 sports, nice sig (Ripp-VA) 11/13
1130 C&W, tlk (Nove-HATDX)
- 2340 CHINA Fujian PBS 11/28 1335 CH dialogue (Pitt-MN)
- 2360h CUBA R Rebelde 11/11 1040 suspect it was this I hrd B4 &
rptd as R Maya (Nove-NC)
- 3140h DOM REP R Amanacer 11/14 0045 tlk, instl //6025 (Alex-PA)
- 3200.4h ARGENTINA R Armonia 11/16 0856 mx, tlk, ID (TIN)
- 3200 SWAZILAND TWR 11/17 0300 lecture in Ndebele (Nove-NC)
- 3220 CHINA CPBS 11/25 1249 guitar, CH tlk (Boul-CA)
- 3220 UNID Far East stn 11/30 2024 flute mx, poss ID (Serr-IT)
- 3222.1 TOGO R Kara 11/14 2214 FR tlk, Afr pops (Nove-HAT)
- 3240 SWAZILAND TWR 11/5 0340 organ mx, IS (Newb-NE)
- 3245 INDIA AIR Lucknow 11/23 1543 EG nx, IS, ID (Flynn-OR)
- *3250.8 PERU R Comas 11/17 1004 SP ID, pop & Andean mx (Mohr-VT)
11/12 0000 campo guitar mx, ID, drunken duet, Exodus (Nove-NC)
11/16 1042 folk mx (TIN) 12/5 1107 OA mx, long tlk (D'Ang-PA)
- 3280 CHINA Vo Pujiang 11/21 1150 CH rapid tlk //4950 (Nove-NC)
- 3280 ECUADOR LV del Napo 11/17 0953 SP pgm promo, ID, rooster (Ziol)
- 3285.3 ECUADOR LV del Rio Tarqui 11/11 1030 Andean mx, ads, TC, ID
beautiful sig this morn (Nove-NC) 11/17 1020 echo tlk, Andean
mx, poor (Ziol-NY)
- 3315 ADM ISL R Manus 11/21 1158* anmts, FC, birds, anthem (Ripp-VA)
- 3329.4 PERU Ondas del Huallaga 11/7 0948 Andean mx, ad, ID (Mohr-VT)
- 3339.9 PERU R Altura 10/29 1020 tlk, ID, poor (Ziol-NY)
- 3345 INDIA AIR Jaipur 11/14 0139 SC mx, poor (HATDX)
- 3366 GHANA GBC 11/16 0545 EG hymns, drums, ID, nx (Fair-VEN)
- 3390h USA WBBR 10/15 0913 creating terrible racket (Mohr-VT)
- 3395 SUMATRA RRI Tanjungkarang 11/22 1615 mx, dedications (Flynn-OR)
- 3396 ZIMBABWE ZBC 4 11/13 0300 reggae mx (Nove-HATDX)
- 3400 LIBERIA Star R 12/2 0628 EG nx, ID, fair (Mohr-VT)
- 3450 LIBERIA R Veritas 11/23 0532 rel pgm in lang, EG 0558, poss ID
gospel pgm, terrible QRM here so presumed (Berg-MA)
- 3550h CUBA R Rebelde 11/1 0943 operatic mx (Mohr-VT)
- 3905t IRIAN JAYA RRI Merauke 11/9 1133 SCI, Madonna-like mx (Mohr-VT)
- 3910 CLAND Vo Iran Communists 11/26 1749 mx, anmts, IDs in possible
Farsi (Serr-IT)
- 3925 JAPAN R Tampa 11/25 1252 JP instl versions of Carpenters songs
tlks (Boul-CA)
- 3959.7 SULAWESI RRI Palu 11/22 2020 IN tlk, poor (TIN)
- 3970 ENGLAND R Korea Relay 11/27 2115 tlk, instl EG 2200 (Alex-PA)
11/13 2200 EG pgm, nx (Nove-HATDX)
- 3976.1 KALIMANTAN RRI Pontianek 11/7 1028 tlk, Koran, pop/rock
ID, other ments Pontianek, 5-note tune over & over (Mohr-VT)
11/22 1130 IS, TP, nx, ID, pop mx (TIN)
- 3996.1 SULAWESI RRI Kendari 11/22 2022 lagu lagu, Koran (TIN)
- 4000.1 SULAWESI RRI Kendari 11/22 1450 folk mx, full ID, IS & nx (TIN)
1037 Mideast mx, weak (Mohr-VT)
- 4015 CLAND Vo People of Kurdistan 11/14 0350 choral war march
ment Kurdistan, ID, happy sounding organ mx (Nove-HATDX)
11/29 *0345 martial mx, IDs, AR at 0400 //4080 (Hill-MA)
- 4081 CLAND 11/27 0345 martial mx, Koran, on 11/22 & 29 //4015 (Alex)
- 4095.2v CLAND Vo People of Kurdistan 11/10 2050 tlk, orch, march (Hill)
- 4101.5 CLAND Vo People of Kurdistan 11/30 2137* KD flute, tlk, ment
Talaban, Kurdistan, etc, patriotic song, speech (Serr-IT)
- 4110 CLAND Vo Iraqi Kurd. 11/29 0405 AR nx, ID //4170 (Hill-MA)
- 4409.4 BOLIVIA R Eco 11/13 2335 flute, ad, lang tlk (HATDX)
- 4450 CLAND Vo Natl Salvation 11/13 2130 KK tlks (HATDX)
- 4460.9 PERU R Norandina 11/17 1034 Andean mx, ID (Mohr-VT)
- 4471.9 BOLIVIA R Movima 11/13 2332 ID, long tlk (HATDX)

4485 RUSSIA Bashkortostan R 12/6 2357 test tones, 6TP, tlk (Hill)
 4499.9 CHINA Xinjiang PBS 11/18 1650* ment Zhonguo, mx, anmts (Serr)
 4545 KAZAKHSTAN KRI 11/15 *0000 IS, TP, NA, mx, diff IS 0005 (Nove)
 4573.1 PERU R Gotas de Oro 11/17 1040 ID, Andean mx, unstable (Mohr)
 4600 BOLIVIA Perla del Acre 11/13 2320 Indian mx, huaynos (HATDX)
 4606.4 IRIAN JAYA RRI Serui 11/13 1140 ID, tlk, 50s mx, tnx Rippel
 (Nove-HATDX) 11/29 1128 tlk, 1204 nx at recheck (Hill-MA)
 4649 BOLIVIA R Santa Ana 11/13 2325 lang tlk, echo ID (HATDX)
 4682.3 BOLIVIA R Paititi Rdf. 11/13 2311 lang tlk, ad (HATDX)
 4720.1 BOLIVIA R Abaroa 11/13 2318 flute, lang tlk (HATDX) 12/3 0030
 mx, anmts, promo, ID (Nove-NC)
 4730 UNID SITE RFE/RL 11/29 1629 nx, IS, ID (Serr-IT)
 4750.1t PERU R San Fran. Solano 11/9 0127 tlk, Andean mx (Mohr-VT)
 4752.4 UNID 11/13 2326 wild tlk in SAM Indian sounding lang (HATDX)
 4753.3 SULAWESI RRI U-P 2145 instl, ID, SCI, nx (D'Ang-PA)
 4755.1 BRAZIL R Educ Rural 11/16 0821 sertaneja mx (TIN) 11/22 0152
 pops, ballads, TC, ID, promo (Mohr-VT)
 4756.8v PERU R Huanta 2000 11/19 2320 OA mx, ads, ID, comunicados(Nove)
 4760 AND ISL AIR Pt Blair 12/7 1124 trad mx, IDs (D'Ang-PA) 11/28
 1320 interview, anmts, no TP 1330 (Pitt-MN) 11/15 1110 vcl w/
 sitar (Nove-HAT)
 4765 BRAZIL R Rural 11/24 0959 tlk, ment Santarem, Para (Ziol-NY)
 4775 INDIA AIR Imphal 11/14 0135 tlk, ads, SC mx (HATDX)
 4775 PERU R Tarma 11/24 1009 SP ID, mx, poor (Ziol-NY)
 4789.9 PERU R Atlantida 11/19 1013 IDs, anmt, mx (Ziol-NY)
 4790.4t PAKISTAN AKR 11/23 *1230 vcl, tlk (Nove-NC)
 4800 INDIA AIR Hyderabad 11/16 1726 tlk, IDs, local mx, nx (Serr)
 11/14 0107 ment Hyderabad, armchair copy (HATDX)
 4815 BRAZIL Rdf Londrina 11/16 0907 mx sertaneja (TIN) tent 12/8
 0000 Brasopops, ment Londrina (Fly-OR)
 4815 BURKINA FASO RTV 12/3 2400* FR anmts, hymn (Fly-OR)
 4820 BOTSWANA RB 12/4 2201* mx, lang nx, ID, anmts (D'Ang-PA)
 4835 MALI RTM 12/4 2345 lang tlk //4782.4 (Fly-OR)
 4840 INDIA AIR Bombay 11/14 0125 long tik, poss nx (HATDX) 11/27
 1323 HD vcls, anmts, orch, 1330 //4910 (Pitt-MN)
 4840 PERU R Andahuaylas 11/19 1000 mx, ID, flute (Ziol-NY)
 4850 CAMEROON CRTV 11/28 2359* Afropops, FR tlk, folk mx, NA (Alex)
 12/4 2100 EG nx, good (D'Ang-PA) 12/8 2109 EG nx, FR pgm &
 Afr mx (Ross-ON)
 4850 INDIA AIR Kohima 11/14 0140 SC mx, YL tlk (HATDX)
 4850.6 ECUADOR R Luz y Vida 11/16 0129* anmts, ballads, ID (Alex-PA)
 11/19 0100 monologue, ID, vcls (Nove-NC)
 4860 ECUADOR R Federacion 11/13 1105 vcl anthem, jews harp, chants
 etc (Alex-PA) 11/19 0050 long tik in Shuar, strong (Nove-NC)
 4860 INDIA AIR Delhi/Kingsway 11/14 0155 SC mx, fade (HATDX)
 11/22 1231 EG nx, good (Nove-NC) 12/5 1221 EG tlk abt trade
 sanctions, ID, pgm hilites (D'Ang-PA) Nice pgm detail--sp
 4865 BRAZIL R Alvorada 11/16 0833 rel pgm (TIN)
 4865 CHINA Gansu PBS 11/17 1600* tlk, mx, ment Zhonguo, ID (Serr)
 4870 ECUADOR LV del Upano 11/29 0142* SP tlk, HC mx, ID (Alex-PA)
 4875 BRAZIL Rdf Roraima 12/1 0945 mx, ID, ment Brazil (Ziol-NY)
 4885 BRAZIL R Clube 11/9 0049 soccer, cmtry, slogans, ID (Serr-IT)
 4885 BRAZIL Rdf Acreana 12/1 1014 presumed, partial ID (Ziol-NY)
 4895 INDIA AIR Kurseong 11/18 1201 film mx (Nove-NC)
 4905 CHINA CPBS 11/15 2214 CH tlk, fair (Yajk-PA)
 4910 INDIA AIR Jaipur 11/19 1205 vcls w/some percuss. (Nove-NC)
 4910 ZAMBIA ZNBC 12/7 2110 Radio 1 ID, phone in pgm (D'Ang-PA)
 4915 BRAZIL R Anhanguera 10/29 2354 live sports, chimes, echo ID
 (Fly-OR) 11/16 0807 Jornal da Manha nx pgm, ID (TIN) 11/25
 0110 tlk, nx, ID (Fair-VEN)
 4920 INDIA AIR Chennai 11/23 1300 chime, ad, ID (Nove-NC) 12/6 1219
 HD vcls, TP, EG ID & nx (D'Ang-PA) 11/18 1145 SC mx, anmts
 (Ripp-VA)
 4920 RUSSIA Vo Russia 11/4 2000 EG //5940 (Sund-NJ) 12/8 2058
 EG ID, anmts, IS //5940 (Ross-ON)
 4923.7vp BOLIVIA R San Miguel 11/29 0230 tlk, ballads (Alex-PA)
 the vp means variable & presumed & also very poor sig--sp
 4925 SUMATRA RRI Jambi 12/5 1155 mx, nx, ID (D'Ang-PA)
 4927 SUMATRA RRI Jambi 10/31 1540 trad mx, drums, ment Jambi, SCI
 nx (Fly-OR) 11/22 1521 (TIN)
 4935 KENYA KBC 11/11 2033 nonstop EG pop & soul mx (Clar-NY)
 11/12 0330 pop mx, markets, ID, TP, new! (Stew-MO) Congrats--sp

12/6 0300* urban pops, ID, martial mx (Warn-MN)
 4939.5 VENEZUELA R Amazonas 11/1 0120 pol tkl, echo IDS, TC (Clar-NY)
 11/29 1010 IDs, promos, Amazonas Int'l pgm (Berg-MA)
 4940 INDIA AIR Guwahati 12/7 0028 SC lang, TP 0030, tkl (Hill-MA)
 4945 BOLIVIA R Illimani 11/16 0908 folk mx (TIN)
 4949.8 ECUADOR R Bahai 11/13 1015 anmts, folk mx, ID (Alex-PA)
 4950 ANGOLA RN 11/23 0110 lite mx, phone tkl, ID, TC (Berg-MA)
 4950 KASHMIR AIR Srinagar 11/15 0140 SC mx, tnx Henderson (Nove-HAT)
 4950 SAO TOME VOA Relay 11/15 2100* EG Afropops, health msg (Alex)
 4950.1 PERU R Madre de Dios 12/6 0115 vcls, kid yelling over mx
 ment Pto. Maldonado, comunicados, rooster (Nove-NC)
 4955 COLOMBIA RN 11/12 0100 mx pgm, fair (Levi-PA)
 4955 UNID LA stn in SP 11/29 0047 tkl, song (Serr-IT)
 4959.6 VIETNAM VoV 12/1 1320 tkl lang, abrupt 1331* (Pitt-MN)
 4960 VANUATU RV 12/4 0640 poss EG, drums, lang tkl, local mx (Hill)
 4965 BOLIVIA R Juan 23 11/16 1003 ranchera mx (TIN)
 4975 CHINA Fujian 11/15 1128 slow tkl like lang lesson (Nove-HAT)
 4976 UGANDA RU 11/29 1807 nx in vy bad EG, ment Uganda (Serr-IT)
 11/14 0421 YL EG nx, 0431 into SH pgm, S9 & clear (Nove-HATDX)
 4980 VENEZUELA Ecos del Torbes 11/20 2240 nx, fair (Yajk-PA)
 4985 BRAZIL R Brasol Central 11/16 0817 mx sertaneja (TIN)
 4990.9 PERU R Ancash 10/30 0443 ads, huaynos (Ripp-VA)
 4995.6 PERU R Andina 12/7 1047 morning huaynos, ID, TC (D'Ang-PA)
 5005 NEPAL RN 11/14 0115 TP, ID, long tkl (HATDX) 11/11 1115 M tkl
 Asian mx, drama //7165.2, TP, ID (Nove-NC) 11/16 1212 tkl,
 ID, tlks, tent (no TP) (Ripp-VA)
 5009.6 MADAGASCAR RM 10/24 1430 lang tkl, strong audio (Flynn-OR)
 11/29 1838 tkl, Afropops (Serr-IT) 11/14 *0300 xylo IS, NA,
 tkl, exc (Nove-HATDX) 12/6 2055 tkl, mx (D'Ang-PA)
 5010 INDIA AIR Thiru. 11/3 0036 SC mx, chorus, poor (Flynn-OR) 11/13
 *0020 IS, vcl, anmt (Nove-HATDX)
 5013 DOM REP R Cristal 11/7 2222 hot mx pgm, anmts, addr (Renf-NY)
 11/8 0040 jazz mx, tkl, 0100* w/ID, FC (Ziol-NY)
 5015 TURKMENISTAN R Asgabat 11/12 2301 string mx, ID pres (Nove-HAT)
 5020 SOL ISL SIBC 11/23 1938 nx, anmts, mx, ID (Serr-IT) 11/14 1115
 BBC nx, Hey Jude by YL, full ID, FC (Nove-HAT)
 5025 PERU R Quillabamba 11/8 1025 anmts, folk mx (Alex-PA)
 5027 PAKISTAN Quetta 11/2 0139 tkl, Koran, cmtry, 4 notes (Flynn)
 5030.1 COSTA RICA AWR 11/29 0022 sermon, ID, jingle (Serr-IT)
 5035.1 BRAZIL R Aparecida 11/16 0820 mx sertaneja //others (TIN)
 5040t GEORGIA GR 11/30 0100 chorus, rel mx, gongs 0145 (Alex-PA)
 11/17 *0100 poss RS nx, poor (Flynn-OR)
 5040 UZBEKISTAN R Tashkent 11/15 *0100 tkl but low mod (Nove-HAT)
 5040.1t ECUADOR LV del Upano 11/23 2230 tkl, rel recit, mx (Alex-PA)
 5050.1t TANZANIA RT 11/23 0258 11/23 0258 Afr folk mx, tkl (Alex-PA)
 11/14 *0200 anthem (same one VORGAN uses) ID, Koran (Nove-HAT)
 5060.2 ECUADOR RN Progreso 11/8 0500* folk mx, ballads, ads, IDs (Alex)
 5070 USA WWCR 11/12 0109 EG pgm (Levi-PA)
 5090 CHINA CPBS 6 11/29 1803* class mx, TP, ID, poor (Serr-IT)
 5100t LIBERIA RL 10/30 0032 EG pop mx, ID, poor, is this the one
 with Cote d'Ivoire addr? (Flynn-OR)
 5125 CHINA CPBS 11/30 1240 Far East mx, CH heated discuss. (Ziol-NY)
 5260 KAZAKHSTAN KR 11/15 *0100 IS, ID, NA (Nove-HAT)
 5290 RUSSIA R Rossii via Krasnoyarsk 11/14 0225 tkl/mx (Nove-HATDX)
 5295 CHINA CPBS 11/21 2255 CH tkl, fair (Yajk-PA) CNR Beijing 11/14
 2230 ad strings //5320, 4460, 5030 (Nove-HAT)
 5407.2 CAMBODIA R Prov Govt 11/23 1150 tkl, vcls (Nove-NC)
 5629.8 PERU R Ilucan 11/8 1008 anmts, folk mx, ID, fair (Alex-PA)
 5750 TAJIKISTAN TR 11/14 1830 exotic flutes, tkl //5800 (Hill-MA)
 5810 USA VOFC Relay 11/21 2249 EG pgm, CH mx (Yajk-PA)
 5825 USA WEWN 11/25 1312 EG tkl abt the end of times (Boul-CA)
 5840nf CROATIA CR 11/9 0200 EG nx, ID, CC at 0207, EG 0300 (Alex-PA)
 5840 GERMANY Renascenca Relay *1900-2000* Deutsche Telekom switch
 ing error (Hill-MA)
 5880 LIBERIA Star R 11/24 2038 drama pgm, EG anmt, anthem (Hill-MA)
 5880 LITHUANIA R Vilnius 12/8 0035 EG //5905 (Fine) I think this is
 via a German xmtr--sp
 5890 GERMANY Universal Leben pgm 11/22 2045 in SP, flute IS (Renf)
 5895 GREECE Vo Greece 11/6 0320 GK mx, tkl, ID (Riga-IL)

International Band Loggings

Wallace C. Treibler
357 N.E. 149th Street
Seattle, WA 98155

- 5905 GERMANY R Vilnius relay in EG 0030, Wall St Journal approves of Lithuania's economic changes
mx interval, cmntry (Pasquale PA 11/21, Levison PA 11/2)
- 59246v VIETNAM R Hanoi 1 in VT 1140, lots of talk, //100598 (Novello NC 11/23)
- 59494v GUYANA GBC in EG 0805, relig mx, Hindi vcls, promos, TC's, ads, US pop mx, hrd only after
WYFR Okeechobee s/off at 0800 on 5950 (Alexander PA 11/27)
- 6025 DOMINICAN REPUBLIC R Amancer Int in SP 0107, relig tlk, ID's, slogans, f-p (Clar NY 11/2)
- 6035 COLOMBIA LV del Guaviare in SP 1130, pips, TC, two ID's, nx?, p/QRM (D'Angelo PA 12/6)
- 6055nf IRAN VOIRI Teheran in EG *0030-0128*, ex-6050, IS, EG sked, Koran, nx, cmntry, lcl mx, weak
under Spain but fading up to fair level at times, better on 9022, 9685 (Alexander PA 11/5)
- 6055 SPAIN R E Espana in EG 0147, soprano singing from Carmen, ID, lang lesson (Newbury NE 11/1)
- 60645v COLOMBIA Colmundo Bogota in SP 2350, ID, mx, taped interviews (Pasquale PA 11/7) in SP
0105, relig tlk, ID, ads, nx (Fair VEN 11/29) in SP 0946, vcls, tlk, promo, TP, ads (Ziolkowski NY)
- 6110 ASCENSION ISLAND BBC relay in SP 0000, ID, world & regional nx, g (McGuire MD 11/20)
- 6117 COLOMBIA LV del Llano in SP 0150, many ments of Colombia, phone-ins, ID (Pasquale 11/13)
- 6120 CANADA R Japan relay Sackville in EG 1230, "Learning Japanese", art critic (Fraser MA 11/18)
- 6120 CROATIA C R in CR/EG 0200, nx, ID, into CR 0204, in EG 0300 (Newbury NE, Pasquale PA)
- 6135nf? TURKEY VoT in EG 2325, mailbag, billboard, ID, QTH, "Blue Voyage" lite mx pgm, archeologic
finds in TK (Krause OH 11/15, Clar NY 10/26, Yaiko PA 11/15)
- 6150 KENYA KBC Nairobi in SH 1950-2106, African hilife & reggae mx, vcls & dueling guitars, 4 pips
at 2000, nx, NA, clobbered by China R Int s/on 2000 (Renfrew NY 11/22, Novello HATDX 11/13)
- 6160 CANADA CKZN St Johns Newfoundland in EG 2010, Canadian football scores, nx (Pasquale 11/8)
- 6165 NETHERLANDS ANTILLES RN relay in DT 0145, nx, interview (McGuire MD, Newbury NE)
- 6195 SOUTH AFRICA BBC relay in EG 1323, tlk re Italian NA, business nx, f (Boulden CA 11/25)
- 6220nf ANGOLA VORGAN in PT 2025-2102*, Afro/Euro pops, tlk, ID, anmts, NA (Alexander PA 11/15)
- 6240 TAJKISTAN R Free Asia in VT 2235-2300, tlk by YL, regional vcl mx (Rausch NJ 11/22)
- 62503 EQUATORIAL GUINEA R Nac in SP 2140-2202*, lively African mx, ID, NA (Stewart MO 12/8)
- 65358 PERU R Huancabamba in SP 0020*, huaynos, OA folklore, NA (Nozaki JP, D'Angelo PA 12/6)
- 6570 MYANMAR Defense Forces BCS in lang 1155-1231, continuous beautiful SEAsian mx & vocals,
long tlks by OM, drum/martial mx 1231 (Rippel VA 11/16, Novello NC 11/15, D'Angelo PA 12/7)
- 66746nf? PERU R Ondas del Rio Maranon in SP 1130, Peruvian huaynos, short tlk, p (Nozaki JP 11/16)
- 68114 PERU R Ondas del Rio Mayo in SP 1045, Andean mx, TC's, farm animal sounds, full ID 1053
(Nozaki JP 11/16, Mohrmann VT 11/19) in SP 0045-0159*, dedication to a family, Andean mx,
yipping, NA at s/off (Ziolkowski NY 11/8, Flynn OR 11/9)
- 6900usb SOMALIA R Mogadishu in lang/EG 1935, typical Horn of Africa vocals and Somali tlk, political
harangue by YL, 6 pips 1958, into EG at which point audio faded out (Hill MA 11/30)
- 6950 CHINA China R Int in EG 1235-1256*, nx, features, lcl mx, ID, //7385, 9715 (Alexander PA 11/22)
- 6980usb/nf? COSTA RICA RFPI in EG 0614, tlk re earth's population & women in China (Krause OH 11/7)
- 7105 UZBEKISTAN R Tashkent in EG 2130-2159*, nx, features, mx, frequent ID's, QTH for rpts, f-g,
at 2200, IS for UZBEK Radio (Domestic Service) in lang? on same fqy (Sundstrom NJ 11/12)
- 7115 BOSNIA R Yugoslavia relay in Serbian/EG *0030-0200*, nx, cmntry (Findlater CA, Newbury NE)
- 7150 UKRAINE RUI in EG 0135, nx, features, ID (Wolf OH, Pasquale PA, McGuire MD, Newbury NE)
- 71653v NEPAL R Nepal in lang 1213, flute mx, pips, ID, nx, //5005 (D'Angelo PA 12/5, Rippel VA 11/28)
- 7185 MYANMAR R Myanmar in lang 0037, enjoyable mx, previously a rare catch but consistently good
in recent wks, might they have a new xmtr or better antenna? (Hill MA 12/7)
- 72057nf? PERU R Paraton de Huarmaca in SP *1030, carrier on at 1025, Andean mx, anmts, long talks,
TC's, ID's over a number of songs (Mohrmann VT 11/13, Renfrew NY 11/19, Novello NC 11/12)
- 7225 SRI LANKA D Welle relay in EG 1620, "Newslink", mx, ID's, many //s (Serra ITALY 11/17)
- 7230 OMAN R Oman in AR 2122-2130, Qur'an, ID, NA, //9735 very weak for 50 kw (Hill MA 11/29)
- 7250 INDIA AIR Panaji Goa in lang *0030, IS, ID, anmts, vcls, nx?, vp (Flynn OR, Novello HATDX)
- 7255 THAILAND VOA relay in IN 1150, tlk re IMF & Indonesia, feature, vg (Renfrew NY 11/19)
- 7285 SOUTH KOREA RKI in EG 1256, ID, skeds & fqys, nx (Costello NJ 12/7, Newbury NE)
- 7300nf? TURKEY VOT in EG 0430, "DX Corner", lcl mx, tlk on terrorism, f (Moats OH, Newbury NE)
- 7305 VATICAN STATE VR in EG 0305, rpt on social services in Romania, ID (McGuire MD 11/21)
- 7360 VATICAN STATE VR in EG 0330, nx rpts re Africa including sports in Afr, ID (Krause OH 11/5)
- 73852 COSTA RICA RFPI in EG 0859, anmts, ID, mx, fqys, skeds, QRN (Serra ITALY 11/29)
- 7400 GUAM KSDA Adv World R in EG 1435, gospel mx w/guitar, request funds (Newbury NE 11/11)
- 7475nf? GEORGIA IBC Tamil in Tamil *0055-0201, ID's, subcont vcls & anmts, ads, promos, sermon?,
strong sig but fade down during bcst & audio slop from WJCR 7490 (Hill MA, D'Angelo PA 12/5)
- 7520 ROMANIA R Moldova Int relay in EG 2205, nx, ID, tlk feature, f-g (D'Angelo PA 12/4)

- 7530nf BULGARIA R Bulgaria in EG 2010, nx, political cmntry re relations between Bulgaria and Ukraine, orch mx, "Spectrum", //9700 (Clar NY 11/1, Krause OH 11/2, Yajko PA 11/15)
- 8638 AUSTRALIA VNG Time Station NSW at 1231, pips, CW ID's 44th min (Novello HATDX 11/14)
- 9022 IRAN VOIRI Teheran in EG 0030, propaganda re success of Iran's economy (Pasquale PA 11/1)
- 9200 SUDAN R Omdurman in EG 1858*, ID at s/off (Yajko PA 11/15)
- 9200 SUDAN Rep of Sudan R in AR 1930, long tlk w/ment of Omdurman, mx interludes (Clar 11/11) in AR 1950-2001*, tlks by OM & YL, mx bridge, jammer started 2000, p (Ziolkowski NY 11/28)
- 9260usb/nf ICELAND Ríkisutvarpid in IC 1851, this fqy instead of 9275 listed, vcls, tlk, //11402 (Hill 11/19)
- 93301 PAKISTAN RP in Urdu *1700-1900*, ex 11570v, fair sig level but CW QRM (Hill MA 11/11)
- 9445 TURKEY V of Turkey in TK 0600, ID, continuous chanting type mx (Findlater CA 12/6)
- 9505 BRAZIL R Record Sao Paulo in PT 2137, tlk, mx bridge, ID, fqy, p (Ziolkowski NY 10/24)
- 9505test USA WGTG McCaysville GA in EG 1800, testing xmtr #2, ID & antenna (Krause NJ, Costello NJ)
- 9515nf GUAM KSDA Adventist World R in EG/VT *2158, ID's, QTH, //13720 (Hill MA 11/27)
- 9535 THAILAND RT in EG 1909, "Amazing Thailand", ID, market rpt (Clar NY 11/1, Krause OH 11/2)
- 9535 HUNGARY R Budapest in EG 2000, nx bulletins, "Hungarian Forum", ID's (Krause OH 11/2)
- 9570 NIGERIA RN Kaduna in EG 2110-2130*, nx re arrival of intl monitors etc (Rausch NJ 11/30)
- 9580 AUSTRALIA RA in EG 1315, one hr pgn of American progressive jazz (Fraser MA, Newbury NE)
- 9600 ASCENSION ISLAND BBC relay in EG 0600-0800*, ID, Afr nx, cmntry re Mali (Findlater CA)
- 9640 ANTIGUA Deut Welle relay in EG 0300, ID, rpt on Iraq, regional nx, g (McGuire MD 11/18)
- 9645 BRAZIL R Bandeirantes in PT 0210, tlk, pips 0215, f, //6090, 11925 (Ziolkowski NY 11/23)
- 9645 THAILAND VOA relay in EG 1159, "Now Music USA", nx, QRM (Renfrew NY, Newbury NE)
- 96504 URUGUAY Emisora Ciudad de Montevideo in SP 2230, ballads, call ins, ID (Rausch NJ 11/28)
- 9665 NORTH KOREA KCBS Pyongyang in KR 0600, choral & military mx, NA, f (Findlater CA 12/6)
- 9670 PHILIPPINES R Veritas Asia in EG/VT *2327, orch theme, ID, f but f/o 2350 (Hill MA 11/27)
- 9680 THAILAND R Thailand in EG *0030, IS, ID, lcl nx, cmntry re US-Thai relations (Rausch NJ 11/29)
- 9690nf USA V of Greece relay Greenville in GK 1307, GK mx, ID, moved from 9680 (Rigas IL 11/17)
- 9700 NEW ZEALAND RNZI in EG 0900, lcl nx, wx, relig pgn, TC, ID, mx (Serra ITALY, Krause OH)
- 9705 MEXICO R Mexico Int in SP 1302, tlks, jingles, ID in EG 1300, g (Yajko PA 11/15)
- 9750nf IRAN VOIRI Teheran in Urdu *1330, Qur'an, "Ye Teheran" ID, tlk re Pakistan (Novello NC 11/21)
- 9770 ANGOLA VORGAN in PT 0452, instr & choral NA's, tlk, echo anms, ID (Alexander PA 11/15)
- 97801 PHILIPPINES FEBC in JN 2324, tlks over gospel-type mx, ID, IS, p/choppy, echo (Hill MA 11/30)
- 9785 CHINA China R Int in Thai 1138, mostly tlk past 1145, //7350 (Hill MA 11/26) in EG 0956*, tlks by YL & OM, ID, target South Pacific, fqys, closed with mx, fair but fluttery (Ziolkowski NY 11/5)
- 9810 KIRIBATI RK Betio EG/lang 0600-0800+, island mx, pops, early Xmas mx (Findlater CA 11/29)
- 9810 THAILAND R Thailand in EG 1237, history of Thailand, world nx, mx, g (Krause OH 11/8)
- 9855 JAPAN NHK Tokyo in JP 1435, U.S. rx, ID's, pips, into CH 1500, CRI Beijing barely audible underneath also in JP before 1500 with JP/CH lang lesson. 300 kw for NHK and 120 kw for CRI. (Treibel 12/2 WA) ED: The moral is- don't take the ID for granted when language is the only clue!
- 9860 MADAGASCAR R Nederland relay in EG 0135, "Newsline", ID's, mx show (Krause OH 11/5)
- 9895 USA BBC relay Delano CA in EG 0359-0429*, sked, ID, TP, "Newsdesk" //6175 (Moats OH 11/29)
- 9930 HAWAII-USA KWHR Naalehu in EG 0143, sermon, ID, f-p (Wolf Ohio 11/23) relay of Radio Free Asia in Khmer 1229, ID in EG (Moats OH 12/2) ED: Moats rpts this RFA xmsn site not listed.
- 9955test USA WRMI Miami in EG 1703, tape loop guitar mx, ID, ment test xmsn, rpt rpts (Novello 11/19)
- 9965 PALAU KHBN in EG 0700, ID, translation of Bible into Mandarin, f (Findlater CA 12/6)
- 9985 PALAU KHBN in EG 1330, pgn of Christian mx, Music of Thanksgiving, ID (Rausch NJ 11/29)
- 115701 PAKISTAN RP in EG 1605, nx, tlk on waterways, fqy/sked, f/o 1616 (Fine 11/22, Newbury NE)
- 11620 TAJIKISTAN RT Dushanbe in Tajik 0256, mx pgn, frequent ments Dushanbe (D'Angelo PA 12/6)
- 11635 PHILIPPINES FEBC in EG 0933, nx, ID, mx pause, into unclear pgn, QRM (Serra ITALY 12/29)
- 11655 SOUTH AFRICA R Nederland relay in EG 1930, fqy, TP, pgn preview, "Newsline", review of the Dutch press, "Media Network" (Moats OH 11/29, Fraser MA 11/13, Renfrew NY 11/14)
- 11680nf GERMANY RVI Belgium relay Juelich in EG 1730, ID "This is Brussels calling", fqy, nx, wx rpt, "Radio World" 1735 w/tuning tips, feature on CATV nx services, mailbag, f (Moats OH 11/30)
- 11690 JORDAN R Jordan in EG 1330-1500+, 5+1 pips 1400, ID's, f-p QRM (Stewart MO, Newbury NE)
- 11710 ARGENTINA RAE in EG 0230, nx re conf on children's rights, ID (Pasquale PA, Newbury NE)
- 117341 TANZANIA RT Zanzibar in lang 1815-2000*, Mid-East type mx, relig recitations, drum mx, 5+1 pips, ID 's, AR mx (Alexander PA 11/27, D'Angelo PA 12/6, Flynn OR 11/20, Rippl VA 11/28)
- 11735 NEW ZEALAND RNZI in EG 2005, folk song re trains, ID's (Novello HATDX 11/14)
- 11740 CHINA CPBS in CH 2357, tlk in CH by YL & OM over lcl background mx (Costello NJ 11/26)
- 11755nf INDONESIA RRI in lang? 1045, lcl pops, tlk, SCI at 1058, mixing w/China (Alexander PA 11/8)
- 11787v IRAQ R Iraq Int in AR 1122, tlk, many ments of Iraq & Baghdad, AR mx, g (Alexander PA 11/13)
- 118047v BRAZIL R Globo in PT 1956, lcl mx, ID "Radio Globooooo", ads, praxer, jingles (Serra 11/17)
- 11815 BRAZIL R Brasil Central in PT 0110, tlks for 20 min+, vcl, ID, //4985, f (Ziolkowski NY 11/4) in PT 2000, live soccer game, brief jingles, ads, results of other games (Serra ITALY 11/30)
- 11835 SRI LANKA SLBC Colombo in EG 1034, Western rx, 5+1 pips, ID, nx, f (D'Angelo PA 12/5)
- 11905 NEW ZEALAND RNZI in EG 0700, ID, play-by-play of soccer game, g (Findlater CA 12/6)
- 11925 BRAZIL R Bandeirantes in PT 2031, ads, jingles, ID, polit chat, pips, wx rpt (Serra ITALY 11/17)
- 119043 CAMBODIA Nat V of Cambodia in EG *1159, flute tune, ID by YL, clobbered by Romania s/on at 1201 (Mohrman VT 11/21) in lang? 1232, vg signal (Rippl VA 11/28)
- 12085 MONGOLIA V of Mongolia Ulan Bator in CH? 1005, tlk, nx, vp (Serra ITALY 11/9)
- 12105nf GREECE V of Greece in EG/GK 1351*, GK mx, EG nx 1335, GK tlk, //15175 (Serra 11/27)

- 13610 SYRIA R Damascus in FR 1915, nx items separated by marching mx, ID's, TC, f (Clar NY 11/11)
- 13630 JAPAN R Japan Tokyo in JP 2043, EG ID 2100, tlk, piano mx, into EG 2100 (Robertson CA 12/5)
- 13730 AUSTRIA RAI Vienna in EG 1330, profile of composer Gustav Mahler, g (Fraser MA 11/16)
- 150092v VIETNAM V of Vietnam in EG 1925, music, ID, and sign off at 1928* (Price 10/3)
- 15050 INDIA AIR Aligarh in EG 1005, nx, ID, cmnty, QRM splat, p //13700, 17387 (Serra ITALY 11/30)
- 15115 ECUADOR HCJB Quito in EG 1100, "Morning Song" pgm, g, //12005 (Fraser MA 11/16)
- 15150 INDONESIA RRI Jakarta in IN 1652, lcl ID for Programa Nasional, high pips at 1700 followed by generic RRI ID and "warta berita", excellent signal prior to ionospheric disturbance (Hill MA 11/22)
- 151862v EQUATORIAL GUINEA R Africa in EG 1900-2259*, US based religious pgm, ID, promo, QTH Louisville KY, mailbag, muffled audio (Rausch NJ 11/28, Clar NY 11/15, Alexander PA 11/15)
- 15240 SOUTH AFRICA Channel Africa in EG 1657*-1800, IS, ID's in EG & PT, pips 1700, fqys, nx, stock rpts, interview re Winnie Mandela (Serra ITALY 11/18, Pasquale PA 11/27, Arnold VA 11/2)
- 15240 SWEDEN R Sweden in EG 1240, Sweden Today, pgm re Nobel Prizes (Fraser MA, Newbury NE)
- 15275nf LIBYA R Jamahiriya in AR 1920, march mx, ID, telephone audio, //15415, 15435 (Price 10/10)
- 15355nf? UNITED ARAB EMIRATES UAE Radio in EG 1630, world nx, ID (Pasquale PA 11/22)
- 15485 USA V of Greece Delano CA relay in GK 2040, pgm of sports nx, vg (Rigas IL 11/16)
- 17575 FRENCH GUIANA RFI relay in EG 1240, rpt on cost of keeping race horses, //13625 (Fraser 11/19)
- 17795 AUSTRALIA RA in EG 2118, ID, domestic nx re Australian budget, f (Robertson CA 12/5)
- 17810 ANTIGUA D Welle relay in GM 2014, tlk re WW II holocaust, Iraq problem, exc (Robertson 12/4)
- 21455usb ECUADOR HCJB Quito in EG 1320, relig and children's pgm, //12005 (Ziolkowski NY, Yajko PA)
- 21465usb COSTA RICA RFPi in EG 1859, "Continent of Media", ID, QTH, "Counter Spin", tlk re fast track trade & Iraq crisis (Moats OH 11/29) in EG 2112, tlk on China human rights, ID (Krause OH 11/15)
- 25870 USA WFLA Tampa in EG 1740, ad string for cigar shoppes in the Tampa area & pgm "Smoke This", tlk re how top Cuban cigar makers fled to Sao Tome to grow their crops, f-vg (D'Angelo PA 12/6)

CLANDESTINE STATIONS

- 6210 ERITREA R Fana in lang *0327, ID, tlks, mx, //6940, some bubble jam'g (Novello HATDX 11/13)
ED: PWBR lists R Fana as Ethiopia based in Addis Ababa.??
- 6280v IRAQ V of the Mojahed in lang 0315, playing hopscotch with a jammer, alternating with 6220 and 6250. Both the jammer and the station were extremely loud (Novello HATDX 11/14)
- 7085 ERITREA V of the Broad Masses Asmera in lang 0337, exotic mx sounding like an Arab-Indian hybrid, //5000 rising & falling under WWV & YVTO time stations (Novello HATDX 11/14)
- 7095 IRAN V of Southern Azerbaijan in lang 1648, intermittently audible thru ham QRM, tlks, very weak at first, then built to almost fair level by 1720, s/off 1731, QTH? (Hil MA 11/29)
- 9230 SIIE? V of Free Eritrea in lang *1415-1447*, Koran, vy weak, also hrd V of Truth? at *1500-1530* (Alexander PA 11/22) in lang 1415*, s/on w/4 pips, harangue by OM (Novello NC 11/17)
- 15330 GERMANY? Democratic V of Burma in Barma relay *1245, no s/on ceremonies after abrupt s/on by OM, YL joined in at 1250, fair strength with dual path echo (Hill MA 11/29)

TENTATIVE, PRESUMED, OR UNKNOWN

- 59524 BOLIVIA R Pio XII, CP 60(t) in SP 0014, regularly hrd but no definite ID (Flynn OR 12/2)
- 59858 MYANMAR R Myanmar(t) in lang 1225, uptempo song, monologue, f (Novello NC 11/19)
- 6005 GERMANY Deutschland R (p) in GM 2205, phone interview, arts feature, ID? (Stewart MO 12/8)
- 6200 IRELAND United Christian Broadcasters (p) in EG 2245, lots of contemporary Christian mx, tlk re broadcasting "right across Europe", relig tlk, covered by R Prague *0059, weak (D'Angelo PA 12/4)
- 62372 UNIDENTIFIED Unknown station (Italian?) 0415, classical-style instrum mx, maybe 20th century Russian, 5 min of nx 0501, instr theme, into "informatzone Shkode"? (Novello HATDX 11/13)
- 7235 GEORGIA(?) AWR relay in subcont lang 0328, ID's in EG & Farsi (Hill MA 11/29)
- 7370 TURKEY(p) Turkiye Polis R (p) in TK? 1640, unmistakable TK pop/dance mx just riding noise, threshold, off the air right on scheduled 1700 (Novello HATDX 11/14)
- 7740nf? FRANCE(?) RFI (p) in FR 0057-0205+, RFI IS, ID, nx 0100, spur or NF? (Alexander PA 11/15)
- 77458 ECUADOR(?) R Cristal in SP 0155-0327*, lively OA mx, tlks, ID's, f-p (D'Angelo PA 12/7)
- 9545 UNIDENTIFIED Unknown in CH *2355, someone way under DW coming on in CH, then jammed by a second very distorted CH speaker from 0000. At any rate, DW completely overwhelms both. ED: VOA Philippines in CH listed 2200-0200 and usually jammed by China(p)
- 11585 INDIA AIR Bangalore (p) in lang 1550, HD mx, 1559 a few words by YL, then off, recheck 1614, IS 1614, Islamic call to prayer 1617 in lang, no ID's, f-g (Ziolkowski NY 11/28)
- 11745 IRAN(p) VOIRI (p) in AR 0950, chat, sudden off 0951, rechecked 0954 w/tlk by same OM, AR vocals, hrd in USB sdto avoid strong splats (Serra ITALY 11/9)
- 11895 JAPAN(p) R Japan (p) in JP 0328, mx sels, chatting between sels, no ID, exc (Levison PA 11/6)
ED: R Japan is the only station on 11895 during 0300-0400 slot per PWBR 1998.
- 12090 ASIATIC RUSSIA(?) R Netherlands relay in DT 2348-2400, special on British royal family, PWBR lists Tajik site but more likely Siberia with SINPO 35433, echoes (Flynn OR 11/20)

11th Annual Winter SWL Festival

March 12-14, 1998

Holiday Inn
Sumneytown Pike
Kulpsville, Pennsylvania

"Yeah, but ours
go up to eleven..."

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

No frills; just shortwave, longwave, mediumwave, pirates, and scanning. Once again you will enjoy the camaraderie of your hobby friends.

Registration Options include:

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

GRAND PRIZE To be announced

SPECIAL Register early to win a SW portable! One free entry for an early-bird registration received by February 12, 1998.

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

Checks should be made payable to WINTER SWL FEST. Register directly with the hotel for your rooms by calling the Holiday Inn at (215) 368-3800. For 1998, one special rate \$64 single or double! Tell the hotel staff you're with the WINTER SWL FEST to receive this special room rate. Up to the minute info. can be heard on the ANARC SWL.NET on 7240 LSB at 10 AM Sundays.

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

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

Winter SWL Festival
PO Box 591
Colmar, PA 18915

Name _____

Address _____

City _____ E-Mail: _____

Circle: FULL PARTIAL SPOUSE (Spouse Name _____)

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

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

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

Registration cancellations after 2/28/98 cannot be refunded, however we will refund raffle ticket money if you have to cancel.

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

Company Store

Kris Field
705 Gregory Drive
Horsham, PA 19044
Genie: K.FIELD4
Internet: k.field4@genie.com

All s/h charges for the following items are included unless otherwise noted. Write for shipping and handling costs for orders shipped outside North America.

Publications

<i>Shortwave Listening Guidebook</i> by Harry Helms. Covers equipment, antennas, propagation, station profiles, utilities, clandestines, QSL'ing, etc. 315 pages.	\$19.95 +2.00 s/h
<i>Secrets of Successful QSL'ing</i> by Gerry Dexter. The complete guide to Reception Reports and QSL collecting. 125 pages.	\$12.95 +1.00 s/h
<i>Limited Space Antenna Solutions</i> by Frank P. Hughes. Covers the random wire, dipole, vertical, outdoor, loft and indoor antennas, antenna tuners, and grounds.	\$10.00 +1.00 s/h
<i>Inside Your Shortwave Radio</i> by Ted Benson. Companion to your receiver's instruction manual, filling in what your manual leaves unclear.	\$13.95 +2.00 s/h
<i>NASWA Country List and Awards Program Booklet</i>	\$2.00
<i>The System</i> Masters for Log Book, QSL Reports, Program Notes, and QSL Log.	\$2.00
<i>Propagation Predictor</i> Divides the year into 27-day segments for tracking solar patterns.	\$2.00
<i>Spectrum Log</i> Covers Tropical and International bands.	\$8.50
<i>NASWA Reprints Catalog</i> A catalog of 800+ pages of info available from past NASWA issues.	\$2.00
<i>Joe Carr's Receiving Antenna Handbook</i> A complete guide for high performance antennas from longwave all the way to the upper end of the shortwave spectrum.	\$19.95 +2.00 s/h
<i>QSL Signers</i> by Al Quaglieri. This is the most comprehensive and up-to-date list of verification signers names, titles, and addresses available anywhere!	\$3.00 PP NA \$5.00 elsewhere
<i>Language Lab</i> by Gerry Dexter et al. Guides to reception report writing. Editions available for Spanish, French, Portuguese, and Indonesian. Tiare Publications.	\$12.00 Each +1.00 s/h
<i>Tapes: Interval Signals from Africa or Asia:</i> by Harold Hausenfluck, "Hausie"; WB4JSP: Each tapedigitally mastered approx 90 minutes of ID, Interval Signal & program detail. Asia contains 23 countries/32 stations; Africa contains 20 countries. Excellent job!	\$10.00 Each +1.00 s/h
<i>T-Shirts (2 types):</i> One displays all 12 of The Journal's covers. Two displays "The World On Shortwave", a past cover. In stock we have 4 Adult M, 1 Adult L. Nice quality; we'll order more if demand exceeds supply. please indicate size w/ order	\$10.00 Each +2.00 s/h

Make checks payable in U.S. funds to "The NASWA Company Store."



North American Shortwave Association
45 Wildflower Road
Levittown, Pennsylvania, 19057

First Class Mail
U.S. Postage
PAID
Levittown, PA
Permit No. 319

FIRST CLASS MAIL



ISSN 0160-1989

The Journal of the
North American Shortwave Association

Executive Director: Richard A. D' Angelo, 2216
Burkey Dr., Wyomissing, PA 19610

Publisher / Business Manager: Bill Oliver, 45
Wildflower Road, Levittown, PA 19057

Executive Council: Jerry Berg, Ralph Brandi,
Bob Brown, Dr. Harold Cones, Rich D' Angelo,
Kris Field, Bill Oliver

EDITORIAL STAFF

Managing Editor: Dr. Harold Cones, 2 Whits
Court, Newport News, VA 23606

Desktop Publishing/Graphics: Ralph Brandi,
6 Juneau Court., Tinton Falls, NJ 07712

Shortwave Center: Hans Johnson, 206-A South
Loop 336 West #231, Conroe TX 77304

Easy Listening: Richard Cuff, 1016 Chestnut
Ridge Drive, Timonium, MD 21093-1716

Listener's Notebook: Al Quaglieri, P.O. Box
888, Albany, NY 12201-0888

Technical Topics: Joe Buch, N2JB, P.O. Box
1552, Ocean View, DE 19970-1552

QSL Report: Sam Barto, 47 Prospect Place,
Bristol, CT 06010

Distributing Editor: Fred S. Kohlbrenner, 2641
S. Shields St., Philadelphia, PA 19142

Tropical Band Loggings: Sheryl Paszkiewicz,
P.O. Box 152, Manitowoc, WI 54221-0152

International Band Loggings: Wallace C.
Treibel, 357 N.E. 149th St., Seattle, WA 98155

Net Notes: Tom Sundstrom, W2XQ P.O. Box 2275,
Vincentown, NJ 08088-2275

Scoreboard: Jerry Lineback, 220 West Third,
Garnett, KS 66032

NASWA Awards: Dr. Harold Cones, 2 Whits
Court, Newport News, VA 23606

English Schedules: Mark J. Fine, 11252
Cardinal Drive, Remington, VA 22724-2032

Listener's Library: Skip Arey, WB2GHA
P.O. Box 644, Waterford Works, NJ 08089

Destinations: Don Moore, 11434 140th St.,
Davenport, IA 52804-9538

Equipment Reviews: Alan Johnson, N4LUS
2490 Sharon Way, Reno, NV 89509

The Company Store: Kris Field, 705 Gregory
Dr., Horsham, PA 19044

MEMBERSHIP FEES:

United States (First Class Mail)	\$26.00
Canada & Mexico (First Class Mail)	\$27.00
Overseas (ISAL Mail):	
<i>Central & South America and Europe</i>	\$30.00
<i>Asia, Africa and Pacific</i>	\$32.00
Overseas (Air Mail):	
<i>Central & South America and Europe</i>	\$36.00
<i>Asia, Africa and Pacific</i>	\$42.00

All remittances must be in U.S. funds and mailed to:

NASWA
45 Wildflower Road
Levittown, PA 19057
U.S.A.

NASWA  <http://www.anarc.org/naswa/>

