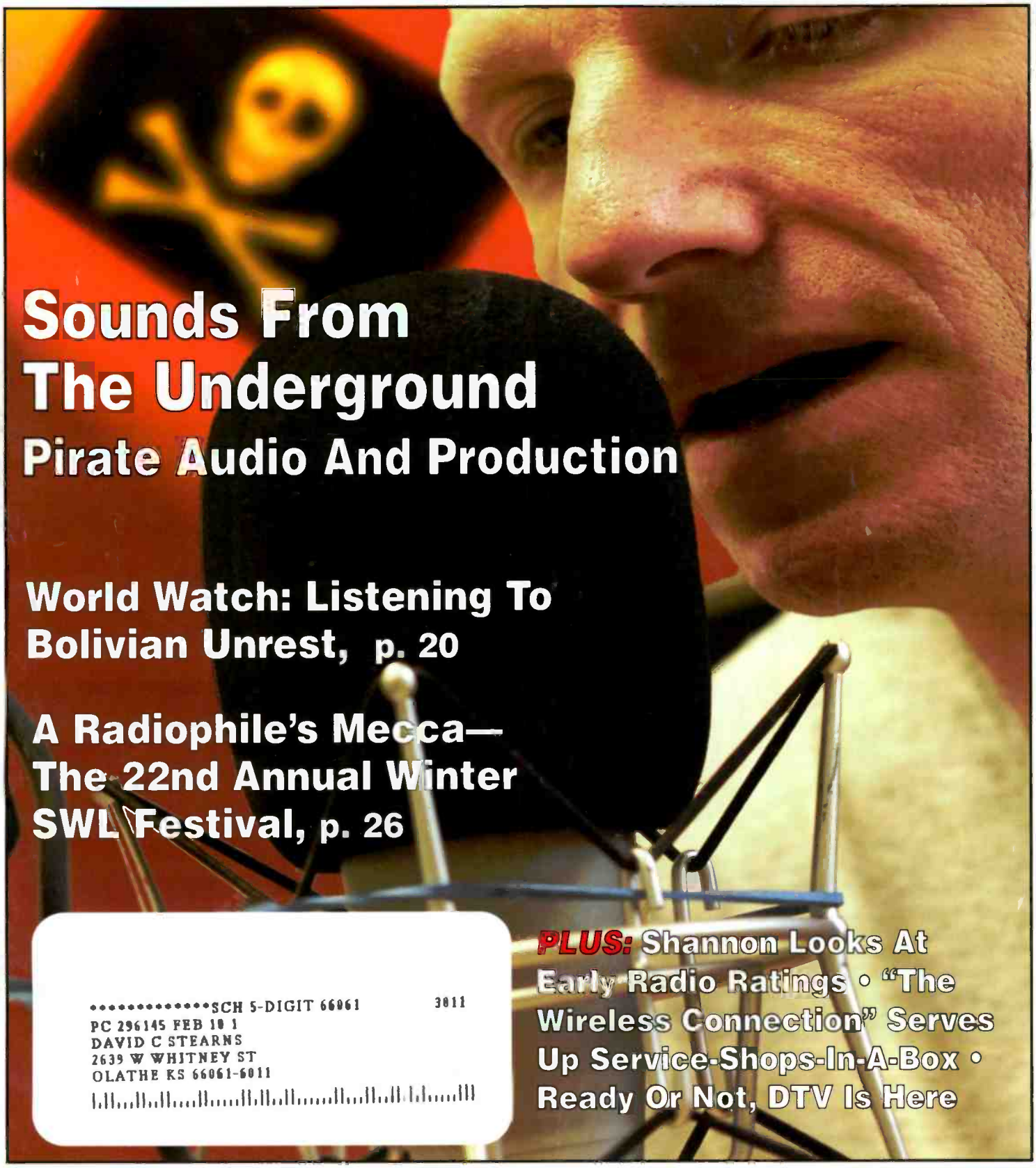
FEBRUARY 2009

POPULAR COMMUNICATIONS

Shortwave Listening • Scanning • AM & FM • Radio History



Sounds From The Underground

Pirate Audio And Production

World Watch: Listening To Bolivian Unrest, p. 20

A Radiophile's Mecca— The 22nd Annual Winter SWL Festival, p. 26

PLUS: Shannon Looks At Early Radio Ratings • "The Wireless Connection" Serves Up Service-Shops-In-A-Box • Ready Or Not, DTV Is Here

••••••••••••SCH 5-DIGIT 66061 3011
PC 296145 FEB 10 1
DAVID C STEARNS
2639 W WHITNEY ST
OLATHE KS 66061-6011

THE PROFESSIONAL STANDARD

The compact desk-top VR-5000 is Yaesu's most versatile Communications Receiver ever! With ultra-wide frequency coverage and a host of operating features, you'll be on top of the monitoring action with the VR-5000!

- CONTINUOUS FREQUENCY COVERAGE: 100 kHz~2.6 GHz / LSB, USB, CW, AM-Narrow, AM, Wide AM, FM-Narrow, and Wide FM (cellular frequencies are blocked)
- 2000 MEMORY CHANNELS / 100 MEMORY GROUPS
- DUAL RECEIVE
- DIGITAL SIGNAL PROCESSING / BANDPASS FILTER, NOISE REDUCTION, NOTCH FILTER, NARROW CW PEAK FILTER (Optional DSP-1 requires)
- REAL-TIME SPECTRUM SCOPE
- WORLD CLOCK WITH UTC/LOCAL SETTINGS
- PRESET SHORTWAVE BROADCAST STATION MEMORY BANK
- EXTENSIVE SCANNING CAPABILITY/SMART SEARCH™
- AND MUCH, MUCH MORE. . .

● "RF Tune" Front-end Preselector (1.89-1000 MHz) ● 20 dB Attenuator for strong signal environments ● IF Noise Blanker ● DVS-4 Digital Voice Recorder (option) with two memories of up to 8 seconds each ● 10.7 MHz IF Output Jack ● Field Strength Meter ● Audio Tone Control ● All-Mode Squelch Control for silent monitoring ● Password-protected Panel and Dial "Lock" feature ● Display Dimmer/Contrast Control ● Clone Capability for copying memory information from one VR-5000 to another ● Personal Computer Interface Port ● Two Antenna Ports ● Audio Wave Meter provides display of incoming signal's wave characteristics

COMMUNICATIONS RECEIVER

VR-5000

0.1~2599.99998MHz*
LSB/USB/CW/AM-N/AM/WAM/FM-N/WFM
*Cellular blocked

Enjoy the wide world of communications monitoring with the action-packed VR-5000, available from your Yaesu Dealer today!

All-Mode Wideband Receiver

VR-500

- Frequency coverage : 0.1-1299.99995 MHz**
- Modes : NFM,WFM,AM,USB, LSB, CW
- Multiple Power Source Capability
- Polycarbonate Case
- Real-Time 60-ch* Band Scope *Range 6 MHz / Step 100 kHz
- Full Illumination For Display And Keypad
- Convenient "Preset" Operating Mode
- Front-end 20 dB Attenuator

A TECHNOLOGY BREAKTHROUGH

50/144/(222)*/430 MHz
FM 5 W/AM 1 W(50 MHz) Triple Band Handheld

VX-8R

*222 MHz: 1.5 W (USA version)

- All-in-one High-performance Tri-Band Transceiver with GPS/APRS® Operation *1
- Bluetooth® for Hands-free Operation *1
- Barometric Pressure and Temperature Sensors
- Waterproof/Submersible IPX7 rated – 3 feet for 30 minutes
- Dual Ham band Operation (V+V/U+U/V+U) while listening to AM/FM Broadcasts
- Wideband Receive for 500 kHz-999.99 MHz *2
- Completely independent AM/FM receiver included!
- Internal Bar Antenna for better AM Broadcast Band reception.
- Enjoy FM broadcasts in stereo, with your stereo headset/earphone!
- Optional 1 watt operation, using three AA batteries *1
- A large LCD backlit display in a compact case!
- Up to 9 hours *3 of Amateur Band operation with the optional FNB-102LI, high capacity Lithium-ion Battery.

*1 With optional accessories
*2 Cellular Blocked per FCC rule Part 15.121, may not receive 900 MHz Amateur band
*3 Assuming a duty cycle of 6-second transmit, 6-second receive, and 48-second standby (50 MHz 5 W)
* APRS® Is a registered trademark of Bob Bruninga WB4APR.

YAESU
Choice of the World's top DX'ers™

Vertex Standard
US Headquarters
10900 Walker Street
Cypress, CA 90630 (714)827-7600

For the latest Yaesu news, visit us on the Internet:
http://www.vertexstandard.com

Specifications subject to change without notice. Some accessories and/or options may be standard in certain areas. Frequency coverage may differ in some countries. Check with your local Yaesu Dealer for specific details.

Universal Radio — Quality equipment since 1942.

etón E1 & E1 XM

OPTION

The **etón E1 XM** is the world's first radio that combines AM, FM, shortwave and XM Satellite radio into one ultra high-performance unit. The E1 is an elegant confluence of performance, features and capabilities. The look, feel and finish of this radio is superb. The digitally synthesized, dual conversion shortwave tuner covers all shortwave frequencies. Adjacent frequency interference can be minimized or eliminated with a choice of three bandwidths [7.0, 4.0, 2.5 kHz]. The sideband selectable Synchronous AM Detector further minimizes adjacent frequency interference and reduces fading distortion of AM signals. IF Passband Tuning is yet another advanced feature that functions in AM and SSB modes to reject interference. AGC is selectable at fast or slow. High dynamic range permits the detection of weak signals in the presence of strong signals. All this coupled with great sensitivity will bring in stations from every part of the globe. Organizing your stations is facilitated by 500 user programmable presets with alpha labeling, plus 1200 user definable country memories, for a total of 1700 presets. You can tune this radio many ways such as: direct shortwave band entry, direct frequency entry, up-down tuning and scanning. Plus you can tune the bands with the good *old fashioned* tuning knob (that has *new fashioned* variable-rate tuning). There is also a dual-event programmable timer. Whether you are listening to AM, shortwave, FM or XM, you will experience superior audio quality via a bridged type audio amplifier, large built in speaker and continuous bass and treble tone controls. Stereo line-level output is provided for recording or routing the audio into another device such as a home stereo. The absolutely stunning LCD has 4 levels of backlighting and instantly shows you the status of your radio.

Many receiver parameters such as AM step, FM coverage, beep, kHz/MHz entry etc., can be set to your personal taste via the preference menu. The E1 has a built in telescopic antenna for AM, shortwave and FM reception. There is a switchable antenna jack [KOK] for an external antenna. Universal also sells a PL259 to KOK antenna jack adapter (*#1052* $14.95) as well as a sturdy angled Lucite radio stand (*#3873* $16.95).

The E1 XM comes with an AC adapter or may be operated from four D cells (not included). 13.1"W x 7.1"H x 2.3"D Weight: 4 lbs. 3 oz.

E1 XM *Order #0101* **$419.95**

We are also pleased to offer the basic **E1** without XM upgradeability at $20.00 less.

E1 *Order #0301* **$399.95**

GRUNDIG Satellit 750

The **Grundig Satellit 750** is an exciting new portable that brings the world to you! You will get complete coverage of all long wave, medium wave and shortwave frequencies as well as FM (stereo to the earphone jack). Plus the Satellit 750 also receives the VHF aeronautical band (118-137 MHz). Your shortwave coverage includes the reception of the single sideband (SSB) mode allowing the reception of ham radio operators, maritime and shortwave aeronautical stations. You can select either wide or narrow selectivity to reduce co-channel interference. You can tune your favorite stations by the conventional tuning knob, quick keypad entry or via the 1000 memories. Two speed tuning (1 and 5 kHz) increments are available. And you will enjoy the fidelity you have come to expect from Grundig enhanced by separate bass and treble controls. The radio features both an Earphone Jack and a Line Output Jack. The built in 24 hour clock has a dual alarm and sleep feature. This radio can simultaneously display the frequency and the time on the large backlit LCD. It will also indicate external/internal antenna selection, battery status, selectivity setting, memory, selected bandwidth and attenuator status. Long distance medium wave (AM band) reception is possible because of the built-in 360° rotatable, directional ferrite antenna. External antennas may also be attached. 14.65 x 7.24 x 5.75 inches. One year limited manufacturer's warranty.

List $400.00 *Order #0750* **$299.95**

AUDIOVOX CNP2000

The Eton E1 XM is XM ready, so you may purchase the Audiovox CNP2000DUO XM antenna module at any time. It has a 25 foot cable.

CNP2000DUO *Order #0072* **$58.95**

Note: The CNP2000 DUO antenna module and XM subscription are sold separately. Activation and monthly subscription fee required for XM.

Purchase your Eton E1 from Universal Radio for a limited time and receive a FREE Grundig YB-300PE with your order!

YB-300PE

The **Grundig YB-300PE** *Professional Edition* covers: AM, FM and shortwave from 2.3-7.8 and 9.1-26.1 MHz. Tune via direct keypad entry, 24 memories, band button, scanning plus Up and Down tuning. The YB-300 PE features a large backlit LCD, 24 Hour Clock, DX-Local Switch, sleep timer, external antenna jack and earphone jack. With AC adapter, carrying case & strap, stereo earphones. Operates from three AA cells. Titanium colored case 5.9 x 3.5 x 1.25" 13 oz.

Also available for purchase separately at **$49.98** (*#0300*).

universal radio inc.

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 Line
dx@universal-radio.com

www.universal-radio.com

Visit our website for more exciting new *and* used shortwave radios.

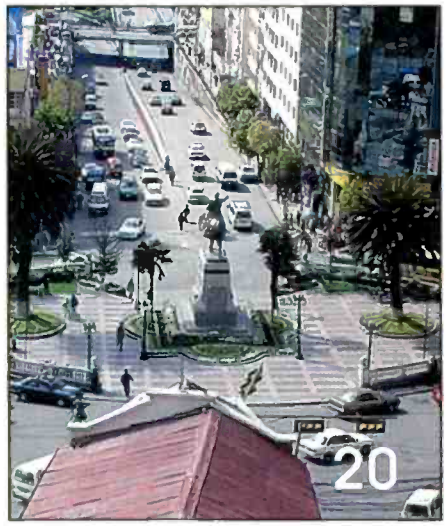
- Visa
- MasterCard
- Discover
- JCB

- Prices and specs. are subject to change.
- Special offers are subject to change.
- Returns subject to a 15% restocking fee.
- Prices shown do not include shipping.

POPULAR COMMUNICATIONS

FEBRUARY 2009
VOLUME 27, NUMBER 6

CONTENTS



FEATURES

12 **Making Radio—Pirate Style, Part 2: Audio And Production**
The Elements Of Sound Behind The Broadcast
by Andrew Yoder

20 **World Watch: Listening To Bolivia**
From Its Andean Heights To Amazonian Rainforests, Instability Afflicts This Beautiful Land
by Gerry Dexter

26 **Come One, Come All To The 22nd Annual Winter SWL Festival**
The Kulpsville Tradition Continues...
by Richard A. D'Angelo

FEATURED COLUMNS

54 **Broadcast Technology**
Digital TV—Ready Or Not, Here It Comes!
by Bruce A. Conti

69 **Shannon's Broadcast Classics**
Early Radio Ratings
by Shannon Huniwell

74 **The Wireless Connection**
Hickok's Amazing "Indicating Traceometer" And Other Service-Shops-In-A-Box!
by Peter J. Bertini

ON THE COVER

In the second installment of our multi-part series on pirate radio stations, *Pop'Comm* looks at the elements of sound favored by some of broadcasting's famous rogues. See "Making Radio—Pirate Style, Part 2: Audio And Production" by Andrew Yoder, starting on page 12. (Cover photo by Larry Mulvehill, WB2ZPI)

COLUMNS

10 **Horizons**
What You'll Soon Be Buying
by Rob de Santos

28 **ScanTech**
Scanning The Skies
by Ken Reiss

36 **Military Radio Monitoring**
MacDill Air Force Base—A Long And Proud History
by Mark Meece, N8ICW

42 **World Band Tuning Tips**
World News, Commentary, Music, Sports, And Drama At Your Fingertips

46 **Global Information Guide**
Pre-Spring Band Stirrings, O (No) Canada, And Romania Adds A Transmitter
by Gerry L. Dexter

57 **Homeland Security**
What's New In Homeland Security And A *Pop'Comm* Salute
by Mitch Gill, NA7US

62 **Ham Discoveries**
Say Something—It's *Talk* Radio!
by Kirk Kleinschmidt, NTØZ

65 **The Propagation Corner**
Storm-triggering Holes
by Tomas Hood, NW7US

78 **Utility Communications Digest**
Just The Fax, Ma'am! Tuning In On HF Facsimile Transmissions
by John Kasupski, KC2HMZ

84 **The Loose Connection**
Friends, Excelsior, And The Elusive Wiring Diagram
by Bill Price, N3AVY

DEPARTMENTS

4 **Tuning In**
An Editorial

6 **Newsworthy**
Unwired, InfoCentral, And Washington Beat

41 **Radio Fun**
Trivia And Toons

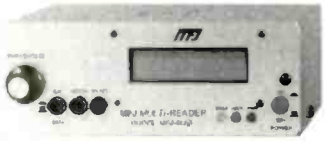
44 **Power Up**
Radios & High-Tech Gear

61 **Our Readers Speak Out**
Letters

Tap into secret Shortwave Signals

Turn mysterious signals into exciting text messages with the MFJ MultiReader™!

MFJ-462B
$199.95



Plug this self-contained MFJ *MultiReader*™ into your shortwave receiver's earphone jack.

Then *watch* mysterious chirps, whistles and buzzing sounds of RTTY, ASCII, CW and AMTOR (FEC) turn into exciting text messages as they scroll across an easy-to-read LCD display.

You'll *read* interesting commercial, military, diplomatic, weather, aeronautical, maritime and amateur traffic . . .

Eavesdrop on the World

Eavesdrop on the world's press agencies transmitting *unedited* late breaking news in English -- China News in Taiwan, Tanjug Press in Serbia, Iraqui News in Iraq -- all on RTTY.

Copy RTTY weather stations from Antarctica, Mali, Congo and many others. Listen to military RTTY passing traffic from Panama, Cyprus, Peru, Capetown, London and others. Listen to hams, diplomatic, research, commercial and maritime RTTY.

Listen to maritime users, diplomats and amateurs send and receive *error-free* messages using various forms of TOR (Telex-Over-Radio).

Monitor Morse code from hams, military, commercial, aeronautical, diplomatic, maritime -- all over the world -- Australia, Russia, Japan, etc.

Monitor any station 24 hours a day by printing transmissions. Printer cable, **MFJ-5412, $11.95.**

Save several pages of text in memory for later reading or review.

High Performance Modem

MFJ's high performance *PhaseLockLoop*™ modem consistently gives you solid copy -- even with weak signals buried in noise. New threshold control minimizes noise interference -- greatly improves copy on CW and other modes.

Easy to use, tune and read

It's easy to use -- just push a button to select modes and features from a menu.

It's easy to tune -- a precision tuning indicator makes tuning your receiver easy for best copy.

It's easy to read -- front-mounted 2 line 16 character LCD display has contrast adjustment.

Copies most standard shifts and speeds. Has MFJ *AutoTrak*™ Morse code speed tracking.

Use 12 VDC or use 110 VAC with MFJ-1312D AC adapter, $15.95. 5¼Wx2½Hx5¼D inches.

WiFi Yagi Antenna -- 15 dBi 16-elements extends range

MFJ-1800
$29.95

16-element, 15 dBi WiFi Yagi antenna greatly extends range of 802.11b/g, 2.4 GHz WiFi signals. 32 times stronger than isotopic radiator. Turns slow/no connection WiFi into fast, solid connection. Highly directional -- minimizes interference.

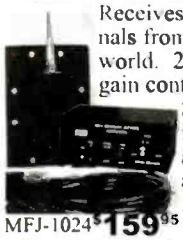
N-female connector. Tripod screw-mount. Wall and desk/shelf mounts. Use vertically/horizontally. 18Wx2¾Hx1¼D inches. 2.9 ounces.

MFJ-5606SR, $24.95. Cable connects MFJ-1800/WiFi antennas to computer. Reverse-SMA male to N-male, 6 ft. RG-174.

MFJ-5606TR, $24.95. Same as MFJ-5606SR but Reverse-TNC male to N-male.

Super Active Antenna

"World Radio TV Handbook" says MFJ-1024 is a *"first-rate easy-to-operate active antenna ...quiet... excellent dynamic range... good gain... low noise... broad frequency coverage."* Mount it outdoors away from elec- trical noise for maximum signal, minimum noise. Covers 50 KHz-30 MHz.



Receives strong, clear signals from all over the world. 20 dB attenuator, gain control, ON LED. Switch two receivers and auxilary or active antenna. 6x3x5 in. Remote has 54" whip, 50 feet coax. 3x2x4 inches. 12 VDC or 110 VAC with MFJ-1312, $15.95.

MFJ-1024 **$159.95**

Indoor Active Antenna

Rival outside long wires with this *tuned* indoor active antenna. *"World Radio TV Handbook"* says MFJ-1020C is a *"fine value... fair price... best offering to date... performs very well indeed."*

MFJ-1020C
$99.95

Tuned circuitry minimizes intermod, improves selectivity, reduces noise outside tuned band. Use as a preselector with external antenna. Covers 0.3-30 MHz. Tune, Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip. 5x2x6 in. Use 9 volt battery, 9-18 VDC or 110 VAC with MFJ-1312, $15.95.

Compact Active Antenna

Plug this *compact* MFJ all band active antenna into your receiver and you'll hear strong, clear signals from all over the world, 300 KHz to 200 MHz including low, medium, shortwave and VHF bands. Detachable 20" telescoping antenna. 9V battery or 110 VAC MFJ-1312B, $15.95. 3¼x1¼x4 in.

MFJ-1022
$69.95

Eliminate power line noise!

MFJ-1026
$199.95

Completely eliminate power line noise, lightning crashes and interference *before they get into your receiver!* Works on all modes -- SSB, AM, CW, FM, data -- and on all shortwave bands. Plugs between main external antenna and receiver. Built-in active antenna picks up power line noise and cancels undesirable noise from main antenna. Also makes excellent active antenna.

MFJ Antenna Matcher

Matches your antenna to your receiver so you get maximum signal and minimum loss.

MFJ-959C
$119.95

Preamp with gain control boosts weak stations 10 times. 20 dB attenuator prevents overload. Select 2 antennas and 2 receivers. 1.6-30 MHz. 9x2x6 in. Use 9-18 VDC or 110 VAC with MFJ-1312, $15.95.

High-Gain Preselector

High-gain, high-Q receiver preseletor covers 1.8-54 MHz. Boost weak signals 10 times with low noise dual gate MOSFET. Reject out-of-band signals and images with high-Q tuned circuits. Push buttons let you select 2 antennas and 2 receivers. Dual coax and phono connectors. Use 9-18 VDC or 110 VAC with MFJ-1312, $15.95.

MFJ-1045C
$89.95

Dual Tunable Audio Filter

Two separately tunable filters let you peak desired signals and notch out interference at the same time. You can peak, notch, low or high pass signals to eliminate heterodynes and interference. Plugs between radio and speaker or phones. 10x2x6 inches.

MFJ-752C
$119.95

MFJ Shortwave Headphones

MFJ-392B
$24.95

Perfect for shortwave radio listening for all modes -- SSB, FM, AM, data and CW. Superb padded headband and *ear cushioned* design makes listening extremely comfortable as you listen to stations all over the world! High-performance driver unit reproduces enhanced communication sound. Weighs 8 ounces, 9 ft. cord. Handles 450 mW. Frequency response is 100-24,000 Hz.

High-Q Passive Preselector

High-Q passive LC preselector boosts your favorite stations while rejecting images, intermod and phantom signals. 1.5-30 MHz. Preselector bypass and receiver grounded positions. Tiny 2x3x4 in.

MFJ-956
$69.95

Super Passive Preselector

Improves any receiver! Suppresses strong out-of-band signals that cause intermod, blocking, cross modulation and phantom signals. Unique Hi-Q series tuned circuit adds super sharp front-end selectivity with excellent stopband attenuation and very low passband attenuation and very low passband loss. Air variable capacitor with vernier. 1.6-33 MHz.

MFJ-1046
$119.95

MFJ Shortwave Speaker

This MFJ *ClearTone*™ restores the broadcast quality sound of shortwave listening. Makes copying easier, enhances speech, improves intelligibility, reduces noise, static, hum. 3 in. speaker handles 8 Watts. 8 Ohm impedance. 6 foot cord.

MFJ-281
$12.95

MFJ All Band Doublet

102 ft. all band doublet covers .5 to 60 MHz. Super strong custom fiberglass center insulator provides stress relief for ladder line (100 ft.). Authentic *glazed ceramic* end insulators and heavy duty 14 gauge 7-strand copper wire.

MFJ-1777
$59.95
Ship Code A

MFJ Antenna Switches

MFJ-1704
$79.95

MFJ-1702C
$39.95

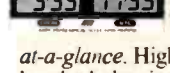
MFJ-1704 heavy duty antenna switch lets you select 4 antennas or ground them for static and lightning protection. Unused antennas automatically grounded. Replaceable lightning surge protection. Good to 500 MHz. 60 dB isolation at 30 MHz. **MFJ-1702C** for 2 antennas.

Morse Code Reader

Place this pocket-sized MFJ Morse Code Reader near your receiver's speaker. Then watch CW turn into solid text messages on LCD. Eavesdrop on Morse Code QSOs from hams all over the world!

MFJ-461
$89.95

MFJ 24/12 Hour Station Clock



MFJ-108B, $21.95. Dual 24/12 hour clock. Read UTC/local time *at-a-glance.* High-contrast 5/8" LCD, brushed aluminum frame. Batteries included. 4½Wx1Dx2H inches.

Dealer/Catalog/Manuals

Visit: http://www.mfjenterprises.com or call toll-free 800-647-1800

• 1 Year *No Matter What*™ warranty • 30 day money back guarantee (less s/h) on orders direct from MFJ

MFJ ENTERPRISES, INC.
300 Industrial Pk Rd, Starkville, MS 39759 **PH:** (662) 323-5869
Tech Help: (662) 323-0549
FAX:(662)323-6551 8-4:30 CST, Mon.-Fri. ***Add shipping.***

Prices and specifications subject to change. (c) *2008 MFJ Enterprises, Inc.*

POPULAR COMMUNICATIONS

EDITORIAL STAFF

Edith Lennon, N2ZRW, Editor
(E-mail: editor@popular-communications.com)
Richard S. Moseson, W2VU, Editorial Director
(E-mail: w2vu@popular-communications.com)

CONTRIBUTING EDITORS

Peter J. Bertini, K1ZJH, Restoration/Electronics
Kent Britain, WA5VJB, Antennas And Accessories
Bruce A. Conti, AM/FM Broadcasts
Rob de Santos, Trends In Technology
Gerry L. Dexter, Shortwave Broadcast
Richard Fisher KI6SN, Capitol Hill News
Mitch Gill, NA7US, Homeland Security
Tomas Hood, NW7US, Propagation
Shannon Huniwell, Classic Radio
John Kasupski, KC2HMZ, UtilityComm/EmComm
Kirk Kleinschmidt, NTØZ, Amateur Radio
Mark Meece, N8ICW, Military Monitoring
D. Prabakaran, News
Bill Price, N3AVY, Humor/Communications
Ken Reiss, Technical/Scanning
Dan Srebnick, K2DLS, Computers And Radio
Bob Sturtevant, AD7IL, Puzzles And Trivia
Tom Swisher, WA8PYR, Civil Aviation
Jason Togyer, KB3CNM, Cartoons
Gordon West, WB6NOA, General Radio Comm.

BUSINESS STAFF

Richard A. Ross, K2MGA, Publisher
Arnold Sposato,N2IQO, Advertising Manager
Emily Leary, Sales Coordinator
Sal Del Grosso, Accounting Manager
Doris Watts, Accounting Department

CIRCULATION STAFF

Melissa Gilligan, Operations Manager
Cheryl DiLorenzo, Customer Service Manager
Ann Marie Auer, Customer Service

PRODUCTION STAFF

Elizabeth Ryan, Art Director
Barbara McGowan, Associate Art Director
Dorothy Kehrwieder, Production Director
Emily Leary, Production Manager/Webmaster
Hal Keith, Technical Illustrator
Larry Mulvehill, WB2ZPI, Photographer

A publication of

CQ Communications, Inc.
25 Newbridge Road
Hicksville, NY 11801-2953 USA

Popular Communications (ISSN-0733-3315), Vol. 27, No. 6, published monthly by CQ Communications, Inc., 25 Newbridge Road, Hicksville, NY 11801. Telephone (516) 681-2922. FAX (516) 681-2926. Web Site:<http://www.popular-communications.com/> Periodicals Postage Paid at Hicksville, NY and at additional mailing offices. Subscription prices (payable in U.S. dollars): Domestic—one year $32.95, two years $58.95, three years $85.95. Canada/Mexico—one year $42.95, two years $78.95, three years $115.95. Foreign Air Post—one year $52.95, two years $98.95, three years $145.95.

U.S. Government Agencies: Subscriptions to Popular Communications are available to agencies of the United States government, including military services, only on a cash with order basis. Requests for quotations, bids, contracts, etc. will be refused and will not be returned or processed.

Entire contents copyright © 2009 by CQ Communications, Inc. Popular Communications assumes no responsibility for unsolicited manuscripts, photographs, or drawings. Allow six weeks for change of address or delivery of first issue.

Printed in the United States of America.
POSTMASTER: Send address changes to Popular Communications, 25 Newbridge Road, Hicksville, NY 11801.

EDITORIAL
Tuning In

An Open Letter To The President-Elect

by Edith Lennon, N2ZRW
editor@popular-communications.com

The following was published on November 19, 2008, by FreeMediaOnline.org on its blog (http://freemediaonline.org/freemediaonlineblog/). It is succinct and timely, and we makes some excellent points. It is printed here with permission.

A Thanksgiving Message To President-Elect Barack Obama

And to all those watching tonight from beyond our shores, from parliaments and palaces, to those who are huddled around radios in the forgotten corners of the world, our stories are singular, but our destiny is shared, and a new dawn of American leadership is at hand.—Barack Obama Acceptance Speech, November 4, 2008?

The above quote from your acceptance speech is absolutely correct: for years people from beyond our shores have huddled around their radios in distant forgotten corners of the world to hear America's message. Many did so at their peril. They still try to do so.

Perhaps with that in mind, you issued a plea, on the eve of the Iowa caucus, to the people of Kenya to stop the violence that erupted in the wake of the country's disputed presidential election. To reach the maximum number of people in your father's homeland, you issued that plea for stability through America's global voice to the world, the Voice of America. And you did so on the most reliable medium to reach the greatest number of people in that area of the world: radio.

Unfortunately, over the past decade, that proud and inspiring global voice has become but a whisper and, in its wake, the prestige of the United States of America has plummeted.

How did VOA's disintegration happen? Dissolved during the last two administrations, there are no longer any substantive Voice of America broadcasts to much of Eastern Europe even though those countries in transition to democracy were and are in dire need of information about America and the world.

Despite an outcry from thousands of listeners who depend on VOA for news and information, there is no longer any Voice of America radio to India because the Broadcasting Board of Governors recently terminated broadcasting in Hindi.

Most egregious, the people in Russia now have no radio broadcasting communication with America through VOA because the Broadcasting Board of Governors ceased all VOA Russian broadcasts on the eve of the Russian attack on Georgia in August, leaving only the Internet for the relatively small number of people who have access to computers. Do the people of Russia still need objective and credible information from America? The answer is yes and especially now with a more emboldened and aggressive Russian leadership on the scene.

Your story, as outlined in your acceptance speech, is America's story. How sad that Russians could not hear and be inspired by that story on VOA Russian radio which had carried presidential speeches live in Russian translation over many years.

Fortunately, through the concerted efforts of those who still care in this country, VOA radio broadcasts to Ukraine, Georgia, Tibet, and many other languages marked for elimination in September '08 were spared the guillotine, at least for the time being.

Why and how was the VOA muted? The answer: unfortunate mistakes by successive administrations, one Democrat, one Republican. Since 1999, all decision-making power has been vested in the Broadcasting Board of Governors whose compounded errors have diminished the U.S. broadcasting voice to the world.

As your new administration embarks on possibly turbulent seas, we encourage your transition team to go beyond the rehashed, perhaps rosy facts and statistics inevitably served up by the outgoing team, just as the

(Continued on page 56)

KENWOOD

Listen to the Future

EchoLink® Ready

TM-V71A

Large dual color amber or green thirteen segment LCD.

With the Kenwood TM-V71A you have a choice of where you want your speaker, on the top or on the bottom of the radio. Simply remove the faceplate and flip the main body, then reattach the face, it's that simple! Yet another Kenwood 1st this dual band transceiver has ten dedicated EchoLink® memory channels as well as EchoLink sysop-mode operation. EchoLink connection to your PC via the optional PG-5H cable kit is easy with no expensive interface needed.

EchoLink® is a registered trademark of Synergenics, LLC. For more information please see www.echolink.org.

KENWOOD U.S.A. CORPORATION
Communications Sector Headquarters
3975 Johns Creek Court, Suite 300, Suwanee, GA 30024-1265
Customer Support/Distribution
P.O. Box 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745
Customer Support: (310) 639-4200 Fax: (310) 537-8235

www.kenwoodusa.com

ISO9001 Registered

The Weirder Side Of Wireless

by Staff

Pocket Full Of Miracles

A Covington, Louisiana, man credits his cell phone with saving his life after a stray .45-caliber bullet with his name on it found its mark. Sixty-eight-year-old R.J. Richard was mowing his lawn when he was struck in the chest. He initially believed a stone kicked out by his tractor had hit him, but when he pulled his phone from his pocket, it fell apart. Though bruised, it could have been much worse for Richard. His doctors told him he was spared serious injury, even death, by two things: his phone, and the fact that the bullet's trajectory was at an angle rather than head-on. Richard believes the bullet was likely fired by a hunter in woods near his home, but he's sure that God told him to put the phone in his overalls chest pocket that day, rather than in a pants pocket as usual.

Switch To Digital TV For The Birds

To allay concerns for the well being of an endangered bird, most of the State of Hawaii moved its changeover to digital TV to January 15, more than a month ahead of the nationwide FCC-mandated conversion date of February 17, 2009. Wildlife authorities recommended the move to protect the start of the Hawaiian petrel's nesting season on Maui's Haleakala volcano. There was concern that dismantling the analog transmission towers nearby could disrupt the birds' activities. New transmission towers were being erected at lower elevations, according to published reports. Wildlife experts say the bird is nocturnal with a chirp imitating the sound of a puppy's yap. Tower guy wires can injure the Hawaiian petrel, which is a rare species, and the lights from metropolitan areas can disorient the birds.

Cable and satellite customers were not affected by the early switch to digital. Those viewers needing converter boxes had to flock to stores to get them earlier than originally anticipated.

News Flasher: BBC Radio Apologizes For Overexposure

BBC Radio was forced to issue an apology for "failing to control its staff and stars, after *Torchwood* and *Doctor Who* star John Barrowman exposed himself on a live Radio 1 show," according to a report in The Hollywood Reporter. The problem arose because the radio show was also being video streamed over the Internet.

The incident, in which Radio 1 host Nick Grimshaw urged the actor to expose his genitals, aired live on the night of November 30 and generated one complaint to the BBC, the report said. A spokeswoman for the Radio 1 network stressed that the camera recording the live webcam of the Switch show had been "quickly covered up by the producer" during the incident and that nothing explicitly sexual had been shown online. The incident also was removed from the interactive catchup service, she said. "The show overstepped the mark, but nothing untoward was shown on the Web site," the spokeswoman said.

Barrowman, a rising star on the BBC, with a fan base for his sci-fi shows as well as for his performances in variety shows such as "Strictly Come Dancing," issued an immediate apology, promising that the incident would "never happen again," the report said. "I really appreciate the great support I have received from the BBC over the last few years," the actor added, "and would never intentionally do anything to undermine the integrity of the corporation."

Going Haywire

According to an Associated Press report, some scientists are becoming concerned that the increasingly wired world may be rewiring our brains.

Dr. Gary Small, a professor of psychiatry at the University of California, Los Angeles, believes that daily exposure to digital technologies, such as the Internet and smart phones can actually alter how the brain works. Small says that as the brain spends more time on technology-related tasks and less time exposed to other people, it drifts away from fundamental social skills like reading facial expressions during conversation and the brain circuits involved in face-to-face contact can become weaker, the report stated. The result may be social awkwardness, an inability to interpret nonverbal messages, isolation and less interest in traditional classroom learning. Small says the effect is strongest in so-called digital natives—people in their teens and 20s who have been "digitally hard-wired since toddlerhood." He thinks it's important to help the digital natives improve their social skills and older people—digital immigrants—improve their technology skills, according to AP. ■

Scan Our Web Site

AR5000A+3 Wide Coverage Desktop Communications Receiver

Discover the Choice of Professionals

The AR5000A+3 advances the frontiers of performance with coverage from 10 KHz to 3 GHz!*

This professional grade receiver with tuning accuracy to 1 Hz delivers automatic electronic front end preselection and precision stability from its built-in TCXO. Other features include:

- All analog mode reception AM, FM, USB, LSB & CW (APCO 25 accessory optional)
- Excellent strong signal handling
- Synchronous AM detector, Automatic Frequency Control & Noise Blanker
- NCO (Numeric Controlled Oscillator) with tuning stops down to 1 Hz
- Multiple I.F. bandwidths 3 KHz, 6 KHz, 15 KHz, 30 KHz, 110 KHz, & 220 KHz
- Rear panel 10.7 MHz IF output
- Auto mode bandplan selection
- Multi-function LCD with 7 character alpha-text comments
- Extensive search & scan facilities
- CyberScan® fast search & scan facilities
- Analog S-meter
- 2,000 memory channels
- 40 search banks with EEPROM storage
- Computer controllable
- Multiple antenna ports
- Auto memory store
- Extensive RS-232C command list
- Sleep timer/alarm
- Fully compatible with AOR SDU5600 Spectrum Display Unit

Available in a professional and consumer version, the AR5000A+3 is a proven performer!

From aircraft and public safety, to broadcast and shortwave, no wonder so many Federal and State law enforcement, military units, surveillance agencies, government users, hospitals, RF labs, news media and monitoring professionals rely on the AR5000A+3 for accuracy, sensitivity and speed!

Add to the capabilities of the AR5000A+3 with options:

- The ARD25 APCO 25 conversion unit
- Collins® Mechanical Filters (500Hz, 2.5 KHz, 4KHz or 6KHz)
- TV5000A NTSC video unit for monitoring TV video
- CT5000 CTCSS decoder module
- DS8000 Analog Voice Descrambler Unit *(for Government Use Only.)*
- DS3000A external antenna

AOR® Authority on Radio

AOR U.S.A., Inc.
20655 S. Western Ave., Suite 112, Torrance, CA 90501, USA
Tel: 310-787-8615 Fax: 310-787-8619
info@aorusa.com http://www.aorusa.com

The Serious Choice in Advanced Technology Receivers

The AR5000A+3 is another example of why AOR is the Authority On Radio!

Specifications subject to change without notice or obligation.
**Cellular blocked. Unblocked version available for qualified users. Documentation required.*

News, Trends, And Short Takes

by D. Prabakaran

IBM Teams Up With BPL Provider To Offer Services In Seven U.S. States

IBM announced that it has signed a $9.6 million deal with International Broadband Electric Communications (IBEC) to install equipment and provide BPL (Broadband over Power Line) service to almost 350,000 homes in Alabama, Indiana, Maryland, Pennsylvania, Texas, Virginia, and Wisconsin. According to the Associated Press, IBEC Chief Executive Scott Lee said the network, which will be funded by $70 million in low-interest federal loans from the Department of Agriculture, should be in place in about two years. IBEC currently provides broadband to only about 1,400 customers, most of them beginning to receive service in the past 18 months.

"IBEC's equipment doesn't use the ham bands," said BPL expert and ARRL Laboratory Manager Ed Hare, W1RFI, "making it less likely that they will have any interference complaints from amateurs. Their equipment, however, does interfere with shortwave broadcast and other spectrum, but in the U.S., not many users have complained. IBM has been in the BPL business for a few years now, so this venture is nothing new for them." IBEC staff member Brent Zitting, KB4SL, serves as a member of ARRL's EMC Committee.

A 2006 FCC study reported that fewer than 5,000 homes receive their Internet connections via power lines. IBM and IBEC's joint plan, Lee said, will serve residents, of whom about 86 percent have no cable or DSL access, in the seven states.

According to reports, IBEC's strategy is to sign up electric cooperatives that provide power to sparsely populated areas across the eastern United States. Rather than compete toe-to-toe with large, entrenched cable or DSL providers, IBEC is looking for customers that have been largely left out of the move to high-speed Internet.
(Source: ARRL)

The Voice Of Russia Starts Broadcasting In Iraqi Kurdistan

The Voice of Russia radio station began broadcasting in Kurdish in Iraqi Kurdistan. Station spokesmen say the new project is non-political and its goal is to bring the Russian and Kurdish people closer together. Analysts say that the project has an obvious political nature and that it is a means of advancing Russian interests in Kurdistan and throughout the Middle East.

The Voice of Russia had considered a Kurdish service for several years, but funding restrictions had prevented its implementation until now. Broadcasts originate in Erbil, Sulaimaniya, Kirkuk, and Dohuk, Iraq and will be two hours long, airing in the mornings and evenings.
(Source: Kommersant website)

HCJB Begins A New Series Of DRM Test Transmissions

HCJB begins a new series of DRM on 15280 kHz at 1100–1300 UTC with 4000 watts. The antenna is a rhombic, azimuth 35/225 degrees (to Europe and Australia) and the transmitter site is Pifo, Ecuador. The schedule is:

Monday to Friday
- 1100–1200 UTC Spanish (Music from Ecuador and Newscast).
- 1200–1300 UTC Low-German and German.

Saturday and Sunday
- 1100–1130 UTC Spanish.
- 1130–1300 UTC Low-German and German.

(Source: DRM Software Radio Forums)

WorldSpace UK Goes Into Liquidation

WorldSpace (UK) Ltd. called in the liquidators on November 14, 2008. The action meant an immediate suspension of the Afristar channels that were being transmitted from London by WRN. The move also meant that Worldspace UK's few remaining staff have been let go. London employees have received no salaries since September. Telemetry, care and control of Afristar were still being carried out as this magazine went to press. Insiders suggested that Afristar was still carrying some radio channels beamed up from South Africa.

WorldSpace UK is a separate operation to WorldSpace Inc., which is currently in Chapter 11 bankruptcy protection. Sources suggest that WorldsSpace's London assets (transmission equipment and so forth) had already been formally seized ahead of the liquidation because WorldSpace is in default on payments.
(Source: Rapid TV News)

Azerbaijan To End VOA, Other Foreign Broadcasts On Local Radio

Authorities in Azerbaijan say they plan to halt local broadcasts by foreign stations by the end of the year. The chairman of Azerbaijan's National Television and Radio Council, Nushiravan Maharramli, says his country is not interested in granting local frequencies to foreign broadcasters. He says the change will affect the BBC, the Voice of America (VOA), and Radio Liberty. The official says his country has been gradually implementing changes, having previously eliminated broadcasts by Russian, French, and Turkish stations.

The US Broadcasting Board of Governors said it strongly objects to the proposal. BBG Board member Steven J Simmons said the decision follows a "disturbing pattern" that began with harsh restrictions on private broadcasters within Azerbaijan two years ago and now directly impacts international media.
(Source: AFP)

Capitol Hill And FCC Actions Affecting Communications

by Richard Fisher, KI6SN

FCC Commissioner Questions Arbitron "Portable People Meter" Rating System

The validity of a new electronic measurement system being used by Arbitron, Inc., to track radio station listenership has been questioned by a member of the FCC. Commissioner Jonathan Adelstein in late 2008 sent a letter to Chairman Kevin Martin calling for an investigation of Arbitron's "Portable People Meter" rating service and its fairness to minority broadcasters. According to published reports, the system uses a device similar to a pager to automatically document what stations are being listened to.

The National Association of Black Owned Broadcasters and other groups allege that Arbitron reduced the number of listeners it tracks when it implemented the Portable People Meter, therefore using data from unrepresentative samples that inaccurately reflect the audience for stations owned by minorities.

"We have heard from numerous broadcasters and advocates for diversity that the continued deployment of [the PPM] in new markets without accreditation from Media Ratings Council constitutes a clear and present danger to media diversity," Adelstein wrote, adding that "because Arbitron ratings play such an integral role in the business of broadcasting, the Commission needs to launch its own inquiry to determine whether the PPM ratings are accurate and reliable."

Arbitron says the service is superior to the paper diaries it used previously. The Portable People Meter was first implemented in Philadelphia in April 2007, and has since been used in markets in New York, Los Angeles, Chicago, Houston, and San Francisco, according to published reports. Arbitron's ratings are used extensively as a measure to determine radio stations' advertising rates. In a statement, Arbitron said the FCC does not have authority to regulate audience ratings, and that audience ratings' accuracy and methodologies should be left to the private sector, such as the Media Rating Council.

FCC Appeals Janet Jackson Case To U.S. Supreme Court

The indecency case over singer Janet Jackson's breast-baring appearance at the 2004 Super Bowl has made its way to the nation's highest court. The FCC has appealed a ruling by the 3rd U.S. Circuit Court of Appeals in Philadelphia, alleging the court was incorrect in throwing out the case against CBS Corp. in July and setting aside a $550,000 fine. In a halftime performance with singer Justin Timberlake, Jackson's breast was exposed briefly in what was later described as a "wardrobe malfunction."

The 3rd District Court had pointed to the FCC's practice of not deeming images objectionable if they are "fleeting." According to published reports, the FCC said the court incorrectly applied a rule pertaining to language—one that had required a profanity be repeated before it is considered indecent. The FCC says the rule didn't apply to images.

At the time of the 2004 Super Bowl, the broadcasters were not using video delay for live events.

Former FCC Administrator Accepts ARRL Appointment

The former special council of the FCC's Spectrum Enforcement Division's Enforcement Bureau has been appointed an assistant director of the American Radio Relay League's Atlantic Division, officials said. Riley Hollingsworth, K4ZDH, assumed the position late last year. He had recently retired from the FCC. The announcement was made by Atlantic Division Director Bill Edgar, N3LLR.

"Assistant directors are personal appointees of directors who are chosen to aid in the normal routine of administering the division," the League reported. "They usually have knowledge or expertise in a certain area concerning amateur radio." There are nine assistant directors in the ARRL's Atlantic Division.

What You'll Soon Be Buying

by Rob de Santos
commhorizons@gmail.com

This month we take a quick peek at a number of new products and technologies that are just coming onto the market. Some are practical and others just a bit off the beam, but they all offer a hint of the direction electronics is heading (think mobility, simplicity, and big power in small packages). Radio technology is at the center of many of these developments as we become an even more "wireless world."

"What if you could recharge your batteries by simply plugging them into one of those spare USB ports on your PC? That's the idea of a British company called Moixa Energy, Ltd., which offers something called the USBCell."

Rolling Wi-Fi

One of the changes that's just around the corner is the addition of Wi-Fi connections in your car or truck. Several automakers, including Chrysler in the United States, are actively working toward making this option available on new vehicles as early as 2010 using technology from a California company called Autonet Mobile. Your car or truck becomes a rolling Wi-Fi hotspot. The technology melds "3G" cellular reception with an in-car Wi-Fi router, giving devices in your car access to the Internet. Initial indications are that the connection speeds will run from 150 to 800 kilobits per second, faster than a dial-up connection but well short of common home high-speed connections. Still, this should be good enough for basic Web browsing, email, updating your GPS, and your child's Nintendo. Using this for Internet radio (a key application for this writer) seems possible, though uncertain, at these speeds, and video is out of the question.

Concerns have already been voiced about the potential for driver distraction from incoming email and other information as well as the outdated security of the router (it's not yet available in the most advanced wireless security protocols, such as WPA2). The router has a claimed range of up to 100 feet. Indications are that the dealer-installed price for this product will run somewhere in the $500 range.

Aftermarket units will be available for purchase on other makes and models, though at somewhat higher prices. The units will require a one-year contract at monthly prices of $29 (1 gigabyte per month) or $59 (5 gigabytes per month) and a $35 activation fee. The supporting cellular service is available only through Autonet Mobile at this time, though competing companies are sure to enter the field soon. More information can be found at www.autonetmobile.com/.

Rechargeable Batteries With A Difference

If you have a house full of electronic gadgets and radios (and who doesn't these days?) batteries are a constant requirement. One way to reduce your battery cost and reduce waste is to use rechargeables, but this has its own associated issues, such as how to keep them charged efficiently. What if you could recharge your batteries by simply plugging them into one of those spare USB ports on your PC? That's the idea of a British company called Moixa Energy, Ltd., which offers something called the USBCell. Available in several battery types, from AA and 9V, to mobile phone and PDA batteries, the USBCell has a snap-open end that plugs right into any USB connection.

Prices are predictably higher than most rechargeables (a pair of AAs will set you back about $17.50, plus shipping, at the exchange rate in effect at this writing), but the combination of these technologies seems to make great sense and it's also better for the environment. The cost effectiveness at these prices is questionable, though. Find out more at www.usbcell.com/eco.

Portable Recording Taken To The Limit

Most radio lovers have some sort of audio recording and playback device, even if it's just an iPod, MP3 player, or iPhone. But those devices really aren't microphone friendly, and you may want high-quality audio for broadcast, but don't want to carry lots of extra equipment with you. Well, the answer to this quandary is the H4 Handy Recorder. For just $299.99, the folks over at ThinkGeek (www.thinkgeek.com/electronics/portable-audio-video/9150/) will sell you this pocketsize recorder supremo. Its features include four-track recording in CD-quality audio and saved in CD or MP3 formats (up to 320kbps), two separate XLR microphone inputs, high-impedance inputs for guitars and keyboards, and a USB computer interface.

Clothespin USB Drive

Here's one that fits into the "slightly off-beam" category. From The Poor Life comes a USB thumb drive in the form of a clothespin (yes, that little wooden tool your mother used to hang laundry back in the day). USB drives are becoming ubiquitous and this combination of a common household item with modern technology lets you clip the drive to your pocket or notebook. Whether it reduces the chance you forget or lose the drive isn't clear. I couldn't find a price for this techno-wonder, but you can find out more, if you must, at www.poor.pl/pooreng/plugin.htm.

Let me know what nifty (or nutty) new products you've come across. See you next month. ■

ALINCO

Puts the World in Your Hands

There's a world of adventure riding the airwaves and Alinco puts you in the middle of the action. Ride along with pilots of jet aircraft. Listen to the fire brigade battling against time to save lives. Get tomorrow's news today from short wave foreign broadcasts. Listen to ham radio operators enjoying their hobby. Be there when the police find a lost child and much more!

Wide Band Communication Receiver DJ-X3

Standard Features

- Coverage range: 0.1 to 1300 MHz
- 700 memory channels (10 banks x 70ch/bank)
- 20 pairs of programmed-scan memory channels, 8 priority channels
- VFO, Programmed, Preset, and Memory scan modes with memory-skip capability
- 11 different steps plus an automatic-step mode
- Palm-fitting, lightweight, easy-to-carry compact body
- WFM, WFM/stereo, NFM and AM modes
- Bug detector finds hidden transmitters
- Wide variety of optional accessories to choose from
- Super-sensitive Triple Conversion circuit
- Large, illuminated display
- Free Downloadbale PC utility software

Wide Band Communication Receiver DJ-X7

Standard Features

- **Receiver range:** 0.100 - 1299.995MHz continuous (USA T-version cellular-band blocked 824.000-849.995MHz, 869.000-894.995MHz)
- **Mode:** A3E (AM) / F3E (FM,WFM)
- **Easy to program memory banks**
  Managing 1000 memories is easy when you use the free software available from the Alinco website and the optional ERW-4C cable (USB/Serial conversion cable usable with ERW-4C for USB connections) to expand your own bank-partitions from standard 10 up to 50!
- **Pre-set bands make operation easy**
  AM/FM and TV audio bands have been pre-set to make it easy to enjoy the DJ-X7T/E right from the start.
- **Five scan modes**
  Five scan modes are available including preset frequencies, VFO, memory scan, programmed scan or tone scan to search for unknown CTCSS tones. The Timed/busy modes are selectable on all modes except the tone scan mode.
- **Power options keep you in control**
  The DJ-X7 comes with a standard adapter that charges the Lithium ion battery AT THE SAME TIME it powers the radio with AC power. So, you can listen while the unit is charging. The long-lasting, lithium ion battery delivers approximately 19 hours of operating time

Wide Band Communication Receiver DJ-X30T

Standard Features

- Compact design fits easily into pocket or purse
- Receives 100 KHz to 1.3 GHz*
- AM/FM/WFM modes selectable
- 1,000 memory channels in 10 banks; banks can be expanded up to 50 using a free downloadable, easy-to-program editor software
- Five scan modes: Preset, programmed, memory, VFO and tone scan operating modes
- Priority receive
- Three different antenna modes - earphone, internal bar, and external SMA.
- Auto or 16 different channel-steps to chose from
- 2-Way Key-lock
- Key-touch beep (on/off selectable), 39-tone Tone squelch, Attenuator (approx 20dB), Battery-save, Auto-Power-Off, Cable-clone, Monitor/Mute functions are just some examples of extremely loaded functions a DJ-X30 offers at no extra charge!
- Pager (bell) function alerts you with a beep and an icon when a signal is received
- Large, illuminated LCD screen capable of up to 6-digit alphanumeric display

cellular frequencies blocked on T model sold in USA

www.ALINCO.com

Distributed in North America by Ham Distributors, 1775 North Loop 336 East, Ste. 8, Conroe, Texas 77301 • Phone: 936-649-1497 • Fax: 800-824-3128 • email: USrep@Hamdistributors.com

ALL warranty claims and requests for warranty repair/technical assistance for Alinco products should be sent to Ham Distributors regardless of contact information found on the warranty certificate packed with the product.

Making Radio—Pirate Style, Part 2: Audio And Production

The Elements Of Sound Behind The Broadcasts

By Andrew Yoder

Toward the close of the Cold War in the 1980s, shortwave listeners might have been surprised to hear Russian announcers Miriam Brokov, Gilbert Svenovich, and Natasha Brokovich attacking the United States with such statistics as, "The United States of America has an unemployment rate of 62 percent," while lauding the Soviet Union's percentage as zero. In the same program, the station also featured "The Addams Family: An American Family" and music by "The Rolling Stones of Moscow."

Had Radio Moscow gone crazy, even by Radio Moscow standards? A bit of listening late into the night on December 25, 1985, revealed that the station was not Radio Moscow, but a clever parody by an American pirate called the Voice of Communism. More than just a jab at socialism, the Voice of Communism was a successful satire because it nailed Radio Moscow—the announcers' accents, the constant use of statistical comparisons, commentaries on the latest five-year plans, everything right down to the hollow-room-style echo on the announcers' voices and the bit of hum on the audio.

Not only did the sound effects and processing improve the believability of the Voice of Communism, but the station's jokes also targeted media-savvy shortwave listeners. At one point in the program, Miriam succumbed to the terrible capitalistic ways of the West. She fled the Soviet Union for New York City, and when she did so, she first lost her echo ("I need the security of the echo on my voice"), then her accent. But she was rescued by the other announcers, who deployed a secret echo box.

Andrew Yoder has heard hundreds of pirates over the past 27 years of shortwave listening. He is the author of *Pirate Radio Stations* and *Pirate Radio Operations*, among other books.

Scan Our Web Site

Photo A. WR International broadcasts from the UK on the unusual frequency of 12256 kHz using this studio with a DJ audio mixer built into the desktop and several turntables and CD players.

But, of course, a good-sounding pirate doesn't need reverb, or even a handful of Marxists. In fact, the bare minimum of what's necessary are a microphone and something to play back prerecorded material, whether music or sound bites.

Microphones, of course, convert sound waves to electrical signals. Entire books have been dedicated to the topic, and "the sound" of a pirate's mic generally isn't as important as other elements in the studio. In fact, one station uses microphones that were freebies from boxes of cereal. So let's instead dive into what really makes the pirates resonate.

Mixers

Also known as soundboards, broadcast consoles, and mixing boards, mixers allow several different audio sources to be input at user-variable volumes to create a single audio output. So, with a mixer, the announcer can fade between two songs while talking and giving station IDs. For professional-sounding radio, mixers are essential for live broadcasting and nearly so for prerecorded programming **(Photo A)**.

In the 1960s and 1970s, small Shure microphone mixers, which seemed to be used in every church and fire hall, became popular. These gave way to two- and four-channel mixers from RadioShack and nearly every pirate owned at least one. Today's most popular mixers are the small consoles that target DJ use and home demo recording for the musician. Some of the popular brands of mixers include Mackie, Behringer, Pyramid, and Gemeni. Because of the intended uses of the new generation of mixers, they often can fade between two channels and can both independently equalize and add adjustable reverb to each channel.

Early Audio Formats

In the early days of pirate radio, the playback format of choice was the record. Back then, everyone owned a turntable and records were plentiful. Many of the 1960s and early '70s "kids playing radio" stations played records into the transmitter through the microphone, then pulled it away in time to announce the next track and identify the station.

Advancements in programming ability came in the form of the cassette, which was developed in 1963 but didn't become dominant until the late 1970s. For the sake of cost and convenience, many pirates of the day recorded all programming onto cassettes and most of the earliest pirate (post-1970s) audio archives were kept and traded on cassette (such as those from the Free Radio Campaign-USA and DVS). Unfortunately, even the best cassette decks can't compare with open-reel decks, so many of the multi-generation dubs of these programs are at least somewhat muffled, with bassy audio.

Cassette-using pirates developed a couple of interesting technical approaches to broadcasting, one of which was the "cassette cart." The pirate would record an ID, ad, sound effect, or promo to cassette. At the end of the audio for this bit, the tape was marked, cut, and spliced back together. So, after splicing, the recorded promo might last 46 seconds and the tape would only last 48 seconds. Another promo or ad of about 45 seconds could be recorded on the B side of the cassette, allowing for the station to go live with at least a somewhat-professional sound.

Another innovation was the auto-reverse Walkman cassette player. By modifying one of these players to handle D-cell batteries and using 120-minute cassettes full of programming in conjunction with a "Grenade," the storied AM-mode shortwave transmitter (see "Making Radio—Pirate Style" in the August 2008 issue of *Pop'Comm*), a station could "loop" two hours of programming from a remote location.

For decades, the successor to the cassette tape, simply known as "the cart," was

the magical audio box for any fan of broadcasting. Sure, you could line up mixers and cassette decks, but the legendary cart machine separated the "professional hobbyists" from the amateur wannabes.

The cart (short for cartridge) works much like an 8-track player. Both types of cartridges are the same size and both will play endlessly. Just pop the cart into the deck and it automatically starts playing. The major differences between carts and 8-tracks are that cart machines only play through the tape once and then repeat, but 8-tracks (which contain four sets of stereo tracks) will play through one set of audio tracks, then jump to the next, until all tracks have been played in their entirety, before starting over.

Cart machines were used for decades in broadcasting, containing ads, PSAs, sound effects, and sometimes the most-played songs of the station (see **Photo B**). They were perfect for DJs, who could just pop in a cart without spending time cuing up a spot. Carts were nearly essential for professional-sounding radio in the analog days, and they garnered their celebrated reputation because they were only used in broadcast settings. They rarely turned up at hamfests or flea markets, so any pirate who owned one probably either had a day job with a licensed broadcaster or engaged in plenty of dumpster diving outside local commercial stations. One of the more notable pirates who used cart machines was WFAT/WHOT, which broadcasted from Brooklyn on AM and FM from the late 1970s until 1989.

Today, carts have been rendered obsolete by computers, which can more easily and efficiently be used for playing short audio bits.

A Step Up

If the operator were a little better connected electronically, he had an open-reel tape deck. Open-reel tape was excellent for radio production because the quality was much better than that of cassettes and because some open-reel decks could record and erase multiple audio tracks independently (see **Photo C**). Additionally, the tape could be spliced, making physical editing with a razor blade possible. So a station might record a skit by first laying down the vocals on one track, then editing out mistakes, and adding music and sound effects on the other track.

Physical editing of open-reel tape is what the professionals did at the commercial stations, but that doesn't mean it

Photo B. The beautiful studio of Radio One, featuring classic broadcasting equipment. A stack of Gates cart machines can be seen at the upper center. To the right is an RCA ribbon microphone and an old broadcast console.

Audio Processing

Most pirates who broadcast in the AM or FM modes use some sort of audio processing to improve their signal's listenability. It might seem odd that CD audio or normal voice audio from a microphone wouldn't be optimum, but there are a couple of problems involved.

One has to do with the audio frequency range of the receiver and transmitter, both of which are significantly limited compared to that of a CD. Some stations, such as the Crystal Ship, use an equalizer to cut off all audio above and below two points to maximize the audio across the frequency ranges that matter to shortwave listeners.

Another issue with transmitting audio is peaks. The audio to the transmitter can only be turned up as loud as the peaks; any more volume and the loud spots are distorted. But invariably listeners still complain that the audio isn't loud enough; it sounds thin and overpowered by the carrier. No matter how the volume to the transmitter is adjusted, it's either too weak or distorted, and sometimes both.

To make stations sound louder, operators will use a hardware or software audio compressor/limiter. The limiter ensures that the input audio will not reach beyond a certain point (and drive the transmitter into distortion). The compressor raises the level of the weaker parts of a song and even of the parts of someone's voice. So, an announcer's voice, for example, with compression, will sound thicker, stronger, and more "radio-like."

Everyone seems to have a different recipe for his or her audio. Pigmeat Martin of Radio Pigmeat International said, "I customize the equalizer bandwidths for both voice and music...most shortwave receivers top out around 6 kHz, so I cut the top end there. I use modest compression on voice and none on music." Channel Z makes it simpler by only compressing the voice and not the music. WBNY runs everything through the Optimod. Then there's the Grenade, transmitter, which contains a built-in compressor and limiter for relatively hands-free operation. And, coming from a completely different perspective, Kracker of Radio Jamba International, doesn't use any processing, "I just crank the audio levels," he says.

Scan Our Web Site

was easy. It was incredibly tedious to mark sections of tape with a grease pencil, pulling the tape down to the metal editing block by hand, slicing it with a razor blade, then carefully taping it back together tight enough so that there were no gaps in the tape (which would leave an audible dead spot) and so it was physically strong enough to hold during playback.

Many complex pirate programs from the late 1970s through the early 1990s were recorded to and edited on open-reel tape. If you've ever had the privilege of listening to programs from the Voice of Laryngitis (www.laryngitis.org), the Voice of Revolutionary Vinco (www.bunkerofdoom.com/vorv/index.html), or Radio Morania, take a moment to consider how much effort went into their editing and production.

Open-reel tape use has essentially disappeared since the emergence of computer audio recording and editing in the early 1990s. Of the current North American shortwave pirates, very few have ever used the format. Even The Poet, operator of the Crystal Ship since 1982, only edited open-reel tape when taking a college radio production course in the 1980s.

Audio In The Digital Age

As an audio source itself, the next development, the compact disc, offered a number of advantages over records or tape for broadcasting, but most fall into the ease-of-use category. They're smaller, much easier to cue, and sturdier. As far as pirate radio goes, they're very helpful, but not revolutionary. What *was* revolutionary was the development of digital audio technology. Computers and the ability to experiment with digitizing audio have led to a variety of new forms of playback/recording formats and hardware devices.

MP3s

The road to MP3s started with CDs and computers. In order for audio to be stored to CDs, it first had to be digitized. Then, pits and nonpits could be stored as binary data. In addition to the benefits of the audio CD, this technology also allowed the CD recorders to reach the marketplace. CD-ROMs didn't immediately dramatically change the ways that pirate radio shows were recorded or aired, but they did allow stations to make program copies with better audio quality.

Computers and the Internet drove engineers to further develop audio technologies. The idea was to record the audio data so that it required much less space—even if it meant a loss in audio quality. At first, most of the audio was poor quality and took "forever" to download. Most of the early attempts used proprietary encoding methods, so each format required a different player. The earliest pirate radio audio that I recall finding online was on the Free Radio Network (www.frn.net). These small samples from different stations were recorded in the TruSpeech format and anyone who wanted to listen had to download a TruSpeech player because nothing else could play back the files.

Sound Sources: Music And Audio Online

Channel Z chooses music for his shows based on either what is already in his collection or what he can find online, but he avoids peer-to-peer music-sharing sites. "I've found that it's much simpler—and safer—to just search for a specific album, CD, or song title by using Google's Blog Search," says Channel Z. "There are hundreds of music blogs on the Net, and they usually have links to entire CDs available for free download on the free file hosting sites like Rapidshare, Megaupload, etc. I did a recent show where I played 'Cavern' by Liquid Liquid. Although I own the original rare 12-inch vinyl version of this on 99 Records, rather than digitize the song myself, I quickly found an entire CD of Liquid Liquid on a music blog."

CosmikDebris shares some sources also, saying,

I really like the WFMU blog for all kinds of eclectic and weirdo bits (blog.wfmu.org, www.freemusicarchive.org). There are a lot of blogs out there now that offer up complete albums ripped off vinyl, unique or rare recordings, and other stuff. Examples include vinylmysteries.blogspot.com, cheezefactory.blogspot.com, chocoreve.blogspot.com. The Pink Floyd ROIO project (downloads.pinkfloyd.ws, free registration required) has a ton of Pink Floyd material. Though technically not a website, I get a lot of material from the usenet binary groups (e.g., alt.binaries.slack, alt.binaries.sounds.mp3.bootlegs, alt.binaries.sounds.mp3.garage-rock). There's a ton of material on YouTube that can be used for its audio as well.

RSGB Books

IOTA Directory
Edited by R. Balister, G3KMA
RSGB, 2007 Ed..
Fully updated, lists all Islands that qualify for IOTA, grouped by continent, and indexed by prefix. Award rules & application form.

Order: RSIOTA **$18.00**

Practical Receivers for Beginners
By John Case, GW4HWR
RSGB, 1996 Ed., 165 pages
Selection of easy-to-build receiver designs and simple fun projects and test equipment.

Order: RSPRN **$26.50**

Digital Modes for All Occasion
By Murray Greenman, ZL1PBPU
RSGB, 2002 Ed., 208 pages.
Simply the most "complete" book on Digital Modes available. Over 100 illustrations!

Order: RSDMFAC **$28.50**

HF Antenna Collection
RSGB, 2nd Edition 2002
252 pages
A collection of outstanding articles and short pieces that were published in *Radio Communication* magazine. Includes single- and multi-element, horizontal and vertical antennas, extremely small transceiving and receiving antennas, feeders, tuners and much much more!

Order: RSHFAC **$33.00**

Low Power Scrapbook
RSGB. © 2001, 320 pages.
Dozens of simple transmitter and receiver projects for the HF bands and 6m, including the tiny Oner transmitter and the White Rose Receiver.

Order: RSLPS **$18.00**

Shipping & Handling: US & Possessions - Add $7 for the first book, $3.50 for the second, and $2 for each additional book. **FREE SHIPPING ON ORDERS OVER $100.00** (merchandise only). Foreign: Calculated by order weight & destination & added to your credit card charge.
ALLOW 3 TO 4 WEEKS FOR DELIVERY

CQ Communications Inc.
25 Newbridge Rd.
Hicksville, NY 11801
516-681-2922; Fax 516-681-2926
www.cq-amateur-radio.com

Today's technology has advanced to the point where audio can be highly compressed into small files, flash memory is fast and inexpensive, and most audio players have the ability to play back files in a number of different formats.

MP3 Players

The first advantage for stations that prerecord their shows is that many hours (if necessary) can be stored on a flash player or on a CD loaded with MP3-formatted content. This is of particular benefit for a station playing prerecorded programming from a remote location or for anyone who wants to broadcast live. For those letting a long show rip from the boonies, an MP3 player sure beats using a portable cassette player with extra battery power. For live shows, it's much easier to sift through songs on an iPod than to file through records or even CDs.

Computer Editing, Processing, And Control

Although there are still good reasons why a pirate might stick with the analog technology of the 1970s, nearly all stations have gone digital with the computer at the center of operations because it's easier to control, the programs are much less expensive (or even free) compared to the hardware required to do the same things software can, and much less space is required.

As previously mentioned, just a little more than a decade ago, working with audio could be unwieldy for many computers, but today computer specifications, such as RAM and hard drive space, aren't an issue. Any recent computer has no trouble handling audio files. And today's sound cards all include line audio inputs and outputs, and microphone inputs.

That leaves software, a category that contains numerous options. The most important software for pirates is the audio editing package. Literally dozens of audio editors are available, ranging from the most basic playback/recording device to professional "studio in a virtual box" programs. Some of the basic options include number of channels, noise reduction, filters, variable speeds, volume and fades, overdubbing, level meters and spectrum analyzers, ability to open and save in different formats, and the ability to undo/redo edits. Some of the special effects offered include wah-wah, chorus, different flanger effects, reverb/echo/delay, reverse, and compression/expansion.

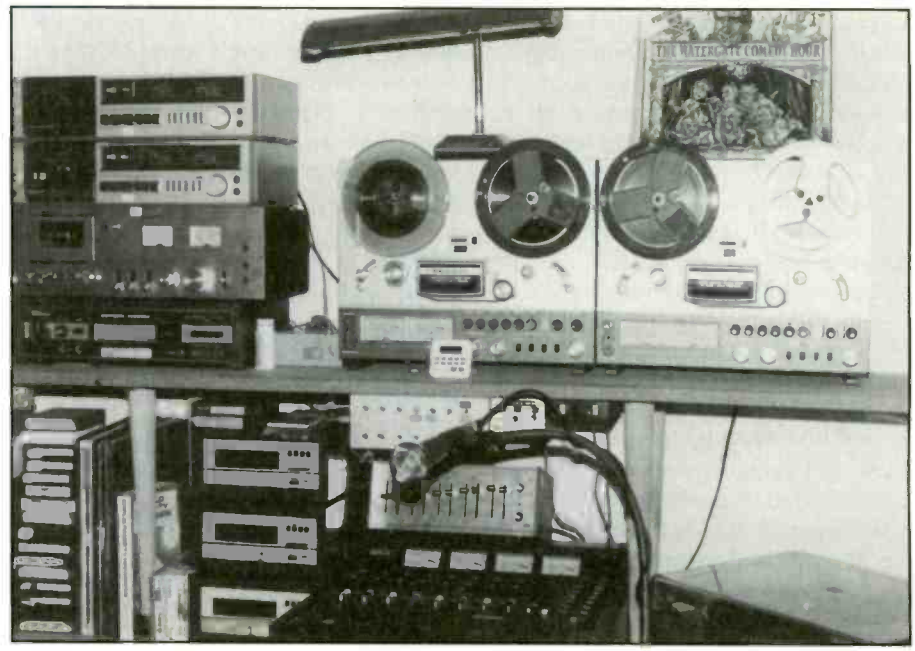


Photo C. A pair of open-reel tape decks (above right) in the studio of KKTO from the early 1980s. Also shown are cassette decks (to the upper left); carts and cart machines (lower left); microphone, equalizer, mixer (bottom center), and turntable (lower right).

Despite the number of available programs, most stations only use a few different ones. WBNY (**Photo D**), Kracker Radio, and Iron Man Radio use Adobe Audition/Cool Edit. Cosmik Debris, Ragnar Radio, and Radio Ice Cream go with Sound Forge. Other audio editors less used by pirates include Audacity and Goldwave (**Photo E**). I suspect that the relatively small number of programs used by pirates has more to do with recommendations among operators than any inherent suitability for broadcasting. Some popular editors *outside* of pirate radio circles include Cubase, Pro Tools, Nero Wave Editor, Soundbooth, Wavosaur, and Blaze Media Pro.

For live broadcasting, stations use playback software that can run playlists. With computer playlists, an operator can assemble a sequence of audio files, typically music, IDs, and comedy or com-

Photo D. The WBNY hybrid analog/digital studio, showing the professional broadcast console and computer keyboard in the center. To the right are stacks of cassette and CD decks.

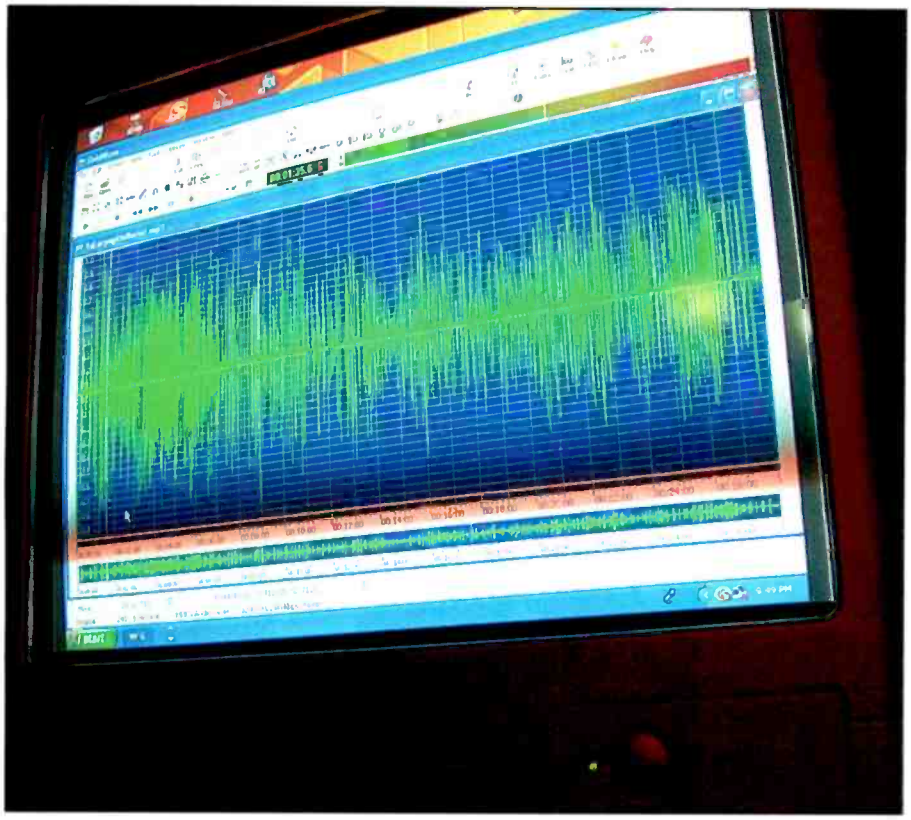


Photo E. An MP3 audio file of the Voice of Laryngitis opened up with the Goldwave audio program.

mentary bits that will automatically play back on the computer. The station could even be paused for live announcements or the play lists could be edited on the fly. By far, the most popular playback software that can handle playlists are Windows Media Player and Winamp. The Poet from The Crystal Ship said, "Using Winamp, I can save playlists if I like a show and it could then be replayed at any time, as long as I haven't moved any of the files or renamed folders on my computer."

Next Up, Pirate Antennas

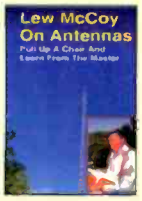
Over the past 15 years, studio elements have changed dramatically from mixers, cassette decks, cart machines, CD players, to computers...with a little associated hardware. But the changes in the types of audio formats and production tools haven't lessened their use or necessity. And, as we've seen in the photos, some pirates still use (and even take pride in using) restored vintage audio equipment for their production work.

In Part 3 of this series on pirate radio, behind the scenes, we'll look at antennas used by pirates. ■

CQ Great Books

Back by Popular Demand!

Now Available!



Lew McCoy on Antennas
by Lew McCoy, W1ICP

Unlike many technical publications, Lew presents his invaluable antenna information in a casual, non-intimidating way for anyone!

Order No.MCCOY $19.95

The Quad Antenna
by Bob Haviland, W4MB

A comprehensive guide to the construction, design & performance of Quad Antennas. Includes General Concepts, Circular-Loop & Arrays, Rectangular & Square Loops, Multi-Element Quads, Delta Loops & Arrays, & more!

Order No. QUAD. $19.95

33 Simple Weekend Projects
by Dave Ingram, K4TWJ

Do-it-yourself electronics projects from the most basic to the fairly sophisticated. Station accessories for VHF FMing, working OSCAR satellites, fun on HF, trying CW, building simple antennas. Also includes practical tips and techniques on how to create your own electronic projects.

Order No. 33PROJ $17.95

The Vertical Antenna Handbook
by Paul Lee, N6PL

Learn basic theory and practice of the vertical antenna. Many easy-to-build construction projects.

Order No. VAH $17.95

Shipping & Handling - U.S. and possessions - add $7 for the first book, $3.50 for 2nd and $2 for each additional. **FREE shipping & handling on orders over $100** (merchandise only). Foreign - Charges are calculated by order weight & destination.

MasterCard VISA DISCOVER AMEX

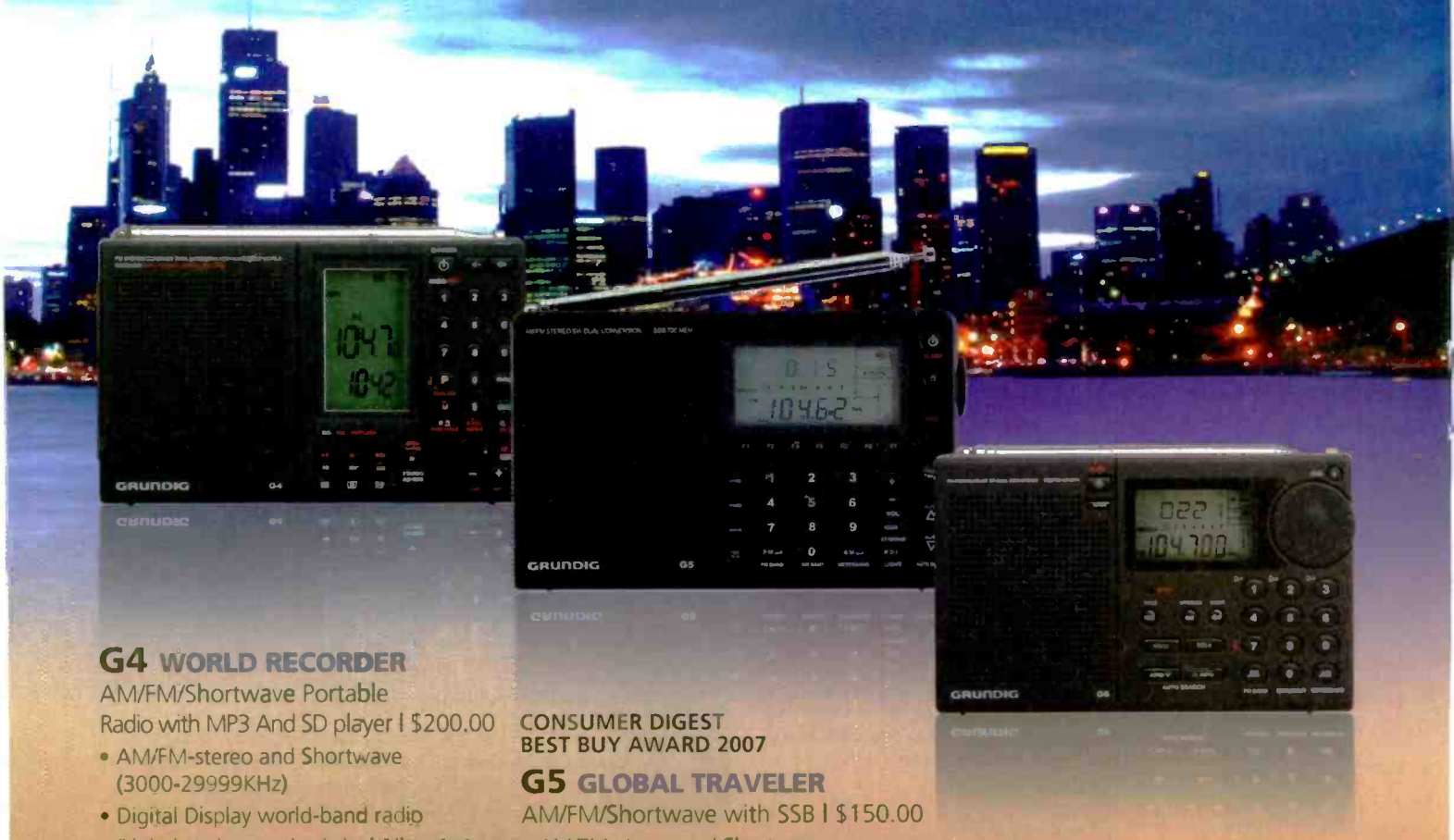
CQ Communications, Inc.
25 Newbridge Road, Hicksville, NY 11801
1-800-853-9797 • FAX 516-681-2926 • www.cq-amateur-radio.com

GRUNDIG

TIMELESS PERFORMANCE

60th Anniversary

LISTEN TO THE WORLD



G4 WORLD RECORDER

AM/FM/Shortwave Portable Radio with MP3 And SD player | $200.00

- AM/FM-stereo and Shortwave (3000-29999KHz)
- Digital Display world-band radio
- Digital tuning methods including Auto-scan, Manual-San, Direct Key-in and Manual Tuning
- FM Station Tuning Storage (ATS) provides automatic acquisition of the strongest stations in your area
- Built-in 1GB/2GB flash, USB 2.0 high speed transmission

CONSUMER DIGEST
BEST BUY AWARD 2007

G5 GLOBAL TRAVELER

AM/FM/Shortwave with SSB | $150.00

- AM/FM-stereo and Shortwave (1711-29999 KHz)
- Single Side Band (SSB)
- Digital Phase Lock Loop (PLL) dual conversion
- Digital Display world-band radio
- Station name input features allow a 4-character input of the stations call letters

G6 AVIATOR

AM/FM/Shortwave with SSB | $100.00

- AM, FM, Aircraft Band (117-137 MHz) and Shortwave (1711-30000 KHz)
- Dual conversion
- Three types of automatic scan tuning
- 700 memories with 4 character page naming
- 3 programmable alarm timers (volume and frequency can be preset)

Receives AM Band | Receives FM Band | Receives Shortwave Band | Alarm Clock | Headphone Jack

© Copyright 2008 Eton Corporation. All Rights Reserved.

Satellit 750

AM/FM/Shortwave Radio with SSB | $300.00

- AM, FM, Aircraft Band (118-137 MHz) and Shortwave (1711-30000 KHz)
- Set 9/10 KHz AM tuning; set FM tuning range
- Single Side Band (SSB)
- Auto/Manual/Direct frequency key-in and station memory tuning
- 1000 station memories (each band 100 memories, 500 customizable)

GS350DL FIELD RADIO

AM/FM/Shortwave Radio | $100.00

- AM (530-1710 KHz), FM (88-108 MHz) and Shortwave – continuous coverage
- Highly sensitive and selective analog tuner circuitry with AM/SW frequency lock
- Rotary volume control
- Main tuning knob and independent fine-tuning control knob
- Variable RF gain control

Grundig Radio Line By:

eton

re_inventing radio

www.etoncorp.com

1-800-793-6542

World Watch: Listening To Bolivia

From Its Andean Heights To Amazonian Rainforests, Instability Afflicts This Beautiful Land

by Gerry Dexter

Back in mid-September of 2007, fears arose that Bolivia might be about to come apart at the seams. Those fears were unfounded, and nothing has unraveled, at least not so far. However, the stresses within the society continue to take their toll on this land-locked South American nation, and the pressure gauge hasn't dropped much, nor has the political temperature been appreciably lowered.

The conservative states in Bolivia's northeast (Beni, Pando, Tarija and Santa Cruz) sit atop most of the country's wealth—the extensive reserves of oil and natural gas (second largest on the continent), and those areas are not in step with the current government's avowed march toward socialism. Those steps coming out of the capital, La Paz, include plans for a new constitution that would give the government more tools to achieve that result, as well as a longer term for the current president who also marches to this drummer. He is, in fact, the drum major.

President Juan Evo Morales Ayma is leader of the Movement Towards Socialism party. Morales, a native Aymara Indian and former coca grower, won Bolivia's 2005 presidential election with nearly 54 percent of the vote. He has obvious sympathies with Bolivia's coca farmers and a highly negative opinion of

Gerry Dexter is *Pop'Comm*'s "Global Information Guide" columnist.

Plaza del Estudiante in the heart of La Paz, Bolivia. (Via Wikimedia Commons)

Scan Our Web Site

Bolivian Radio Stations

STATION	CITY	FREQ	DEPARTMENT	REMARKS
Emisora 16 de Marzo	Mina Bolivar	4864	Oruro	
La Voz del Campesino	Sipe	5681	Santa Cruz	inactive
Radio 27 de Diciembre	Villamontes	3350	Tarija	
Radio Abaroa	Riberalta	4720	Beni	
Radio ABC	Santa Cruz	6030	Santa cruz	also 9660
Radio Amor de Dios	El Alto	6214	La Paz	inactive
Radio Animas	Animas	4991	Potosi	
Radio Ayopaya	Independencia	3344	Cobija	
Radio Batallon Topater	Oruro	4980	Oruro	
Radio Chicha	Tocla	4763	Potosi	
Radio Constelacion	Guanay	4762	La Paz	
Radio Cooperativa	Huanuni	5984	Oruro	
Radio Cumbre	Tazna	3380	Potosi	
Radio Eco	Reyes	4409	Beni	
Radio El Mundo	Santa Cruz	6015	Santa Cruz	
Radio Emisora San Ignacio	San Ifgnacio	4901	Beni	
Radio Emisoras Ballivan	Beni	4788	Beni	inactive
Radio Emisoras Camargo	Camargo	3390	Chuquisaca	inactive
Radio Emisoras Villamontes	Villamontes	4699	Beni	
Radio Estacion Frontera	Cobija	4450	Pando	inactive
Radio Estambul	Guayaramerin	4875	Beni	inactive
Radio Fides	La Paz	6155	La Paz	
Radio Galaxia	Guayamerin	5193	Beni	
Radio Grigota	Santa Cruz	4830	Santa Cruz	
Radio Guanay	Guanay	4761v	La Paz	inactive
Radio Hitachi	Guayamerin	4520	Beni	
Radio Illimani	La Paz	4945	La Paz	also 6025
Radio Juan XXIII	Santa Cruz	6054	Santa Cruz	
Radio Kausachun	Lauca	6075	Cochabamba	
Radio La Cruz del Sur	La Paz	4875	La Paz	
Radio La Palabra	Santa Ana del Yacuma	4732	Beni	
Radio La Plata	Sucre	9717	Chuquisaca	
Radio Libertad	La Paz	6045	La Paz	
Radio Logos	Santa Cruz	4865	Santa Cruz	
Radio Loyola	Sucre	5995	Cochabamba	
Radio Mallku	Uyuni	4796	Potosi	
Radio Mamore	Guayamaerin	4802	Beni	
Radio Mauro Nunez	Vlla Serrano	6065	Cochabamba	
Radio Melodia	Berrmejo	3420	Tarija	
Radio Mosoj Chaski	Cochabamba	3310	Cochabamba	
Radio Movima	Santa Ana del Yacuma	4472v	Beni	
Radio Nacional Huanuni	Oruro	5968	Oruro	inactive
Radio Norte	Montero	4939	Santa Cruz	
Radio Nortena	Caranavi	4845	La Paz	
Radio Nueva Esperanza	El Alto	6586	La Paz	
Radio Padilla	Padilla	3493	Cochabamba	
Radio Paititi	Guayaramerin	4865	Beni	
Radio Panamericana	La Paz	6105	La Paz	
Radio Perla del Acre	Cobija	4600	Pando	inactive
Radio Pio Doce (Pio XII)	Oruro	5952	Oruro	
Radio San Gabriel	La Paz	6085	La Paz	
Radio San Jose	SJ de Chiquitos	5580	Santa Cruz	
Radio San Miguel	Riberalta	4699	Beni	
Radio Santa Ana	Santa Ana de Yacuma	4649	Beni	
Radio Santa Cruz	Santa Cruz	6135	Santa Cruz	
Radio Sararenda	Camari	4886	Santa Cruz	
Radio Tacana	Tumupusa	4762	La Paz	
Radio Tropico	Trinidad	4958	Beni	
Radio Unica	Unica	4722	Potosi	
Radio Universitaria	Cobija	4732	Pando	inactive
Radio Virgen de los Remedios	Tupiza	4545	Potosi	also 3215, 3330
Radio Yura	Yura	4717	Potosi	
Radiodifusoras Mineria	Oruro	5927	Oruro	inactive
Radiodifusoras Tropico	Trinidad	4958	Beni	

The main cathedral in Trinidad, Beni department.

Bolivian President Juan Evo Morales Ayma. (Via Wikimedia Commons)

the U.S.-assisted *Plan Dignitad* (Dignity Plan) to wipe out the practice entirely by destroying the crops. Indeed, Morales recently cancelled the agreement.

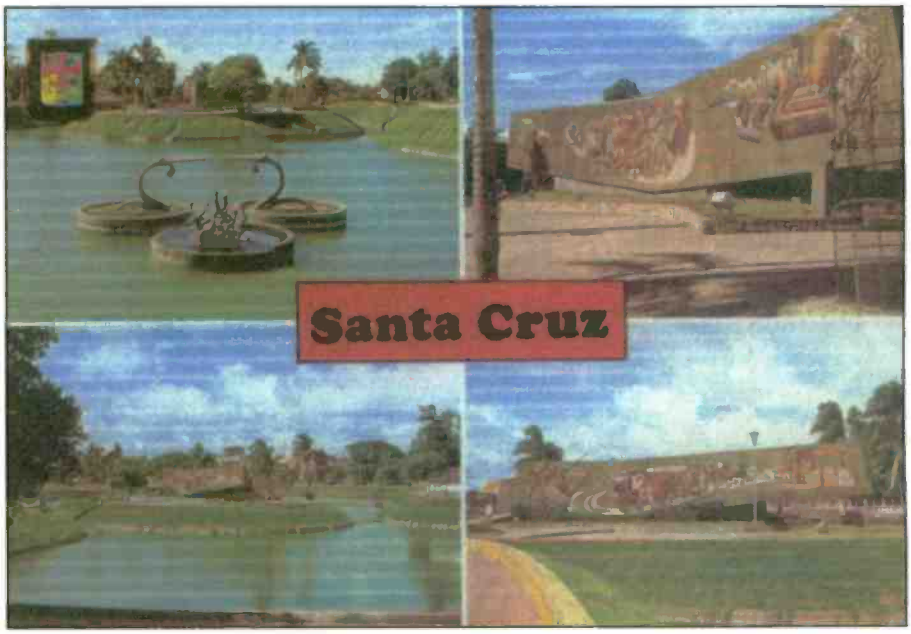
Political And Economic Strife

Its history has been marked by violent struggles over resources, money, and power, as is so often the case in former colonial lands. Bolivia has had problems for half a millennium it seems. After a couple of centuries of Spanish rule and a 16-year war, the country finally gained its independence in 1825. This was followed a few years later by war (later confederation) with Peru, followed by yet another war with Chile and Argentina, which it lost. The confederation with Peru was dissolved a short time later. Bolivia lost its seacoast after yet another war (with Chile in the late 1800s). In fact, since it achieved independence, Bolivia has lost nearly half of its original territory in wars with its neighbors.

By the early 1950s, Bolivia instituted universal suffrage, land reform, and at least made a small start down the road to peasant education. Along the way it also nationalized the tin mines. The years since have seen a mostly sorry parade of presidents, some of whom tried to do some good, and some who mainly gave inspiring speeches but mostly put their hand in the government till. Still others seized extra time in power through the end of a gun.

So there have been good guys and bad guys at the helm, with a few military governments tossed in for variety. From Bolivia's independence in 1825 through 1981 there have been 193 coups, translating into, on average, a change in government every 10 months. Not exactly a story of stability!

If the political turmoil were the only problem Bolivia faced, it would be more than enough for the country to deal with, but economically things are no better. Bolivia is blessed with great natural resources, yet it cannot translate that into benefits for its people, who generate the lowest gross national product (GDP) in all of South America. Bolivia is heavily dependent on foreign assistance to



Some views around Santa Cruz.

An aerial view of part of Reyes.

finance various development projects, which begs the question: How long, given its current road, before the fabric of the country does indeed unravel?

Voices From Bolivia

But enough prelude. Let's talk radio! At least one can appreciate the fact that Bolivia still has plenty of shortwave stations to chase. It's no Ecuador, Colombia, or Venezuela, where shortwave has dried up like a root beer float in Death Valley! There are plenty of targets to chase. That's the good news, but on the other side of the coin—the boliviano, in this instance—they are not so easy to hear; in fact quite a number of them are darn near impossible. Low power, low frequencies, low sunspot totals all combine to dash our hopes for success, even on a good day. But this rule itself falls into the tray labeled "Exceptions To." DXers in southern Florida seem to have a much better shot at the more elusive Bolivians than do those in the northern states. But there are a handful of Bolivian broadcasters that make at least semi-regular appearances, even in the most forlorn of DX areas.

Several of the stations are indicated as "inactive," having been off the air (see "Bolivian Stations"), in some cases for years, but are still officially licensed, putting them into the "you never can tell" category. All nine of Bolivia's departments (states) are represented, so if Bolivia does end up breaking in two and a new country is formed, we'll at least have a shot at hearing it.

Most Bolivian shortwave stations are licensed to operate in the 90-, 60-, and 49-meter bands. Most operate with split schedules, say early morning, with some active during the noon hour, and then again in the early evening. One presumes because their audience is out working the land—some two-thirds of the population, or approximately six million people, are subsistence farmers living below the poverty level, so they don't have time to sleep in or sit by the radio all day. Morning sign ons come as early as 0900 and most stations are up and running by 1000, which is an ideal time to go Latin hunting. The evening hours are also good, although somewhat less so.

The most frequently heard stations these days include Radio Mosoj Chaski, Radio Eco, Radio San Miguel, Radio Yura, Radio Pio Doce, Radio Santa Cruz (most often and widely heard), and Radio Fides. That's seven stations out of the 55 or so shown as active on our list. Not a good average!

On the ham radio front, Bolivia is assigned amateur radio callsigns in the CPA through CPZ range by the International Telecommunication Union. Hams here are almost always heard signing calls that begin with "CP," followed by a number, followed by two additional letters, as in CP1AA, CP5ZZ, etc. Certain special-event callsigns may depart from this convention, but it's not typical.

CC WiFi Internet Radio

Receive Your Favorite Stations*
Over 14,500 Available Worldwide

- Excellent, Clear Audio
- Works on Any Broadband Signal
- Real, MP3, WMA Formats
- 99 Presets
- Wireless or Direct Connection via Ethernet Jack, Line-Out, Headphone, Signal Strength Indicator
- No Subscription Fee

* Your favorite station must stream audio. You must have broadband internet service.

$199.95

C.CRANE

Free Catalog

800-522-8863 · ccrane.com

PowerPort

WorldPack II
Hands free transport for your mobile radio and power supply.

Worldpouch for FT-817
Sleek 2-part fanny pack-maximum room for accessories.

RadioBox
Padded, quality constructed, professional carry case for your late model mobile radio and gear.

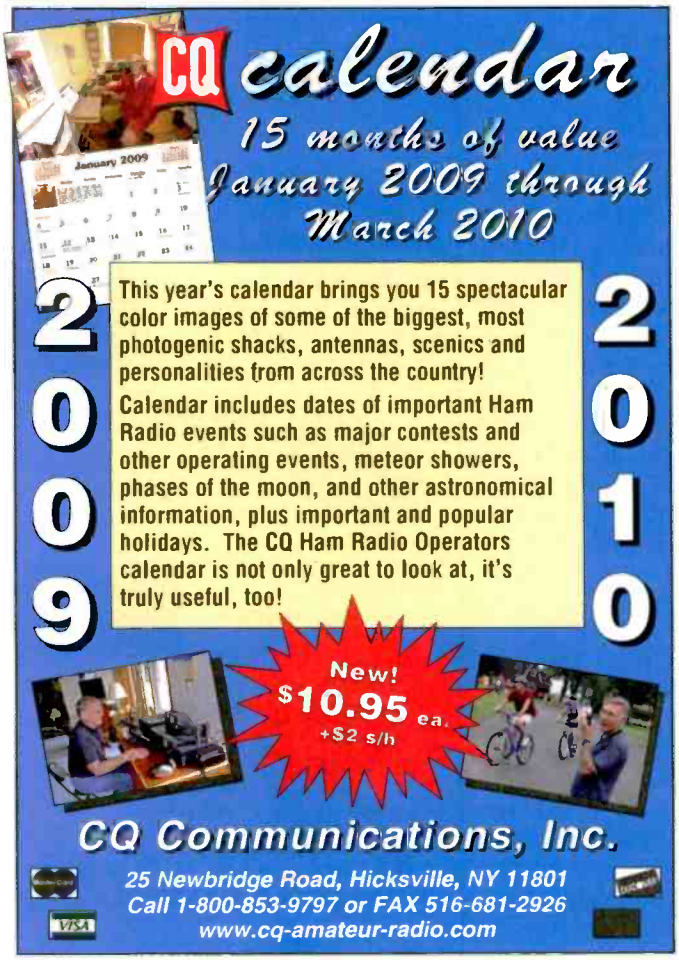
BagBattery
12V, 8 amp hour gel cell battery in tough, weatherproof padded bag.

831-427-8197 • KC6QLB
www.powerportstore.com

La Cruz del Sur, one of the oldest Bolivians on shortwave.

The country's 1,200 or so hams are represented nationally and internationally by Radio Club Boliviano (RCB), which is headquartered in La Paz and sports the club callsign CP1AA. We can only wonder how many CP ops are active, because working Bolivian hams on the bands isn't an everyday occurrence.

Activity recorded in November 2008 by the DX Summit spotting network is somewhat sparse, showing activity by CP6AA (Radio Club Santa Cruz), CP1JZ, CP5RC, and only a few other stations, all on 20, 17, and 15 meters. With the difficult propagation that accompanies this low point in the solar cycle, listen for CP hams on 20 and 17 meters (CW and SSB). During the hours of darkness, contacts on 80 through 30 meters may be possible, but not a given.



Thanks to recurring propagation paths between South and North America that occasionally—but regularly—open even during the doldrums, contacts on 15 through 10 meters can be had (but you still have to find a CP ham during the active period!). Hams in Florida, as usual, seem to benefit from transequatorial propagation much more frequently than do hams in the rest of the continental United States.

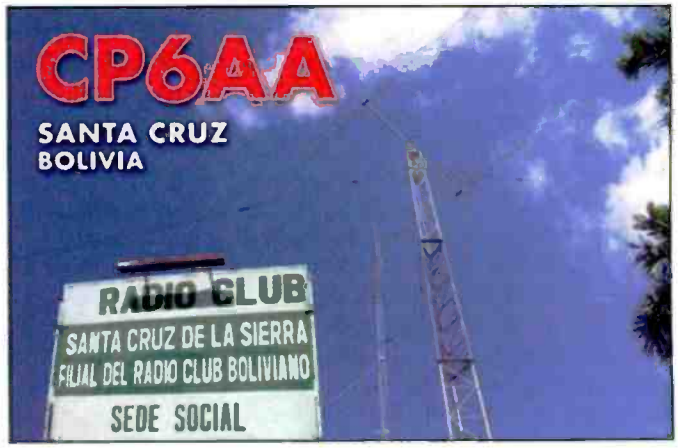
For news junkies who want to follow developments on the potential Bolivian breakup, there are a host of possibilities on the Web. Among the most prominent are *The Bolivia Times* newspaper (in English) (boliviantimes.com) and Bolivia Web (boliviaweb.com), which has links to all the English language Bolivian newspapers, a couple of radio stations and several TV stations. A Google search will bring an Everest (I should say an Aconcagua, the tallest Andean peak) of other possibilities.

Stay Tuned

No one can say with any certainty what's next for Bolivia. Another war? The umpteenth dictator? Yet another hand dipped into the till? Another military government? Or all of the above? Not a few experts would give you even odds on the latter possibility.

(Thanks to Kirk Kleinschmidt, NTØZ, for assistance with the amateur radio information and QSL image.) ■

The arrow marks the home of Radio Animas.



The antenna farm of CP6AA, Radio Club Santa Cruz. With all of that aluminum lofted skyward, you'd think CP6AA would be easier to track down on the air!

Big Savings on Radio Scanners

Uniden® SCANNERS

Bearcat® 796DGV Trunk Tracker IV with free scanner headset

Manufacturers suggested list price $799.95

CEI Special Price $519.95

1,000 Channels • 10 banks • CTCSS/DCS • S Meter

Size: 6 15/16" Wide x 6 9/16" Deep x 2 3/8" High

Frequency Coverage: 25.000-512.000 MHz., 806.000-956.000 MHz. (excluding the cellular & UHF TV band), 1,240.000-1,300.000 MHz.

When you buy your Bearcat 796DGV Trunktracker package deal from Communications Electronics, you get more. The GV means "Great Value." With your BC796DGV scanner purchase, you also get a **free deluxe scanner headphone** designed for home or race track use. Headset features Independent volume controls and 3.5 mm gold right angle plug. The 1,000 channel Bearcat 796DGV is packed with features to track Motorola Type I/II/IIi Hybrid, EDACS, LTR Analog Trunk Systems and Motorola APCO 25 Phase I digital scanner including 9,600 Baud C4FM and CQPSK. Also features control channel only mode to allow you to automatically trunk many systems by simply programming the control channel, S.A.M.E. weather alert, full-frequency display and backlit controls, built-In CTCSS/DCS to assign analog and digital subaudible tone codes to a specific frequency in memory, PC Control and programming with RS232C 9 pin port (cable not supplied), Beep Alert, Record function, VFO control, menu-driven design, total channel control and much more. Our CEI package deal includes telescopic antenna, AC adapter, cigarette lighter cord, DC cord, mobile mounting bracket with screws, owner's manual, trunking frequency guide and one-year limited Uniden factory warranty. For maximum scanning enjoyment, order magnetic mount antenna part number ANTMMBNC for $29.95. For complete details, download the owners manual from the **www.usascan.com** web site. For fastest delivery, order on-line at www.usascan.com.

Bearcat® BCT8 Trunk Tracker III

Manufacturer suggested list price $299.95

CEI Special Price $169.95

250 Channels • 5 banks • PC Programmable

Size: 7.06" Wide x 6.10" Deep x 2.44" High

Frequency Coverage: 25.0000-54.0000 MHz., 108.0000-174.0000 MHz., 400.0000-512.000 MHz., 806.0000-823.9950 MHz., 849.0125-868.9950 MHz., 894.0125-956.0000 MHz.

The Bearcat BCT8 scanner, licensed by NASCAR, is a superb preprogrammed 800 MHz trunked highway patrol system scanner. Featuring TrunkTracker III, PC Programming, 250 Channels with unique BearTracker warning system to alert you to activity on highway patrol link frequencies. Preprogrammed service searches makes finding interesting active frequencies even easier and include preprogrammed police, fire and emergency medical, news agency, weather, CB band, air band, railroad, marine band and department of transportation service searches. The BCT8 also has preprogrammed highway patrol alert frequencies by state to help you quickly find frequencies likely to be active when you are driving. The BCT8 Includes AC adapter, DC power cable, cigarette lighter adapter plug, telescopic antenna, window mount antenna, owner's manual, one year limited Uniden warranty, frequency guide and free mobile mounting bracket. For maximum scanning enjoyment, also order the following optional accessories: External speaker **ESP20** with mounting bracket & 10 feet of cable with plug attached $19.95. Magnetic Mount mobile antenna **ANTMMBNC** for $29.95.

Bearcat® BCD396T Trunk Tracker IV

Suggested list price $799.95/**CEI price $519.95**

APCO 25 9,600 baud compact digital ready handheld TrunkTracker IV scanner featuring Fire Tone Out Paging, Close Call and Dynamically Allocated Channel Memory (up to 6,000 channels), SAME Weather Alert, CTCSS/DCS, Alpha Tagging. Size: 2.40" Wide x 1.22" Deep x 5.35" High

Frequency Coverage:
25.0000-512.0000 MHz., 764.0000-775.9875 MHz., 794.0000-823.9875 MHz., 849.0125-868.8765 MHz., 894.0125-956.000 MHz., 1240.0000 MHz.-1300.0000 MHz.

The handheld BCD396T scanner was designed for National Security/Emergency Preparedness (NS/EP) and homeland security use with new features such as **Fire Tone Out Decoder**. This feature lets you set the BCD396T to alert if your selected two-tone sequential paging tones are received. Ideal for on-call firefighters, emergency response staff and for activating individual scanners used for incident management and population attack warning.

Close Call Radio Frequency Capture – Bearcat exclusive technology locks onto nearby radio transmissions, even if you haven't programmed anything into your scanner. Useful for intelligence agencies for use at events where you don't have advance notice or knowledge of the radio communications systems and assets you need to Intercept. The BCD396T scanner is designed to track Motorola Type I, Type II, Hybrid, SMARTNET, PRIVACY PLUS, LTR and EDACS® analog trunking systems on any band. Now, follow UHF High Band, UHF 800/900 MHz trunked public safety and public service systems just as if conventional two-way communications were used. **Dynamically Allocated Channel Memory** - The BCD396T scanner's memory is organized so that it more closely matches how radio systems actually work. Organize channels any way you want, using Uniden's exclusive dynamic memory management system. 3,000 channels are typical but **over 6,000 channels are possible** depending on the scanner features used. You can also easily determine how much memory you have used and how much memory you have left. **Preprogrammed Systems** - The BCD396T is preprogrammed with over 400 channels covering police, fire and ambulance operations in the 25 most populated counties in the United States, plus the most popular digital systems. **3 AA NiMH or Alkaline battery operation and Charger** – 3 AA battery operation - The BCD396T includes 3 premium 2,300 mAH Nickel Metal Hydride AA batteries to give you the most economical power option available. You may also operate the BCD396D using 3 AA alkaline batteries. Unique Data Skip - Allows your scanner to skip unwanted data transmissions and reduces unwanted birdies. Memory Backup - If the battery completely discharges or if power is disconnected, the frequencies programmed In the BCD396T scanner are retained in memory. Manual Channel Access - Go directly to any channel. LCD Back Light - A blue LCD light remains on when the back light key is pressed. Autolight - Automatically turns the blue LCD backlight on when your scanner stops on a transmission. Battery Save - In manual mode, the BCD396T automatically reduces its power requirements to extend the battery's charge. Attenuator - Reduces the signal strength to help prevent signal overload. The BCD396T also works as a conventional scanner to continuously monitor many radio conversations even though the message is switching frequencies. The BCD396T comes with AC adapter, 3 AA nickel metal hydnde batteries, belt clip, flexible rubber antenna, wrist strap, SMA/BNC adapter, RS232C cable, Trunk Tracker frequency guide, owner's manual and one year limited Uniden warranty. Not compatible with AGEIS, ASTRO or ESAS systems. Order on-line at www.usascan.com or call 1-800-USA-SCAN.

More Radio Products

Save even more on radio scanners when purchased directly from CEI. Price includes delivery in the continental USA excluding Alaska.

Bearcat 898T 500 channel Trunktracker III base/mobile	$209.95
Bearcat 796DGV Digital 1,000 ch. Trunktracker IV base/mobile	$519.95
Bearcat BCD396T APCO 25 Digital scanner with Fire Tone Out	$519.95
Bearcat 246T up to 2,500 ch. Trunktracker III handheld scanner	$214.95
Bearcat Sportcat 230 alpha display handheld sports scanner	$184.95
Bearcat 278CLT 100 channel AM/FM/SAME WX alert scanner	$129.95
Bearcat 248CLT 50 channel base AM/FM/weather alert scanner	$104.95
Bearcat 244CLT 30 channel base AM/FM/weather alert scanner	$94.95
Bearcat 92XLT 200 channel handheld scanner	$105.95
Bearcat 72XLT 100 channel handheld scanner	$89.95
Bearcat BR330T handheld shortwave/scanner with Fire Tone out	$274.95
Bearcat BCT8 250 channel information mobile scanner	$169.95
Bearcat 350C 50 channel desktop/mobile scanner	$96.95
AOR AR16BO Wide Band scanner with quick charger	$199.95
AOR AR3000AB Wide Band base/mobile receiver	$1,079.95
AOR AR8200 Mark IIIB Wide Band handheld scanner	$594.95
AOR AR8600 Mark II Wide Band receiver	$899.95
Deluxe Independent Dual Volume Control Racing Headphone	$29.95
Scancat Gold For Windows Software	$99.95
Scancat Gold for Windows Surveillance Edition	$159.95

Bearcat® BC246T Trunk Tracker III

Suggested list price $399.95/**CEI price $214.95**

Compact professional handheld TrunkTracker III scanner featuring Close Call and Dynamically Allocated Channel Memory (up to 2,500 channels), SAME Weather Alert, CTCSS/DCS, Alpha Tagging. Size: 2.72" Wide x 1.26" Deep x 4.6" High

Frequency Coverage:
25.0000-54.0000 MHz., 108.0000-174.0000 MHz., 216.0000-224.9800 MHz., 400.0000-512.0000 MHz., 806.0000-823.9875 MHz., 849.0125-868.9875 MHz., 894.0125-956.000 MHz., 1240.0000 MHz.-1300.0000 MHz.

The handheld BC246T TrunkTracker scanner has so many features, we recommend you visit our web site at www.usascan.com and download the free owner's manual. Popular features include **Close Call Radio Frequency Capture** – Bearcat exclusive technology locks onto nearby radio transmissions, even if you haven't programmed anything into your scanner. **Dynamically Allocated Channel Memory** - Organize channels any way you want, using Uniden's exclusive dynamic memory management system. 1,600 channels are typical but **over 2,500 channels are possible** depending on the scanner features used. You can also easily determine how much memory is used. **Preprogrammed Service Search (10)** - Makes it easy to find interesting frequencies used by public safety, news media TV broadcast audio, Amateur (ham) radio, CB radio, Family Radio Service, special low power, railroad, aircraft, marine, racing and weather frequencies. **Quick Keys** - allow you to select systems and groups by pressing a single key. **Text Tagging** - Name each system, group, channel, talk group ID, custom search range, and S.A.M.E. group using 16 characters per name. **Memory Backup** - When power is lost or disconnected, your BC246T retains the frequencies that were programmed In memory. **Unique Data Skip** - Allows the BC246T to skip over unwanted data transmissions and birdies. **Attenuator** - You can set the BC246T attenuator to reduce the input strength of strong signals by about 18 dB. **Duplicate Frequency Alert** - Alerts you if you try to enter a duplicate name or frequency already stored in the scanner. **22 Bands** - with aircraft and 800 MHz. The BC246T comes with AC adapter, 2 AA 1,800 mAH nickel metal hydride batteries, belt clip, flexible rubber antenna, wrist strap, RS232C cable, Trunk Tracker frequency guide, owner's manual and one year limited Uniden warranty. For more fun, order our optional deluxe racing headset part **#HF24RS** for $29.95. Order now at www.usascan.com or call 1-800-USA-SCAN.

Buy with Confidence

Order on-line and get big savings

For over 37 years, millions of communications specialists and enthusiasts worldwide have trusted Communications Electronics for their mission critical communications needs. It's easy to order. For fastest delivery, order on-line at www.usascan.com. Mail orders to: Communications Electronics Inc., P.O. Box 1045, Ann Arbor, Michigan 48106 USA. Price includes $30.00 UPS Ground shipping/handling/insurance per scanner to a street address in the continental USA excluding Alaska. Add $20.00 shipping for all accessories. For shipments to Canada, Puerto Rico, Hawaii, Alaska, Guam, P.O. Box, APO/FPO, USPS Priority Mail or UPS 2 business day delivery, add $30.00. Michigan residents add sales tax. No COD's. For Bearcat scanners your satisfaction is guaranteed or return item in unused condition in original packaging within 61 days for refund, less shipping charges. 10% surcharge for net 10 billing to qualified accounts. All sales are subject to availability, acceptance and verification. Prices, terms and specifications are subject to change without notice. We welcome your Discover, Visa, American Express, MasterCard, IMPAC or Eurocard. Order toll free, call 1-800-USA-SCAN or 1-734-996-8888 if outside Canada or the USA. FAX anytime, dial 1-734-663-8888. Dealer and international Inquiries invited. Order your radio scanners from Communications Electronics today.

For credit card orders call 1-800-USA-SCAN

e-mail: cei@usascan.com

www.usascan.com

PO Box 1045, Ann Arbor, Michigan 48106-1045 USA

For information call 734-996-8888 or FAX 734-663-8888

Price schedule effective January 2, 2006 AD #010206 © 2006 Communications Electronics Inc.

COMMUNICATIONS ELECTRONICS INC.

Emergency Operations Center

Visit WWW.USASCAN.COM • 1-800-USA-SCAN

Come One, Come All To The 22nd Annual Winter SWL Festival

The Kulpsville Tradition Continues...

by Richard A. D'Angelo

Kim Andrew Elliott of the Voice of America speaking at a previous year's Winter SWL Festival banquet.

It's hard to believe that winter is almost over and soon it will be time for my pilgrimage to Kulpsville for the Annual Winter SWL Festival, sponsored by the North American Shortwave Association (NASWA). We invite you, too, to come to Kulpsville ready to participate and learn something about radio, enjoy a lot of great radio-related conversations, and to benefit from the social life that only a well-stocked hospitality room can provide while practicing the event motto of *the FEST never ends*...

The 2009 Winter SWL Festival is scheduled for March 13 and 14, 2009, at the Best Western-The Inn at Towamencin (215-368-3800), or simply Kulpsville as it's known to long-time attendees. The FESTmeisters, Rich Cuff and John Figliozzi, are co-chairing this popular event for the 9th time. This year will mark the 22nd annual gathering of devoted radio listeners, and it's sure to be another good one. It's the *one* radio gathering in North America where every facet of the radio hobby is represented—shortwave, mediumwave, scanner, amateur, pirates, satellite, radio nostalgia...basically your typical DC-to-daylight crowd. The Winter SWL Festival format continues to provide the right blend of fun, education, information, and entertainment.

The usual question a radio hobbyist asks if he or she has never attended a prior Winter SWL Festival is, "why would I want to attend the Winter SWL Festival?" If you've never attended a radio gathering, or the Winter SWL Festival in particular, you're missing out on spending quality time with like-minded radio individuals. This is where you don't have to explain why you listen to a scanner or shortwave broadcasts in languages you don't understand or why your computer is loaded with software designed to interface with radio gear. Yes, there are other people who share your passion, and there are no apologies or explanations necessary. Think of the Fest as a support group with an open bar!

Let The FEST Begin...

Based on past years' activities, I'll try to preview what you can expect to see, hear and do while attending the annual Winter SWL Festival. Many of the regulars arrive a day early on Thursday to begin setting up the main meeting room, run antenna wires, get the display tables organized, and to meet and greet old friends and early arrivals.

The formal program begins Friday morning when Messrs. Cuff and Figliozzi kick things off with welcoming announcements. Throughout the day the Stockholm Room of the hotel features demonstrations, such as Digital Radio Mondiale (DRM), satellite monitoring, and software for controlling communications receivers, that run continuously throughout the two days of forums and discussions. The VOA's Kim Andrew Elliott will conduct continuous tests of DRM transmissions using the latest in DRM-ready receiver equipment while Tracy Woods provides a demonstration of international satellite TV and radio. The room will also host various vendor, station, and club displays.

Throughout the next two days various forums will be held on topics such as pirate radio, scanners, DRM, and new equipment. Specialized topics on radio history and perspectives on broadcasting are also featured. Internet Radio will be a new topic this year that should attract considerable attention with more and more shortwave broadcasters dropping North America from their target audience. The variety of subjects and topics reflects the wide array of interests of those attending.

Friday evening is the Swap Meet where attendees bring radio equipment and accessories to buy, sell, trade, or exchange. Later in the evening, David Goren will open the Listening Lounge, After Dark, which offers behind-the-scenes recordings of interesting programs. Naturally, the hospitality room stays open all evening as many of the FESTers toast the day's events.

On Saturday the demonstrations and forums continue and there's a bountiful pizza buffet lunch attracting the discrimi-

Richard A. D'Angelo is the Executive Director of the North American Shortwave Association (NASWA) and a member of the club's Executive Council.

nating gourmets in attendance. The Silent Auction runs all day and raises money for a worthy cause with the proceeds going to a selected charity while new-found radio treasures—aka radio-related junk—find new homes in unsuspecting radio shacks.

The final event of the FEST is the banquet and all the traditions that surround this majestic occasion. After dinner is served, Rich Cuff will introduce the evening program, which will include an after dinner speaker about a relevant radio-related topic, awards presentations, and the infamous raffle.

Just prior to the Grand Raffle, I'll have the pleasure of announcing the selection, by NASWA's Executive Council, of the recipient of the William P. Eddings Award as the club's member of the year. Once that bit of formality is out of the way, the fun begins. The Grand Raffle portion of the program will be hosted by Harold Cones. Expect to see famed pirate-hunter George Zeller win a bag of junk that belongs in the nearest dumpster, usually something like a 1984 guide to scanning in Idaho.

The raffle runs until around 2300 local time. From here the FEST slowly begins its final hours with late night conversations in the hospitality room continuing into the morning. The final semi-official activity will be the infamous midnight ride of The Voice of Pancho Villa, a grand Winter SWL Festival tradition.

Even after the broadcast, the hospitality room stays open into the wee morning hours as *the FEST never ends*. FESTers keep the radio-related conversations going into the night while consuming an adult beverage or two along with the usual healthy assortment of chips, peanuts, and pretzels.

Find Out More

The best way to keep informed about the Winter SWL Festival is to visit the website at http://swlfest.com/. Webmasters Ralph Brandi and Tom Sundstrom have the latest information, including the registration form available at this location. Otherwise, you can request a registration form by including a self-addressed stamped envelope to Winter SWL Festival, P.O. Box 4153, Clifton Park, NY 12065-4153. If you can't register in advance, no problem. The Winter SWL Festival greets walk-ins with the same indifference as pre-registered folks. Seriously, all are welcome...I hope to see you in Kulpsville! ■

POPULAR COMMUNICATIONS
• Books • DVDs • CDs

HR Anthologies

$19.95 ea.

Buy all 4 for only $75

Enjoy collections of the best material published in *Ham Radio magazine*, conveniently arranged by subject and original publication date. Choose your interest, your time period and choose your anthology!

Homebrewing Techniques .....Order # AHOME
Test Eqpt & Repair Techniques .....Order # ATEST
Antennas - 1968 - 1972 .....Order # ANTS1
Antennas - 1973 - 1975 .....Order # ANTS 2
All 4 for $75 and FREE Shipping .Order # ASET

Heathkit - A Guide to the AR Products

by Chuck Penson, WA7ZZE

This greatly expanded Second Edition is a must for collectors and Ham history buffs! Pick up this 328-page volume and you won't be able to put it down!

Order No. HEATHKIT $29.95

W6SAI HF Antenna Handbook

by Bill Orr, W6SAI

Inexpensive, practical antenna projects that work! Guides you through the building of wire, loop, Yagi and vertical antennas.

Order No. W6SAI $19.95

The Short Vertical Antenna & Ground Radial

by Jerry Sevick, W2FMI

Small but solid guide walks you through the design and installation of inexpensive, effective shortHF vertical antennas.

Order No. SVERT $10.00

The NEW Shortwave Propagation Handbook

by W3ASK, N4XX & K6GKU

A comprehensive source of HF propagation principles, sunspots, ionospheric predictions, contains photographs, charts, tables galore!

Order No. SWP $19.95

"Getting Started" DVD Paks

Our renowned Getting Started videos have been grouped together on DVDs!

1 - $24.95
2 - $45.95
3 - $65.95

CQ Ham Radio Welcome Pak
1 DVD contains 3 programs:
Ham Radio Horizons
Getting Started in Ham Radio
Getting Started in VHF
Order # HAMDVD $24.95

CQ HF Specialty Pak
1 DVD contains 2 programs:
Getting Started in DXing
Getting Started in Contesting
Order # HFDVD $24.95

CQ VHF Specialty Pak
1 DVD contains 3 programs:
Getting Started in Satellites
Getting Started in VHF
Getting Started in Packet
Order # VHFDVD $24.95

CQ DVD 3 Pak - one of each of the DVDs listed above.
Order # 3DVD $65.95

Buy any combination of DVDs and save!

1 Pak for $24.95; 2 Paks for $45.95; 3 Paks for $65.95

Understanding, Building & Using Baluns & Ununs

by Jerry Sevick, W2FMI

The successor to the popular and authoritative Baluns and Ununs. Great deal of new tutorial material, includes new designs, and crystal clear explanations of how and why they work.

Order No. 2BU $19.95

MIL SPEC Radio Gear

KOREAN WAR TO PRESENT DAY
by Mark Francis, KIOPF

Detailed write-ups for many familiar sets: PRC-25/-77, RT-68, PRC-1099, GRC-106, GRR-5, R-392 and more.

Over 230 pages of operation, modification, and maintenance tips and info, including 200+ illustrations.

Ancillary equipment, useful hints and mods, how to find surplus, and much, much more!

Order No. MILSPEC $27.95

Shipping & Handling: U.S. & Possessions - add $7 for the first item, $3.50 for the second and $2 for each additional item. ***FREE shipping on orders over $100.00** (merchandise only). Foreign-Calculated by order weight and destination and added to your credit card charge.

CQ Communications Inc., 25 Newbridge Rd., Hicksville, NY 11801
516-681-2922; Fax 516-681-2926
Order Toll-Free 800-853-9797

FREE Shipping & Handling on every $75 purchase!

DISCOVER AMEX VISA

Scanning The Skies

by Ken Reiss
radioken@earthlink.net

"Takeoff and landing at an airport is critical and it's where accidents are most likely to occur, so there will be all sorts of activity on various frequencies at a busy commercial airport."

Scanning airplane communications is a bit of a specialty in the hobby. *Pop'Comm* gives it regular coverage in both the "Civil Aviation Monitoring" and "Military Radio Monitoring" columns, but for those of you not yet familiar with it, I thought we'd do a little introduction in these pages.

Picking up, and understanding, aviation comms requires a somewhat specialized receiver and some patience to learn the lingo. In the old days, the specialized receiver was often a dedicated one, but many modern scanners include the civilian air band. Military aviation scanning may still require a special receiver, but those who are fans know what a fun part of the hobby this can be.

You'll need a scanner that covers the band you're interested in, of course. The aviation band for civil aircraft runs from 108 to 137 MHz (108 to 117 is used for navigation aids, so there isn't much traffic of interest in that range). If you're new to air scanning, the civil band is the place to start since the comms can be heard throughout the country, frequency information is readily available, and the band may already be on the scanner you own. The military uses 225 to 400 MHz. Many aviation enthusiasts are also military buffs as a lot of the military traffic relates to aircraft in flight (at least in North America).

All air traffic is AM, so your scanner will have to have this mode if you want to listen. Any scanner that includes an "air band" will have the civilian range covered, but unfortunately, only scanners toward the high end of the market will cover the military bands. Some of the communications receivers feature this band and the AM mode, but a general scanner or trunk-tracking scanner probably won't.

With the recent security concerns, the days of sitting at the airport on an observation lot or at the end of the fence are probably over, or at least you must approach with caution. If you're sitting in a parked car someplace close to the airport it's almost certain that security will be by in short order. Don't push them—they have enough to worry about. Luckily, it turns out that you can hear quite a bit of what's going on without even being

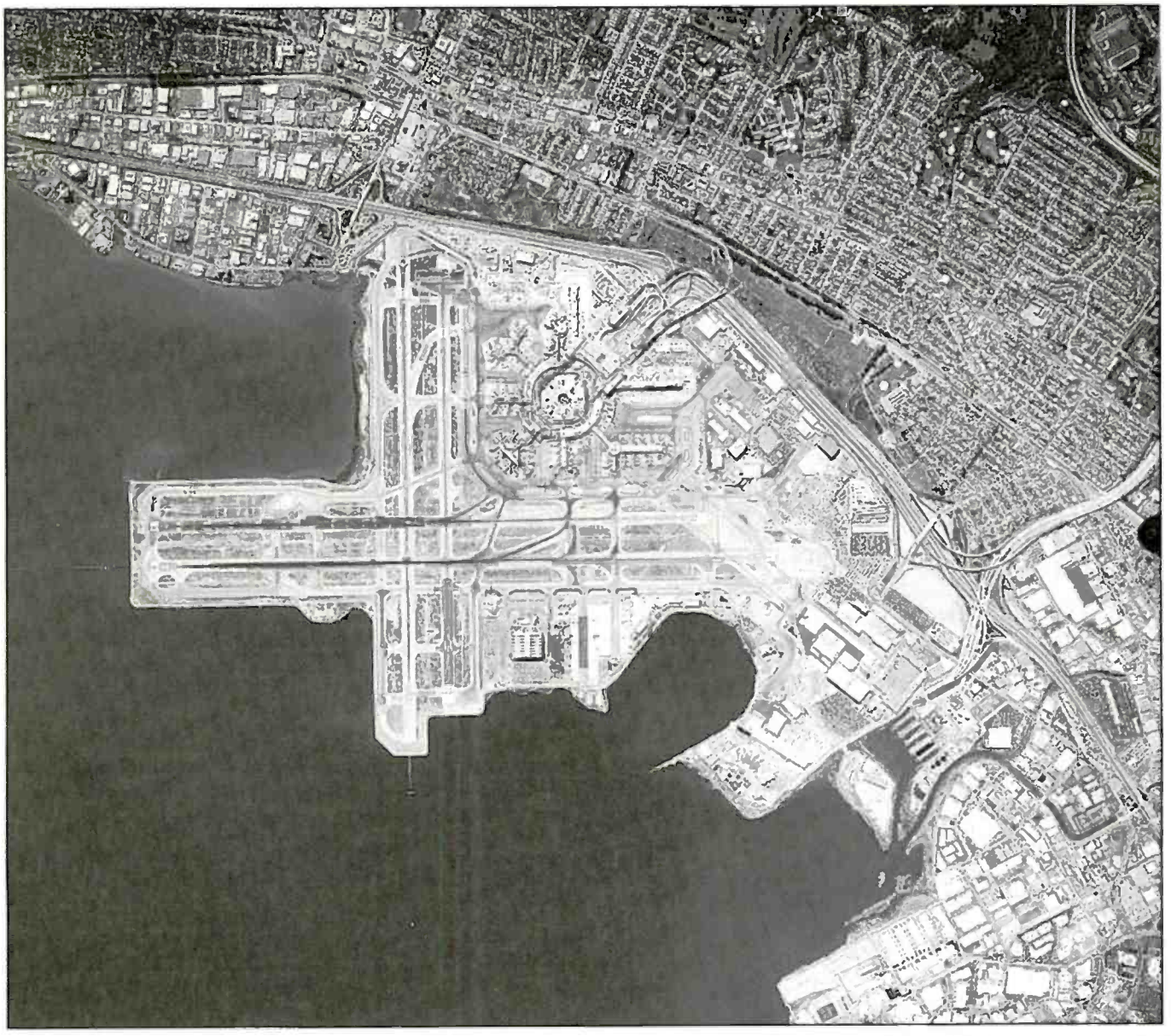
Phonetic Alphabets

The ICAO (International Civil Aviation Organization) phonetic alphabet is used in aviation. Sometimes public safety agencies use it, too, so it might not be new to you, although most of them use the APCO (Association of Public Safety Communications Officers).

You'll often hear taxiways referred to by the ICAO words when planes are given taxi instructions.

Letter	ICAO	APCO
A	Alpha	Adam
B	Bravo	Boy
C	Charlie	Charles
D	Delta	David
E	Echo	Edward
F	Foxtrot	Frank
G	Golf	George
H	Hotel	Henry
I	India	Ida
J	Juliet	John
K	Kilo	King
L	Lima	Lincoln
M	Mike	Mary
N	November	Nora
O	Oscar	Ocean
P	Papa	Paul
Q	Quebec*	Queen
R	Romeo	Robert
S	Sierra	Sam
T	Tango	Tom
U	Uniform	Union
V**	Victor	Victor
W	Whiskey	William
X***	X-Ray	X-Ray
Y	Yankee	Young
Z	Zulu	Zebra

* *pronounced Kay-bek*
** *how many words with V are there?*
*** *worse than V!*



The Internet is a wealth of aviation information. These aerial charts were found at www.ngs.noaa.gov/AERO/ASPphoto/aspphoto.html.

close to an airport, and you can hear the ground controllers several miles away, too.

Civil Aviation

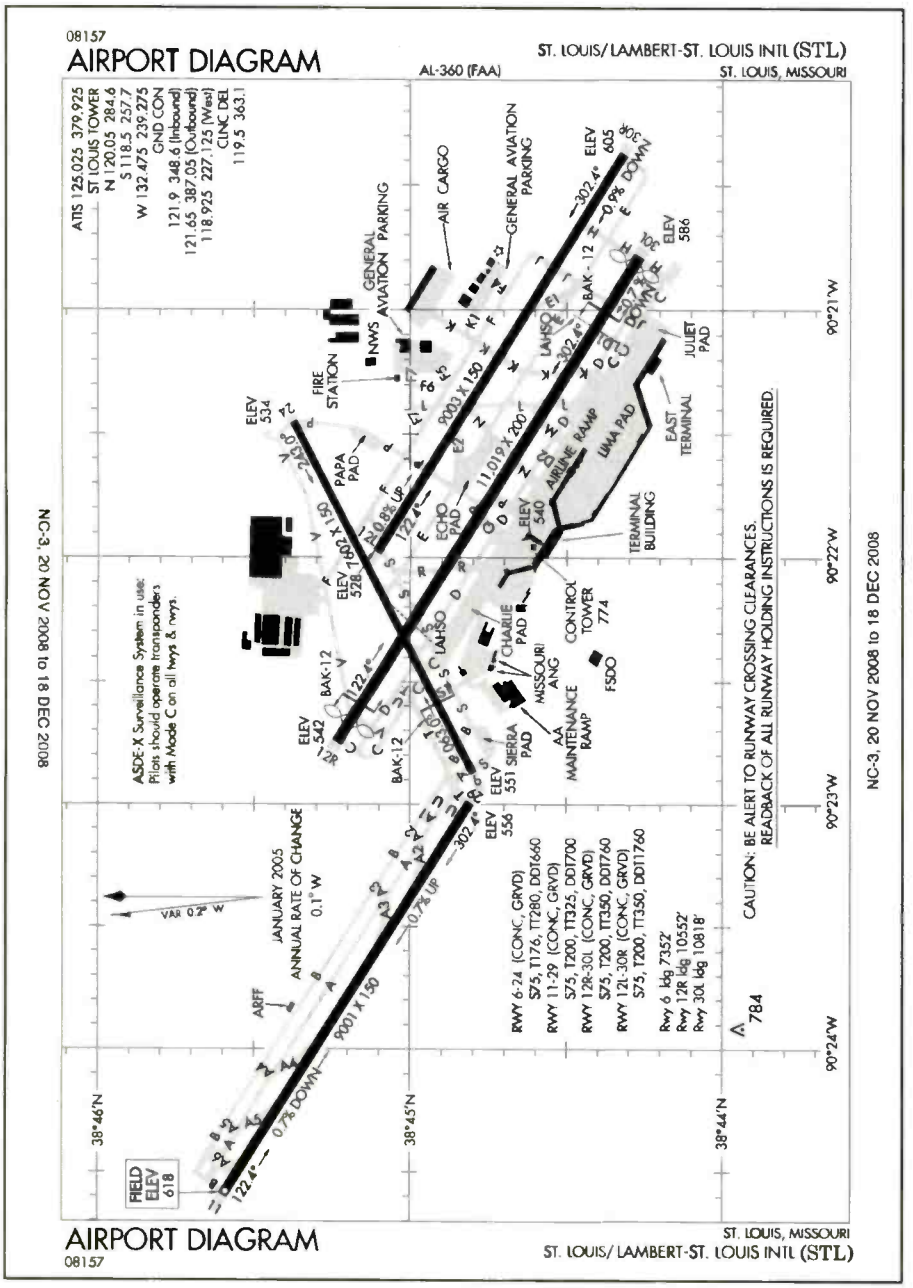
Since most people start out scanning civil aviation, that's what we'll concentrate on here. Any flight that's not military falls within civil aviation, which includes scheduled air carrier flights as well as small private planes used for business or fun. You'll hear both on the civil control frequencies, but it's not hard to tell them apart.

A scheduled air carrier will use the airline name and flight number. So American 384 is an American Airlines flight, and you should be able to get on the company's website and find out where it's headed if you care enough. A general aviation flight (those that are not scheduled airline flights) will use a tail number, something like "November 8 3 November Delta." You can use Google to find some of them, but many are not available easily, unless you want to download the registration database from the FAA. You'll need some computer database skills to extract information from it, but it's all there.

Catching On

As I said, it takes a bit of practice to develop an ear for the jargon, but that's also true of any other type of communication. Keep in mind that the radio is secondary to what the pilots are doing, and all the communication is designed to keep the aircraft moving forward, safely. Most of it relates to reporting progress of the flight and clearance for the next piece of the flight path. Takeoff and landing at an airport is critical and it's where accidents are most likely to occur, so there will be all sorts of activity on various frequencies at a busy commercial airport. General aviation airports will use fewer frequencies as they don't have as much traffic, but a lot of the same stuff has to happen whether or not there's a control tower.

Air traffic controllers and pilots alike are trained to make all communications routine and use a form of shorthand designed to minimize on the air time and



The FAA website at www.faa.gov also provides riches for the aviation scannist, although you do have to dig a bit. Among the most useful finds are airport diagram maps, which include both a runway diagram and a lot of frequency information at the upper left corner. These are available at www.naco.faa.gov/digital_tpp.asp?ver=0812&eff=11-20-2008&end=12-18-2008.

keep the frequency—and the pilot—free for other things. Sometimes when they do forget that training, it makes for some of the best listening on the air band, and often it's quite humorous.

One area that gets a bit confusing for the beginner is the expression of altitudes, which is kind of important to airplanes. Near the airport on takeoff or landing, and at lower altitudes, the height is given as feet above sea level. "Climb and maintain 4000" is clearance to 4,000 feet, although the pilot is likely to shorten the readback of that to "Roger...climbing for 4." At these altitudes, and in close proximity to the ground and airport, the local barometric pressure is set on the altimeter to give readings as accurate as possible. You'll quite often hear a controller read off the altimeter setting with a landing instruction, say "American 470 cleared to land runway 22, altimeter 29.98," just to give the pilot a last chance to set it accurately.

At 18,000 feet, however, something weird happens. The altitudes become "Flight levels," at which point the altimeter is set to 29.92 (standard pressure) and everyone uses that regardless of the actual air pressure at a particular location. The pilot can then travel long distances without having to worry about resetting the altimeter, and since everyone will be using the same number, the readings will be off by the same amount for any given area. What can also add to the confusion here is that the flight levels drop the last two zeros, so 18,000 feet becomes flight level 180.

Frequencies Of General Interest

Some frequencies in the airband are national. Put these in your scanner if anything interests you.

108–118, Navigation Aids—You won't hear much voice down here, except for some automated weather and "talk-through systems" where a remote flight service station transmits through a navigation aid's transmitter. For the most part, you can leave these out of your scanner.

121.5, Universal Emergency Frequency—243.0 is the military equivalent. Not much traffic here, but the traffic that is here is very important.

122.0, Flight Watch—En route weather and information for mostly private aircraft.

122.8, Unicom—Used at many smaller uncontrolled airports for pilots to talk and coordinate.

122.9, Unicom—A second Unicom frequency

123.0, Unicom—Unicom in some areas, sometimes used by helicopter operations.

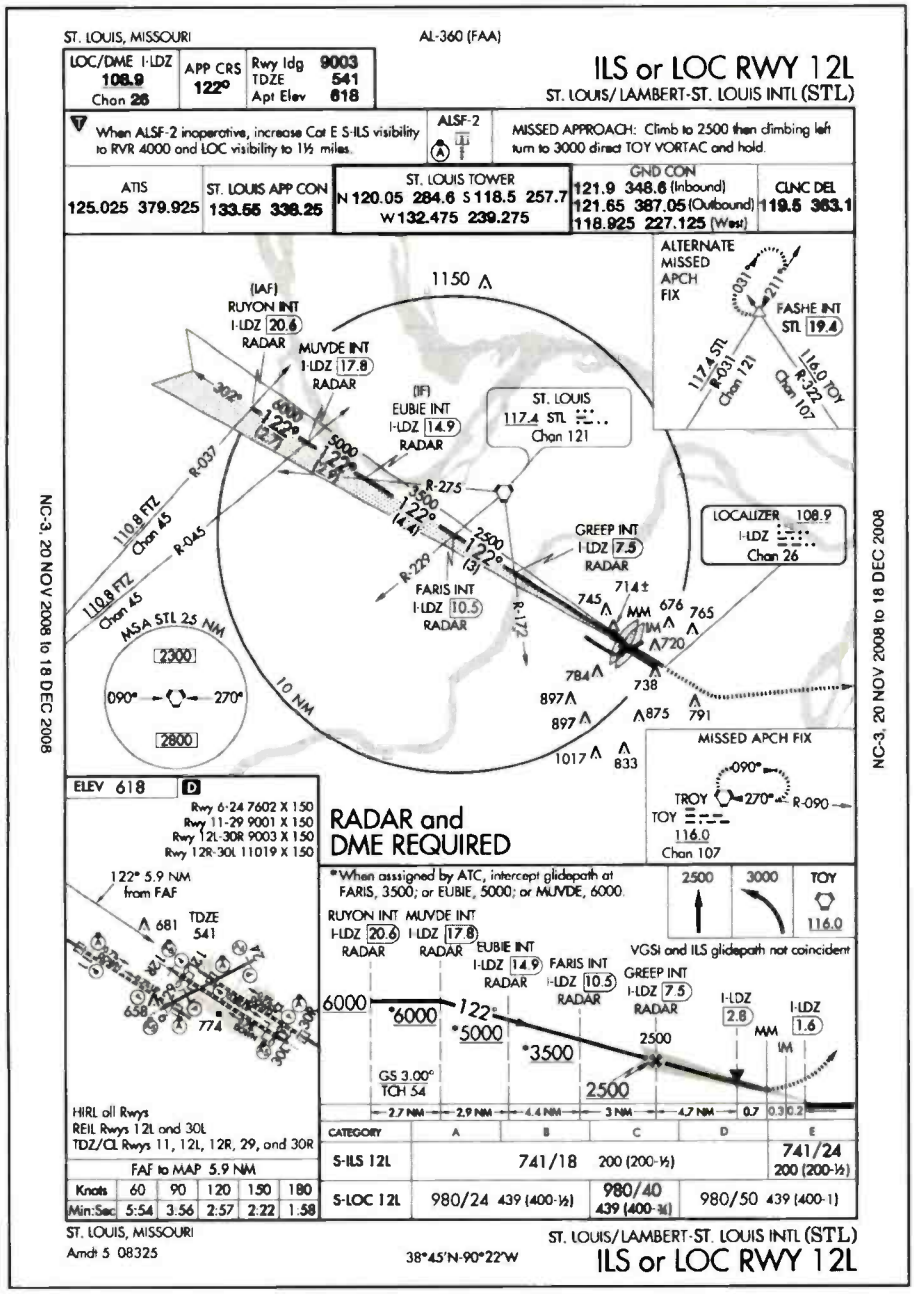
123.025, Helicopter Operations.

123.45, Plane-to-Plane—Sometimes used as a very informal chat channel.

126.2, Military Towers—Many military installations have restricted airspace around them and need a way to communicate with civilian aircraft. This frequency is used quite often for this purpose.

Automated Terminal Information Service

At larger airports, particularly commercial ones with lots of flights, but also at some smaller controlled airports, there's likely to be an automated infor-



The same FAA website also has individual "approach plates" like this one for St. Louis Lambert Airport's Runway 12 Left. These show the details the pilot needs to contact Air Traffic Control, where to report, and what frequencies to use. The frequency list just above the main diagram is a great place to start, and once you find the tower frequency and know what runway is in use, the chart will tell you what other frequencies will be busy that day.

Frequency Of The Month

Each month we ask our readers to let us know what they're hearing on our "Frequency Of The Month." Give it a listen and report your findings to me here at "ScanTech." We'll pick a name at random from the entries we receive and give that lucky winner a free one-year subscription, or extension, to *Pop'Comm*.

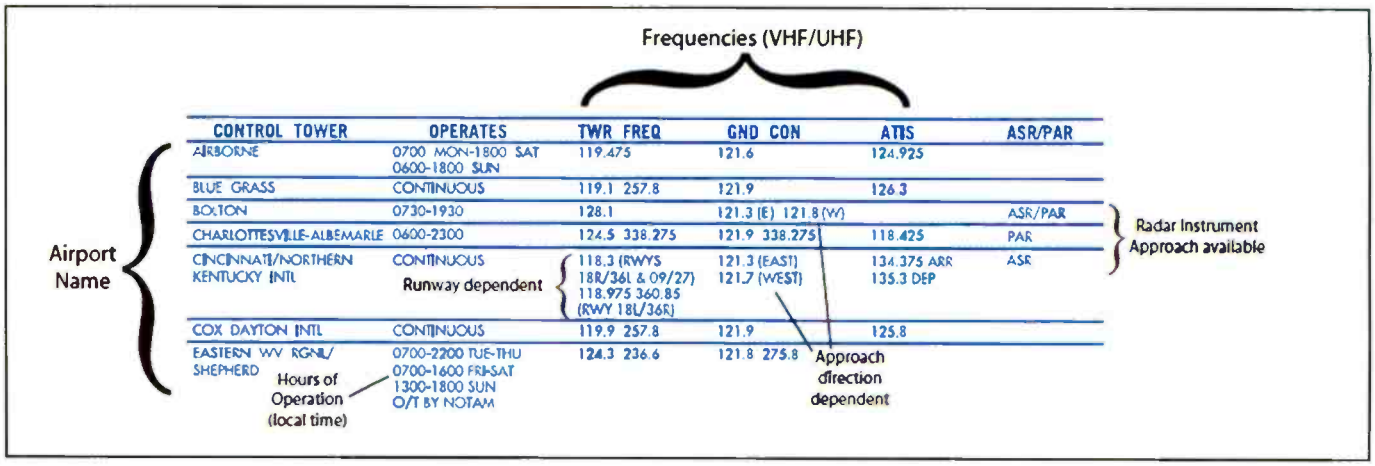
The most recent winner of our drawing is **Ken Schuman** of **Sandy, Utah**. Ken listened to 154.115 MHz and heard the University of Utah Commuter Services, telling us that he, "Listened to dispatch communicate with lot attendants patrolling both student and staff parking lots. Also reported broken parking meters to dispatch, and school bus routes on campus." Thanks for sending in your findings, Ken, and congratulations.

In keeping with our aviation theme, let's give **109.1 MHz** a try this month. If you don't hear anything there, check out then entire 108.0–118.0 range. Most airports have a navigation aid that operates in here. You might just hear noise of the data signal, or you might also hear a voice, depending on the particular aid you find. After that, check out the 118–124 range for ground and tower communications. Send the results to me (even if you don't hear anything) and we'll enter your name in the drawing. Please include your address and make sure to put the frequency as the subject of your email or on the outside of the envelope for correct routing. Send your entry (or other questions) to radioken@earthlink.net or via more traditional methods to Ken Reiss, 9051 Watson Rd. #309, St. Louis, MO 63126.

Come on, let's hear from everyone (and don't forget that address!).

mation broadcast called Automated Terminal Information Service (ATIS). This repeating broadcast includes information about what runways are active, what the current weather is, what the altimeter settings are, plus any information about airport operations or things happening nearby that might be of interest or concern to all pilots operating in the area. The first broadcast of the day is called "Alpha," and as it's updated, the ID is changed so that everyone, particularly the pilots and ground crew, knows that the information they have is the most current. They simply step through the International Civil Aviation Organization (ICAO) phonetic alphabet each time it's changed and start over if they run out.

You may hear a pilot call "with Delta" and the controller will reply that "Echo is current" and send him back to the ATIS frequency to get the updated information. In a few minutes, the pilot will come back and report that he now has Echo. If weather is constant, it might be that Alpha is in use all day. In bad weather, or rapidly changing conditions, it can change every few minutes. The idea behind this is to save the ground controllers from having to repeat the same information over and over on the ground control frequency, or the tower frequency for landing aircraft. This isn't out of concern for the poor controllers, but rather to keep the frequency clear for more important communications.



You can also find information on how to read charts and the details they contain; both instrument and visual charts can be found at skyvector.com. The table from a users' guide was on the FAA site at www.naco.faa.gov/index.asp?xml=naco/online/aero_guide.

Often the broadcast also includes frequency information for contacting ground or approach controllers depending on the airport. If not, this information is readily available in many publications or on the Internet (check out the websites provided here or do your own search). In fact, ATIS is one of the first things I go looking for when I'm in a new area because the transmitter is always on. If I can hear an ATIS broadcast, I can probably hear the tower, too. It doesn't take long to find active frequencies in your area and at least get a feel for the type of activity that frequency is being used for. It can be a great place to start your listening.

Other Info Sources

One of the key differences between aviation scanning and public safety scanning is that the information is so widely available for the former. You can simply visit your nearest pilot supply shop and come out with all sorts of charts and books that list frequency and usage information. Sometimes you can even find pilots who will give you old or outdated charts. They're not legal to use for navigation any more, but they don't change frequencies that often.

Stop by a pilot shop or flight training center and tell them what you're looking for and why. Even if they don't have any materials that day, it's a good bet that you could talk someone into holding some for

Pop'Comm February 2009 Reader Survey Questions

This month we'd like to ask about the evolution of your hobby. Please use the Reader Survey Card and circle all appropriate numbers. We'll pick one respondent at random for a free one-year subscription, or extension, to *Pop'Comm* so don't forget your address. Thanks for participating.

How old were you when you started developing a "radio habit"?

- Less than 10 years old . . . 1
- Between 10 and 15 . . . 2
- About high school age . . . 3
- About college age . . . 4
- During your working years . . . 5
- After retirement . . . 6

What was your introduction?

- AM/FM broadcast band radio . . . 7
- Shortwave radio . . . 8
- Scanning . . . 9
- Ham radio . . . 10
- Other two-way radio . . . 11

How has your hobby evolved since you first became interested in radio?

- I have broadened my interests and activities . . . 13
- My interests and activities have remained about the same . . . 14
- I'm not as active in the hobby as I once was . . . 15

Did you have a mentor to help you get started in the hobby?

- Yes . . . 16
- No . . . 17

Have you ever mentored someone in radio?

- Yes . . . 18
- No . . . 19

Highlights from October's Reader Survey

October's survey asked readers about the Electronic Communications Privacy Act (ECPA), which criminalized listening to certain segments of the radio spectrum, and what affect it had on their hobby. An unsurprising 90 percent of respondents considered it completely unfair to scanner listeners; approximately 8 percent were split evenly between having no opinion and believing it acceptable. One rebel considered it a good law. More evenly split were the answers to whether or not it changed how readers feel about the hobby, with close to 60 percent saying the hobby's not the same at all since its enactment, and about 40 percent saying it's made no difference to them.

This is the fun finding: Again unsurprisingly, a full 99 percent of respondents want to see a return to the pre-1986 regulations established by the Communications Act of 1934. And, again, one rebel held out in favor of keeping the restrictions in place. I won't say who...

The winner of a free subscription or extension to *Pop'Comm* this month is **George Michael of Monroe Township, New Jersey**. Congratulations, George.

Air Route Traffic Control Centers (ARTCC)

ARTCC's handle planes at altitude as they travel between airports and criss-cross the country. Don't worry if there isn't one right in your back yard, you're still likely to hear one of their remote transmitter sites in your area. Here are their locations:

Albuquerque	Kansas City
Atlanta	Los Angeles
Boston	Memphis
Chicago	Miami
Cleveland	Minneapolis
Denver	New York
Fort Worth	Oakland
Houston	Salt Lake
Indianapolis	Seattle
Jacksonville	Washington (DC)

you the next time they expire, just for the price of a cup of coffee. These charts provide a wealth of information, and you'll learn a bit about reading them in the process. But, if you don't have a supply shop or training center near you, don't fret—again, much is available on the Internet.

Basic Communication

Obviously, the most important aspect of aviation is to safely get airplanes into the sky and back out of it, and almost all the communications you'll hear is related to that. The callsign of the aircraft should be included at the beginning someplace. For general aviation aircraft, they'll make the first contact with the entire callsign, but then may shorten it to just the last few letters/numbers for subsequent communications.

You may hear something like, "Spirit Tower, November Three Eight Five Alpha Charlie, at the stacks with Echo, landing." This short convoluted sentence tells the tower controller about all it needs to know. The plane with the callsign N385AC is located at the stacks (wherever that is, but all airports have some common landmarks they use), and the pilot has all the information about the airport that was included in the Echo broadcast, which would include the active runway and the altimeter and wind information.

Depending on how busy the airport is, the plane might hear back something like "Five Alpha Charlie cleared to land runway 23, altimeter two niner niner two." That's a clearance to land, and that may be the only communication. If the airport is a bit busier, the pilot may be given an instruction to report three miles out, or at some other landmark.

Again, it takes a bit of practice, but you can get the hang of it fairly quickly. Once you catch on, it can be a lot of fun, even if you're not close enough to hear the ground communications. Some people enjoy tracking the flights or keeping logs of planes they hear. You can do as little or as much as you like once you get the bug.

Have A Listen

Check out the air band in your area. You might be surprised at just how active it is, even if you're not close to a major airport. Sometimes small airports generate a lot of traffic, and sometimes more excitement because the pilots are in training or don't fly as a profession. Sometimes just listening to an Air Route Traffic Control Center (see box) relay can be interesting to see what's passing overhead. And you can hear planes for a very long way, even if the ground isn't audible.

So give a listen. You, too, may become an aviation scanner enthusiast. Until next month, good listening! ■

For 45 years our volunteers have endured long hours and tough working conditions for no pay.

And 9 out of 10 would do it again.

TO FIND OUT WHY
contact
REACT International, Inc.
(301) 316-2900 • (866) REACT-9-9
5210 Auth Rd., Ste. 403, Suitland, MD 20746
REACT.HQ@REACTintl.org
www.REACTintl.org

MacDill Air Force Base—A Long And Proud History

by Mark Meece, N8ICW
ohioscan@gmail.com

Since winter has us northerners still tightly in its grip, let's use this column to take us to more temperate climes in the southeastern United States; in particular, to the beautiful Floridian West Coast.

Situated about eight miles south of downtown Tampa on the south end of the Interbay Peninsula is MacDill Air Force Base. And, like Florida's native Manatee, MacDill on several occasions has found itself on an endangered list.

MacDill's Early Years

MacDill, originally known as Southeast Air Base, Tampa, can trace its roots all the way back to 1898 and the Spanish-American War. At that time, Tampa was considered a strategic emplacement as a rendezvous location for troops on their way south to Cuba to aid that country in its fight for independence from Spain. Some 66,000 troops waited to board ships heading to Cuba, 10,000 of which were soldiers who had set up camp in what was then called Port Tampa City.

The base was renamed in honor of Colonel Leslie MacDill, a pioneer of the United States Army Air Corp who died in a plane crash in 1938. With the formation of the U.S. Air Force in 1947, the official name changed from MacDill Field to MacDill Air Force Base. The airfield's first assigned mission was the planning and execu-

A KC-135R Stratotanker from the 6th Air Mobility Wing, based at MacDill AFB, takes flight over central Florida. (U.S. Air Force photo by Master Sgt. Keith Reed)

tion of the continental United States' air defense, and it became the headquarters of the Air Defense Command's Third Air Force.

MacDill Pre-World War II

The official dedication of the base took place on April 16, 1941, about one year after occupancy began. Flight operations began in 1941 following the Japanese attack on Pearl Harbor. The base became a major staging area for aircraft and crews of the Army Air Corp.

The first units assigned to MacDill where charged with a variety of responsibilities. The 29th Bombardment Group was activated and charged with flying antisubmarine patrols over the Caribbean. The 29th served MacDill from May of 1940 until it transferred to Gowen Army Airfield in Idaho in June 1942, at which time it became an Operational Training Unit (OTU) for the Consolidated B-24 Liberator. The 44th Bombardment Group was a heavy squadron that also flew the B-24 on antisubmarine missions. That group moved to Barksdale Army Air Field, Louisiana, in 1942.

In the fall of 1942, the antisubmarine patrols, along with other naval operations, were concluded after successfully bringing an end to the German U-boat operations in the western Atlantic, which had been plaguing the shipping lanes.

MacDill During World War II

As the United States became embroiled in World War II, antisubmarine operations were taken over by the U.S. Navy, and MacDill became a facility for training aircrews for deployment to overseas theaters. Training was first focused on heavy bomber groups flying the B-17 Flying Fortress.

In the summer of 1942, MacDill became host to the newly activated 21st Bombardment Group. The 21st was the operational training unit for the Martin B-26 Marauder and also flew patrols watching for enemy submarines in the Gulf of Mexico. Training in the B-26 ended operations at MacDill in October 1943. The 21st disbanded and MacDill reverted back to a primary B-17 aircrew training base. You can find a list of those units in the "Historic Squadrons At MacDill" sidebar.

In November 1943, the 488th Bombardment Group (Heavy) became the Operational Training Unit at MacDill. The 488th trained the 463rd Bombardment Group (Heavy) from November of 1943 to January 1944, and the 483rd Bombardment Group (Heavy) from November 1943 to March 1944. In May 1944 the 488th deactivated and aircrew training of the B-17 came to an end.

Historic Squadrons At MacDill

B-17 Flying Fortress
97th Bombardment Group (Heavy) (Feb–Mar 1942)
92nd Bombardment Group (Heavy) (Mar–May 1942)
91st Bombardment Group (Heavy) (May–Jun 1942)
99th Bombardment Group (Heavy) (Jun 1942)
94th Bombardment Group (Heavy) (Jun–Jul 1942)

B-26 Marauder
320th Bombardment Group (Medium) (Jun–Aug 1942)
336th Bombardment Group (Medium) (Jul–Aug 1942)
(Served as OTU at Lake Charles AAF, Louisiana after training at MacDill)
322nd Bombardment Group (Medium) (Jul–Sep 1942)
323rd Bombardment Group (Medium) (Aug–Nov 1942)
344th Bombardment Group (Medium) (Sep–Dec 1942)
386th Bombardment Group (Medium) (Dec 1942–Feb 1943)
387th Bombardment Group (Medium) (Dec 1942–Apr 1943)
391st Bombardment Group (Medium) (Jan–May 1943)
394th Bombardment Group (Medium) (Mar–Jul 1943)
397th Bombardment Group (Medium) (Apr–Oct 1943)
477th Bombardment Group (Medium) (Jun–Aug 1943)
(Group inactivated 25 August 1943)

The Post-War Period

The half century after World War II ended and peacetime returned saw many changes in operations at MacDill. In 1946, the base came under the directive of the Strategic Air Command (SAC). That year MacDill went from training aircrews in the B-17 to becoming the primary B-29 Superfortress training facility. The Strategic Air Command's first operational B-47 wing, the 306th Bombardment Wing, activated on September 1, 1950, at MacDill. Refueling operations began there in 1952 after the 306th Air Refueling Squadron accepted delivery of the first Boeing KC-97E assigned to SAC.

MacDill was threatened with closure for the first time in 1960 and was actual-

A rare color photo of a B-29 Superfortress in flight. (Public domain photo)

ly listed as "Government Surplus." That changed in 1962, when for 13 days in October the world sweated through its closest call with nuclear war. The Cuban Missile Crisis illustrated the strategic value of MacDill's location and led to MacDill's becoming the home of the first unified command as a crisis response force was formed of the United States Strike Command.

By 1962, MacDill was transferred from SAC to the Tactical Air Command (TAC), thus transitioning from a bomber base to a fighter base. On April 17, 1962, the 12th Tactical Fighter Wing (TFW) was re-activated and placed under command of the Ninth Air Force at MacDill. By January 1964, the 12th TFW and its subordinate squadrons were flying the F-4 Phantom II made by McDonnell Douglas. The F-4 Phantom II is the only aircraft used by both the USAF Thunderbirds and the U.S. Navy's Blue Angels flight demonstration teams.

The 1st TFW was transferred to MacDill from Hamilton Air Force Base, California, on January 10, 1970. The 1st TFW shared squadron designations used by the host 15th TFW until 1971. By 1975, the 1st TFW and its operational squadrons had moved on to Langley Air Force Base, Virginia, as they had arrived at MacDill—without personnel or equipment. On June 30 of that same year, the 56th TFW became the new host unit at MacDill Air Force Base. See the "56th Tactical Fighter Wing" sidebar for its operational squadrons.

The transition from the F-4 to the F-16 Fighting Falcon took place in 1979. The US Readiness Command was replaced by the US Special Operations Command in 1987. By the early 1990s, airspace around MacDill had become very congested, causing hazards for F-16 training. As a result, the 1991 Defense Base Closure and Realignment Commission ordered an end to all flightline activities at MacDill. This sent MacDill's F-16 mission to Luke Air Force Base and reassigned the 56th Fighter Wing to the Air Education and Training Command (AETC). The flightline closure was short-lived however, thanks to the efforts of local Congressman Bill Young (R-FL), and that order was rescinded in 1993.

Less than a year after Hurricane Andrew cut a path of destruction across southern Florida, the National Oceanic and Atmospheric Administration (NOAA) moved its operations from Miami International Airport to the Aircraft Operations Center at MacDill, in January 1993. They operate out of Hangar 5, flying both the Lockheed WP-3D Orion and Gulfstream IV SP aircraft, heard during hurricane season as "Hurricane Hunters" on HF channels.

MacDill Today

MacDill Air Force Base (KMCF) currently operates two runways, 4/22, on 5,000 acres and supports around 6,000 air personnel and civilians. It also includes the lesser-known MacDill AFB Auxiliary Field (KAGR) in nearby Avon Park, Florida. See the "MacDill Air Force Base (KMCF)" sidebar for frequency and other communications information.

Since 1994, the 6th Air Mobility Wing (AMW) has been the host wing at MacDill, under the watchful eye of the Air Mobility Command to provide support for the US Central Command (CENTCOM) and US Southern Command (SOCOM), both headquartered here. The 6th Aerial Refueling Wing (ARW) is the tenant flying unit stationed at MacDill. Part of the 91st Aerial Refueling Squadron, it flies 12 KC-135R Stratotanker aircraft, one EC-135 and one CT-43. The 6th AMW is heard as RAYMOND 19 on the HF-GCS (Global Communications System) of the US military, and aircraft use the callsign BOLT. The 927th ARW of the US Air Force Reserves is an Associate Unit of the 6th AMW. This unit just recently transferred its personnel to MacDill from Selfridge Air Force Base in Michigan, where they used the callsigns AUTO and PISTON.

MacDill AFB hosted Airfest in May 2008. As this column is written, schedules for the 2009 season have not been released yet, so keep an eye out for another one soon. MacDill is always abuzz with activity, so if you find yourself in the area you should find lots to listen to.

Military Loggings

Doug Bell in Canada checks in with us with a list of his recent military intercepts. We appreciate any loggings you would like to report, whether on HF, VHF, or UHF. You can send them to the email address listed in the column header. Please try to follow the format you see here and we'll include them in a future column

5550: USB 2314Z, USCG 2006 (HC130J/Greenville SC) wkg New York Radio with a position of 33N 067W at fl 280.

56th Tactical Fighter Wing

61st Tactical Fighter Squadron (yellow tail stripe)
62nd Tactical Fighter Squadron (blue tail stripe)
63d Tactical Fighter Squadron (red tail stripe)
13th Tactical Fighter Squadron (white tail stripe, deactivated at MacDill during conversion from F-4D to F-16A/B in 1981 and reactivated at Misawa AB, Japan as an F-16 squadron)
72nd Tactical Fighter Squadron (black tail stripe)
(F-16A/B/C/D Activated 1 July 1981, deactivated June 19, 1992)

An F-4E from the 347th Tactical Fighter Wing dropping 500-pound Mark 82 bombs. (Public domain photo)

5616: USB 2333Z, REACH 360 (C17A/62nd AW, McChord AFB, WA) wkg Gander Radio with a position of 54N 040W at fl 360. Flight instructed to contract Gander Center on 122.37 VHF at 050W.

NAVY CW 730 (C130T/"Revelers," VR-54, NAS New Orleans, LA) wkg Gander Radio with a HF radio check.

REACH 116 (C17A/62nd AW, McChord AFB, WA) wkg Gander Radio with a position of 57N 030W at fl 340.

REACH 544 (C17A/62nd AW, McChord AFB, WA) wkg Gander Radio with a CF-KR SELCAL confirmation.

5696: USB 1440Z, CAMSLANT-Chesapeake wkg USCG 2134 (HY25A/ATC Mobile). Flight passed a position of 27N 065W and "ops normal."

6761: USB 1533Z, REACH 1171 (unidentified a/c) instructing a Tanker that it was on time for the refueling.

8846: USB 1254Z, REACH 617 (C17A/21st AS, 60th AMW, Travis AFB, CA) wkg Gander Radio with a position of 54N 040W at fl 340. Flight instructed to contact Gander Center on VHF 122.37 at 050W.

8864: USB 1238Z, DIXIE 91 (KC135R/106th ARS, AL-ANG) wkg Gander Radio with a position of 61N 060W at fl 360. Flight instructed to contact Montreal Center on 135.8 VHF.

REACH 711 (CH130/156th AS, NC-ANG) wkg Gander Radio with a position of 51N 030W at fl 200. Flight requested that position data be relayed to HILDA.

RATS 35 (KC135R/452nd AMW, MARCH ARB, CA) wkg Gander Radio and being instructed to contact Montreal Center on 132.02 VHF.

CANFORCE 3058 (CC144/8 Wing, 412 SQN, CFBV Trenton, Ontario) wkg Gander Radio with a position of 58N 040W.

NATO 24 (E3A/NAEW, Luxembourg) wkg Gander Radio with a position of 59N 040W at fl 340.

SHUCK 83 (E3B/552nd ACW, Tinker AFB, OK) wkg Gander Radio with a position of 55N 040W at fl 310. Flight instructed to contact Gander Center on 6622 kHz at 050W.

REACH 01 (C21A/457th AS, Andrews AFB, MD) wkg Gander Radio with a position of "fox" at fl 430. Flight instructed to contact Gander Center over "loach" on 133.47 VHF.

CAFE 41 (KC10A/305th AMW, McGuire AFB, NJ) wkg Gander Radio with a position of 58N 060W at fl 310.

SAM 3586 (VC32A/89th AW, Andrews AFB, MD) wkg Gander Radio with a position 57N 030W at fl 360. Flight performed a QS-AG SELCAL check.

8879: USB 1624Z, GAF 189 (C160D) wkg Gander Radio with a position of 60N 55W at fl 200. Flight conducted a GM-EP SELCAL check.

BLUE 71 (KC10A) wkg Gander Radio with a position of 45N 050W at fl 310.

RAWLY 41 (C17A/62nd AW, McChord AFB, WA) wkg Gander Radio with a request for higher.

8891: USB 2019Z, REACH 776 (DC10/Omni Air International) wkg Gander Radio with a position report. Flight instructed to contact Shanwick on 5616 at 030W.

8918: USB 1744Z, RICAN 77 (C130E) wkg New York Radio with a position of "Jane" and fl 200. Flight told to contact Jacksonville on 135.05 VHF.

CASS 99 (C130E) wkg New York Radio with a position report. Flight instructed to contact Jacksonville on 135.05 VHF.

REACH 809B (C17A/729th AS, AFRC, March AFB, CA) wkg New York Radio with an EQ-LR SELCAL check. Weather data also passed.

8983: USB 1416Z, CAMSLANT-Chesapeake wkg USCG 2118 (HU25B/ATC Mobile). Flight data passed as well as "ops normal."

8992: USB 1638Z, PELICAN 713

MacDill Air Force Base (KMCF)

Aeronautical Operations

118.575	MacDill Ground
118.800	Tampa Departure Runway 22
119.650	Tampa Departure
119.900	Tampa Departure
123.700	MacDill Tower
124.950	Tampa Approach
132.775	91st ARS Command Post (LIGHTNING OPS)
133.825	ATIS
134.100	6th AMW Command Post
134.250	Tampa Departure Runway 4
139.875	Air Tactical
139.975	Air Tactical
141.800	Air Tactical
239.350	COM-1
266.500	Air Tactical
270.100	ATIS
275.800	MacDill Ground
290.300	Tampa Departure
294.700	MacDill Tower
311.000	COM-2
318.100	GCA
321.000	AMC Command Post Secondary
324.500	GCA
337.400	GCA
344.600	Metro
353.575	Tampa Departure
354.000	Tampa Approach
359.300	GCA
364.100	Air Tactical
372.200	Dispatcher
379.800	GCA

MacDill operates a Motorola Type II Smart Zone trunked radio system that uses digital voice modulation. Information on this system can found in our sidebar.

SYSTEM: MacDill Air Force Base
SYSTEM TYPE: Motorola Type II Smart Zone
SYSTEM VOICE: APCO-25 Common Air Interface Exclusive
SYSID: B112

Custom Table

LO CHANNEL:	380
HI CHANNEL:	759
OFFSET:	380
BASE FREQ:	406.5625
SPACING:	12.5 kHz

Frequencies

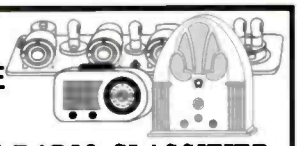
406.5625c, 406.7625c, 406.9625, 407.7625c, 408.1625

(c - denotes Control Channel)

Talkgroups

ID	USE
4800	MacDill Control
4848	Base Security
4864	Base Security
12800	Tampa Police F1 (453.550)
14400	Tampa Police F2 (154.430)
19600	ALPHA
24900	TIGER

FREE SAMPLE COPY!



ANTIQUE RADIO CLASSIFIED

Antique Radio's Largest-Circulation Monthly Magazine

Articles - Classifieds - Ads for Parts & Services
Also: Early TV, Ham Equip., Books, Telegraph, 40's & 50's Radios & more...
Free 20-word ad each month. Don't miss out!
1-Year: $45 ($60 by 1st Class)
6-Month Trial - $24. Foreign - Write.
A.R.C., P.O. Box 802-T15, Carlisle, MA 01741
Toll free: (866) 371-0512; Fax: (978) 371-7129
www.antiqueradio.com

RadioActiveRadios
#1 Big Audio Champion Of The World
CB, 10m Radios plus professional repairs and modifications.
Performance Radios
Be sure to check out the SuperWackPack!!
www.RadioActiveRadios.com
520-374-2626 (9-5:30 PST, M-F)

The Radio Company
• Nascar Scanners • Accessories
• HH/Base Scanners • Mobile Satellite TV
• CB Radios • GPS
• 10m Radios
All The Brands You Want At Low Low Prices.
www.theradioco.com
866-544-scan (7226)

(P3C/VP-45, NAS Jacksonville, FL) repeatedly calling "mainsail" on HF-GCS with no response.

NAVY BD 90 (C130T/"Condors," NAS Willow Grove, PA) wkg HF-GCS Station ANDREWS with a HF radio check.

NAVY JU 860 (C9B/"Globemaster," VR-56, NAS Oceana, VA) wkg HF-GCS Station LAJES with a phone patch and weather passed.

RHET 12 (KC135R/99th ARS, Robins AFB, GA) repeatedly calling "mainsail" with no joy.

NAVY LY 22 (P3C/"Minutemen," VP-92, NAS Brunswick, ME) wkg HF-GCS Station OFFUTT with a HF radio check.

9007: USB 2125Z, ASCOT 7005 (Sentry AWACS AEW1/8-23 SQN, RAF Waddington, UK) wkg TRENTON MILITARY with a phone patch and flight data passed.

11175: USB 1915Z, NAVY LA 051 (P3C/"Mad Foxes," NAS Jacksonville, FL) wkg HF-GCS Station OFFUTT with phone patch to TSC Jacksonville and flight information passed.

An HH-60 Pave Hawk at work during Exercise Atlantic Rescue '07 at MacDill AFB. (Photo courtesy of US Air Force/Tony Banks)

BATON 92 (EC130J/193 SOS, PA-ANG) wkg HF-GCS Station PUERTO RICO with a failed phone patch. Flight instructed to try again later.

OTIS 29 (KC135J/USMC VMGR-252, MCAS Cherry Point, NC) wkg HF-GCS Station LAJES and reported a 2044 ETA at Lajes. Weather data also passed.

PEASE 69 (KC135R/157th ARW, NH-ANG) wkg HF-GCS Station OFFUTT with a phone patch and weather passed.

DERBY 87 (C130H/165th AS, Louisville IAP, KY) wkg HF-GCS Station OFFUTT with flight data pass.

DEATH 31 (B2A/509th BW, Whiteman AFB, MO) repeatedly calling "Mainsail" on HF-GCS with no response.

RAIDER 41 (KC130/USMC, VMGR-252, MCAS Miramar, CA) wkg HF-GCS Station OFFUTT with a phone patch and flight data passed.

CACTI 21 (KC10A/305th AMW, McGuire AFB, NJ) wkg HF-GCS Station LAJES with a phone patch to McGuire and flight data passed.

SHARK 71 (C130H/731st AS, Coronet Oak, possibly PR-ANG) wkg HF-GCS Station OFFUTT with a phone patch and mission data passed.

NIGHTHAWK 11 (CH46E/HMX-1, USMC, MCAF Quantico, VA [Marine One without President]) with a failed phone patch attempt.

11232: USB 1957Z, CANFORCE 2321 (CC130/8 Wing, 436 SQN, CFB Trenton, Ontario) wkg TRENTON MILITARY with an "operations normal" and flight data passed.

CANFORCE 86 (CC150/8 Wing, 437 SQN, CFB Trenton, Ontario) wkg TRENTON MILITARY with an "operations normal" and weather passed.

PATHFINDER 34 (CP140/14 Wing, 405 SQN, CFB Greenwood, Nova Scotia) wkg TRENTON MILITARY with HF radio check and position data passed.

ATLAS 40 (CC130/17 Wing, 435 SQN, CFB Winnipeg, Manitoba) wkg TRENTON MILITARY with a phone patch and a fuel request.

CANFORCE 3633 (CC177/8 Wing, 429 SQN, CFB Trenton, Ontario) wkg TRENTON MILITARY with a HF radio check and flight data passed.

SENTRY 06 (E3C AWACS/552nd ACW, Tinker AFB, OK) wkg TRENTON MILITARY with a phone patch for a personal call.

OTIS 10 (KC130J/MSMC, VMGR-252, MSAS Cherry Point, NC) wkg TRENTON MILITARY with a phone patch and flight data passed.

12087: USB 1851Z, NASA 02 (G-III, Johnson Space Center, TX) wkg HF-GCS OFFUTT with a request that flight data be relayed to Edwards AFB, CA.

13200: USB 1827Z, REACH 618 (C17A/437th AW, Charleston AFB, SC) wkg HF-GCS Station PUERTO RICO with a phone patch and flight data relayed. ■

Scan Our Web Site

Trivia And Toons

by R.B. Sturtevant, AD7IL

Q. When was the first class held that taught prospective amateur radio operators to prepare for their licenses?

A. The earliest example I can find is of a class going strong in the spring and fall of 1919 at the Massachusetts Radio & Telegraph School in Boston. Beginning a tradition in amateur radio, the class was free. The school also taught, for a fee, wireless and telegraph operators who were preparing for commercial and government jobs.

The timing of the amateur class was interesting. Amateurs had been kept off the air because of World War I and were not officially allowed to transmit or receive until October 1 of that year.

Q. Radio gets information to us right away most of the time, but has there ever been a delay in a major news story being delivered over radio?

A. In June 1938 Max Schmeling fought Joe Louis, "The Brown Bomber," for the World Heavyweight Championship. The Germans had made much of their first pairing, the match of 1936, in which Schmeling beat Detroit's favorite son. The Nazis put a great deal of effort into the propaganda surrounding the rematch to tell everyone that "our Max" would beat Louis. For the fight, Hitler ordered all of Germany to stay up until 3 a.m. German time to hear the self-proclaimed "Aryan Superman" destroy an inferior American Negro. Americans also listened in from coast to coast.

When the first round started, the German announcer said something along the lines of, "Our German Hero has not yet unleashed the fury of his attack on the American pretender." But the German announcer only had to keep up his commentary for two minutes and four seconds.

When Louis knocked Schmeling out the American crowd went wild. The German audience heard only the strains of a Strauss waltz, then a program of Nazi military marches. Germany had to wait until 1945 to learn that its hero had been knocked out by the Brown Bomber.

For failing to win the fight, as well as for refusing to join the Nazi Party, Schmeling was drafted into the Army and sent on near-suicide missions as a paratrooper. He did prove, in the end, to be a genuine anti-Nazi and a gentleman.

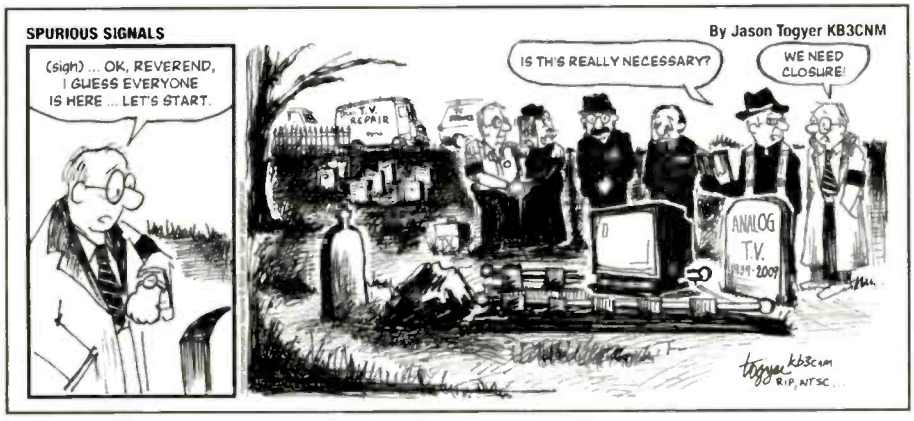
Q. When did the Signal Corps start working with tropospheric ducting?

A. That would have been during the Korean Conflict. The Army Signal doctrine was pretty much married to the use of wire-based communications at that time. Next to all the major roads there where piles of wires, some dropped out of aircraft flying over the area, meant for carrying traffic here and there. This terrible jumble of wires was a nightmare to repair and untangle and led to a greater reliance on VHF radio. The mountains in Korea, however, made line-of-sight transmissions difficult at best, but the Signal troops soon found that they could bounce their signals off the mountains and the troposphere itself. Repeaters were used when possible, but moving the two tons of equipment needed in those days for a repeater sometimes took more effort than they were worth.

Q. Did the Army use commercial communications or their own means when they were involved in the Civil Rights disorders of the 1960s?

A. The Army's involvement with the Civil Rights situation in Oxford, Mississippi, was a learning exercise. Back then, the Army had recently reorganized the Signal Corps and everyone was pretty much learning on the job while trying to handle an explosive situation. The Signal Corps needed secure communications so they had to use their own troops and equipment rather than civilian-controlled means. The Army had good communications between Washington and Oxford, but the deployed troops from Fort Benning, Georgia, were out of touch. Their Signal Officer was delayed in joining the deployed troops and their Commander was completely cut off from Washington and Oxford. The incoming troops didn't even have a designated Com Center for several days. Another problem developed when Commanders failed to tell their Signals officers about their developing needs.

On the positive side this illustrated the problems that had been created by the Army's restructuring of the Signal Corps and changes were made. ■



World News, Commentary, Music, Sports, And Drama At Your Fingertips

This listing is designed to help you hear more shortwave broadcasting stations. The list covers a variety of stations, including international broadcasters beaming programs to North America, others to other parts of the world, as well as local and regional shortwave stations. Many of the transmissions listed here are not in English. Your ability to receive these stations will depend on time of day, time of year, your geographic location, highly variable propagation conditions, and the receiving equipment used.

AA, FF, SS, GG, etc. are abbreviations for languages (Arabic, French, Spanish, German). Times given are in UTC, which is five hours ahead of EST, i.e. 0000 UTC equals 7 p.m. EST, 6 p.m. CST, 4 p.m. PST.

UTC	Freq.	Station/Country	Notes
0000	9910	All India Radio	
0000	3310	"Radio Mosoj Chaski, Bolivia	SS
0000	5035	Radio Aparecida, Brazil	PP
0030	4052.5	Radio Verdad, Guatemala	SS
0030	4635	Tajik Radio, Tajikistan	Tajik
0030	9875	Radio Vilnius, Lithuania	
0100	15240	Radio Australia	
0100	4915	Radio Difusora de Macapa, Brazil	PP
0100	4717	Radio Yura, Bolivia	SS
0100	7345	Radio Prague, Czech Republic	
0100	3985	Voice of Islamic Republic of Iran	Farsi
0100	4800v	Radio Buenas Nuevas, Guatemala	SS
0100	4815	Radio El Buen Pastor, Ecuador	SS
0100	7125	Russian International Radio, Russia via Moldova	RR
0100	7250	Voice of Russia, via Armenia	
0100	6185	Radio Educacion, Mexico	SS
0100	13760	Voice of Korea, North Korea	
0100	7230	Radio Slovakia International	
0100	7115	International Radio of Serbia	
0130	17800	KWHR, Hawaii	
0130	9495	Voice of Islamic Republic of Iran	
0200	11710	Radiodifusora Argentina al Exterior	
0200	11780	Radio Nacional de Amazonas, Brazil	PP
0200	4905	Radio Anhanguera, Brazil	SS
0200	9590	Radio Nederland, via Bonaire	DD
0200	4885	Radio Clube do Para	pp
0200	6035	La Voz del Guavaire, Colombia	SS
0200	3280	La Voz del Napo/Radio Maria, Ecuador	SS
0200	15720	Radio New Zealand International	
0200	3320	Radio Sondergrense, South Africa	Afrikaans
0200	7505	WRNO, New Orleans	
0200	5960	Radio Japan, via Canada	JJ
0200	6200	Radio Prague, Czech Republic	
0200	4940	Radio Amazonas, Venezuela	SS. Irregular
0200	9955	WRMI, Florida	
0220	7425	Radio Tirana, Albania	
0230	7270	Radio Cairo, Egypt	
0230	3250	Radio Luz y Vida, Honduras	SS
0230	4005	Vatican Radio	
0300	4780	Radio Djibouti	FF
0300	9665	China Radio International, via Brazil	SS
0300	3340	Radio Misiones International, Honduras	SS
0300	7110	Radio Ethiopia	Amharic
0300	5950	Voice of the Tigray Revolution, Ethiopia	Amharic
0300	10320	AFN/AFRTS, Hawaii	
0300	4790	Radio Vision, Peru	SS
0300	7175	Radio Free Europe, via Germany	RR
0300	3350	Radio Exterior de Espana, Spain, Costa Rica Relay	SS
0300	7325	Voice of Turkey	
0300	7440	Radio Ukraine International	
0300	7305	Vatican Radio	
0300	4835	Radio Maranon, Peru	SS
0300	4976	Radio Uganda	
0300	6150	Radio Romania International	
0300	5015	Radio Altura, Peru	SS
0330	7200	Radio Bulgaria	
0330	7140	BBC Relay, Cyprus	AA
0330	5010	Radio Malagasy, Madagascar	vernauclar
0330	3240	Trans World Radio,Swaziland	vernacular
0330	4828	Voice of Zimbabwe	
0330	6175	Voice of Vietnam, via Canada	
0400	6005	BBC, via Ascension	
0400	4930	Voice of America Relay, Botswana	
0400	3330	CHU, Canada	EE/FF time signals
0400	5915	Marfil Estereo, Colombia	SS
0400	7320	BBC Relay, South Africa	
0400	7210	Radio Fana, Ethiopia	Amharic
0400	3810	HD2IOA, Ecuador	SS time signals
0400	7135	Radio France International	FF
0400	3975	Magyar Radio, Hungary	HH
0400	7175	Radio Sultanate of Oman	AA
0400	9895	Radio Voice of the People (to Zimbabwe)	vernacular
0400	4775	Trans World Radio, Swaziland	GG
0400	5900	Voice of Russia	
0400	7390	Channel Africa, South Africa	FF
0400	7275	RTV Tunisienne, Tunisia	AA
0400	3255	BBC Relay, South Africa	
0400	5965	Radio Havana Cuba	SS
0400	4950	Radio Nacional, Angola	PP
0430	7150	RT Algerienne, Algeria, via Portugal	
0430	5915	NBC Radio 1, Zambia	
0500	4905	Radio National Tchadienne, Chad	FF
0500	6250	Radio Nacional, Malabo, Equatorial Guinea	SS
0500	4770	Radio Nigeria	

UTC	Freq.	Station/Country	Notes
0500	4965	CVC/The Voice-Africa, Zambia	
0500	5010	Radio Nacional, Bata, Equatorial Guinea	SS
0530	4800	Radio Transcontinental, Mexico	SS
0600	7240	RDP International, Portugal	PP
0600	4835	RTV Malienne, Mali	FF
0630	5030	Radio Burkina, Burkina Faso	FF
0700	6020	Radio Victoria, Peru	SS
0700	9525	Star Radio, Libeeria via Ascension	
0700	7240	RDP International, Portugal	PP
0730	9525	Cotton Tree News, Sierra Leone, via Ascension	EE/vernacular
0800	7285	RTV Malienne, Mali	FF/vernacular
0800	3220	HCJB, Ecuador	Quechua
0900	7145	Radio New Zealand International	
0930	6155	Radio Fides, Bolivia	SS
1030	4825	La Voz de la Selva, Peru	SS
1030	12085	Voice of Mongolia	
1100	6010	Radio Mil, Mexico	SS
1100	7260	Radio Thailand	EE, others
1100	5995	Radio Marti, USA	SS
1100	6110	Voice of America Relay, Northern Marianas	Mandarin
1100	15250	Broadcasting Service of Kingdom of Saudi Arabia	
1100	4900	Voice of the Strait, China	CC
1120	4905	Xizang PBS, China (Tibet)	CC, local
1130	3260	Radio Madang, Papua New Guinea	Pidgin
1130	9910	Trans World Radio, Guam	various
1200	4910	ABC Northern Territories Service, Australia	
1200	17680	CVC-La Voz, Chile	SS
1200	3325	Radio East Sepik, Papua New Guinea	Pidgin
1200	11605	Radio Free Asia, via Northern Marianas	Tibetan
1200	9430	FEBC International, Philippines	CC
1200	9435	Radio Free Asia, via Northern Marianas	Burmese
1200	15220	Radio Romania International	
1200	9845	Voice of America Relay, Northern Marianas	CC
1200	9735	Radio Taiwan International	JJ
1200	3925	Radio Nikkei, Japan	JJ
1200	4750	Radio Republik Indonesia-Makassar	Indo
1200	5765	AFN/AFRTS, Guam	
1200	9450	Polish Radio	
1220	13635	Christian Voice, Australia	
1230	9580	Radio Australia	
1230	9760	China Radio International	
1230	4800	All India Radio	HH
1230	3235	Radio West New Britain, Papua New Guinea	
1230	11650	KFBS, Northern Marianas	RR
1230	15180	Korea Central Broadcasting Station, North Korea	KK
1230	11550	Radio Liberty, via Kuwait	Pashto/Dari
1230	4790	Radio Republik Indonesia - FakFak	Indo
1230	4920	Radio Republik Indonesia - Biak	Indo
1230	5940	Radio Rossii, Russia	RR
1230	9650	KBS World Radio, South Korea, via Canada	KK
1230	15450	Voice of Turkey	
1300	11775	Caribbean Beacon/University Network, Anguilla	
1300	13730	Radio Austria International	
1300	11690	HCJB, Ecuador	SS
1300	9870	All India Radio	Hindi
1300	17805	Radio France International	RR
1300	17725	Radio Jamahiriya, Libya	Swahili
1300	15160	Radio France International	FF
1300	15390	Southern Sudan Interactive Radio, via South Africa	
1330	9760	Voice of America Relay, Philippines	
1400	9525v	Voice of Indonesia	various
1400	15140	Radio Sultanate of Oman	EE/AA
1400	11705	NHK/ Radio Japan, via Canada	
1500	12110	Voice of America Relay, Sri Lanka	Farsi
1530	15275	Deutsche Welle, Germany via Rwanda	GG
1530	21695	Radio Jamahiriya, Libya	
1600	9935	Radio Makedonias, Greece	Greek
1700	17700	Radio Solh, via England	Pashto/Dari
1700	11735	Radio Romania International	
1700	15705	Vatican Radio	FF
1800	15475	Africa Number One	FF
1800	15120	Voice of Nigeria	
1800	11990	Radio Kuwait	EE/AA
1900	11810	TR Algerienne, via England	AA
1900	15180	BBC	
1900	17860	Deutsche Welle, via Portugal	
1900	6205	Voice of the Islamic Republic of Iran	
1900	15335	Radio Nederland, via Germany	
1900	11735	Radio Tanzania, Zanzibar	Swahili
2000	9970	RTBF, Belgium	FF
2000	15235	Radio Canada International	FF
2000	15630	Voice of Greece	Greek
2000	15730	VOA Relay, Sao Tome	FF
2000	12015	Radio Exterior de Espana, Spain	SS
2000	9580	Africa Number One, Gabon	FF
2000	9855	Radio Kuwait	AA
2030	11620	All India Radio	
2100	9635	CVC-La Voz, Chile	SS
2100	6000	Radio Varna, Bulgaria	BB, Sun/Mon
2100	9950	Open Radio for North Korea, via Armenia	KK
2100	9330	Radio Damascus, Syria	
2100	7420	Radio Sweden International	SS
2100	15345	RT Marocaine, Morocco	AA
2130	9780	Republic of Yemen Radio	AA
2130	5830	Radio Farda, via Kuwait	Farsi
2200	3985	Voice of Croatia	EE, others
2200	6070	CFRX/CFRB, Canada	
2200	9925	Croatian Radio, via Germany	
2200	15190	Radio Africa, Equatorial Guinea	
2200	6300	Radio Nacional de la RASD, Algeria	SS/AA
2200	6195	Voice of Turkey	
2200	15600	Radio Taiwan International, via Florida	
2200	9625	CBC Northern Quebec Service, Canada	EE, vernaculars
2200	15345	Radio Argentina al Exterior	SS
2200	7390	Radio Belarus	
2230	9705	La Voix du Sahel, Niger	FF
2230	6070	ELWA, Liberia	
2300	9820	Radio 9 de Julho, Brazil	PP
2300	6160	CKZN, Newfoundland, Canada	
2300	4845	Radio Mauritanie, Mauritania	AA
2300	6040	Radio PMR, Priednestrovie/Moldova	various
2300	7415	WBCQ, Maine	
2300	13650	China Radio International, via Cuba	PP
2330	5995	RTV Malienne, Mali	FF
2330	6850	Radio Cairo, Egypt	

New, Interesting, And Useful Communications Products

by Staff

The Gefen 1:5 Splitter provides audio and video output to five HDMI displays and projectors for HDTV and other applications.

Gefen 1:5 Splitter For Simultaneous HDTV And More

Connectivity solutions provider Gefen today announced the availability of its 1:5 Splitter for HDMI v1.3. This high-performance distribution solution accepts one HDMI signal from Blu-ray players, DVD players, set-top boxes, digital video recorders, and game systems, and delivers the same audio and video to five HDMI displays and projectors at the same time. Greater signal distributions can be achieved when cascading two or more Splitters together.

With support for the full scope of the HDMI v1.3 format, this Gefen Splitter passes through HDCP-compliant video in resolutions up to 1080p full HD with deep colors. Multi-channel audio is delivered alongside in Dolby TrueHD and DTS Master Audio formats with lip-sync for demanding applications. Installation is plug-and-play, requiring a source connection to the Splitter's HDMI input using the six-foot HDMI cable that comes in the package. Five flat panel displays and projectors connect directly to the Splitter's five HDMI outputs.

The 1:5 Splitter for HDMI v1.3 comes with Gefen's standard two-year warranty for a guaranteed performance. Longer warranty plans can be purchased for a minimal fee. Gefen also offers a 1:2 HDMI v1.3 Splitter for smaller home theater and presentation applications. The Gefen 1:5 Splitter for HDMI v1.3 sells for $499. For additional information, visit www.gefen.com.

Boston Acoustics Duo-i iPod Clock Radio

The Duo-i from Boston Acoustics is an AM/FM stereo clock radio with iPod dock that allows you to enjoy noise-free reception of even distant radio stations, and will also let you hear your favorite music and playlists while charging your iPod. The product's two full-range 3 1/2-inch drivers and BassTrac audio processing deliver realistic audio reproduction and its integrated iPod dock with video output charges your iPod. Other features include two auxiliary inputs for connecting additional media players; line and stereo headphone outputs; high contrast display that automatically adjusts to ambient light; 10 FM and five AM station presets; dual independent alarm clock with sleep timer; 360° snooze bar (touch-sensitive outer trim); time and settings are saved (no battery required); remote control included.

Boston Acoustics Duo-i AM/FM stereo clock radio offers two full-range 3 1/2-inch drivers and BassTrac audio processing for realistic audio reproduction. Its integrated iPod dock also charges your iPod.

The Duo-i AM/FM Stereo Radio with iPod Dock, which retails for $200, measures 5 1/2 x 12 7/8 x 8 inches (HWD) and is available in mist (white) or midnight (dark gray); other color options are available for the grilles. For more information, visit www.bostonacoustics.com.

Scan Our Web Site

A close up of bhi's Hear-it (bhi p/n NEIM1031) DSP noise eliminating in-line module showing improved filter control knob.

bhi Enhances DSP Noise Cancellation Offerings

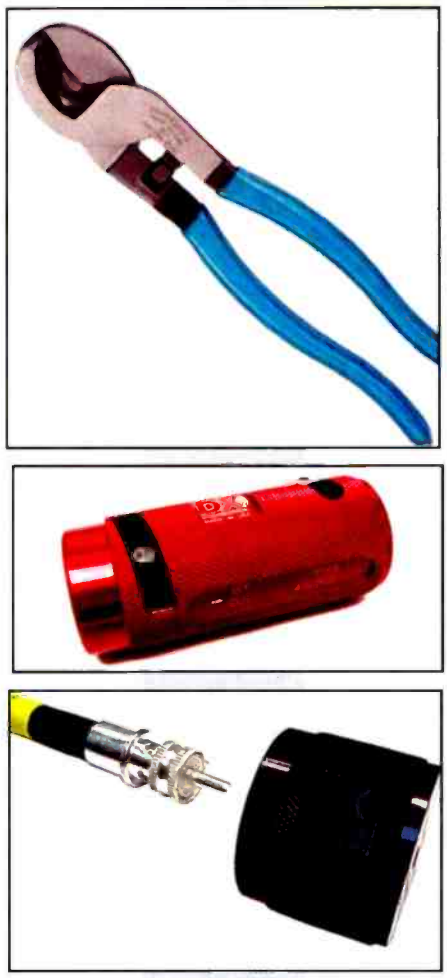
DSP noise cancellation specialists bhi has recently made a number of improvements to the company's range of DSP noise canceling products, sold in the United States under the GAP "Hear it" brand and through W4RT Electronics under its own bhi brand. The Hear-it in-line module now offers 20 percent more audio output and an improved filter control knob. The Hear-it noise eliminating module now has a speaker/headphone switch, giving the user greater flexibility. The Hear-it DSP low-level audio PCB module can now be fitted into the following radios: Yaesu FT-817, FT-847, FT-897D, FRG-100; Kenwood TS50, TS440; Alinco DX-77; ICOM 706 MKIIG, 736/738, 765; and Realistic DX-394 (fitting instructions are available from W4RT Electronics in the U.S. and from bhi's website, www.bhi-ltd.co.uk). The Hear-it amplified DSP PCB module can now be fitted into the following extension speakers: Yaesu SP8, SP2000; Kenwood SP3; ICOM SP20/21 (fitting guides available on request).

Current prices are: Hear-it in-line (bhi p/n NEIM1031), $219; Hear-it noise eliminating module (bhi ANEM), $189; Hear-it DSP module (bhi p/n NEDSP1061-KBD), $139; and Hear-it amplified DSP module (bhi p/n NEDSP1062-KBD), $159. For more information, contact GAP Antenna Products via the Web at www.gapantenna.com or by phone at 772-571-9922; or W4RT Electronics via the Web at www.w4rt.com.

DX Engineering's Coax Connector Installation Tools

Get your shack or tower into tiptop shape this spring with an assortment of connector installation tools from DX Engineering designed to make the job easier. The company's DXE-CNL-911 Cable Cutting Tool enables you to cleanly cut a cable without crushing it, as often occurs when using diagonal side-cutters. Once you have your coax cut, the DXE-UT-8213 Coax Cable Stripper simplifies the preparation of RG-8 or RG-213 coax to accept PL-259 UHF-style or two-piece Type N connectors as it automatically stops cutting at the proper length. To finish your connection, use the DXE-UT-80P Assembly Tool for simple threading of the PL-259 sleeve onto the vinyl jacket of RG-8/U, RG-213/U, LMR-400, and other similar-size cables. A similar tool is offered for installing N Connectors.

DX Engineering's DXE-CNL-911 Cable Cutting Tool sells for $19.95, the DXE-UT-8213 Coax Cable Stripper for $39.95, and the DXE-UT-80P Assembly Tool (both models) for $22.95. For more information, visit www.dxengineering.com.



DX Engineering's connector installation tools (from top to bottom): the DXE-CNL-911 Cable Cutting Tool, the DXE-UT-8213 Coax Cable Stripper, and the DXE-UT-80P Assembly Tool.

INFORMATION & ORDERING
WWW.SCANCAT.COM
INTERNET DOWNLOADS AVAILABLE
ORDER TOLL FREE
888-722-6228
COMBO CD SPECIAL
Reg.
ScanCat-Lite-Plus.....$29.95
Mr. Scanner FCC Public Safety.....29.95
Nat-Com's FCC Scancat Files.....9.95
Bonus Disk Of Frequencies.....15.00
$84.85
NOW $49.95
PLUS FREE Scanning Magazine(s)
(With Purchase Of Special. While Supplies Last)
SCANCAT®
Since 1989, The Recognized Leader in Computer Control
SUPPORT FOR RADIO SHACK PRO-160/162/163/164 GRE PSR-100/300/200/400
Once you use SCANCAT with YOUR radio, you'll NEVER use your radio again WITHOUT SCANCAT!
ScanCat Lite-PLUS
Reg. $39.95 - Limited Time Special $29.95
Program Your Scanner As Easy As 1-2-3-CLICK!
SC-Lite Supports PRO-83, PRO-95, PRO-96, BC246 & over 15 more Trunking Scanners
Now It's Easier Than Ever To Use Your ScanCat Software.
FREE walk-you-through set up video to get you going fast.
www.scancat.com
Click on learn as you view.
YouTube
Scancat Gold for Windows Version 8.50 $99.95
Supports all radios in ONE program - share files with all radios.
Two Scanning modules:
A Simple Basic Module - for beginners
Plus—An Advanced Scanning System for the "experts".
Scancat Gold for Windows-SE - $159.95
"Scancat-SE" Additional Features
• Long term logging of frequencies to hard drive.
• Record Audio to hard drive using sound card.
• Improved spectrum analysis.
Skysweep Decoder Software $99.95
COMPUTER AIDED TECHNOLOGIES
P.O. Box 18285 Shreveport, LA 71138
ORDERS: (318) 687-4444 FAX: (318) 686-0449
Info/Tech Support: (318) 687-2555
(9 a.m. - 3 p.m. Central M-F)
INTERNET DOWNLOADS AVAILABLE
INFORMATION & ORDERING
WWW.SCANCAT.COM

Pre-Spring Band Stirrings, O (No) Canada, And Romania Adds A Transmitter

by Gerry L. Dexter
gdex@wi.rr.com

Whatever technical troubles were affecting Argentina's RAE have been fixed. We're happy to report that 15345 has been reactivated, usually heard here in the late afternoons, and 11710 has come alive as well, best in the local evenings.

Moreover, 6070 has gotten to be an interesting spot. As reported earlier, CFRX/CFRB in Toronto has been reactivated here where it had held forth for many years. But they are still getting some kinks out of the system, so once in a while tuning this spot provides no Canadian signal. In the absence of CFRX you might well find Chile's La Voz, which also occupies 6070. Beyond that, 6070 also hosts ELWA from Liberia, which might sometimes make it, running up to its sign off at 2300.

In that same area of the band, the rarely heard Mexican station, Radio Universidad-XEXQ in San Luis Potosi, has been known to show up occasionally. Try around 1200 or later (or earlier). This one is definitely in the chancy category, but it is certainly worth checking. Even chancier is 6105, where the long dormant Candela FM in Merida, Mexico, has been showing signs of life. The station appears to be trying to make it with a decrepit 250 watt transmitter that has seen better days. It would probably be best to try this one around sunup or sundown.

Radio Canada International has ended its broadcasts to Europe on shortwave, giving the same old, tired reason for the discontinuation: money! Not to worry, though, you folks across the pond—you can still hear your favorite RCI programs on the Internet!

Meanwhile Romania continues to expand its shortwave operation. A third transmitter site has now come into operation. This one is at Saftica, where a 100-kW transmitter is now in service. It looks as though this one will be difficult to bag, though, as most of the schedule makes use of the lower frequencies during the late morning to early afternoon hours when those bands are largely dead to us. There is no English programming, either. The schedule is a little too long and involved to get into here, but here are a couple of best bets: 1300–1356 in Romanian on 9610 and 1700–1756 on 9855.

"...the rarely heard Mexican station, Radio Universidad-XEXQ in San Luis Potosi, has been known to show up occasionally."

The Guatemalan Radio Verdad (4052.5) is off the air due to a lightening hit. They need to acquire some hard-to-find parts before they can even begin repairs. I don't know when they'll be back on. Neither do they.

Reader Logs

Email hassles cut me off from my loggings trough for much of the time since the January issue was put to bed, and thus the number of logs is considerably fewer than usual this time. Things will likely be back to full strength next month.

Remember, your shortwave broadcast station logs are always welcome. But *please* be sure to double or triple space between the items, list each logging according to home country, and include your last name and state abbreviation after each. Also needed are spare QSLs or good copies you don't need returned, station schedules, brochures, pennants, station photos, and anything else you think would be of interest. And how about sending a photo of you at your listening post? It's about time your shack graced these pages!

Here are this month's logs. All times are in UTC. Double capital letters are language abbreviations (SS = Spanish, RR = Russian, AA = Arabic, etc.). If no language is mentioned English (EE) is assumed.

ALBANIA—Radio Tirana, 7425-Shijak at 0334 on the Albanian constitution. The W sounded bored—I kept waiting for something on grain production, like in the good old days! (Wood, TN)

ALGERIA—Radio Algerienne, 7150 via Portugal to North Africa at 0417 with M in AA. (Parker, PA)

Scan Our Web Site

Help Wanted

We believe the "Global Information Guide" offers more logs than any other monthly SW publication (330* shortwave broadcast station logs were processed this month!). Why not join the fun and add your name to the list of "GIG" reporters? Send your logs to "Global Information Guide," 213 Forest St., Lake Geneva, WI 53147. Or you can email them to gdex@wi.rr.com. (See the column text for formatting tips.)

**Not all logs get used; there are usually a few which are obviously inaccurate, unclear, or lack a time or frequency.*

ANGUILLA—Caribbean Beacon/University Network, 11775 at 1211 with Gospel music and contact information. (Wood, TN)

ARGENTINA—RAE, 11710.7 at 0200 with EE service. Weak signal. (Alexander, PA)

ASCENSION ISLAND—BBC Atlantic Relay, 6005 heard at 0450 with phone interview on women's rights in Zambia. (Parker, PA) 0636 with W hosting *Network Africa*. (D'Angelo, PA)

AUSTRALIA—Radio Australia, 5995-Brandon in Pidgin at 0930. (Ronda, OK) 6020, //9475, //9580, 9590 at 1224. (Yohnicki, ON) 9560-Shepparton with concert anmts at 1252 and 17715-Shepparton on nutrition drinks at 0155. (Brossell, WI) 15240-Shepparton to Oceana at 0240, //15415 to SEA and 15515 to Pacific. (Parker, PA) 15515-Shepparton monitored at 0220 with sports PbP, //15240. (MacKenzie, CA)

ABC Northern Territories Service, VL8T-Tennant Creek, 2325 at 0906 with local news, //2485. (Taylor, WI) 4910-Tennant Creek at 0115. Poor. Also VL8A-Alice Springs 4835 weak at 2225. (Parker, PA CVC, 13635-Darwin with contemporary Christian music at 1330 with many IDs. (Wood, TN)

AUSTRIA—Radio Austria International, 13730-Moosbrunn, at 1310 in GG with pgm of classical music and a live audience. (D'Angelo, PA) 1325 with classical music. (Wood, TN)

BELGIUM—RTBF, 9970 at 2010 with pops. (Paszkiewicz, WI)

BOLIVIA (All in SS)—Radio Mosoj Chaski, Cochabamba, 3310 heard at 0001, poor with M talking. (Parker, PA) 0038 best ever with talk by W. (Paszkiewicz, WI) To 0100 close with a single note on a vibraphone. (Taylor, WI)

Emisoras Camargo, Camargo, 3390.1 at 2350 with UTE in EE on top. (Wilkner, FL)

Radio Virgin de Remedios, Tupiza, 4111.6 at 2353 with M talk, occasional hymn in noise. (Parker, PA)

Radio Eco (Eco!), Reyes, 4409 with brief traces of M talk at 0041, rising to nearly fair levels momentarily. (Parker, PA) 2300 with beautiful, exotic music. (Wilkner, FL)

Radio Santa Ana, Santa Ana del Yacuma, 4451.7 at 2300, confusing mention of Radio Fides, then Radio Santa Ana ID. (Wilkner, FL)

Radio San Miguel, Riberalta, 4699.3 at 0123 with M anncr and bits of choir. (Parker, PA) 0830 sign on with time check, frequency anmt. (Wilkner, FL)

Radio Yura, Yura, 4716.9 at 2300 with excellent Andean music. (Wilkner, PA) 2335 with talk, domestic flute music. (Alexander, PA) 0210 with ballads. (Parker, PA)

Radio Tacana, La Paz, 4781.5 at 0155 with traces of man talking. Impossible CODAR QRM. (Parker, PA)

Radio Mallku, Uyuni, 4796v at 1015 with CP music and mention of "banda de 60 metros." (Wilkner, FL)

Radio Fides, La Paz, 6155.2 at 0930 with ID and mentions of Bolivia. (Wilkner, FL)

BONAIRE—Radio Nederland Relay, 6165 at 0435 on insomnia around the world. (Parker, PA) 9590 in SS. (MacKenzie, CA)

BOTSWANA—VOA Relay, Moepeng Hill, 4930 at 0352 closing their *News Now* program, ID at 0400 f/by *Daybreak Africa*. (D'Angelo, PA) 0410 on drug trade and paramilitary groups. (Parker, PA) 0422 on the African Union. (Brossell, WI) 0426 with *Daybreak Africa*. (Wood, TN)

BRAZIL (All in PP)—Radio Imaculada Conceicao, Campo Grande, 4755 at 0340 taking phone calls. (Parker, PA)

Radio Cancao Nova, Cachoeira, 4825 at 0049 with M vocal. Struggling with CODAR. (Parker, PA)

Radio Cultural Ondas Tropicais, Manaus, 4845.2 at 2232 with ballads, W operatic vocal, colliding with dominant Radio Mauritanie. (Parker, PA)

Radio Alvorada, Londrina, 4865 at 0405 with M and slow music. (Parker, PA)

Radio Difusora, Acreana, Rio Branco, 4845 at 0004 with live soccer coverage. (Taylor, WI)

Radio Clube do Para, Belem, 4885 monitored at 0211 with phone interview and usual heavy reverb. (Parker, PA) 0416 with LA hip hop. (Wood, TN)

Radio Anhanguera, Goiania, 4915v with whistling heard at 0010. (Taylor, WI) 0217. (Brossell, WI) 2257 with talk, ID and frequency anmt. (Parker, PA)

Radio Difusora, Macapa, 4915 at 0407 with ID, into soft pops, some of it in EE. (Wood, TN) 2307 with reverb and pops. (Parker, PA)

Radio Educacao Rural, Tefe, 4925.2, at 0153 with M joined by several others, possibly talking sports. (Taylor, WI) 0145 to 0303 close. Beautiful slow songs. (Parker, PA) 0153-0201* with intl music, M over soft piano, ID and frequency anmt, carrier cut. (D'Angelo, PA)

Better late than never—Radio Damascus, Syria, recently QSLed Rich D'Angelo's reception on 12085 of February last year.

Radio Mundial, Osasco, 4974.8 at 0127 with M vocal and other numbers, but very weak. (Parker, PA)

Radio Brazil Central, Goiania, 4985 at 2335 with M anncr, blues guitar. (Parker, PA)

Radio Aparecida, Aparecida, 5035 at 0041, W anncr and lively instls. (Taylor, WI)

Radio Inconfidencia, Belo Horizonte, 6010 at 2253 with talks, ad string, ID and vocals. (D'Angelo, PA)

Radio Bandeirantes, Sao Paulo, 6089.9 at 0105 in the clear with Anguilla off. Talks, comls, SFX. //9645.3 was very weak. (Alexander, PA)

Radio Nacional Amazonas, Rio de Janeiro, 6185 at 2356 with ranchero type music, "Happy Birthday" song and ID sequence for their network stations. (Taylor, WI) 11780 at 0246 with lunatic M sports anncr and plenty of reverb. (Parker, PA)

Radio Record, Sao Paulo, 9505 at 2357 when I caught a bit of music before WYFR came on. (Paszkiewicz, WI)

Radio Tupi, Curitiba, 9565 at 0007 with talk about Brazil. (Paszkiewicz, WI)

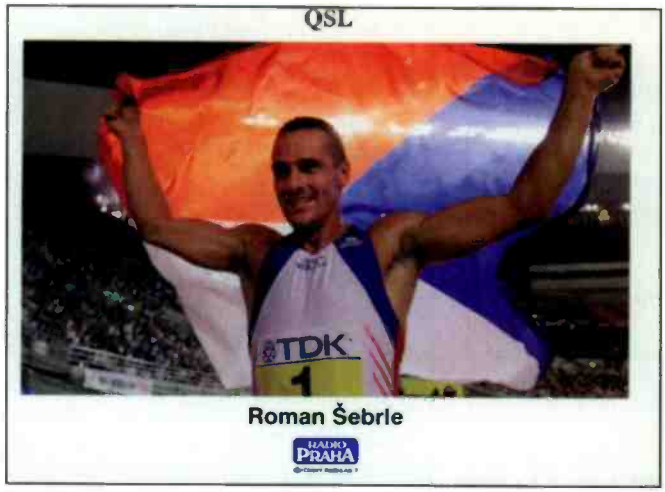
Radio 9 de Julho (p) 9820 at 2357 with W anmt, short bridge or fanfare, more anmts, possible frequency mentions, more anncr chat, poor. (Taylor, WI)

BULGARIA—Radio Bulgaria, 5900 with jazz at 2150 and 11700 at 2355 on treasures in their national museum. (Fraser, ME) 7200 in RR at 0338. (Brossell, WI) 9700 at 0230 to ECNA with EE talks. (Parker, PA)

Radio Varna, 6000 at 2113 with music, anmts in Bulgarian. QRM from unid. This is Sunday/Monday only. (Alexander, PA)

CANADA—Radio Canada Intl, 15235 at 2016 with talks in FF. (Brossell, WI)

CKZN, St. John's (Newfoundland), 6160 at 2254 with *As It Happens* from CBC Radio One. (D'Angelo, PA)



This Radio Prague QSL from last year features a Czech decathlon winner. (Thanks Paul Gager, Austria)

The venerable Zenith Trans Oceanic featured in Exhibition Hall at the KBS museum in Seoul, South Korea. (Thanks Paul Gager, Austria)

CRFX, Toronto, 6069.9 with CFRB traffic report, into the John Moore talk pgm at 2250. (D'Angelo, PA)

CHU, Ottawa, time station, 3330 at 0427 with EE/FF anmts. (Parker, PA)

CHAD—Radio National Tchadienne, N'djamena, 4905 at 0510 with all FF talk. (Wood, TN) 2220 with Afro-pops, highlife vocals, off suddenly in mid-anthem at 1121. (Alexander, PA) Off suddenly at 2220. (D'Angelo, PA)

CHILE—CVC-La Voz, 9635 at 2100, poor with SS talk, ID at 2258. (Alexander, PA) 17680 with SS ballads at 1233. (Brossell, WI)

CHINA—China Radio International, 9665 via Brazil in SS at 0322. (MacKenzie, CA) 9740-Sichaun in listed Mandarin at 1222. (Brossell, WI) 9760-Kunming at 1256 with closing anmts and email address. Into EE news at ToH. (Strawman, IA) 11650-Urumqi at 1935. (Paszkiewicz, WI)

China National Radio/CPBS: Sichuan PBS, Chengdu, 6060 with CC talks and orchestral music at 1230. (Paszkiewicz, WI) CNR-2, 6065-Beijing at 2302 with M in Mandarin, also CNR-1, 6125-Shijiazhuang in Mandarin at 2253. (Ronda, OK) 11835-Xi'an in CC with talks at 1246. (Brossell, WI)

Firedrake music jammer, 6280 at 2213 against unheard Sound of Hope. (Taylor, WI) 9300 at 1209, possibly against RFA. Also 11840 covering AIR-Delhi in CC at 1238, 12040 against VOA-Philippines at 1211 and 15465 against Taiwan in CC at 1239. (Brossell, WI) 11710 at 2302. Terminated at top of the hour. (D'Angelo, PA) 11640 at 0306. (MacKenzie, CA)

COLOMBIA—Marfil Estero, Puerto Lleras, 5910 at 0450 with LA vocals, SS talk, ID. (D'Angelo, PA)

La Voz del Guaviare, San Jose de Guaviare, 6035 at 0220 with vocals, ID. Good but co and adjacent channel QRM. (Paszkiewicz, WI)

CROATIA—Voice of Croatia, 3984.8 at 0200 in EE with *Croatia Today* and news, sports and weather, better on 9925 via Germany. Also 6165 at 0600 with 3-minute EE news bulletin, ID, schedule, better via Germany on //9470. (Alexander, PA) 3985-Deanovic in Croatian at 0108. (Taylor, WI) 0121. (Parker, PA) 9925 via Germany at 2215 with pgm about their Independence Day. (Fraser, ME)

CUBA—Radio Rebelde, 5025 heard at 0405 with Abba songs. (Yohnicki, ON)

CZECH REPUBLIC—Radio Prague, 7345-Litmosyl at 0122 with the tail end of EE and into Czech at 0130. (Wood, TN) 0325 on film directors there. (Brossell, WI)

DJIBOUTI—Radio Djibouti, 4780 with short anthem at 0301 sign on, opening anmts, Koran, AA talk, HoA music. (Alexander, PA) 0316. (D'Angelo, PA; Ronda, OK) 0335 with M anncr, stringed instrument. (Parker, PA)

ECUADOR—HCJB, 11690 at 1310 with SS inspirational talk. Poor but //11960 was good. (Wood, TN)

La Voz de Napo/Radio Maria, Tena, 3279.9 in SS at 0255, M/W anncrs and *musica Ecuadoriana*. (Parker, PA)

Radio El Buen Pastor, Saraguro, 4814.9 at 0151 with M anncr, slow vocal. (Parker, PA)

HD2IOA, Guayaquil, time station, 3810 with SS anmts at 0420. (Parker, PA)

EGYPT—ERTU/Radio Cairo, 7270 monitored at 0235 with thanks to North American listeners, then into Middle Eastern music. (Wood, TN) 0346 with W anncr and AA pops. (Parker, PA)

ENGLAND—BBC, 6005 via South Africa with news at 2203. (Ronda, OK) 7120 via South Africa at 0440 with *Network Africa* and 15180-Skelton to North Africa in AA at 1940. (Parker, PA) 7140 Cyprus Relay in AA at 0333. (Brossell, WI) 9915 Cyprus Relay in AA at 1015. (Yohnicki, ON)

Bible Voice Network, 13590 via Julich at 1535 with the pgm *Urban Edge*. Others believe this is CVC-The Voice via Zambia. I don't know which is right so I took Eibi at its word. (Brossell, WI)

EQUATORIAL GUINEA—Radio Nacional, Malabo, 6250 as early as 2006 sign off and again at 0502 sign on. SS anmts and high life music. (Alexander, PA)

Radio Africa, 15190 with EE religious programming monitored at 2240. ID, email and address in Accra, Ghana. Closed at 2252. (Alexander, PA)

ETHIOPIA—Radio Ethiopia, 7110-Gedja, at 0430 with techno-pop and reggae style, Amharic anncr to anthem and close at 2101. Also 0332 in Amharic to close at 0401. (Alexander, PA) 0320 W anncr in Amharic, mix of ME and Afropops. (Wood, TN)

Radio Fana, Addis Ababa, 6110 from *0255 with opening ID in Amharic by W, HoA music from 0300. (D'Angelo, PA) 0315 with long IS repeated over and over, then instl music. (Paszkiewicz, WI) 7210 in Amharic at 0415. (Wood, TN)

Gonbot 7 Dinst Radio, 21555 via Samara at *1700–1729* in listed Amharic, fair to good on //17655. This is active only on Tu-Th-Sa. (Alexander, PA)

Voice of the Tigray Revolution, 5950 at *0300 with IS, opening Amharic anmts, HoA music. Weak under Taiwan via Florida. (Alexander, PA)

FRANCE—Radio France Intl, 7135-Issoudun monitored at 0447 with FF talks. (Parker, PA) 0427 and also 17805 in FF at 1323. (Brossell, WI)

GABON—Africa Number One, 15475 at 1658 in FF with ID, PSA, time pips, news on DR Congo. Also ID as "Afrique #1—Radio for Africa." (Wood, TN)

GERMANY—Deutsche Welle, 7245 Rwanda Relay, about Burma at 0434. (Wood, TN) 15275 Rwanda Relay in GG at 1527. (Brossell, WI) 17860 via Portugal in EE at 1920. (Paszkiewicz, WI)

GREECE—Voice of Greece, 15630 in Greek at 2021. (Brossell, WI)

GUATEMALA—Radio Buenas Nuevas, San Sebastian, 4799.9 in SS with sappy, slow pops at 0111. (Parker, PA)

Radio Verdad, Chiquimula, 4052.5 at 0020 in SS. (Parker, PA) (*Currently off the air.—gld*)

HAWAII—AFRTS/AFN, Pearl Harbor, 10390 with '70s rock, AFN ID at 0300. (Parker, PA)

KWHR, 17800 heard at 0159 with ID, frequencies and QSL address, off at 0200. (Brossell, WI)

HONDURAS—Radio Luz y Vida, Santa Barbara, 3250 at 0235 in SS with slow C/W song, steel guitar, etc. (Parker, PA)

HRMI Radio Misiones Intl, Comayaguela, 3340 at 0308 with M/W SS talk. (Parker, PA)

HUNGARY—Magyar Radio, 3975-Jaszbereny to 0500 close with HH anmts, IS. (Parker, PA)

INDIA—All India Radio, 4800-Hyderabad (p) at 0120 with M in local song, colliding with the Guatemalan, Also 4840, Mumbai, (p) at poor at 0135 with M vocal and 4880, Lucknow with W talk in HH at 0205. (Parker, PA) 5010, Thiruvananthapuram (p) at 1232. M in extended talk. Also 9870 with Hindi vocals at 1302. (Strawman, IA) 9445 talking about Mother Teresa at 1930 (Maxant, WV) 11620-Bangaluru with US pops at 2036. (Brossell, WI)

INDONESIA—Radio Republik Indonesia, Biak, (p) 4920 at 1236 with M in long talk. (Strawman, IA) 9680 at 1232 with talk in II and music under Firedrake jammer. (Taylor, WI)

Voice of Indonesia, 9526 strong at 1359 but poor modulation. Anmts and theme to ToH and into Malaysian. (Strawman, IA) 9525.9 at 1300 with local music, theme and EE ID, f/by talk. Too weak to catch any further details. (Alexander, PA)

IRAN—Voice of Islamic Republic of Iran, 3985-Kalamabad in Farsi at 0115 with long chant song. Extended hours during Ramadan. (Parker, PA) 6205 at 1928 sign on, EE ID anmts at 1930, Koran at 1933 with EE news at 1937. Better on //7205. (Alexander, PA) 7105 with Koran at 0140 and 7235 with commentary at 0150. (Brossell, WI)

South Korea's "reserve astronaut" Yi So-yeon graces this KBS QSL issued for their German service. (Thanks Paul Gager, Austria)

JAPAN—Radio Japan/NHK, 9825-Yamata with EE quiz pgm heard at 0911. (Ronda, OK)

KUWAT—Radio Kuwait, 11990 at 1800 in EE on the teaching of Islam, ID, local music and light pops. (Alexander, PA)

LIBERIA—ELWA, Monrovia, 6070 from 2240 to 2300*. Religious music, closing anmt, national anthem at 2259. (Alexander, PA)

Star Radio, 9525 via Ascension at *0700–0730* with EE news about Liberia, short breaks of African music. (Alexander, PA)

LIBYA—Radio Jamahiriya/Voice of Africa, 17725 in listed Swahili at 1321. (Brossell, WI) 21695 at 1530, EE news at 1543, //17725, which signed off at 1603. (Alexander, PA)

MADAGASCAR—Radio National Malagasy, 3287.4 (p) at 0055, strong carrier, weak modulation. (Parker, PA) 5010 at 0327, ID at 0331, man in Malagasy. (D'Angelo, PA)

MALI—RTV Malienne, 5995 monitored at 2345 to 0002 close. Rustic tribal music and off with anthem at 0001. Also 7284.6 at *0757 sign on with local tribal music, flute IS and FF ID sequence, vernacular talk heard at 0801. (Alexander, PA)

MAURITANIA—Radio Mauritanie, 4845 at 0815 with AA talk, some ME-style music, one minute of Koran at 0830, off at 0831. (Alexander, PA) 2232 in presumed AA, colliding with the Brazilian Ondas Tropicais. (Parker, PA)

MEXICO—Candela FM, Merida, 6105 strong but distorted at 1650. (Wilkner, FL)

Radio Mil, Mexico City, 6010 in SS including multi-lingual EE ID at 1100. (Taylor, WI)

Radio Transcontinental/XERTA, 4800 at 0440 discussing interference from Radio Buenas Nuevas. (Wilkner, FL) 0726 with long SS talk. (D'Angelo, PA) 0748 with SS interview. (Taylor, WI)

MOLDOVA (Pridnestrovie)—Radio PMR, 6040 at *2300 opening EE segment. Into FF at 2231. (D'Angelo, PA)

NETHERLANDS—Radio Nederland, 5785 at 0405 in EE with M/W talks, telephone interview. Not listed. A spur or harmonic? (Parker, PA) 9955 via WRMI at 2200 with background noise. Also 15335 via Germany with *Reloaded* at 1930. (Fraser, ME)

NEW ZEALAND—Radio New Zealand International, 7145 with EE news at 0904. (Ronda, OK) 9615 at 0501 on visit of Finnish president and 9655 with news at 1205. (Maxant, WV) 9655 with EE news at 1205. (Brossell, WI) 15720 at 0215 with two women and man in discussion. (MacKenzie, CA)

NIGER—La Voix do Sahel, 9705 at 2035 with vocals and kalimba-like music. (Paszkiewicz, WI) 2101 after Ethiopia signed off. FF talk, US R&B, FF ballads, phone talk. Weak but readable. (Alexander, PA) 2120 taking phone calls. (Strawman, IA) 2125 in FF with rustic flute, ID, W introducing M talk. (Taylor, WI)

NIGERIA—Voice of Nigeria, 9690 at *0758, opening anmts and into vernacular talk. (Alexander, PA) 15120 at 1835 with heavily accented EE talk. IDs at 1844, 1845. (Wood, TN) 1927 to North Africa and Europe. (Parker, PA) 2005 with pops in EE and other languages. (Brossell, WI)

Radio Nigeria, Kaduna, 4770 with pop songs, time check for "6 o'clock" at 0500, and then news. (D'Angelo, PA) 6089.8 at *0429 with Anguilla off. Sign on with drums IS, choral anthem at 0430 and into talk in Hausa. (Alexander, PA)

NORTH KOREA—Korean Central

This Month's Winner

To show our appreciation for your loggings and support of this column, each month we select one "GIG" contributor to receive a free book. Readers are also invited to send in loggings, photos, copies of QSL cards, and monitoring room photos to me at *Popular Communications*, "Global Information Guide," 25 Newbridge Rd., Hicksville, NY 11801, or by email to gdex@wi.rr.com. The email's subject line should indicate that it's for the "GIG" column. So, come on, send your contribution in today!

This month's prize winner is **Richard Parker** of **Pennsburg, Pennsylvania**, who receives a 2009 edition of *Passport to World Band Radio*, thanks to our friends at Universal Radio, 6830 Americana Parkway, Reynoldsburg, OH 43068. You can write or call them to get a free copy of their terrific catalog of radio stuff, either at the address above or via email at dx@universal-radio.com or phone (614) 866-4267. You won't go astray dealing with these fine folks! Please mention *Pop'Comm* and the "Global Information Guide" when you contact them.

Broadcasting Station, 2850 in KK at 1120. M in KK, usual Korean "heroic" opera. (Taylor, WI) 15180 in KK at 1243. (Brossell, WI)

OMAN—Radio Sultanate of Oman, 7175 at 0405 with M in AA and Mideast music. (Wood, TN) 15140 at 1426 ending EE news, US and Euro pops, chimes or gongs at 1500 and into AA talk. (Alexander, PA)

NORTHERN MARIANAS—KFBS, 11650 in RR at 1230. (Brossell, WI)

OPPOSITION—Open Radio for North Korea, 9950 via Armenia at 2142 with drama in KK. (Taylor, WI) 2147 with Korean pops f/by short segments of KK talk. "Pomp and Circumstance" at 2159 and off at 2200. (D'Angelo, PA)

Radio Voice of the People (to Zimbabwe), 9895 at 0406 with news in local language, several IDs at 0415, (D'Angelo, PA)

Southern Sudan Interactive Radio, 15390 from *1258 with EE ID by W, lots of doorbell sounds. (Paszkiewicz, WI)

Radio Solh (to Afghanistan), monitored at 17700 at 1131 in Pashto/Dari with ME music. (Wood, TN)

Radio Nacional de la RASD (to Morocco), 6300 heard at 2250 with political talk in SS. (Ronda, OK)

Radio Free Asia, 9455 in listed Burmese via Northern Marianas at 1200 and 11605 via Northern Marianas at 1200 in listed Tibetan. (Brossell, WI)

Radio Free Europe, 7175 via Germany in RR at 0335. (Brossell, WI)

Radio Liberty, 11550 in Pashto/Dari at 1237. Also 11700 via Philippines in RR at 1222. (Brossell, WI)

Radio Marti, 5995 in SS heard at 1100. (Fraser, ME)

PAPUA NEW GUINEA—Radio West New Britain, Kimbe (New Britain), 3235 at 1230 with pops. Poor. (Strawman, IA)

Radio East Sepik, Wewak (New Guinea), 3335 at 1121 with pops and occasional Pidgin anmts. (Strawman, IA)

PERU (All in SS)—Radio Municipal, Panao, (t) 3173.8 seemingly on early at 0730. (Wilkner, FL)

Ondas del Huallaga, Huanuco, 3329.5 with OA music and M talk at 1050. (Wilkner, FL)

Radio Tarma, Junin, 4775 at 0345 colliding with TWR with M talk. (Parker, PA)

Radio Vision, Chiclayo, 4790 at 0341 with SS preacher addressing congregation. (Parker, PA)

La Voz de la Selva, Iquitos, 4824.5 at 1038 with *musica Andina*. (Wilkner, FL)

Radio Cultura Amauta, Huanta, (t) 4955, at 0135, W vocal and primitive Andean instruments. (Taylor, WI) (t) 2340 with continuous talk. (Alexander, PA)

Radio Victoria, Lima, 6019.5 at 0712 with SS news by M, including remote reports, frequent TCs and periodic music segments. (D'Angelo, PA) 9719.8 at 2010 with SS sermon. (Paszkiewicz, WI)

Radio Tawantunsuyo, Cusco, 6173.8 with music at 0640, no co-channel QRM for once. (Wilkner, FL)

In Times Past...

Here's your blast from the past for this month...

Radio Patria Libre (clandestine)—Cordoba Dept., Colombia, on 6766.5 in SS at 0040 on November 23, 1988. Operated by ELF guerrilla force. (Dexter, WI)

PHILIPPINES—FEBC International, 9430 in CC at 1211. (Brossell, WI)

PIRATES—Radio Paisano, 6925 at 1540 and *1935, Italian-flavored songs. Email as radiopaisano@gmail.com. (Zeller, OH) 1950 to 2025* with campy Italian songs, playing probably the Italian National Anthem and ending with "Mama mia, that's a spicy meatball." (Lobdell, MA)

Captain Morgan, 6924u at 2110 with blues, rockabilly, IDs by the Captain. Drifting transmitter. (Lobdell, MA)

WAHR, 6925u heard at 2351 to 0005* with mix of music and sketches, hysterical audience laughter.

Used slogan of "Automatic Halloween Radio." (Zeller, OH)

Dead Cat Radio, 6925u at 1727 to 1810* with pgm of oldies rock. Clear ID at close. (Zeller, OH)

Radio Free Speech, 6925u at 1757 discussing the Bunny-Kraker tickets for president, later into a Radio Free Speech pgm that was poorly copied. (Zeller, OH) 1818 with "Bill O. Rights." "They're Coming to Take Me Away." Says he is back after a 10-year absence. (Lobdell, MA) 2157 with Bill O. Rights return to shortwave, political commentaries and parodies. Several IDs and P.O. Box 1, Belfast, NY 14711 address. (Wood, TN)

Northwoods Radio, 6925u at 1338 with novelty tunes, call of the Loon, audio clips from WNIS-Norfolk. (Wood, TN)

Conelrad Radio, 6925u at *0038–0055* with air raid sirens, blues number, jingle for WETN, which is licensed to Wheaton College (IL). (Zeller, OH)

Mad Dog Radio, 6925u at 1554–1559*. Two rock numbers and ID before a quick close. (Zeller, OH)

The Wave, 6925u at 0007 and 2329 closing at 0024* and 2344*. Classic rock. No address anod, although they use Belfast. (Zeller, OH)

Not the BBC, 6925u at 2219 to 2228* with several repeats of the BBC IS theme. Nothing else and no address anod. (Zeller, OH)

Victory Radio, 6925u at *2345–2355* with anthem by band, discussion of Texas defeating Oklahoma, which had been ranked #1. A blues played for the OK fans. (Zeller, OH)

Balls to the Wall Radio, 6925u at 2308–2330* with several rock numbers. No sign off or address copied. (Wood, TN)

Reflections Europe, Ireland, 6295 at 2116 with EE religious pgms. //12225 was very weak. //3910 unheard. (Alexander, PA)

POLAND—Polish Radio, 9525 to Europe at 1210. (Maxant, WV) (*via Germany—gld*)

PORTUGAL—RDP International, 7240 at 0636 with music and PP anmts, time pips and ID at 0700 f/by news. (D'Angelo, PA)

ROMANIA—Radio Romania International, 6150-Galbeni at 0303 with EE news and features, including listener letters, many IDs and request for letters. (Wood, TN) 11735 at 1721 with feature on a Romanian composer. (D'Angelo, PA) 15220 at 1228 on women's health. (Fraser, ME)

RUSSIA—Voice of Russia, 5900-Armavir at 0426 with Beatles' "Back in the USSR" and jazz. (Parker, PA) 7250 via Armenia at 0118 on Russian Orthodox Church. (Wood, TN) 9800-Armavir in RR at 0220. Also 12065-Chita in listed Vietnamese at 1236. (Brossell, WI)

Russian Radio International, 7125 via Moldova heard at 0103 with RR ID and folk songs. (Wood, TN) 0442 with Russian pops. (Parker, PA)

SAO TOME—VOA Relay, Pinheira, 4960 with *Daybreak Africa* at 0425. (Parker, PA) 0426. (Wood, TN) 15730 at 2017 with rock and anmts in FF. (Brossell, WI)

SIERRA LEONE—Cotton Tree News, 9525 via Ascension at *0730 with opening ID and drums, M anner with news. (D'Angelo, PA; Alexander, PA)

SOUTH AFRICA—Channel Africa, 3345-Meyerton at 0320 with EE talks, and 7390 in FF at 0450 to 0455 abrupt close. (Parker, PA) 3345 at 0353 with features, 4 + 1 time pips at 0400 f/by TC, ID and news. (D'Angelo, PA) 0401 with "Amanda" reading news. (Wood, TN) 9736 heard at 0510. (Maxant, WV)

Radio Sondergrense, 3320 at 0305 with EZL music and Afrikaans anner. (Parker, PA) 0309 with pops. (Wood, TN) 0151 with a variety of music. (Yohnicki, ON)

BBC Relay, 3255 at 0335 with heavily accented EE news anners. (Parker, PA) 2203 with news in EE. (Ronda, OK)

SPAIN—Radio Exterior de Espana, 3350-Costa Rica Relay in SS at 0325. (Parker, PA) 12015 in AA at 2037. (Brossell, WI)

SUDAN—Miraya 101FM, 15650 via Slovakia at *1439 with African music, time pips and ID at 1501, f/by news in EE, AA at 1511. (Alexander, PA)

SYRIA—Radio Damascus, 9330 monitored at 2102 with W opening EE segment and into M/W news. Not the best modulation. (D'Angelo, PA)

SWAZILAND—Trans World Radio, 3240 at 0327 in listed Ndau with M anner and upbeat song. Also 4775 at 0440 with EE talks. (Parker, PA) 0403 with religious talk in GG. (D'Angelo, PA)

SWEDEN—Radio Sweden International, 7420 via Madagascar at 2140 with EE talks to Australasia. (Parker, PA)

TAIWAN—Radio Taiwan International, 9735 at 1222 with talks in JJ. (Brossell, WI)

The BBC's acknowledgement card from 1983. (Thanks Mike Adams, Florida)

Somewhere in this maze of structures are the studios of then Radio Bucharest in 1960. (Thanks Mike Adams, Florida)

11665 at 1122 with non-stop CC classical music. Also 15600 via Florida at 2243 with *Instant Noodles*. (Fraser, ME)

TAJIKISTAN—Tajik Radio, Yangiyul, 4635 at 0050 in Tajik with W talk. Poor. (Parker, PA)

TANZANIA (Zanzibar)—Radio Tanzania, 11735-Dole at 1759 with local drums, time pips, EE news from local Spice FM. Swahili at 1810. (Alexander, PA) 2033 in Swahili. (Brossell, WI) 2102 with AA-influenced vocals. (Strawman, IA)

THAILAND—Radio Thailand, 7260 at 1108 in VV with EE ID at 1110, another at 1114 and into listed Khmer at 1116. Off at 1130. (Alexander, PA) 1123 in Khmer, bells at 1128, EE ID and schedule for Khmer pgms. (D'Angelo, PA) 9520 with EE news at 1253. (Strawman, IA)

TUNISIA—RT Tunisienne, 7275-Sfax at 0437 with AA MD music, ID by W at ToH and into news. (Wood, TN)

TURKEY—Voice of Turkey, 5975 monitored at 0308 with EE pgm including letters, multiple language

IDs and schedule info at closedown. Off at 0353. (D'Angelo, PA) 6195 at 2250 with EE times and frequencies. (Ronda, OK)

UKRAINE—Radio Ukraine International, 7440 at 0305. Japan giving aid to Ukrainian flood victims. (Brossell, WI)

UNITED STATES—Voice of America, 6110-Tinian, Northern Marianas Relay, at 1112 in Mandarin. (D'Angelo, PA) 6180 at 0530. (Parker, PA) 7225 Thailand Relay, in KK at 1225. (Strawman, IA) 9845-Northern Marianas in CC at 1214, 11625-Northern Marianas in KK at 1219 and 12110-Sri Lanka Relay in listed Farsi at 1545. (Brossell, WI)

WHRI, 17520 at 1725. (Wood, TN)

WEWN, 15885 at 1709. (Wood, TN)

WRNO, 7505 at 0157. (D'Angelo, PA)

WWCR, 5115 at 0410. (Parker, PA)

Family Radio/WYFR, 15195 via Ascension at 2005. (Brossell, WI)

VATICAN—Vatican Radio, 4005 in SS at 0225. (Parker, PA) 7305 at *0250 with IS, ID. Also 15570 in FF at 1705. (Wood, TN) 11740 in Italian at 1235. (Brossell, WI)

YEMEN—Republic of Yemen Radio, 9780 in AA at 2020 with vocals and stringed instrument backing. (Paszkiewicz, WI)

ZAMBIA—NBC Radio One, 5915 in (p) listed Bemba heard at 0426 with M/W talks. (Parker, PA)

CBC The Voice-Africa, 4965 at 0503 with heavily accented W with news. (Parker, PA) 13590 at 1434 with pop song countdown, mixing with equally strong Bible Voice Broadcasting. (Alexander, PA)

ZIMBABWE—Voice of Zimbabwe, 4838 at 0157 with M vocal and thumb piano. (Parker, PA)

0423 with local vocals. (D'Angelo, PA)

And that'll do it! An ocean of thanks and appreciation flow to the following who participated this time: Brian Alexander, Mechanicsburg, PA: Robert Brossell, Pewaukee, WI; Joe Wood, Greenback, TN; Richard Parker, Pennsburg, PA; Stewart MacKenzie, Huntington Beach, CA; Jerry Strawman, Des Moines; IA; Robert Wilkner, Pompano Beach, FL; George Zeller, Cleveland, OH; Chris Lobdell, Tewsbury, MA; Sheryl Paszkiewicz, Manitowoc, WI; Rich D'Angelo, Wyomissing, PA; Jim Ronda, Tulsa, OK; Michael Yonicki, London, ON; and Robert Fraser, Belfast, ME. Thanks to each one of you.

Until next month, good listening! ■

Listening is only half the fun...

POPULAR COMMUNICATIONS

is the other half!

The World's most authoritative monthly magazine for Shortwave Listening and Scanner Monitoring. Read by more active listeners world-wide.

You'll find features on scanner monitoring of police, fire, utility, and aircraft communications; international shortwave listening; CB radio; amateur radio; FRS; GMRS; monitoring radio digital communications including CW, RTTY, SITOR, etc; AM/FM commercial broadcasting; weather and communications satellites; telephone equipment and accessories; radio nostalgia; alternative radio; clandestine radio; and military radio.

	USA		Canada/Mexico		Foreign
1 Yr	☐ 32.95	1 Yr	☐ 42.95	1 Yr	☐ 52.95
2 Yrs	☐ 58.95	2 Yrs	☐ 78.95	2 Yrs	☐ 98.95
3 Yrs	☐ 85.95	3 Yrs	☐ 115.95	3 Yrs	☐ 145.95

Popular Communications

25 Newbridge Road, Hicksville, NY11801

Phone: 516-681-2922; Fax 516-681-2926

Visit our web site:

www.popular-communications.com

Digital TV—Ready Or Not, Here It Comes!

by Bruce A. Conti
BAConti@aol.com

"Typical analog TV interference like ghosting, snow, inconsistent color, and wavy lines is a clear indication that an antenna upgrade will be required to complete DTV conversion."

Unless you've been living in solitary confinement, under a rock, or lost in space, you're undoubtedly aware of the digital television (DTV) transition deadline this month. Despite all the publicity, millions of procrastinators may find themselves isolated from the television world after February 17 when analog television broadcasting over the airwaves will cease to exist, replaced by DTV broadcasting in the United States.

While public service announcements "as seen on TV" may indicate that upgrading your old antenna TV to DTV is as simple as installing a converter box, like many do-it-yourself home improvement projects, nothing is ever as simple as it seems. While *Pop'Comm* has covered this in some depth recently, the change is now upon us. So, for those of you who may have missed the past several issues, or who are still unsure about what you need to do, here are a few things to consider for a smoother transition.

The DTV Converter Box

To begin with, first determine whether or not your old analog television actually needs to be converted to DTV. If an analog TV is connected to a subscription service such as cable TV, satellite TV, or broadband FiOS, then it will continue to receive signals, because the outboard subscriber hardware or cable box already does the conversion. If an analog TV is receiving free over-the-air broadcasts via an external indoor antenna or "rabbit ears," or a rooftop or attic-mounted outdoor antenna, then you'll need to take action. Don't forget about the spare TV in the kitchen, garage, or out on the patio not connected to the cable box.

U.S. government subsidized $40 coupon good toward the purchase of a DTV converter box.

There are three basic options to consider for upgrading to DTV. One option might be to replace an analog TV with a new DTV. Of course there's a wide range of DTV sets available today, designed to fit any space and viewing requirements. There are some really nice "laptop-sized" DTV receivers that would fit under a kitchen cabinet, on a coffee table, or otherwise replace that old 13-inch color TV out on the three-season porch. Just make sure the new TV includes a DTV or ATSC (Advanced Systems Television Committee—the group that developed U.S. DTV standards) tuner for over-the-air digital reception. Keep in mind, though, if you choose to replace an analog antenna TV, the new DTV may still need an antenna upgrade for reliable reception.

Option two might be to connect to a subscription service, abandoning free over-the-air broadcast TV altogether. Unfortunately, many panicked antenna TV viewers will feel that this is the only option. Cable TV operators have been especially aggressive in marketing low-cost basic service to attract new subscribers with the digital conversion deadline fast approaching.

The third option is the installation of a DTV converter box between the antenna and analog TV. A coupon-eligible converter box (CECB) can be purchased for as little as $10 when combined with a U.S. government subsidized $40 coupon. Two $40 coupons per household can be requested at www.dtv2009.gov or by calling 1-888-DTV-2009. Delivery time is approximately one month. Coupons will no longer be available after March 31.

The low-cost converter boxes are essentially all the same, a black box about the size of a paperback novel, with jacks for antenna input and selectable analog Channel 3 or 4 output to the TV, and a remote control. In addition, some will provide separate analog audio and video outputs for connection to a component system. More importantly, look for a "smart antenna"-compatible converter box, an almost absolute necessity for reliable reception and convenience.

The RCA ANT2000 Indoor Smart Antenna for DTV reception.

The DX Antenna DTA-5000 outdoor smart antenna.

The RCA DTA800 converter box is one of the more popular low-cost models, and it has a smart antenna interface. The RCA remote control can be programmed to operate most TVs, too, so you won't need separate remotes for the converter box and TV, and the box features analog pass-through when turned off which can serve as an extra analog input for a VCR. On the negative side, the cheaper converter boxes do not allow for completely manual tuning. These boxes only allow for selection of channels found by automated scanning for available local signals. High-end converter boxes that act more like digital tuners, such as the Tivax STB-T8 (www.tivax.com), will allow the viewer to select any channel regardless of whether or not a digital signal is present, certainly not required to enjoy local channels, but an important consideration for DTV DXers.

The Antenna

Perhaps just as important, if not more, so will be the antenna. Unless located where strong reliable analog signals are available without interference, the old set-top rabbit ears or weathered rooftop antenna probably won't be good enough for DTV reception. Typical analog TV interference like ghosting, snow, inconsistent color, and wavy lines is a clear indication that an antenna upgrade will be required to complete DTV conversion. While such interference can be tolerable for analog, digital reception cannot accept signal degradation without interruption—it's either on or off. Interference to a DTV signal will cause anything from momentary freezing of the audio and video (sometimes producing a "Max Headroom" stutter effect) to drop-outs resulting in a black screen with muted audio until the signal recovers. A good antenna to lock in DTV signals is an absolute necessity.

To help you determine what type of outdoor antenna might be required to receive local DTV signals, go to the AntennaWeb.org website (www.antenna web.org) where you'll find a mapping program co-sponsored by the Consumer Electronics Association and the National Association of Broadcasters. Enter your address and it will generate a list of DTV signals that are available in your area. DTV stations are listed according to the antenna type required for reception. The listings include station callsign, assigned digital channel, network affiliation, city of license, compass heading, and distance in miles from your address. Suggested generic antenna types vary from small multi-band directionals to a large directional with preamp. Indoor antennas are not included because too many variables can impact the quality of indoor signal strength.

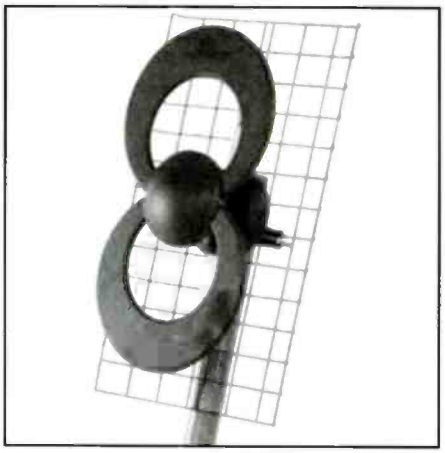
The list is further qualified as a conservative prediction of possible DTV reception depending upon the specifics of your installation, which may result in some stations not being listed. In other words, results may vary. Indeed a list was missing seven DTV signals received reliably at my location. Still the AntennaWeb list will give a good indication of whether or not over-the-air DTV reception is worth pursuing.

Smart Technology

Most likely your TV has a remote control, so why would you have an indoor antenna, rabbit ears, or an outdoor antenna on a rotator that you have to manually readjust every time you change the channel? "Smart antenna" technology has been around for years, used in radar and direction finding for military applications as well as wireless communications. It's only recently that the smart antenna concept was introduced for HDTV reception applications. A smart antenna is a multiple-element array controlled by an algorithm that tests every combination of elements for the best digital signal. Instead of manually reorienting set-top rabbit ears or rotating an outdoor antenna for best reception every time the channel is changed, the smart antenna automatically finds the strongest antenna direction. The smart antenna itself is stationary with no moving parts. The directional antenna beam is changed each time the algorithm selects a different combination of elements. The smart antenna interface of a digital TV or converter box should comply with the EIA/CEA-909A standard developed by the Consumer Electronics Association for compatibility.

There are only two DTV smart antennas currently available; the RCA ANT2000 Indoor Smart Antenna and the DX Antenna DTA-5000 Outdoor Smart Antenna. The RCA ANT2000 is a sleek design that sits flat in a 12 by 12-inch space. It can also be mounted on a ceiling or attic floor. Because it's an indoor antenna, range is limited to local reception, so it's not recommended for distances greater than 15 miles. The RCA ANT2000 is available online from Walmart if your local store has none in stock. The DX Antenna DTA-5000 is a flat pancake-shaped disk designed to mount atop an outdoor antenna mast or pole with 75-ohm coaxial lead-in. In addition to finding the optimal direction of reception with smart technology, automatic gain control reduces interference from multi-path reflections (the equivalent of analog ghosts) with a maximum gain of 25 dB. The DX DTA-5000 is available from SolidSignal.com.

More smart antenna choices are on the horizon from Antennas Direct, GE, and Terk. Although announced by parent company



The ClearStream outdoor DTV antenna from Antennas Direct.

Audiovox at the 2008 Consumer Electronics Show (CES) over a year ago, the Terk HDS smart antenna line remained unavailable as of this writing. (The prototype on display at CES looked like an upscale version of the RCA ANT2000.) Keep an eye on audiovox.com for the latest news on the long anticipated arrival of Terk smart antennas. The GE smart antenna was scheduled to be available in time for the DTV transition deadline after several delays. Watch parent company Jasco at jascoproducts.com for the latest information. The introduction of an indoor smart antenna by Antennas Direct (www.antennasdirect.com) also appears to be delayed despite numerous press releases and trade show announcements over the past year.

Although not a smart antenna, the ClearStream DTV antenna line by Antennas Direct is an alternative definitely worth considering. Optimized for the VHF-Hi and UHF DTV spectrum, ClearStream antennas are available in short and long range models.

Final Words

For the really unsure among you, "Broadcast Technology" is going to make a couple of specific recommendations here:

DTV Converter Boxes:

RCA DTA800B1—Simple installation, smart antenna interface, semi-universal remote.

Tivax STB-T8—Top of the line, automated and manual tuning, smart antenna interface.

DTV Antennas:

RCA ANT2000 Indoor Smart Antenna—Good for strong signal locations only.

DX Antenna DTA-5000 Outdoor Smart Antenna—Good for fringe (30-mile) reception and strong signals.

Antennas Direct ClearStream DTV Antennas—Optimized for VHF-Hi and UHF DTV, wide-angle beam reception, compact design, short- and long-range (50-mile) models.

Unfortunately at this time there are no digital televisions on the market that comply with the EIA/CEA-909A smart antenna standard. Smart antenna control is presently only available through DTV converter boxes that feature a smart antenna interface.

When analog TV broadcasting comes to an end on February 17, 2009, all DTV transmissions will be squeezed into VHF-Hi Channels 7–13 and UHF Channels 14–50. VHF-Lo Channels 2–6 and the upper end of UHF will be reassigned to non-broadcast communications services. This could represent a significant long-term opening for analog TV DX enthusiasts. Reception of analog TV signals on Channels 2–6 from the Caribbean, Mexico, and the rest of Latin America is predicted with the departure of U.S. stations. Analog TV will still be on the air in Canada though, with the transition to ATSC DTV scheduled for August 31, 2011, so southern TV DXers will be aiming their antennas north as well.

Whatever happens during this historic event, be sure to let us know about your TV DX experiences. Send in your TV DX photos and logs to be included in the next TV edition of "Broadcast Technology."

Until then, 73 and Good DX! ■

Tuning In *(from page 4)*

Bush transition team was presented with some arguable facts and figures regarding international broadcasting by the outgoing Clinton team.

We hope this time around that your team will uncover the real truth. For instance, your transition team could ask:

1) Why does the Broadcasting Board of Governors resist attempts for a strategic multimedia platform combining radio, TV, and the Internet to reach the world??

2) Why have 24/7 radio and TV broadcasts into the Middle East produced little or no results in a region of the world of vital strategic importance to the United States? And why does the BBG squash all negative reports about the inadequacies in U.S. broadcasting to the Middle East?

3) Why does the Broadcasting Board of Governors persist in trying to curtail worldwide English-language broadcasts when research shows the emerging dominance of English in the world?

The members of the Broadcasting Board of Governors have made many mistakes over the past decade. As President, you will have the unique opportunity to reverse those mistakes. And if you do, America's Voice can once again be heard loudly and clearly throughout the world and regain its place as the beacon of liberty to the world. If, by some remote chance, you do say "yes, we can," it would surely be a Happy Thanksgiving for many Voice of America employees.

This Month In Broadcast History

For you fans of broadcast trivia, here's another look back in time to some highlights from Februaries gone by...

1921—According to "When Radio Was Young: Questions and Answers about Early Pittsburgh Radio" (Beal, Sapienza-Donnelly, Harris: Wilkinsburg Commission, 1995), Harold Arlin is credited with being the first regular radio announcer, working at KDKA Pittsburgh introducing guests and performers.

1922—Legacy AM radio stations WHK Cleveland, WOC Davenport, WOR New York, and WGY Schenectady signed on the air.

1924—A speech by President Calvin Coolidge was the first presidential address carried nationwide by radio via a network of 26 stations in an experiment conducted by AT&T.

1927—The Radio Act of 1927 created the Federal Radio Commission, predecessor to the FCC.

1928—W3XK, the first television license, was granted by the Federal Radio Commission to Jenkins Laboratories in Washington, D.C.

1940—"The Adventures of Superman" premiered on radio.

What's New In Homeland Security And A *Pop'Comm* Salute

by Mitch Gill, NA7US,
NA7US@yahoo.com

While we may have a new administration, I doubt that we'll see any changes in Homeland Security for a while. The plans in place today will probably remain valid for the next year or two as the new group moves in and begins to get an idea of where we need to go. Whether we agree or not with who was elected, we must all agree to continue to support our government in the area of Homeland Security. Politics plays no role in our responsibility to protect our homeland.

ROIP—The Future Of Radio

Speaking of changes, I'm constantly amazed at how fast technology is changing and I'm trying to learn about and use the new developments

A crewmember of *USS Rentz* watches as the Coast Guard Cutter *Bertholf* approaches a pier at Naval Base San Diego, November 12, 2008, during the last leg of the cutter's first operational patrol. *Bertholf* is the first Legend Class National Security Cutter, the first new class of large cutter in 25 years. (U.S. Coast Guard photo/PA3 Henry G. Dunphy)

TERRORISM FORCES US TO MAKE A CHOICE. WE CAN BE AFRAID. OR WE CAN BE READY.

READY

WWW.READY.GOV

1-800-BE-READY

Ad Council

WE'RE ON THE WEB

Check out our Web site at:
www.popular-communications.com

Licensed Before 1984?

QCWA invites you to join with those distinguished amateurs licensed 25 or more years ago. Request an application from:

QCWA, Inc., Dept. PC
PO Box 3247
Framingham, MA 01705-3247
USA

as much as possible. The learning curve I'm working through now is for Radio over Internet Protocol (ROIP). There are two systems we're installing here at the Joint Operations Center near me in Washington State. One gives us the ability to listen to law enforcement throughout the state and the other ties us into all 911 operators throughout the state. We have the capability to transmit to them as well but we have no need. We just need to know of situations that could be occurring in the event the National Guard is needed. We also are emulating the communication capabilities of the State Emergency Operations Center in the unlikely event their system goes down.

From a Homeland Security perspective this is a remarkable system as I can pick and choose whom to listen to, or whether to listen to all. The downside to the system, as its name suggests, is that radio is being transmitted and received over the Internet. If the Internet goes down or we lose electricity we no longer have that capability. That's why we continue to build our backup radio communications capabilities and rely on Military Affiliate Radio System (MARS) members, Amateur Radio Emergency Services (ARES), and Radio Amateur Civil Emergency Service (RACES) to assist if needed.

CEMNET, Another Tool

Another area of technological development that we're working on is the Washington State Comprehensive Emergency Management Network. This system allows us to contact and monitor all the county Emergency Operations Centers (EOCs) throughout the state. If you're in Washington or a bordering state you can hear them on their repeaters at 45.20 MHz, 45.36 MHz, and 45.48 MHz during actual emergencies like floods, fires, or terrorist incidents.

Since this frequency is close to the 6-meter ham band, it's important to remem-

America's Waterway Watch

The following information comes from America's Waterway Watch website (see www.americaswaterwaywatch.org):

America's Waterway Watch (AWW), a combined effort of the Coast Guard and its Reserve and Auxiliary components, continues to grow, enlisting the active participation of those who live, work or play around America's waterfront areas. Coast Guard Reserve personnel concentrate on connecting with businesses and government agencies, while Auxiliarists focus on building AWW awareness among the recreational boating public.

If you are a tow boat operator, a recreational boater, a fisherman, a marina operator, or otherwise live, work or engage in recreational activities around America's waterways, the United States Coast Guard wants your help in keeping these areas safe and secure. You can do this by participating in its America's Waterway Watch (AWW) program, a nationwide initiative similar to the well known and successful Neighborhood Watch program that asks community members to report suspicious activities to local law enforcement agencies.

As a person who spends much of your time on or near the water, you already know what is normal and what is not, and you are well suited to notice suspicious activities—activities possibly indicating threats to our nation's homeland security. And as a participant in America's Waterway Watch we urge you to adopt a heightened sense of sensitivity toward unusual events or individuals you may encounter in or around ports, docks, marinas, riversides, beaches, or waterfront communities.

You should always remember that people are not suspicious, behavior is. And if you observe suspicious behavior or activity, you should simply note the details and contact local law enforcement. You are not expected to approach or challenge anyone acting in a suspicious manner.

America's Waterway Watch is a public outreach program, encouraging participants to simply report suspicious activity to the Coast Guard and/or other law enforcement agencies. Unlike some Neighborhood Watch programs, for example, you are not formally joining an organization—there are no meetings, membership cards or membership requirements—and you do not become an agent of the Coast Guard or any other law enforcement agency.

ber that propagation is a little different. We ham radio operators call the 6-meter band the "Magic Band" for good reason. It doesn't follow the standard "rules" of propagation as it falls between HF and VHF bands. On HF you can hear transmissions from thousands of miles away on most days, and on VHF you're limited to line of sight. What this means to you is that on some days you may hear nothing, even if you're in or border our state, and other days readers as far away as Florida may hear them. But no matter where you are, your state will have a similar system, and with a little sleuthing on the Internet you'll probably find them working around the same frequencies.

CEMNET is yet another valuable tool in our quest to assist

US Coast Guard Frequencies

There are numerous frequencies that you can monitor for the USCG. Here are some to begin with that should give you plenty of interesting listening (from the USCG site at www.navcen.uscg.gov/marcomms/cgcomms/call.htm):

HF Radiotelephone (Single Sideband) – Distress and Initial Contact
This schedule was effective 010001Z SEP 08

Authorized for the handling of Distress message traffic and initial contact with United States Coast Guard Long Range Communication facilities.

KHz SHIP STATION	KHz COAST STATION	NMF	NMN	NMA	NMG
4125	4125	2300-1100Z	2300-1100Z	2300-1100Z	2300-1100Z
6215	6215	24 HRS	24 HRS	24 HRS	24 HRS
8291	8291	24 HRS	24 HRS	24 HRS	24 HRS
12290	12290	1100-2300Z	1100-2300Z	1100-2300Z	1100-2300Z

KHz SHIP STATION	KHz COAST STATION	Station and Schedule (UTC)		
		NMC	NMO	NOJ
4125	4125	24 HRS	0600-1800Z	24 HRS
6215	6215	24 HRS	24 HRS	24 HRS
8291	8291	24 HRS	24 HRS	
12290	12290	24 HRS	1800-0600Z	

KHz SHIP STATION	KHz COAST STATION	Station and Schedule (UTC) Guam
6215	6215	0900-2100Z
12290	12290	2100-0900Z

Note: 8291 and 12290 KHz are available under NOJ upon request?
Note: 16420 KHz is available at all stations upon request

HF Radiotelephone (single sideband) - Working Channels

These channels are available at all Coast Guard Long Range Communication Facilities for traffic handling purposes after initial contact is established on the HF Radiotelephone (Single Sideband) - Distress and Initial Contact frequencies.

ITU CHANNEL	KHz SHIP STATION	KHz COAST STATION
424	4134	4426
601	6200	6501
816	8240	8764
1205	12242	13089
1625	16432	17314

US Coast Guard Frequencies Con't.

HF RADIOTELEX (SITOR OR NARROW BAND DIRECT PRINTING)

The U.S. Coast Guard high frequency (SITOR) AMVER and OBS service was discontinued from all locations (NMC, NMN, NMO, NOJ) except NRV/Guam on 30 Sep 2008

NMC - Pt. Reyes CA, using Guam remote transmitter/receiver control (NRV)			
ITU CHANNEL	**KHz COAST STATION**	**KHz SHIP STATION**	**Schedule (UTC)**
412	4215.5	4178	On request
612	6319.5	6268.5	On request
812	8422	8382	24 HRS
1212	12585	12482.5	1200Z-2200Z
1612	16812.5	16689	24 HRS
2212	22382	22290	2200Z -1200Z

RADIOTELEX SERVICES AVAILABLE

COMMAND	EXPLANATION	RESPONSE
OBS+	WEATHER OBSERVATION (message must be in standard format)	MOM11+ MSG+
AMV+	AMVER MESSAGE (message must be in standard format)	MOM01+ MSG+
MED+	MEDICAL EMERGENCIES (signals an alarm at the coast station)	MOM07+ MSG+
URG+	SHIPBOARD DISTRESS/EMERGENCY (signals an alarm at the coast station)	MOM20+ MSG+
TFC+	MISCELLANEOUS ROUTINE MESSAGES	MOM16+ MSG+
VES+	U.S. FISHERIES, POLLUTION OR OTHER REQUIRED VESSEL REPORT	MOM13+ MSG+
PLD+	PLEAD REQUEST TO PACIFIC MISSLE RANGE PT MUGU	MOM19+MSG+
OPR+	OPERATOR ASSISTANCE	
FREQ+	FREQUENCY GUARD SCHEDULE LIST	
MSG+	DOWNLOADS SHORE-TO-SHIP MESSAGES (limited to government vessels)	
BRK+	BREAK OFF COMMUNICATIONS	
HELP+	LIST OF AVAILABLE COMMANDS	

HF DIGITAL SELECTIVE CALLING

Portsmouth/NMN, Boston/NMF, Miami/NMA, New Orleans/NMG, Pt. Reyes/NMC, Honolulu HI/ NMO, Kodiak AK/NOJ	
2187.5 kHz	Coast Guard will normally respond to DSC test calls if acknowledgment is requested. Reports of uncancelled or unacknowledged inadvertently transmitted distress calls will be forwarded to the Federal Communications Commission.
4207.5	
6312	
8414.5	
12577	
16804.5	

Note: For radiotelex and digital selective calling, frequencies listed are assigned. Carrier frequency is located 1700Hz below the assigned frequency.

Scan Our Web Site

in Homeland Security. Being aware of incidents as they're occurring can steer you in the direction of other frequencies you need to monitor. As I've said in the past, those who want to do us harm will probably be using frequencies just outside the ham radio bands. Record and report; that's my motto.

Pop'Comm Salute

This month I'm starting something new that I call the "*Pop'Comm* Salute," where we'll look at an entity that's protecting our homeland. *Pop'Comm*'s R.B. Sturtevant will also continue his feature series on the military services (see his homage to the "Coasties" in the August 2008 issue), but we'll concentrate here on frequencies you can monitor. So for January 2009 our salute goes out to the brave men and women of the United States Coast Guard (USCG).

While the USCG is a branch of the United States armed forces, it's unique in that it is also a maritime law enforcement agency and a federal regulatory agency that has jurisdiction in both international and domestic waters. During peacetime it's an agency of the Department of Homeland Security, but during a time of war the President can transfer it to Department of the Navy.

As one of the five armed forces of the United States, its stated mission is to protect the public, the environment, and the United States economic and security interests in any maritime region in which those interests may be at risk, including international waters and America's coasts, ports, and inland waterways.

Regular readers know that I've been saying that we need to monitor our radio frequencies, and the USCG now has a program to encourage boaters to monitor and report suspicious activities on the water. So if you're on the water remember to have binoculars in one hand and a radio in the other (see "America's Waterway Watch").

Whether you are dreaming of those balmy days of summer relaxing in your boat or sitting by the fire monitoring the bands, just remember that the USCG never sleeps and is always looking out for you and me. Remember also that you don't need to meet a serviceman or woman to say thanks—you can always send an email or write a letter.

Until next time, keep listening, record, and report! ■

FEEDBACK
Our Readers Speak Out

More September Feedback

Dear Editor:

I just read, then re-read the September 2008 issue *of Popular Communications*. What a great issue! It was all good, not just the occasional two or three articles, but all good—congratulations!

I am a lifelong radio fan…AM, FM broadcast, SWL, an Extra class amateur for 20 years, and a holder of that "oh-so-useful T2."

You are restoring my faith in radio magazines. Thank you and I look forward to the next issue.

Bob Roper, AA2DM
Via email

Dear Editor:

I was there for all of that TV stuff [mentioned in September's "Tuning In"]. Our first set was a Philco 5-inch. It resided at my home until a few years ago when it found its way to the Antique Wireless Association. My first color TV was a Heathkit 17-inch or 19-inch set that was housed in a fine wooden console. I still have that set. It has not been turned on in a while. I am afraid the electrolytic capacitors may blow up. I never became a cable TV subscriber. I still view over the air TV signals. I have added digital converters. They work just fine. A lot of magic happens in those little converter boxes.

Harold
Via email

Dear Editor:

I have just received my September 2008 issue of *Popular Communications*. It is 4:30 p.m. central time, and I have looked through a few pages before dinnertime. However after only a few minutes, it brings back a lot of memories of former issues and my earlier days of countless days and nights of shortwave radio. I have to be honest and say I wish I could start over. I will probably later be up half the night with my memories.

Barbara Neal
Texarkana, Arkansas

The following letter was sent to "Radio Resources" columnist Gordon West; Gordon responds below:

Dear Gordon:

I read with interest your article on the Automatic Identification System (AIS) in the September 2008 issue. It sounds similar to the Aircraft Collision Avoidance Systems, which I had read about several years ago. Is it?

Is there a possibility that had such systems been available 50 years ago, they might have prevented the collision of the *Andrea Doria* and the *Stockholm*, where apparently both ships' bridge officers thought they had the right of way, as they steered into each other?

If I understand the article, agencies like the U.S. Coast Guard can track vessels equipped with the AIS as they get near the U.S. coastline and intercept ships that don't have such identification until they can be visually identified, and, if felt to be a threat, stopped. I have in mind the incident when the freighter *Golden Venture* with a "cargo" of about 300 would-be illegal immigrants, mostly from the Fujian region of China, somehow "slipped under the radar," and deliberately ran aground on the beach at the Fort Tilden/Roxbury section of the Rockaway Peninsula area of Queens County, New York, on June 6, 1993 (as an EMT living close to the scene, I was a part of the rescue effort).

Do you entertain the possibility that if the authorities had AIS available to them at that time, as a ship deliberately not transmitting an AIS signal, the *Golden Venture* might have been considered suspicious and stopped while still afloat?

Richard Berger
Registered Monitoring/SWL Station
KNY2SC
Belle Harbor, NY

Dear Richard:

Thanks for the nice note. Yes on AIS: it could have been a ship-saver for the *Andrea Doria* and the *Stockholm*, but even with AIS there still needs to be the VHF comms between both skippers to voice their intentions before a radical course change. This was a problem with our transpacific sailors who had AIS—they couldn't get the skippers on the big ships to answer their calls on VHF, so they had to do their own course changes!

For a look at live AIS, go to Shine Micro's interactive webpage at www.shinemicro.com and see all the action. The company is also a good source for dealer information on the least inexpensive AIS receivers, which are not much more than a Bearcat scanner with the filter removed for wideband RX, streaming audio into your computer running AIS software that's free over the Internet. Have fun!

Gordo, WB6NOA

Say Something—It's *Talk* Radio!

by Kirk Kleinschmidt, NTØZ
kirk@cloudnet.com

"As a recent political campaigner put it: 'country first, party second.' Perhaps we should unofficially adopt 'people first, hams second?'..."

Now that we're mired in the worst economic crisis since plate-modulated AM was the King of the Ham Bands, get ready for increased activity of the airwaves. Although I no longer work at the esteemed firm of Goldman, Sachs, Maxim, and Marconi, I have been around the hobby long enough to remember that when the economy trips and stumbles, hams trip the PTT switch with increasing frequency!

Someday, someone should perform a detailed study of the market and on-air activity trends that influence amateur radio behavior. Taking the widest perspective, we see two major factors that seem to operate independently, one direct, one inverse. When sunspot activity is increasing (or steadily elevated), so is ham activity. And when the economy is down, ham activity is up. (I don't know whether equipment sales are up in a down economy. I'm just talking about activity.)

I guess it stands to reason. When people aren't taking vacations, splurging on clothes, buying big-screen TVs, or eating out as much, there's more time for the old stand-by—ham radio!

Interestingly, we're presently in a down economy *and* a dismal, bottomed-out flat spot in the solar cycle (some experts are even predicting a dire, almost non-existent Cycle 24, but let's save that bad news for later, when and if it materializes). On the plus side is a return to winter's helpful boost to propagation in general, and its minimizing effect on static and noise.

It's a witch's brew of competing forces fit for a ham economist, but as I write this in October, I'm still predicting an increase in activity. More hams. More communicating. More talking. We might all be talking about the demise of civilization from our solar-powered sets (the AC mains long inoperable), or about how there's no longer a Postal Service to deliver the QSL cards we can't afford to have printed anyway, but we'll be talking nonetheless via mic, key, and keyboard.

Pump Up The Interest

Which brings me to this month's main topic: talking. More specifically: hams talking to other hams. And even more specifically: how not to be boring and predictable!

In addition to the items I mentioned above, this topic really hit home for me after a discussion with my YL (whom I lovingly refer to as "she who must be obeyed"). I guess she was extra bored because of the looming economic crisis and happened to overhear me working a few stations in a QRP contest. Normally, she would see me typing (PSK31) or slinging dits with my keyer paddle (I don't use SSB much in my stealth condo setup. I don't want my name or my voice to come out of a neighbor's clock radio, even at 5 watts) and chalk it up to my "doing my ham thing."

But this time she watched me add a few quick contest QSOs into the log and noticed that I wasn't really chatting with the hams on the other end. She asked me how rapidly working other stations without even exploring or engaging in any conversation could be even remotely satisfying.

Even as I explained a bit about contest QSOs, amateur radio contests, and their emphasis on speed and maximum contacts, how DX stations don't always have time to chat, especially at QRP signal levels, etc., I knew she had a valid point. I hadn't been very chatty on the air for quite a while.

It was convenient to soften that reality with QRP, sneaky condo operation, taking advantage of contests to work new countries, states, etc, but I knew that I could stand to be more conversant and break out of my rut—be more like I was in "the good old days."

After all, I'm a relative blabbermouth when cell phone texting, emailing, or chatting with my kids via one Internet "instant messaging" system or another. Why not ham radio? Why not, indeed!

Now, I know that online chatters and text messagers are using commercial services and aren't bound by the constraints of an FCC amateur license, but they're also not bound by most hams' unfortunate tradition of limiting our conversations to radios, signal reports, the weather, and gall bladder surgeries, either!

These folks are real people talking about real things—some interesting, some funny, and some stupid (let's forget about criminal, offensive, and

Scan Our Web Site

nonsensical). And there's no reason why we can't do the same, within reason. As a recent political campaigner put it: "country first, party second." Perhaps we should unofficially adopt "people first, hams second" recognizing, of course, that we have to be hams first when it comes to complying with the rules and practices of our service. We might have a lot more fun.

Many or even most hams see our hobby as a purely technical pursuit, a hobby that has a lot to do with complicated concepts and technology. And with the tests we're all required to pass to get our licenses, you'd think that the entire hobby is about technology, right? About knowing when 15 meters will be open to Africa, how sub-audible tones work on crowded

International Reply Coupons

There's been a lot of chatter about International Reply Coupons lately, and it seems as though some hams are questioning their availability and usefulness, and exploring possible alternatives. As it turns out, there *have* been changes to the venerable postal exchange program, but IRCs are still available at most US Post Offices (they may not be stocked everywhere) and can still be exchanged domestically, and in other countries, for the minimum necessary postage to mail a lightweight airmail letter (or lightweight QSL card, perhaps) back to the sender.

In a perfect world, IRCs work well and are hassle free. Let's say that you worked a station in any of the nearly 100 participating Universal Postal Union member countries and wanted to exchange QSL cards. After you fill out your QSL card you can go to your local Post Office and spend $2.10 for a current IRC. Your outbound airmail envelope will contain your QSL card, a pre-addressed lightweight airmail return envelope, and your new IRC. You mail the letter to the foreign ham.

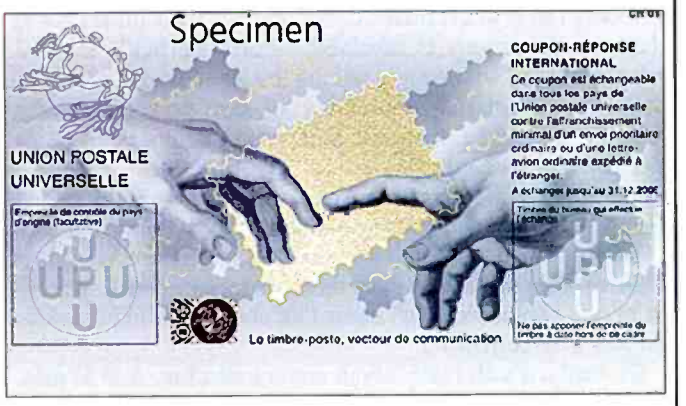
When your QSO partner receives your letter, he fills out his reply QSL card, seals it inside the included airmail envelope you provided, and takes the IRC coupon to his Post Office and exchanges it for sufficient postage to send his QSL/envelope back to you. Slick!

It actually *does* work this way...sometimes. More than one IRC may be required in certain circumstances (some legit, some not). IRCs are sometimes "intercepted" along the way and "go missing." Some Postal clerks incorrectly reject perfectly usable IRCs just as they legitimately reject older, out-of-date IRCs. The list of potential pitfalls goes on.

Before you send an IRC, ask your intended recipient whether it's a good idea, or do a Web search for ideas on whether the recipient's country tends to honor IRCs and just how many you might need!

The current IRC series is called "Beijing Model #2," which expires on December 31, 2009. The older versions are no longer officially accepted, but a few may sneak through anyway (see photos). For more information about IRCs, see www.para.org.ph/IRC, www.upu.int/irc/en/index.html, http://en.wikipedia.org/wiki/International_Reply_Coupon, and www.qsl.net/w9ol/IRC_Chart.htm.

To get around the IRC hassle (and associated high costs), some hams forget about the IRC and instead include one or two U.S. $1 bills. This *can* work, but it can also potentially imperil the recipient. In some countries possessing U.S. or other foreign currencies is a serious crime. And even if it isn't, an innocent ham may easily fall under suspicion if he's found to be receiving regular envelopes full of dollar bills! Substituting "green stamps" instead of IRCs is best done when the DX operator requests or suggests it as a viable alternative. In a country where an average worker might make, say, $300 U.S. per year, a dollar bill could buy a *lot* more than return postage! Your new radio friend wouldn't be the first ham to make DXing his full-time job. (If my byline ever reads Bangladesh you'll know that I've acted on that particular fantasy!)



This is the current IRC that's accepted at most participating Post Offices worldwide. At the upper right-hand corner you can see its designator, CN01. Also called the Beijing Model #2, it's big, colorful, and it expires on December 31, 2009. See text.

Used for many years starting in the mid-1970s, the C22-series IRC is no longer accepted. In the early '90s, I (and other hams) traded ham gear and related goodies for small stacks of these at hamfests and conventions.

Another alternative to IRCs and green stamps is purchasing sufficient foreign postage stamps from a U.S.-based international stamp dealer. That way, your included airmail envelope could be addressed and stamped all at once. Because the recipient possesses only his own country's official stamps, and not foreign money, there's no problem (unless the op secretly *wanted* green stamps and is, therefore, no longer enthralled with your thoughtfulness). One stamp dealer to check out is K3FN, in West Hartford, Connecticut, at http://users.net1plus.com/ryoung/index.htm.

It's a topsy-turvy DX world out there!

repeater systems, or how to attach a connector to the end of an uncooperative piece of coaxial cable.

Nope!

It's more than a little ironic that, for most of us, the technology is simply a vehicle for an underlying, deeper reason for participating: communicating with other people, local or faraway, who share similar interests.

To get involved we need to learn about the associated technology—and certainly about operating procedures and protocols (*how* to correctly communicate with others using whatever technology is involved)—but once that's learned, we're still faced with simply talking to someone else. Having a conversation. Sharing something of our personal reality. Learning something about the person on the other end of the mic, key, or keyboard.

Some hams are primarily "technical." They build radios, study VHF propagation, or try to squeeze the last tenth of a decibel from a long-boom Yagi, whatever. But even these hams love to talk to other hams who share their particular interest. Just listen to two "homebrewing" hams talk about building *anything* and you'll be convinced.

Basically, it's all really about communicating. And to maximize your enjoyment, you need to be a good communicator. You won't have to join Toastmasters or enroll in a Dale Carnegie course, but you might need some prompting (and a bit of practice) to get you started.

Things To Avoid

Before we get to the good stuff, let's review some typical on-air exchange "templates" that you can hear almost anywhere, but that you should avoid if at all possible.

The rapid-fire exchange between "robot DXers" immediately comes to mind: callsign, signal report, bye-bye. Over and over. It took me years to become bored with this (and a few more to kinda slip back into it!). How long will it take you? (I'm not picking on contesters, just hams who seem to *never stop* contesting!)

The stateside version is just as boring: name, location, signal report, rig, antenna type, see-ya later. Over and over. Painfully boring! Why bother turning on the rig? Most repeater conversations aren't much better.

Instead of perpetuating the same old thing, why not expand your ham radio horizons? There are millions of interesting individuals out there disguised as ham operators! Dig deeper—you won't be disappointed!

It's Your Turn To Set A Good Example

Here are some tips to help you create memorable QSOs that go beyond the boring. Don't be shy! If you have to, just blurt something out to catch your QSO partner's attention. Be different!

1. If you don't have Internet access in your shack, the handiest tool for ham radio conversationalists is a good map or atlas. If you're online, however, clicking through Google Maps or even Google Earth (maps.google.com, earth.google.com) can provide dozens of interesting QSO topics. When you figure out where the other "guy" lives, check out his QTH on the map. That little blue lake might seem insignificant on your end, but your new friend might have been scuba diving there since he was a kid.

By simply asking about the local geography you'll learn a lot more about that little blue lake (or whatever it is) and you'll alert the ham on the other end that a real conversation is about to take place!

Although not nearly as detailed as the online mapping or "earth viewing" systems, most software logging suites have mapping modules that will do in a pinch. And some portable GPS navigation devices have detailed maps and are easy enough to use if nothing else is available. A good—and free—logging suite with a global mapping module is DXLab, which you can find at http://dxlab.ky1v.com.

2. If you or your QSO partner live in a "famous place," feel free to get a little conversational mileage out of it. Chatting with someone in Detroit might be the perfect lead-in for a conversation about late '60s muscle cars. If the other guy is in New Orleans you could talk about Katrina...but you could also talk about jazz, Bourbon Street, or shrimp creole. You get the idea!

3. If you're "mic shy," and Morse code isn't your thing, check out PSK31 or its digital cousins. These keyboard-to-keyboard modes are a lot like chatting on the Internet, and the extra anonymity can sometimes make all the difference. Besides, PSK31 is a great beginner mode. Low power works wonders, and everyone I've met on PSK31 is friendly and welcoming to beginners.

4. Asking people questions about almost any topic can often spice up an otherwise routine exchange. Be tactful, but ask away. Ask people what they do for a living (or what they did back in the day). Ask about nearby sporting teams, where they went to college, if they've ever been to a flea market in Arizona, etc. To narrow down the range of possibilities you may want to tailor your questions to what you already know about your QSO partner—or maybe not!

5. If you or your QSO partner have easy Web access, why not post a few pictures (or a website) that you can mutually refer to as your conversation progresses? You'd be surprised at the number of hams worldwide who use the Internet as they converse in real time. If a garden-variety picture is indeed worth a thousands words, imagine the effective word count of a page full of your ham pics!

You can set up free personal websites at dozens of places online, including www.qsl.net, www.freewebs.com, and www.geocities.yahoo.com.

6. Let other hams know a little bit about what you're up to, especially if it's interesting. Instead of keying the repeater with "This is NTØZ, listening," try "This is NTØZ in a hot air balloon, listening." Assuming that you *are* in a balloon, the latter would almost certainly garner more responses on a sleepy repeater.

7. Steer clear of potentially controversial subjects such as politics, religion, sex, titanium drivers, sugar-free maple syrup, etc. I'm not trying to step on your First Amendment rights, I'm merely suggesting that you be respectful and use common courtesy. Amateur Radio *is* diverse, but it's also tolerant and accepting, and the best ham radio discussions build on a common ground of shared interests.

There are many other ways to spark an on-air conversation, and it really doesn't matter which ones you use. But using them at all will only increase your enjoyment of amateur radio, and will likely increase your long-term friend count, as well. ■

Scan Our Web Site

Storm-triggering Holes

by Tomas Hood,
NW7US, nw7us@arrl.net

Shortwave radio listeners and amateur radio operators look forward to new solar cycles because we know that the radio spectrum we love, from the top of the mediumwave frequencies to the bottom end of the very high frequency range, come alive as a result of sunspot activity. The more active the sun, the better conditions become on the high frequencies. At least, generally—there are other types of activity occurring on the sun that degrade conditions on our beloved HF spectrum (see **Figure 1** for an image capturing one such phenomenon that caused geomagnetic storms during November, 2008).

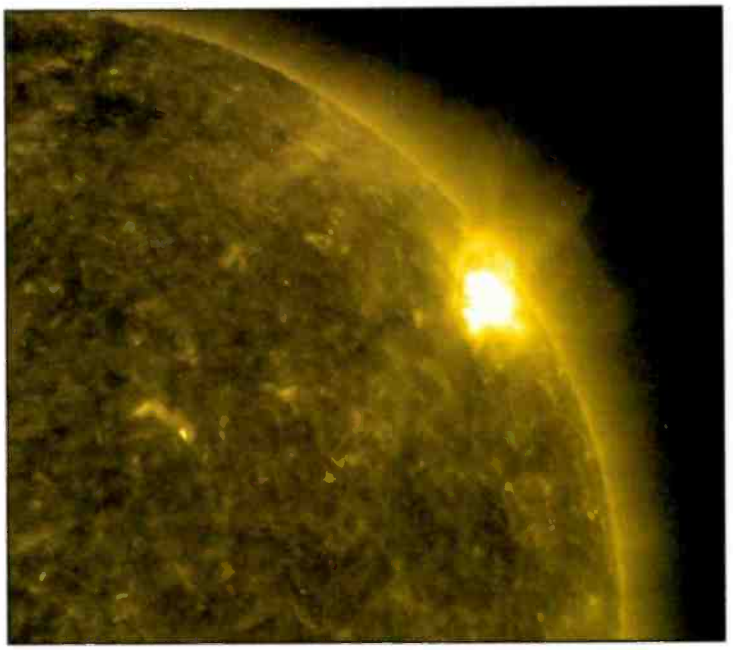


Figure 1. This very active region, seen here in extreme ultraviolet light, flared and blasted off at least three coronal mass ejections on November 4–6, 2008. By zooming in on this hot spot (and without enlarging the actual pixels), we can see details of the magnetic interactions of the two parts of the active region as they tussle with each other. These interactions are best seen in the faint magnetic field lines traced (by particles visible in extreme UV light) between and above them. The storms occurred near the beginning, just past the middle, and near the end. This still image shows the first storm, seen as a white flash, probably a solar flare. The rotation of the sun carries the active region around from left to right. (Source: SOHO, Solar and Heliospheric Observatory)

A major source of degradation on HF radio propagation is the occurrence of coronal holes and the resulting ionospheric depressions. Coronal holes release huge clouds of solar plasma, spewing it out on the solar winds. When the Earth is under the influence of high-speed solar winds, we often experience periods of geomagnetic disturbances that can develop into significant storms. Of course, while this can degrade HF communications, these disturbances can trigger aurora (Northern and Southern Lights), which in turn often creates conditions on VHF that radio hobbyists look forward to.

Fast solar winds originate in coronal funnels within a coronal hole, with a speed of about 10 kilometers per second at a height of 20,000 kilometers above the sun's photosphere. Just below the surface of the sun there are large convection cells. Each cell has magnetic fields associated with it, which are concentrated in the network lanes by magneto-convection, where the funnel necks are anchored. The plasma, while still being confined in small loops, is brought by convection to the funnels and then released there, like a bucket of water emptied into an open water channel.

The solar wind plasma is considered to be supplied by plasma stemming from the many small magnetic loops, only a few thousand kilometers in height, crowding the funnel. Through magnetic reconnection plasma is fed from all sides to the funnel, where it may be accelerated and finally form the solar wind.

When the sun unleashes this plasma, an event known as a coronal mass ejection, it projects a billion-ton blast of plasma into space at millions of miles per hour. The solar wind is gusty, much like winds on Earth, and range in speed from about 750,000 miles per hour (approximately 350 kilometers per second), to 1.5 million miles per hour (about 700 kilometers per second). You can view the current solar wind speed as measured by sending your Internet Web browser to www.sec.noaa. gov/SWN/.

"The K index is a good indicator of the expansion of the auroral oval, and the possible intensity of the aurora. When the K index is higher than 5, most readers in the northern states and in Canada can expect favorable aurora conditions."

Since the solar wind is made up of electrically charged particles, it responds to magnetic fields that permeate the solar atmosphere. Solar wind particles flow along the invisible lines of magnetic force (see **Figure 2**). When the magnetic field lines stretch straight out into space, as they do in coronal hole regions, the solar wind will move along these magnetic lines at a very high speed. But, when the magnetic field lines bend sharply back to the solar surface, like the pattern you see with iron filings around a bar magnet, the solar wind emerges relatively slowly.

When the interplanetary magnetic field lines are oriented opposite to the magnetosphere's orientation, the two fields connect and allow solar wind particles to collide with oxygen and nitrogen molecules in the upper atmosphere of these ovals. This causes light photons to be emitted. When the molecules and atoms are struck by these solar wind particles the stripping of one or more of their electrons ionizes them to such an extent that the ionized area is capable of reflecting radio signals at very high frequencies. This ionization occurs at an altitude of about 70 miles, very near the *E* layer of the ionosphere. The level of ionization depends on the energy and amount of solar wind particles able to enter the atmosphere.

While correlations exist between visible and radio aurora, radio aurora could exist without visual aurora. Statistically, a diurnal variation of the frequency of radio aurora QSOs has been identified that suggests two strong peaks, one near 6 p.m. and the second around midnight, local time.

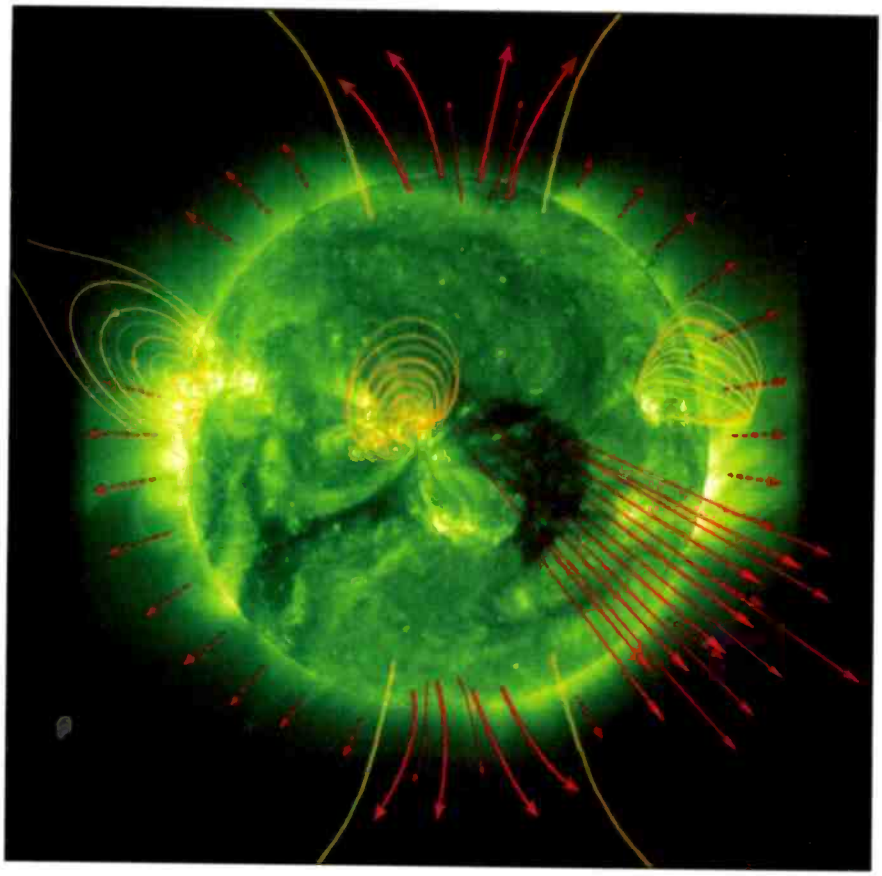


Figure 2. Coronal holes are a source of plasma clouds and solar wind. This graphic illustrates the magnetic field structures occurring on the sun. Notice the dark region with magnetic lines moving away from the hole. These magnetic lines are the "rails" that the plasma clouds ride as the plasma escapes the sun's gravity. These escaping clouds ride these rails out with the solar wind. When these plasma clouds interact with the Earth, geomagnetic storms are likely. (Source: SOHO/NASA)

VHF auroral echoes, or reflections, are most effective when the angle of incidence of the signal from the transmitter, with the geomagnetic field line, equals the angle of reflection from the field line to the receiver. Radio aurora is observed almost exclusively in a sector centered on magnetic north. The strength of signals reflected from the aurora is dependent on the wavelength when equivalent power levels are employed. Six-meter reflections can be expected to be much stronger than 2-meter reflections for the same transmitter output power. The polarization of the reflected signals is nearly the same as that of the transmitted signal.

The K index is a good indicator of the expansion of the auroral oval, and the possible intensity of the aurora. When the K index is higher than 5, most readers in the northern states and in Canada can expect favorable aurora conditions. If the K index reaches 8 or 9, it's highly possible for radio aurora to be worked by stations as far south as California and Florida.

For the daily conditions, you're welcome to check my propagation resource at http://prop.hfradio.org where I have the current planetary K index (K_p), links to various aurora resources, and more. You can also get the same information on a WAP-enabled cell phone by using the phone's Web browser to view http://wap.hfradio.org/.

HF Propagation

Let's look at this month's solar activity and the resulting radio propagation environment. We're starting to approach the end of the winter season. The period of darkness is growing shorter, causing the average daily maximum usable frequencies (MUF) to rise a bit. At the same time noise levels are still low, making for reliable DX. The solar activity is moderate, and holds enough energy to keep the mid-HF spectrum alive with signals. General conditions are expected to be good to excellent for HF propagation throughout February.

The new solar cycle is slowly and steadily increasing in activity, resulting in openings on higher shortwave bands. Nineteen meters through 15 meters will open shortly after sunrise, and will remain open until early to late evening. Morning and evening DX openings between some areas in the Northern Hemisphere on these bands are very short, because the band in question closes on one end of the path before it opens on the opposite end. Transequatorial propagation on these

Scan Our Web Site

Optimum Working Frequencies (MHz) - For February 2009- Flux = 74, Created by NW7US

UTC TO/FROM US WEST COAST	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CARIBBEAN	19	17	14	11	11	10	10	9	9	9	9	9	9	8	14	17	19	20	21	21	21	21	21	20
NORTHERN SOUTH AMERICA	26	25	22	16	15	15	14	13	13	12	12	12	12	11	16	22	24	26	27	28	29	29	28	28
CENTRAL SOUTH AMERICA	26	24	21	15	15	14	13	13	12	12	12	12	12	11	19	23	25	26	27	27	28	28	28	27
SOUTHERN SOUTH AMERICA	28	26	24	21	17	16	15	14	14	13	13	12	12	12	12	21	24	25	26	27	28	29	29	29
WESTERN EUROPE	9	8	8	8	8	8	8	8	8	8	8	8	8	8	10	13	15	15	15	14	13	10	9	9
EASTERN EUROPE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	10	10	9	9	8	8	8	8
EASTERN NORTH AMERICA	21	19	16	12	12	11	11	11	10	10	10	10	10	10	16	19	21	22	23	23	23	23	23	22
CENTRAL NORTH AMERICA	12	11	10	8	7	6	6	6	6	6	5	5	5	5	5	9	11	12	12	13	13	13	13	13
WESTERN NORTH AMERICA	7	6	6	5	3	3	3	3	3	3	3	2	2	2	2	3	5	6	6	6	7	7	7	7
SOUTHERN NORTH AMERICA	20	19	17	13	11	11	10	10	10	9	9	9	9	9	9	16	19	20	21	22	22	22	22	21
HAWAII	19	18	18	17	15	13	10	10	9	9	8	8	8	8	8	8	7	13	16	17	18	19	19	19
NORTHERN AFRICA	9	9	8	8	8	8	8	8	8	8	8	8	8	8	12	14	15	16	17	15	11	10	10	9
CENTRAL AFRICA	11	11	10	10	9	9	9	8	8	8	8	8	8	8	11	14	15	16	16	14	13	12	12	11
SOUTH AFRICA	19	17	13	12	11	11	10	10	10	10	9	9	9	9	16	19	20	21	22	22	22	22	21	20
MIDDLE EAST	8	8	8	8	8	9	9	8	8	8	8	8	8	8	8	12	14	14	10	10	9	9	9	8
JAPAN	18	18	17	17	15	13	10	10	9	9	9	8	8	8	8	8	8	8	8	8	8	13	16	17
CENTRAL ASIA	18	18	17	16	15	13	10	10	9	9	9	8	8	8	8	8	8	10	10	10	10	10	14	18
INDIA	14	14	14	13	11	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	9	12	13
THAILAND	17	17	17	16	15	13	10	9	9	9	8	8	8	8	8	8	8	11	12	11	11	10	10	10
AUSTRALIA	23	24	26	26	24	20	15	14	14	13	13	12	12	12	12	11	11	15	14	14	14	17	20	22
CHINA	15	17	16	16	14	12	10	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	13
SOUTH PACIFIC	27	27	27	26	23	18	17	15	15	14	13	13	12	12	12	12	15	14	15	18	20	22	24	25

UTC TO/FROM US MIDWEST	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CARIBBEAN	21	19	15	14	13	13	12	11	11	11	10	10	10	16	20	22	23	24	25	25	25	24	24	23
NORTHERN SOUTH AMERICA	24	22	18	17	16	15	14	13	12	12	12	11	11	14	19	21	23	24	25	26	27	27	26	25
CENTRAL SOUTH AMERICA	25	22	18	17	16	15	14	14	13	13	12	12	12	19	22	24	25	26	27	27	28	28	28	27
SOUTHERN SOUTH AMERICA	27	25	22	20	18	17	16	15	14	14	13	13	12	13	21	23	24	26	27	27	28	28	29	29
WESTERN EUROPE	9	8	8	8	8	8	8	8	8	8	8	8	8	13	15	16	16	16	16	15	14	12	9	9
EASTERN EUROPE	8	8	8	8	8	8	8	8	8	8	8	8	8	11	13	13	13	13	12	11	9	9	8	8
EASTERN NORTH AMERICA	15	13	9	9	8	8	8	8	7	7	7	7	7	11	14	15	16	17	17	17	17	17	16	16
CENTRAL NORTH AMERICA	7	6	5	4	4	3	3	3	3	3	3	3	3	3	5	6	7	7	8	8	8	8	8	7
WESTERN NORTH AMERICA	12	12	11	8	7	7	6	6	6	6	6	5	5	5	5	10	11	12	13	13	13	13	13	13
SOUTHERN NORTH AMERICA	14	13	11	8	8	8	7	7	7	7	6	6	6	6	11	13	14	15	15	16	16	16	15	15
HAWAII	21	21	19	17	13	11	11	10	10	10	9	9	9	9	9	9	9	16	19	20	22	22	22	22
NORTHERN AFRICA	11	10	10	9	9	9	8	8	8	8	8	8	10	14	16	17	18	18	18	18	16	13	12	11
CENTRAL AFRICA	12	10	10	9	9	9	8	8	8	8	8	8	10	14	16	17	18	18	18	17	14	13	13	12
SOUTH AFRICA	20	15	14	14	13	13	12	12	12	12	12	11	16	22	25	26	27	28	28	28	28	26	23	21
MIDDLE EAST	8	8	8	8	8	8	8	8	8	8	8	8	8	13	15	16	17	16	13	10	10	9	9	9
JAPAN	17	17	16	14	10	10	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	13	15	17
CENTRAL ASIA	17	16	15	13	10	9	9	9	9	8	8	8	8	8	8	10	11	10	10	10	10	10	11	17
INDIA	10	12	12	9	9	9	8	8	8	8	8	8	8	8	11	14	13	11	9	9	8	8	8	8
THAILAND	16	16	14	12	10	9	9	9	8	8	8	8	8	8	8	12	12	12	11	11	11	10	10	10
AUSTRALIA	23	25	25	22	17	15	14	13	13	12	12	12	12	12	11	13	16	15	14	14	15	18	20	22
CHINA	15	15	14	12	10	9	9	9	8	8	8	8	8	8	8	9	9	8	8	8	8	8	8	12
SOUTH PACIFIC	27	27	25	22	18	17	16	15	14	13	13	13	12	12	12	16	15	14	16	19	22	23	25	26

UTC TO/FROM US EAST COAST	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CARIBBEAN	17	14	13	12	11	10	10	9	9	9	8	8	10	15	17	18	19	20	20	20	20	20	19	18
NORTHERN SOUTH AMERICA	22	20	18	16	15	14	13	12	12	11	11	10	11	15	18	20	21	22	23	24	24	24	23	23
CENTRAL SOUTH AMERICA	25	22	20	19	17	16	15	14	14	13	13	12	18	20	22	24	25	26	27	27	28	28	28	27
SOUTHERN SOUTH AMERICA	27	24	22	20	19	17	16	15	14	14	13	13	15	19	21	23	25	26	27	28	28	28	29	28
WESTERN EUROPE	8	8	8	8	8	8	7	7	7	7	7	12	14	16	17	17	17	16	16	15	14	12	9	9
EASTERN EUROPE	8	8	8	8	8	8	8	8	8	8	8	10	14	15	15	15	15	15	14	13	11	9	9	8
EASTERN NORTH AMERICA	6	4	4	4	4	4	3	3	3	3	3	3	4	6	7	8	8	8	8	8	8	8	8	7
CENTRAL NORTH AMERICA	15	13	10	9	9	8	8	8	8	8	7	7	7	11	15	16	17	18	18	18	18	18	17	17
WESTERN NORTH AMERICA	21	19	16	12	12	11	11	11	10	10	10	10	10	10	17	20	21	22	23	23	24	23	23	22
SOUTHERN NORTH AMERICA	17	15	11	11	10	9	9	9	8	8	8	8	8	12	16	17	18	19	19	20	20	19	19	18
HAWAII	22	20	17	13	12	12	11	11	10	10	10	10	10	10	10	10	10	18	21	22	24	24	24	23
NORTHERN AFRICA	11	11	10	10	10	10	10	10	10	10	10	17	20	21	22	23	24	23	22	20	17	13	12	12
CENTRAL AFRICA	12	12	11	11	11	10	10	10	10	10	10	17	20	21	23	23	24	23	21	19	16	15	14	13
SOUTH AFRICA	19	17	16	15	14	14	13	13	12	12	12	18	23	26	27	28	28	28	28	28	28	26	23	21
MIDDLE EAST	10	10	9	9	9	8	8	8	8	8	8	13	16	17	18	18	19	19	17	13	12	12	11	11
JAPAN	16	14	10	10	9	9	9	8	8	8	8	8	8	9	9	8	8	8	8	8	8	11	15	16
CENTRAL ASIA	15	13	10	9	9	9	9	8	8	8	8	8	8	12	11	11	11	10	10	10	10	10	10	16
NDIA	8	8	8	8	8	8	8	8	8	8	8	8	12	14	14	14	14	13	12	10	9	9	8	8
THAILAND	12	10	9	9	9	9	8	8	8	8	8	8	10	14	14	13	13	12	11	11	11	10	10	10
AUSTRALIA	24	24	20	16	15	14	13	13	12	12	12	12	12	11	19	17	16	15	14	14	16	18	21	22
CHINA	13	11	10	9	9	9	8	8	8	8	8	8	8	10	9	9	9	8	8	8	8	8	8	8
SOUTH PACIFIC	27	25	21	19	18	16	15	15	14	13	13	12	12	13	17	16	15	15	18	21	23	25	26	27

RSGB Books

now available from CQ

Antenna Topics

byPat Hawker, G3VA

RSGB. 2002 Ed. 384 pages. This book is a chronological collection of selections of G3VA's words over the years. Hundreds of areas and subjects are covered and many a good idea is included.

Order No. RSAT **$33.00**

Antenna Toolkit 2

By Joe Carr, K4IPV

RSGB & Newnes, 2002 Ed. 256 pages.A definitlve design guide for sending and receiving radio signals. Together with the powerful suite of CD software included with this book, the reader will have a complete solution for constructing or using an antenna; everything but the actual hardware!

Order: RSANTKIT2 **$48.00**

Practical Wire Antennas 2

By Ian Poole, G3YWX

2005 Edition, 176 pages This signiflcantly expanded and fully revised edition includes designs for a wide range of practical wire antennas . Just about every type of wire antenna you could possible imagine with complete and easy to understand designs.

Order: RSPWA2 **$23.50**

HF Antennas for All Locations

By Les Moxon, G6XN

RSGB, 2nd Ed., 322 pages Design and construction of hundreds of antennas. No matter what your location, there's one for you!

Order: RSHFAAL **$33.50**

Shipping and Handling: US and Possessions - Add $7.00 for the first book, $3.50 for the second, and $2 for each additional book. **FREE SHIPPING ON ORDERS OVER $100.00** (merchandise only). Foreign - Calculated by order weight and destination and added to your credit card charge.

CQ Communications Inc.,
25 Newbridge Rd.,
Hicksville, NY 11801
516-681-2922; Fax 516-681-2926
Order Toll-Free 800-853-9797
Visit Our Web Site
www.cq-amateur-radio.com

bands will be more likely toward sunset during days of high solar flux and a disturbed geomagnetic field; look for days with a planetary A index (A_p) greater than 15, or a K_p greater than 3.

Paths on 31 through 22 meters remain in their seasonal peak much like in January, but with longer openings. Continue to look for great openings between North America and Europe in the morning and between North America and Asia during the late afternoon hours. Twenty-two meters will often be the best daytime DX band, with 31 and 25 running a close second.

Ninety through 41 meters will be useful almost 24 hours a day. Daytime conditions will resemble those of 25 meters, but skip and signal strength may decrease during midday on days with high solar flux values. Nighttime will be good except after days of very high MUF conditions. Generally, the usable distance is expected to be somewhat greater on the higher of these bands than on 90. DX activity tends to increase later in the evening toward midnight. Look for Africa and South Pacific (Australia, Papua New Guinea, and so on) on 90 through 60 meters throughout the night. On 41, 49, and 60 meters, long path DX is possible along the gray line.

The 120-meter band continues to remain stable, with very low noise levels. Throughout the winter season, high noise may occur during regional snowstorms. The band opens just before sunset and lasts until the sun comes up on the path of interest. Except for daytime short-skip signal strengths, high solar activity has little impact. Continue to look for Europe and Africa around sunset until the middle of the night, and then Asia, the Pacific, and the South Pacific as morning approaches.

Signals below 120 meters will remain strong and exciting, except during times of regional storms and high geomagnetic activity. Mediumwave DX is still quite hot throughout February.

VHF And Above

There are no major meteor showers during February that could provide any VHF meteor scatter propagation, but other modes may be possible. Check for 6-meter short-skip openings during the daylight hours. Some short-skip openings over distances of about 1,200 to 2,300 miles may occur. The best times for such openings are during the afternoon hours.

Auroral activity often occurs during periods of radio storminess on the HF bands. Look for days where the A_p is climbing, and when the K_p reaches 4 or higher. This is when VHF auroral-type openings are most likely to occur.

Current Solar Cycle Progress

The Dominion Radio Astrophysical Observatory at Penticton, BC, Canada, reports a 10.7-cm observed monthly mean solar flux of 68.3 for October 2008, continuing a slow but steady monthly rise since July. The 12-month smoothed 10.7-cm flux centered on April 2008 is 69.6. The predicted smoothed 10.7-cm solar flux for February 2009 is about 74, give or take about 7 points.

The Royal Observatory of Belgium reports that the mean monthly observed sunspot number for October 2008 is 2.9, showing a slow rise since July's and August's 0.5. The lowest daily sunspot value during October 2008 was zero, occurring on October 1–3, 5–9, and 18–30. The highest daily sunspot count for October was 16 on the 12th. The 12-month running smoothed sunspot number centered on April 2008 is 3.3. A smoothed sunspot count of 18 is expected for February 2009, give or take about 5 points.

The observed monthly mean A_p for October 2008 is 6. The 12-month smoothed A_p index centered on April 2008 is 7.1. Expect the overall geomagnetic activity to be quiet during most days in February. Refer to the Last Minute Forecast found in the propagation column in *CQ Magazine*, and at http://hfradio.org/lastminute_propagation.html for the outlook on conditions during February.

I'd Like To Hear From You

You can join in with others in discussing space weather, propagation, and shortwave or VHF listening, at http://hfradio.org/forums/. Be sure to check out the latest conditions, as well as the educational resources about propagation, which I have put together for you at http://prop.hfradio.org/. I also provide a WAP/WML resource for wireless devices. If you want the latest propagation information like the solar flux, A_p reading, and so forth, check out http://wap.hfradio.org/, the wireless version of my propagation site.

Please don't hesitate to write and let me know about any interesting propagation that you've noticed. Do you have questions about propagation? I look forward to hearing from you.

Till next time, happy signal hunting!

73 de NW7US, Tomas Hood

Scan Our Web Site

Early Radio Ratings

by Shannon Huniwell
melodyfm@yahoo.com

"Once Hooper established his ratings service, even President Franklin D. Roosevelt looked at the results with nervous anticipation... FDR used the stats to judge his effectiveness in rallying Americans to their radios and their Commander-in-Chief."

In the middle of Peter Knight's very first time on the air, he became the number one rated announcer in all of Rhode Island radio! Verification of this amazing feat was certified by the confessed media nerd who roomed with Knight at a tiny private college. The fellow had set an alarm clock to ring smack dab in the middle of the overnight program and then calculated his roommate's top-dog status via a 10-transistor Montgomery-Wards AM/FM Airline portable that easily detected WGNG (550 kHz) Pawtucket.

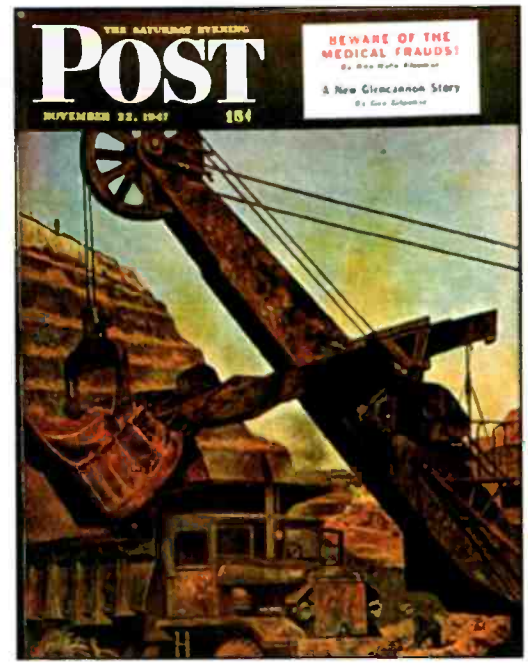
His rating rationale stemmed from the undeniable fact that, during this particular early 1973 Monday morning, WGNG was the only Ocean State signal in the ether between 3 and 5 a.m. All the other Rhode Island stations were either sleeping daytimers, or FMs or AMs coincidentally silent during those wee hours while their respective engineers pulled transmitter maintenance.

Thirty-five years later and on the other side of the country, I experienced a similar kind of captive-audience-syndrome that inadvertently caused Knight's listeners to rate him number one. An old college friend of mine had long suggested that I visit her rustic lakeside cottage near McCall, Idaho. This past summer, I was finally able to accept her kind offer, but found myself almost immediately alone in the remote setting for a few days when she got word of an emergency at the family car dealership that her husband couldn't handle by himself.

My friend Lynne apologized profusely for her unplanned absence and the cabin's Spartan furnishings. "Jim and I love this place for what it *doesn't* demand of us maintenance-wise," she explained. In fact a feather bed, some garage sale finds, hot water, and an aluminum canoe were about the only vestiges of civilization. After three days of not having spoken to another soul, I certainly was happy to hear my old "roomie's" yellow Jeep crunching twigs on the unpaved road to the cottage. But that serendipitous solitude helped recharge my batteries and coincidentally provided a topic for this month's column.

My #1 Media Choice

"Is that your antique *Saturday Evening Post* on the porch?" Lynne asked as we were finally catching up on this and that.

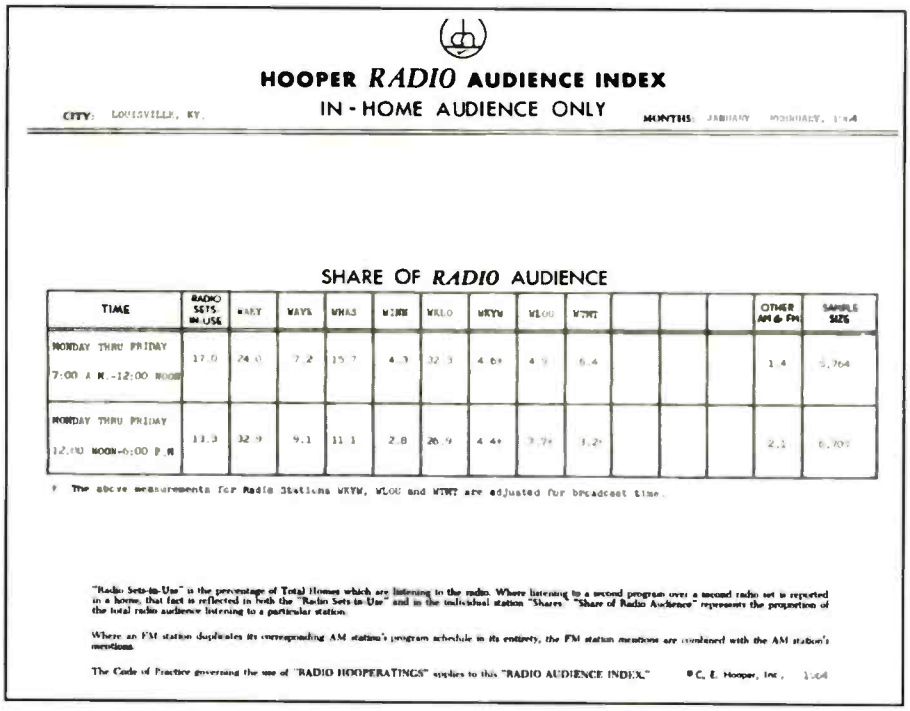


Had this old *Saturday Evening Post* not been the only reading material within 10 miles of my friend's lakeside cottage, I never would have bothered to peruse its pages and discover a neat article on radio ratings.

"No," I replied a touch incredulously. "It's yours."

"Mine? I've never seen it before!" she protested. "I used to come to the cottage with a tote bag of magazines and paperbacks I'd been meaning to read at home," Lynne said, "but I tended to bury myself in the pages, so Jim decreed that he was banning the presence of anything that kept me so preoccupied." In fact, she said, he'd go through a fake routine of inspecting for "distracters."

Lynne was genuinely surprised to hear that I'd spotted the *Post* flopped in the bottom drawer of a pine dresser that dwarfed a miniscule storage closet at one end of the cabin's porch. Deciding to take a canoe ride during the first afternoon of my solitary stay, I'd looked for the life jacket and paddle that Lynne said Jim kept there. She said the storeroom was mostly "Jim's junk." Plus, she couldn't remember ever having looked beyond the top drawer because that's where he always stashed their two life vests.



HOOPER *RADIO* AUDIENCE INDEX

IN-HOME AUDIENCE ONLY

CITY: LOUISVILLE, KY. MONTHS: JANUARY - FEBRUARY, 1964

SHARE OF *RADIO* AUDIENCE

TIME	RADIO SETS IN USE	WAKY	WAVE	WHAS	WINN	WKLO	WKYW	WLOU	WTVT				OTHER AM & FM	SAMPLE SIZE
MONDAY THRU FRIDAY 7:00 A.M.-12:00 NOON	17.0	24.0	7.2	15.7	4.3	32.3	4.6*	4.9*	6.4				1.4	2,764
MONDAY THRU FRIDAY 12:00 NOON-6:00 P.M.	11.3	32.9	9.1	11.1	2.8	26.9	4.4*	3.7*	3.2*				2.1	2,707

* The above measurements for Radio Stations WKYW, WLOU and WTVT are adjusted for broadcast time.

"Radio Sets-in-Use" is the percentage of Total Homes which are listening to the radio. Where listening to a second program over a second radio set is reported in a home, that fact is reflected in both the "Radio Sets-in-Use" and in the individual station "Shares." "Share of Radio Audience" represents the proportion of the total radio audience listening to a particular station.

Where an FM station duplicates its corresponding AM station's program schedule in its entirety, the FM station mentions are combined with the AM station's mentions.

The Code of Practice governing the use of "RADIO HOOPERATINGS" applies to this "RADIO AUDIENCE INDEX." ©C. E. Hooper, Inc., 1964

An example of Hooperatings. In this case the data hails from 1964 and the Louisville, Kentucky, market. Looks like Top-40 outlets WKLO and WAKY were battling each other in a pool of also-rans. It's interesting to note that Hooper discerned that one was #1 from 6 a.m. until noon, while the other reigned from lunchtime through 5 p.m.

"Sorry about breaking your reading rule," I said, feigning a hint of drama, "but it got so lonely out here that I read the entire magazine...twice! It was the only thing available in the way of communication. Not even the chipmunk I saw down by the lake would talk to me."

Lynne picked up the crumpled publication, consulted its cover, and apologized for making me desperate enough to have to settle for keeping company with a magazine dated November 22, 1947. When I told her that one of its articles had sparked an idea for a story deadline hounding me, she felt better. My friend, once a big shot on our school's women's basketball team, tightly rolled the magazine and flung it over the balcony loft. It landed directly inside my open suitcase. "Two points!" we laughed and moved on to other subjects.

"Biggest Man In Radio"

According to my favorite piece in that Truman-era *Saturday Evening Post*, that was the title given to "a mysterious little fellow named Hooper." Though readers may not have previoulsy known anything about one Claude Earnest Hooper, most of the people perusing the *Post's* Thanksgiving week issue in 1947—during television's early dawn—were also regular radio listeners who'd likely heard the name Hooper and knew it had something to do with the way radio programs' popularity was determined.

In fact, anyone paying close attention to the final broadcast of the musical quiz show, *Pot O' Gold*, detected that the program's imminent demise related in some way to Mr. Hooper's calculations. Premiering in 1939 on NBC, *Pot O' Gold* consisted of innocuous tune weaving by Horace Heidt & His Musical Knights interrupted by commercials for TUMS and three spins of "the wheel of fortune" that determined which phone book, page, and line on the page would be consulted in the selection of a random phone number leading to a call to some lucky contestant. Just for answering, the fortunate call recipient (who didn't even have to be listening to the show) snagged a grand. More loot was added if the contestant could then correctly answer the program host's question.

Woody Allen's 1987 movie, *Radio Days*, included a hilarious scene reminiscent of *Pot O' Gold* in which some crooks robbing a house victoriously fielded a radio show quiz show call that subsequently generated a truck load of major brand appliances for their confused victims. In his book *Tune In Yesterday*, author John Dunning says, "*Pot O' Gold* created a [ratings] sensation in its early days, depleting movie houses so badly that some theater owners offered $1000 prizes to anyone [not home to receive *Pot O' Gold's* telephone call because he or she was] attending the movie." After a wild three-year run and another three on wartime hiatus, ABC Radio revived the show in October 1946 with visions of another blockbuster. "In the new version," Dunning reports, "entertainment between the spins was handled by comedian Happy Felton and by singers Very Holly and Jimmy Carroll."

Our *Post* article by Collie Small, surmised, however, that Hooper's sample of listeners didn't consider this incarnation to be very entertaining at all. "In the middle of a quiet Wednesday night at the American Broadcasting Company," Small wrote, "a handful of loyal listeners and a few close friends in the studio" saw *Pot O' Gold's* writer/producer scribble something on the program script. He handed it to happy Felton, the master of ceremonies, to read. It was simple but pointed. "Okay, Hooper," it said. "You win. Good-bye, everybody." With an air of gallows humor, *Pot O' Gold's* swan song succinctly articulated radio people's fears that by subscribing to the audience measurement service they'd ironically created their own Trojan Horse. This led Small to wonder, "Does Hooper work for radio or does radio work for Hooper?"

Once Hooper established his ratings service, even President Franklin D. Roosevelt looked at the results with nervous anticipation. Small stated that "the late president never went to bed on the night of a radio address before his 'Hooperating' arrived by special telegram after being rushed through the tabulating machines." FDR used the stats to judge his effectiveness in rallying Americans to their radios and their Commander-in-Chief.

Was Hooper First To Hop On Radio, Or Is That Hype?

After having paying for his Harvard Graduate School tuition by selling pots and pans door-to-door, Hooper formed a research firm with a college chum. In 1934, its inaugural broadcasting-related assignment came from a group of magazine executives who were suspicious of radio network CEO's claims that each network attracted the same number of

Scan Our Web Site

Here's all one needs to influence his or her market's radio programming: an Arbitron diary, pen, and a radio. The dollar was sent by Arbitron as an incentive for me to faithfully fulfill my promise to complete one diary entry per day. Finished diaries are mailed back to Arbitron's Maryland headquarters where each is tabulated in a way that amplifies one listener's preferences into those of thousands in a similar age/sex demographic group. That vintage transistor set is a new/old stock Meltone De-Luxe Hi-Fi Model 511 that I found at a London flea market. It has two bands, Medium Wave (540–1620 kHz.) and Long Wave (165–280 kHz).

radio homes—or households—with radios. The print people had come to the logical conclusion that not every one of the inhabitants of these domiciles could possibly be listening to each network simultaneously. Confounded by the audience claims of their media competitors, the publishers hired Hooper and his partner to deflate radio's quickly rising balloon. Their study, quantifying the various audiences for the many programs of the three major networks (then NBC Red, NBC Blue, and CBS) resulted in the radio big shots having to more accurately portray audience sizes.

Maybe it was Hooper's bouncy moniker that, by the late 1940s, so melded his handle to radio showbiz. But, just as Kleenex wasn't the earliest tissue, Evinrude not the first outboard motor, nor Marconi the initial broadcaster, predecessors to these popularly accepted pioneers have had a tough time getting their historical due. That's sure the case with an early broadcast ratings figure that I wouldn't blame you for not having known about: Archibald Crossley.

Technically, Crossley wasn't the absolute first radio rater. That honor went to station personnel who counted envelopes containing fan mail, and by store owners who reported that their primitive radio advertising announcements for, say, corn flakes, succeeded in moving 75 boxes of the crunchy stuff. But even radio mavens happy to hear from loyal listeners or glad that their announcers made cash registers ding, quietly understood such incidental methodology lacked statistical substance. *Radio Broadcast* magazine for May 1928 acknowledged the need for a clearer picture of who was listening, but compared the task to "determining the number of crickets chirping at any instant in a swamp on a foggy summer evening."

A year later, an association of advertisers and ad agencies formed an outfit dubbed the Cooperative Analysis of Broadcasting. According to Erik Barnouw's book, *A Tower In Babel*, this CAB, under the direction of Archibald Crossley, tabulated radio "ratings based on telephone interviews with a small population sample, almost at once becoming a factor in program decisions. Many people believed [these Crossley ratings] would improve programming." Content that most folks didn't like—as determined by those surveys, anyway—would disappear, while the popular shows flourished and were joined by a bevy of imitators.

"What Radio Show Did You Tune To Last Night?"

Starting in 1929, Crossley had his staff telephone random people in certain cities to ask them what radio program they'd listened to the previous evening. Besides having to rely upon people's memories, this methodology's time lag ran the risk of eliciting fibs if the people being queried couldn't remember what they were doing 12 hours earlier or just named some highbrow program because they didn't want to admit to enjoying some hillbilly music show. Crossley's dominant dance with radio ratings lasted until our friend Hooper entered the broadcast survey scene in the mid 1930s.

Remember the magazine bigwigs who commissioned Hooper to take the static cling out of the radio network's fuzzy math? They wanted him to copy Crossley's procedure. Hooper, however, convinced them that he had a better way to estimate who was listening to what. His method simply reduced the question/subject matter time lag to zero, meaning his staff asked people answering the phone, "Are you listening to the radio right now? If so, what are you listening to and what station is it on?" In what was called the "coincidental technique," the questioners interrupted listeners during their programs, but arguably generated a more immediate, and consequently more accurate, response than did Crossley's approach.

In an effort to put his steam train on the same track as Hooper's diesel locomotive, according to Small, Crossley quickly "switched to a coincidental technique after Hooper had introduced the Hooperating." Small explained the resulting tailspin, saying, "the sudden change weakened Crossley's position by the implied admission that he had been wrong. It was soon discovered that the Hooperatings were about 20 percent higher than the Crossley ratings, owing to technical differences in the two systems, and the industry naturally indicated a preference for Hooper's bigger and more impressive numbers." By the time of the *Post* piece, Crossley had recently exited the radio ratings business.

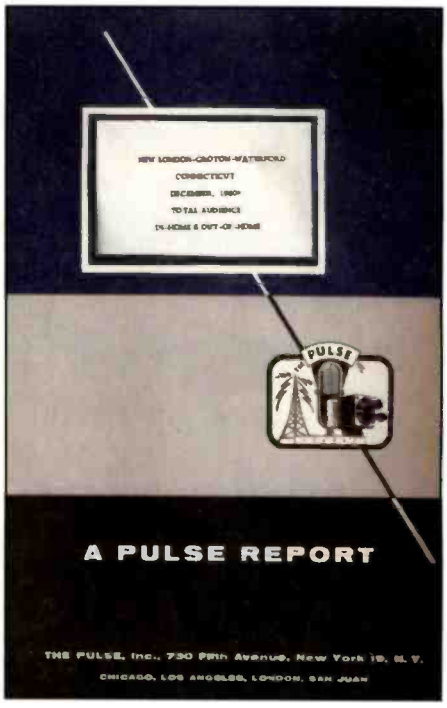
How Hooper Made It Happen

During his company's early post World War II heyday, Hooper employed

1,550 interviewers and divided them into 36 divisions in that many cities across the United States. Reportedly these busy employees made about 10 million calls annually. Working in shifts, they were on the phone day and night obtaining data that, as Small put it, was massaged by Hooper's "rather complicated formula...and mixed into a giant crucible containing such variables as busy phone lines, unanswered phones, and uncooperative listeners."

Considering that today's dollar store throwaway calculator possesses more power than any number-crunching machine Hooper had at his disposal in 1947, the "giant crucible" Smith metaphorically mentions required a lot of pencil lead. Once, for a West Coast regional radio network, Hooper's computations revealed that zero percent of the available audience there was listening to its programming. As the story goes, though, the clever attorney for one the poor network's affiliates that got sued for allegedly airing slander, used the horrible Hooper report to prove nobody in his client's coverage area had actually heard the words in question.

Other interest stats come down to us from that time, including one from dusty documents that show a 79 (out of a possible, but improbable, 100) Hooperating for FDR's 1941 Pearl Harbor/War Declaration speech—Hooper's all-time highest grade for a single broadcast. Five years later, Small reported that the average Hooperating for a evening network radio show—then still radio's prime time, at least for a few more seasons before TV became a national force—hovered just under 9. The most popular weekly offerings might hit 30 on their scheduled night.



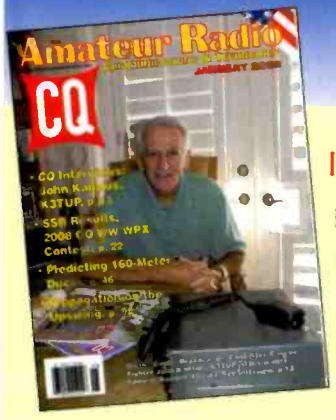
This is what a nervous WNLC New London, Connecticut, manager first saw after quickly opening the results envelope from The Pulse, Inc., sometime in early 1961. His anxious question—Would my station be #1?—was only a page turn away.

Such numbers were theoretically divvied up between the mid-1940s' "big four": ABC, CBS, NBC, and Mutual. In practice, though, CBS and NBC were a lot bigger than the other two and, with their better-financed programming, were more likely to each take at least thirds of the pie.

Just as Hooper had bested Crossley's methodology when broadcasters wanted audience research that offered the most accurate look into listeners' dialing habits, his ways were challenged by competitors using devices that recorded where one's radio was tuned, by mail-in dairies, and even via the seemingly old-fashioned face-to-face interview.

It was Arthur C. Nielsen who rocked Hooper's world with something called an "Audimeter," an electro-mechanical machine that graphed on a piece of sensitive film a month's worth of one's radio habits. Starting in 1942, A.C. Nielsen's devices were hooked to the receivers of people willing to reveal when their radios were on and to what station they were tuned. Though time consuming to place, service, retrieve, playback, and convert to user-friendly data, Audimeters ren-

If you enjoy Amateur Radio, you'll enjoy CQ



It's a different kind of ham magazine.

Fun to read, interesting from cover to cover, written so you can understand it. That's CQ. Read by thousands of people each month in 116 countries around the world.

It's more than just a magazine. It's an institution.

CQ also sponsors these world-famous award programs and contests: The CQ World-Wide DX Phone and CW Contests, the CQ WAZ Award, the CQ World-Wide WPX Phone and CW Contests, the CQ World-Wide VHF Contest, the CQ USA-CA Award, the CQ WPX Award, the CQ World-Wide 160 Meter Phone and CW Contests, the CQ World-Wide RTTY Contest, the CQ 5 Band WAZ Award, the CQ DX Award, CQ iDX Award, CQ DX Field Award, CQ DX Marathon and the highly acclaimed CQ DX Hall of Fame.

	USA	VE/XE	Foreign
1 Year	36.95	49.95	61.95
2 Years	66.95	92.95	116.95
3 Years	96.95	135.95	171.95

Please allow 6-8 weeks for delivery of first issue

SUBSCRIBE TODAY!

CQ Magazine, 25 Newbridge Rd., Hicksville, NY 11801
Phone 516-681-2922 FAX 516-681-2926

Scan Our Web Site

dered details that were indisputable. Understandably, though, Hooper argued that a person could turn on a radio and then go do something else out of its speaker's earshot, but his complaint didn't get much traction.

Nielson's improved early post-World War II Audimeters sampled two weeks of information on a tape that could be mailed back to Nielson by the respondent. The improved devices worked with up to four household receivers (including FM and TV sets in media-savvy residences) and streamlined the process to the point where it was feasible to survey much of the country. Using info from many more locations than Hooper's 36 cities, A.C. Nielsen was able to project a rating that better reflected how a program was performing on a national scale, rather than just a metropolitan or regional level.

Hooper realized that surveying by telephone had its limitations in rural areas where one might have a radio but no phone. Additionally, during an era decades before "call anywhere in the U.S., Canada, and Puerto Rico for $29.95 a month" plans, the cost of long-distance calling to sundry locales would have broken Hooper's bank. To solve his need for greater sample size, he sent dairies to folks he surveyed who lived outside his 36 cities. Hooper had heard that the Nielsen was using some diaries in its mix, and while that was true, Nielson also validated his paper feedback with something called the "Recordimeter," a box that could tell if the radio to which it was linked was on, and then blinked and buzzed to remind diary keepers to make an entry.

Nielsen's machines and diaries, as well as their resulting national projections (statistical estimates of how a radio or TV program was performing throughout America) quickly became the darling of media types in broadcasting and advertising circles alike. Within three years of the *Post* dubbing Hooper "The Biggest Man In Radio," he sold to Nielsen the part of his firm that tabulated national radio and television ratings. He retained his localized, 36-city ratings business, but prematurely interpreted as a swan song its early 1950s survey data that said radio listeners, nationwide, were already abandoning radio for TV. The fact was, however, that many economically robust parts of the United States (outside those 36 metropolitan areas) wouldn't even have access to a TV signal for several more years. Coupled with an inside-the-box view of radio that didn't take into consideration its ability to rapidly adapt, cut programming costs, and narrowcast to key segments of an increasingly mobile and diverse post-war society, Hooper seemed in the tank for the legion of traditional media people who, circa 1950, predicted the aural medium's imminent demise.

By 1954, though, Hooper noticed an interesting shift in radio usage. Suburban commuters who listened to music-news-weather programming were creating big audiences for radio's morning and afternoon "drive times." Also, teens listened in droves to disc jockeys while doing homework at night, which made the old long-form/evening primetime radio program scene obsolete. Radio itself, however—as a music/news/weather companion—proved itself quite renewable.

Enter Arbitron

Alas, Hooper didn't get the chance to see the full blossoming of "new radio" as was killed in a 1955 boating mishap. Shortly thereafter, his local ratings division was sold to the American Research Bureau, also known as ARB or Arbitron (the latter stemming from the name of ARB's late 1950s "Arbitron" meter that sent instant TV set use specifics from the surveyed household to the ARB headquarters). This company was begun in 1949 to provide television ratings, but morphed into America's leading radio audience measurer.

Central to its current success in over 400 radio markets is Arbitron's diary. This passport-size booklet is mailed to random listeners who agree, for the princely sum of one crisp dollar bill, to chronicle a week's worth of listening. Brief reminder calls from Arbitron staff, throughout the seven-day period, serve to keep those surveyed focused on jotting down when, what, and where they heard a radio station. In addition, the respondent notes incidental information that gives Arbitron useful demographic and household income details.

Because this company's influence directly impacted many a station during what is considered the zenith of contemporary radio, I'll be sure to cover it in greater scope during an upcoming column on the Top-40 format.

Enter Pulse...Literally

Arbitron wasn't the first ratings outfit to collect listener information about things other than what was being listening to. Starting in 1941, a firm called The Pulse, Inc., asked those it surveyed all kinds of questions that its clients would find helpful. Questions about how much the interviewee earned and spent, as well as his or her educational level and buying preferences were converted into trends that Pulse subscribers found useful when targeting a radio audience. And, The Pulse was in a better position to do so than any of its competitors, because its researchers spoke to each of its random subjects during personal in-home visits.

By the early 1960s, the company said it was offering results from thousands of in-home interviews in 250 radio markets. Though rich with details gathered face-to-face, their cost of the data was higher and it took longer to compile than did Arbitron's economical mail-in/mail-back diary method. To save money during the oil shortage/recession of the mid-1970s, most of those who paid ratings companies' bills—typically stations and advertising agencies—kept their subscriptions to Arbitron's service but quietly dropped The Pulse, which ceased operations during the early spring of 1978. Writing in *The Encyclopedia of Radio*, James E. Fletcher concludes, "There will always be a lingering nostalgia for Pulse reports among radio managers who remember them, as no other radio audience research methods interviewed listeners face to face...and [because radio managers were accustomed to calling on their advertising clients in person] they valued face to face contacts very highly."

Coda

Shortly before The Pulse shut its doors, Peter Knight happened upon its December 1960 report for New London, Groton, and Waterford, Connecticut. In 1977 and under a different name, he was legitimately the market's top morning air personality and had been given the tattered booklet by a WNLC New London salesman who was cleaning out his filing cabinet.

"Those were the days!" the seasoned account executive smiled as he handed Knight that vintage Pulse report. "There was no FM presence in the air around here then, and our only real competition, WSUB, signed of at sunset. That meant that no matter what we programmed, WNLC could always count on being #1 at night."

And so ends another day of radio broadcasting history at *Pop'Comm*... ■

Hickok's Amazing "Indicating Traceometer" And Other Service-Shops-In-A-Box!

by Peter J. Bertini
radioconnection@juno.com

"The concept behind the Chanalyst name was that each test instrument would be one of the five so-called service instrument "channels" contained in the box. The advantages were obvious..."

It's hard to believe that over two years have passed since we penned one of our most popular columns, based on reader feedback, since the "Wireless Connection's" inception. How time flies! That was the column showing how to use a signal tracer to find and isolate problems in a radio receiver. More than one reader offered comments similar to those shared by Mike Grimes: "Just a note to let you know I enjoyed your article on Signal Tracing Techniques! I learned a lot and the level is just about right. Keep up the good work." Here's a belated thanks to Mike for his kind comments.

This month's offering will deal with the early signal tracers, ones that appeared years before the Heathkit (shown in **Photo A**) signal tracers used for my presentation.

The Beginning: Rider's 11A "Chanalyst"

John Rider is perhaps best known for the prodigious amount of radio and television trade-related literature he published from the early 1930s through the 1950s. My *Rider Perpetual Troubleshooting* manuals take up three full library shelves in my living room; and those 20-odd tomes only cover radios made between the early 1920s and the late 1950s!

But besides being a respected publisher, John Rider also invented a unique service instrument: the Rider Model 11A "Chanalyst," which was first manufactured for him in 1939 by the Service Instruments Company in New York City. RCA quickly acquired the rights to the design, and in 1940 it introduced the model 162 Chanalyst, which was made in RCA's Camden, New Jersey, manufacturing facilities. These weren't cheap! The price for an RCA 162 was $107.50 in 1940, and increased to $162.50 for the later 162C model by the late 1940s.

Unlike the unsophisticated and inexpensive signal tracers that were popular during the late 1950s and early '60s, the early devices combined several service instruments in one cabinet. The concept behind the Chanalyst name was that each test instrument would be one of the five so-called service instrument "channels" contained in the box. The advantages were obvious: less equipment meant less bench space, and having several vital pieces of test equipment in one package, sharing power supplies, one cabinet, etc., hope-

Photo A. These two Heathkit signal tracers were featured in an earlier column.

Photo B. This Ryder Chanalyst belongs to Chuck Doose, KB9UMF. Chuck saved it from the dumpster when his dad retired and closed his radio and television repair business in 1995—after 46 years of continuous operation! It occupies a proud spot on his workbench. (Photo used by permission)

Scan Our Web Site

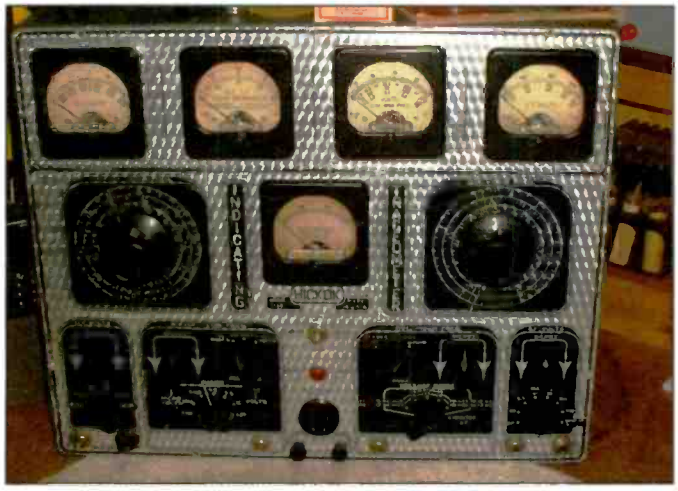


Photo C. This is my Hickok model 155 Indicating Traceometer. If the name isn't enough to grab your attention, the gorgeous machine finish metal front-panel will be.

Photo D. Sixty bucks would buy this basic Meissner Analyst—at least that's what's shown in this scan taken from the December 1939 issue of *RadioCraft Magazine*. (Image courtesy Ed Engelken)

fully translated into a savings versus buying several discrete instruments.

Photo B shows an RCA Chanalyst owned by Chuck Doose, KB9UMF. Chuck writes:

This set belonged to my father; he's 85 and still kicking. He had a radio and television repair business from 1946 until he closed up shop in 1995. I worked for him from 1970 until 1987. The Chanalyst sat on

Photo E. John Hagman of Vermont is the proud owner of this restored Meissner model 9-1040 Analyst. More photos can be seen on John's website at http:// home.att.net/~yonny. (John Hagman photo used by permission; all rights reserved by owner)

a shelf and was never used, but I always thought it was interesting. We didn't have a manual at the time, so I really didn't know what it could do. When he closed the shop we rented dumpsters and threw out tons of old chassis and TV cabinets. I saved the Chanalyst, tubes, and various other test equipment from the dumpster. I still don't use it much to repair radios, but it does have a special place on my bench, just because it looks so cool!

Folks with Internet access might be interested in viewing the excellent RCA Chanalyst pages and photos on radio collector Phil Nelson's website located at www.antiqueradio.org/RCAChanalyst.htm. Both internal and external shots can be found there.

Both Rider and RCA cut costs by using the newly introduced (and then inexpensive!) RCA eye tubes as indicators in lieu of expensive meter movements for as many of the channels as possible. The lone meter on the RCA 162 is used for DC voltage measurements.

By 1939, numerous other manufacturers had jumped on the "service-shop-in-a-box" concept and were offering their own versions of the RCA Chanalyst. While I haven't had the pleasure of owning an RCA Chanalyst, my next column will feature the restoration of my Hickok "Indicating Traceometer," which is arguably one of the more advanced Chanalyst clones produced during that era, even surpassing the RCA models. While the RCA Chanalyst and other clones used eye tubes for indicators for many of the channels, Hickok used five individual meter movements as display indicators for each of its five service instruments.

My Hickok model 155 Indicating Traceometer can be seen in **Photo C**. If the Indicating Traceometer moniker itself isn't enough of an attention grabber (and I think it's got *wow!* factor), the front panel's machined metal finish surely is! My Traceometer is an earlier 155 model. The model 156 replaced it in short time. But both models are quite similar in design and

Photo F. This fine example of an early Supreme Audolyzer belongs to Neil Sutcliffe of Canada. (Neil Sutcliffe photo used by permission; all rights reserved by owner)

Photo G. For folks on a budget there were a few lower-cost offerings. This is another ad taken from the December 1939 issue of *RadioCraft Magazine*. The Superior Instruments Channel-Analyzer sold for a modest $19.75, but lacked many of the bells-and-whistles of the higher priced units. (Image courtesy Ed Engelken)

function. For its day, the Hickok was a high-quality, advanced instrument that didn't cut corners in design or implementation.

The Channels: What They Did

Let's take a look at the features offered in the Hickok Indicating Traceometer, which are also fairly representative of what was offered in the RCA Chanalyst and in the other full-featured Chanalyst clones. The cheaper clones often dropped a channel or two to save costs, or tried to combine two full-featured channels into a compromised single-channel instrument. The better and more costly versions featured two unique and unusual signal-tracing features: calibrated and sensitive tuned RF voltmeters.

The most sensitive RF voltmeter is for signal tracing in the RF and IF stages of the receiver. This RF voltmeter covers three

Photo H. Ed Engelken again provides us with this final scan, again taken from the same *RadioCraft Magazine*! As you can see, the service instrument channel concept was the rage of the day. The RIMCO "Dynalyzer" is featured in this ad. No price is given, but it appears to be a very inexpensive clone.

ranges, from 95 to 240 kHz, 240 to 600 kHz, and from 600 to 1700 kHz with voltage ranges of 5 mV to 25 volts! This permitted the serviceman to make accurate stage gain measurements from the antenna through the IF chain in the receiver. A second, less sensitive, calibrated RF voltmeter is included for higher level signals (such as from the local oscillator) and is tunable from 600 kHz to 17 MHz in three bands. Remember that in the 1930s this sort of instrumentation was only in the better-equipped radio design laboratories, and certainly not on a serviceman's bench! (The present-day equivalent for these tunable RF voltmeters is a selective RF voltmeter.)

Another channel was a dedicated AF (AC voltages) voltmeter that was accurate within 2 dB from 20 to 20,000 cycles. A vacuum tube voltmeter (VTVM) channel offered an 18-megohm input resistance for DC voltage measurements (remember that most common service meters were rated for 5,000 ohm-per-volt, or lower) and would heavily load higher impedance DC voltage points, such as the AGC bus in a receiving set. The final channel was an AC wattmeter, which showed the wattage drawn by the set under test. These five instruments—AF voltmeter, so-called "oscillator" RF voltmeter, RF-

IF voltmeter, DC VTVM, AF VTVM, and AC wattmeter—comprised the five channels in this amazing instrument. We'll discuss these in greater detail when we begin the Hickok 155 restoration in the next column.

Bring On The Clones!

Meissner, a well-known coil manufacturer, had jumped on the "channel" bandwagon with the introduction of the Meissner "Analyst" in 1939. An ad in September 1939 *RadioCraft Magazine* shows an earlier kit version (**Photo D**) that was offered for $60.00. While featuring five channels, the instrument used five eye tubes—and no meters—to perform all indications for the five channels. The more advanced, and expensive, Meissner model 9-1040 Analyst (a restored model owned by John Hagman is shown in **Photo E**) was truer to the RCA Chanalyst design. It sold for $144.00 in 1940. Meissner cleverly housed the five channels in a space-saving, vertically integrated package. The contrasting chrome highlights, black finish, and red control knobs were indeed eye catching.

Moving down the scale in features and cost, fellow radiophile Neil Sutcliffe provided a shot (**Photo F**) of his restored Supreme "Audolyzer." Yeah, it is spelled that way. Note that the separate IF-RF and Oscillator RF voltmeters have been combined into a simpler single channel. I've seen two versions of this model Supreme: one sporting a black and chrome finish, and the one shown in the photo, with a more subdued gray and chrome finish (perhaps a later model?). This unit sold for $78.50 in 1940.

For the truly budget conscious, here are two more offerings taken from the December 1939 issue of *RadioCraft*. First up is the Superior "Channel-Analyzer," which was priced at a modest $19.75 (**Photo G**). This unit looks interesting, and I'd love to have a peek under the hood to see what the $19.75 bought. I fear I'd be disappointed. Next is the RIMCO "Dynalyzer" model 701, shown in **Photo H**, for which no price was given. I'm sure there were many other copycats that jumped on the Chanalyst bandwagon, and it's amazing to see how many were on the scene immediately after the Rider model 11A was introduced.

By the late 1950s, the Chanalyst clones had disappeared from the market, marking the end of an era as they faded into obscurity. Whether they were as great an aid in speeding up radio service time as promised is debatable, but they certainly could make a favorable impression when viewed by prospective clients. At least one book was written on the subject, John D. Burke's *Rapid Radio Repair* (1950, John D. Burke Co., Jamaica, NY), which featured the Hickok Indicating Traceometer in his writings.

What's Missing?

As I was preparing this article something kept bothering me...something obvious was missing in almost all of these products. Then, finally, the light dawned! *None of these instruments included an audio or RF signal generator*—and an RF generator strikes me as being a vital piece of test equipment for any repair shop. But, after some reflection, I came to see that these devices were intended for *signal tracing* techniques to locate and isolate faults, using off-air signals. Yet, it is odd that no one took the channels one step further.

That's all for this time. Again, the next column will deal with the Hickok restoration, and whether you're interested in these devices or not, I'm sure you'll find there'll be some good restoration knowledge to be gleaned!

In the mean time, keep those soldering irons warm and those old tubes glowing! ■

Monitoring Times

ORDER TODAY!

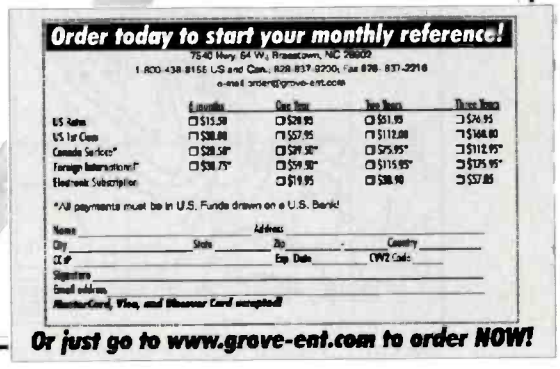
Do you own a radio, a shortwave receiver, a scanning receiver, or a ham radio? Then Monitoring Times® is your magazine! Open a copy of MT, and you will find news, information, and tips on getting more out of your radio listening. In fact, it's the most comprehensive radio hobby magazine in the U.S.

MT Express - Not only do we offer a premium monthly printed magazine, but we also offer the popular MT Express digital version of Monitoring Times. This is the best way to get your magazine as soon as it's released, right from the internet! All you have to have is an Internet connection with an e-mail address and you're ready for all the excitement of a truly interactive publication. For less than the cost of a printed subscription, you get the full magazine in pdf format with color photos throughout and active links to all web sites mentioned in the text.

Packed with up-to-date information concisely written by the top writers in the field, Monitoring Times® is your foremost guide to profiles of broadcasting and communications installations; home projects; and tips on monitoring everything from air, sea, and space to distant ports of call.

800-438-8155
828-837-9200 fax: 828-837-2216
WWW.GROVE-ENT.COM
order@grove-ent.com
7540 Highway 64 West
Brasstown, NC 28902

GROVE



Or just go to www.grove-ent.com to order NOW!

Just The Fax, Ma'am! Tuning In On HF Facsimile Transmissions

by John Kasupski,
KC2HMZ,
kc2hmz@verizon.net

Now that you've had an entire month to commit yourself to the radio hobbyist's New Year's Resolution that I suggested in last month's column, you should be all set with your radio, computer, interface, and software and be ready for some tips on what to look for.

Since I'm *sure* that's the case, this month we take a look at *facsimile* transmissions over the HF airwaves. Facsimile, usually simply "fax," is a method of encoding hardcopy text, drawings, or photographs for transmission over telephone lines or radio. You've probably seen a fax machine at an office, or may even have one in your home, but in case not, it's a device that scans a sheet of paper, producing an encoded version that it then transmits over telephone lines to another fax machine at the receiving end. The receiving machine then prints the image so the intended recipient can look at it. Like most technological achievements, this wizardry is indistinguishable from magic for those unfamiliar with the technology, so let's take a quick look at how it's done.

"[NOAA's 'Worldwide Marine Radiofacsimile Broadcast Schedules'] is simply a must-have document if you're interested in receiving marine weather fax transmissions."

As we know from observing an office fax, the machine scans text or a photo by reading it a little bit at a time. As it's doing so, it "decides"

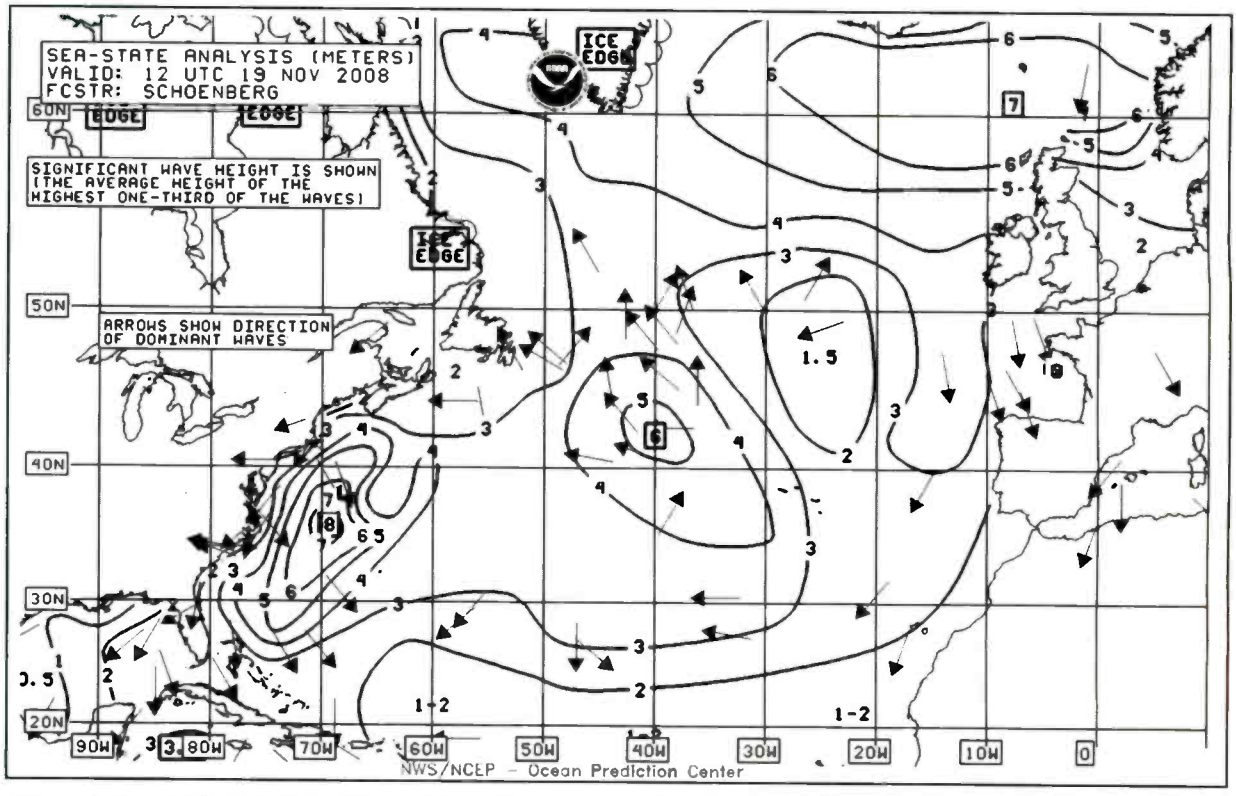


Figure 1. Typical NOAA chart of sea state analysis for a portion of the Atlantic Ocean. (Image courtesy of NOAA)

whether the area it is reading is light or dark, and assigns the area a number—0 for light or 1 for dark. The machine then transmits the number to the receiver, which makes a mark on the paper corresponding to the area on the original document that was scanned at the transmitting end. This continues until the entire document has been scanned, digitized, and transmitted. So you see, it's really nothing to be mystified by at all; it's nothing more than 0s and 1s!

Faxing Through Time

While we tend to think of this capability as a modern miracle, the first fax machine was actually patented in 1843 by a man named Alexander Bain. Bain was a Scottish inventor who also invented, among other things, the electric clock. Various improvements on Bain's original machinery were made over the years, until in 1907, the German physicist and inventor Dr. Arthur Korn invented a commercial fax system that was used to transmit pictures between Paris, London and Berlin.

Still, it was not until 1911 that the first AM modulator for fax machines was patented, allowing fax transmissions to be sent over telephone lines, and it wasn't until 1922 that RCA began providing commercial transatlantic fax services, sending photos across the Atlantic in six minutes. That same year, Korn's fax system was used to send, by radio, a photo of the Pope from Rome to the United States, which was published the same day in the *New York World* newspaper.

Considering that, in general, news pictures during that era in history made their way across the ocean aboard ships rather than via the airwaves, this was a huge accomplishment in the annals of radio. By the mid-1950s, international news services were doing this routinely, but the technology didn't truly go global until 1968, when the Consultative Committee for International Telephone and Telegraph (CCITT) issued the first international standard for fax, known today as CCITT Group 1. This, and subsequent standards, govern how the frequency of the carrier wave is varied in order to modulate it with the desired information. Because the early fax systems used AM, variations in the received document were produced by signal fading during radio transmission. Therefore, fax today is a form of FSK (frequency-shift keying).

In the CCITT Group 1 standard, the frequency variation corresponds to the analog signal produced from the originating machine when the document is scanned. There currently exist three other standards, also developed by CCITT. The CCITT Group 2 standard calls for reversing the phase of the carrier between the black and white levels of the encoded fax signal. In the CCITT Group 3 standard, the digital version of the scanner signal is sent at 2400 bits per second by a modem, and the standard permits modems operating at 4,800, 7,200, or 9,600 bits per second.

A CCITT Group 4 standard uses digital signals and incorporates FEC (forward error correction) to produce errorless transmission. This standard also transmits a document in roughly half the time required to send the same document using the CCITT Group 3 standard, thus transmitting an 8 1/2 by 11-inch page in about 30 seconds.

Today, the primary use of fax on the HF bands is for the transmission of marine weather maps (**Figure 1**). This application, according to the National Oceanic and Atmospheric Administration (NOAA), was apparently first suggested in 1926 by American inventor Charles Francis Jenkins in a demonstration to the Navy. Yes, that's the same Jenkins credited by history for inventing motion pictures and for establishing the first U.S. TV station, W3XK in Wheaton, Maryland. RCA and the U.S. Weather Bureau conducted further tests and began cooperative efforts in 1930.

How To Get Your Fax Straight

One thing I will *not* do for you is list all the stations in the world that send marine weather fax transmissions. Sorry. NOAA has a PDF document that does list them, and it's 124 pages long! (You want my editor to kill me?) So, I'll do the next best thing and tell you about NOAA's listing, which you can find on the Internet at www.nws.noaa.gov/om/marine/rfax.pdf.

This is simply a must-have document if you're interested in receiving marine weather fax transmissions. The latest version as of this writing was dated October 2008, but took into account some changes that went into effect in early November 2008. If you have an older version, time to get updated!

The PDF document lists frequencies, locations, and broadcast schedules for stations all over the world by region, in alphabetical order, and with times in UTC. One key thing to remember, though, is that the NOAA listing, which is titled "Worldwide Marine Radiofacsimile Broadcast Schedules," lists assigned frequencies. So make sure to subtract 1.9 kHz to get the actual carrier frequency where you should tune your receiver when attempting to receive these transmissions, or you'll get garbage!

Also, 120 lines-per-minute (LPM) and an Index of Cooperation (IOC) of 576 is a good starting point for software settings when receiving these transmissions; as a matter of fact, that's exactly what's used for all radio fax broadcasts of National Weather Service products. Sometimes with Russian stations (or stations such as those in former Soviet Bloc countries using Russian equipment), you'll encounter LPMs of 60 or 90 and/or an IOC of 288. Some photo fax stations from North Korea have been logged using an LPM of 60 and an IOC of 352. The best way to decode using computer software generally is in "Black and White" or "Two-Bit Depth" mode.

There's a wide variety of software programs that can decode radio fax transmissions, including HamFax for Linux (free under the GNU public license; see **Figure 2**) and SeaTTY (**Figure 3**). Even the old faithful, HamComm 3.1 for DOS, will do it if you're saddled with a really old computer!

On To Our Readers' Logs

Our readers have supplied us with another great batch of loggings this month, so let's get right to them. Many thanks and a tip of the hat to this month's contributors: Al Stern, Satellite Beach, FL (ALS); Mark Cleary, Charleston, South Carolina (MC/SC); Steven Jones, Lexington, KY (SJ/KY); Glenn Valenta, Lakewood, CO (GV/CO); Chris Gay, Lexington, Kentucky (CG/KY); and, of course, yours truly (JK/NY)

2872.0: Gander Radio working "Alitalia 611" for SELCAL check in USB at 0437Z; Shanwick Radio wkg Speedbird 45 for SELCAL check in USB at 0233Z. (ALS)

2899.0: USB 0228Z: Shanwick Radio wkg various airliners in USB at 0228Z; Gander Radio wkg Ryan 808 at FL400 for posrep in USB at 0230Z; Gander working Delta 82 for posrep in USB at 0231Z. (ALS)

2971.0: Gander Radio calling "Navy RL 589," an NP-3D (#154589) out of Naval Research Labs, Patuxent River NAS, MD, in USB at 0240Z; Gander Radio wkg Delta 58 for posrep and SELCAL check in USB at 0429Z. (ALS)

3016.0: Shanwick Radio working "Iberia 6250" for posrep and SELCAL check in USB

at 0301Z; Santa Maria Radio working airliner for posrep and SELCAL check in USB at 0303Z; Shanwick wkg Virgin 34 for SELCAL check in USB at 0253Z. (ALS)

3413.0: Shannon VOLMET recites WX, in USB at 0107Z. (ALS)

3415.0: Enigma E10 numbers station, YL/EE with "ART" callup, then into 18 5-letter groups, message given twice. USB at 2007Z. (CG/KY)

3420.0: Unid stations using speech inversion, very short QSOs, in USB at 0443Z. (GV/CO)

3455.0: New York Radio wkg "Aircraft 157" for SELCAL check in USB at 0027Z; New York wkg American 955 for SELCAL check in USB at 0353Z. (ALS)

3476.0: Gander Radio working various airliners at 53N 30W, and handing them off to frequency 2971.0 kHz, in USB at 0259Z. (ALS)

3485.0: New York VOLMET, recites WX for New York, Toronto, Ottawa, in USB at 0322Z. (ALS)

3485.0: New York VOLMET with avi WX for Indy, Detroit, etc. in USB at 0508Z. (JK/NY)

4003.0: US Army MARS net in progress in LSB at 0012Z. (MC/SC)

4007.0: MARS net, just ending, tuned just at signoff with ITM, in USB at 0410Z. (GV/CO)

4013.5: NNN0BDX net control with NNN0BWU, NNN0VWV in NAVMARCORP MARS net at 0009Z. (MC/SC)

4023.9: AAR1HL in Army MARS Region 1 net in LSB at 2331Z. (MC/SC)

4032.9: Army MARS training net in LSB at 0013Z. (MC/SC)

4038.5: NNN0HGP, NNN0TZO (Tennessee) in NAVMARCORP MARS 4G1B Net at 0028Z. (MC/SC)

4039.0: INDIA WHISKEY with Air Defense Sitrep. Warning White. Weapons Safe. Acknowledged by BRAVO, ECHO, OSCAR, KILO at 0055Z. (MC/SC)

4041.0: NNN0FKW, NNN0LWN and others in NAVMARCOPR MARS 5M1B Net at 2338Z. (MC/SC)

4045.0: TADIL data transmission in LINK-11 at 2327Z. (MC/SC)

4077.4: Hobby beacon MO, very weak here, in CW at 0807Z. (GV/CO)

4078.2: Hobby beacon W, extremely loud, in CW at 0804Z. (GV/CO)

4079.6: TMP hobby temperature beacon, reporting 49F, in CW at 0810Z. (GV/CO)

4097.4: KX, hobby temperature beacon, with "KX TMPOUT F52" in SSB 3-kHz wide modulated CW at 0822Z. (GV/CO)

4146.0: Pleasure vessel (yacht) *BRAVADO*, MSFG4, YL/EE calling XANADU several times with no joy, in USB at 0644Z. (GV/CO)

4146.0: Tugboat *Seahorse* working unid about meeting near San Antonio. Has barge in tow, only doing 9.5 knots w/high seas on the east coast of Florida. Set up QSO same time next night. In USB at 0635Z. (GV/CO)

4146.0: Tugboat *Rachael-Callai* calling unid for message relay, but QSO faded for one party and ended without relaying message, in USB at 0639Z. (GV/CO)

4149.0: X9104 working Jacksonville, relaying status, asked about Jay in hospital, followed by other tugs, in USB at 0621Z. (GV/CO)

4200.0: Unid multiple Russian-sounding OMs in QSO, all heard well, in USB at 0422Z. (GV/CO)

4270.0: Enigma E10 numbers station, YL/EE with 5-letter groups for PCD. Jammer present but was on wrong sideband. In USB at 2010Z. (CG/KY)

4271.0: CFH (Canada Meteo, Halifax, Nova Scotia) in RTTY following previous feedback state that sounded like whalesong; whale sound stopped, pause, then RTTY transmission began. In RTTY at 0424Z. (GV/CO)

4372.0: INDIA FOXTROT and BRAVO in USN net at 0047Z. (MC/SC)

4395.0: Unid CW, possibly a hobby beacon, sending only a few chars now and then,

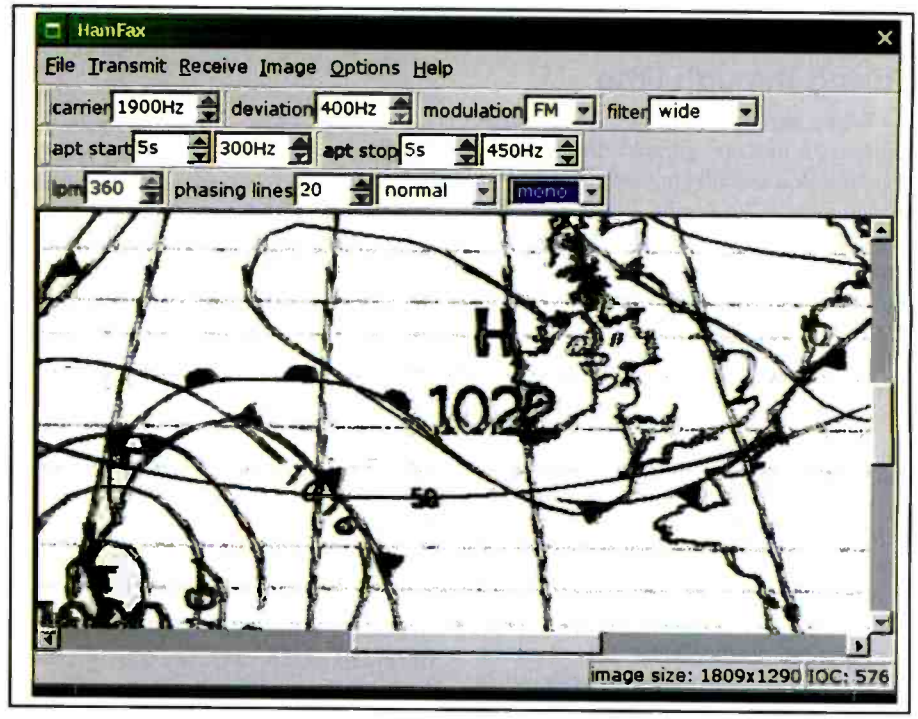


Figure 2. Partial decode of a weather fax using HamFax on a Linux-based computer. (Image courtesy of sourceforge.net)

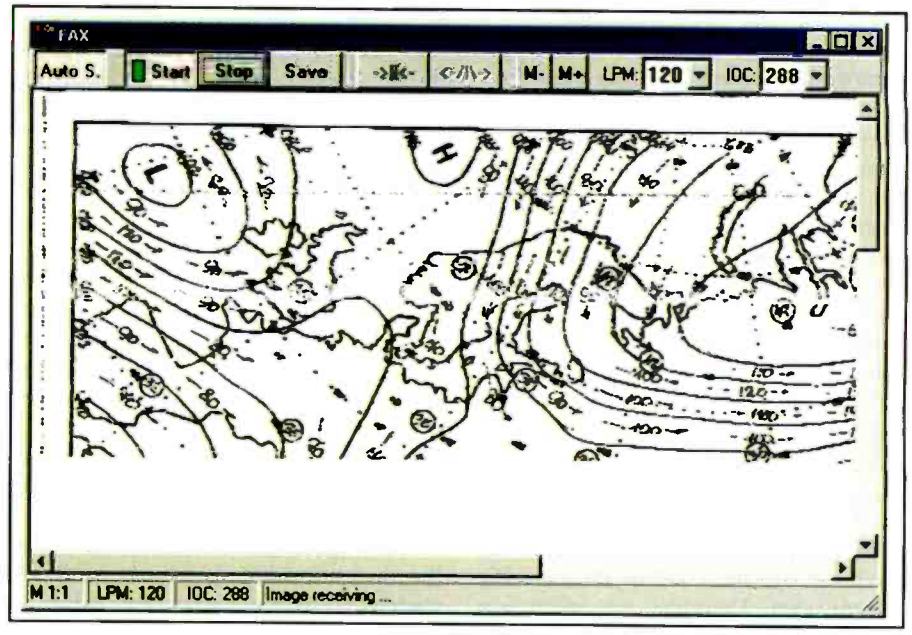


Figure 3. Decoding weather fax using the commercial program SeaTTY. (Image courtesy of DXsoft)

Scan Our Web Site

weak here, in CW at 0838Z. (GV/CO)

4396.0: WLO (Shipcom LLC, Mobile, AL) at great levels here and on parallel 4369.0 kHz frequency, in USB at 0621Z. (GV/CO)

4469.0: FLORIDA CAP 517 net control with GOLDENROD 179, MOCKINGBIRD 994, COLUMBUS 37, GEORGIA CAP 34, and SOUTHEAST CAP 43 at 0034Z. (MC/SC)

4498.6: Unid Japanese 16-tone PSK data signal, steady S7 with no fades, in PSK at 0850Z. (GV/CO)

4500.0: AFA2QB net control, AFN2N alternate net control in USAF MARS 2S1 Net at 0019Z. (MC/SC)

4670.0: Unid Asian chit-chat heard, "Obama" spoken often, in USB at 0654Z. (GV/CO)

4721.0: 571430 (KC-135R) clg ADW (Andrews HF-GCS) in ALE USB at 0054Z. (MC/SC)

4772.0: Unid TADIL data transmission, strong signals, in LINK-11 at 0849Z. (GV/CO)

4790.0: R26975 (UH-60L, 1-171 AVN) clg R26608 (UH-60L, 1-171 AVN) in ALE USB at 1344Z. (MC/SC)

4835.0: TADIL data transmission in LINK-11 at 2327Z. (MC/SC)

5058.5: LR1 (FBI, Little Rock) clg QT2 (FBI, Quantico) in ALE USB at 0241Z. (MC/SC)

5268.0: Enigma-designated XPA Russian Intelligence Multitone System in AM at 2125Z. (CG/KY)

5446.5: AFRTS Key West, FL w/news in USB at 0902Z; also heard another night w/sports in USB at 0635Z. (GV/CO)

5505.0: Shannon VOLMET, recites London Metro WX forecast, in USB at 0237Z; also heard another night with WX for Madrid, Lisbon, Santa Maria, etc. in USB at 0247Z. (ALS)

5520.0: New York Radio wkg American 62 for SELCAL check in USB at 0024Z. (ALS)

5550.0: New York Radio working various aircraft for SELCAL checks, in USB at 0322Z. (GV/CO)

5550.0: New York Radio wkg American 62 for posrep, QSY to 5520.0 kHz for SELCAL check, in USB at 0022Z; New York wkg Air France 493 for posrep, at FL350 and QSY to 6586.0 kHz for SELCAL check, in USB at 0342Z. (ALS)

5598.0: New York Radio wkg Speedbird 21MA for posrep, hands off to Gander on 5649, in USB at 0201Z. (ALS)

5616.0: Gander Radio wkg unid airliner for SELCAL check in USB at 0104Z; Gander wkg United 936 for SELCAL check in USB at 0106Z; Gander wkg Northwest 38 for SELCAL check in USB at 0215Z. (ALS)

5649.0: Gander Radio wkg Speedbird 333 for SELCAL check, handed off to Shanwick on frequency 3016.0 kHz, in USB at 0221Z; Gander wkg KLM 92 for posrep 53N 40W, next 55N 30W, in USB at 0222Z; Gander wkg Speedbird 21MA who requests climb to FL380, in USB at 0224Z; Gander wkg FGVMV in USB at 0225Z; Gander wkg KLM 622 for SELCAL check in USB heard at 5649Z. (ALS)

5680.0: RESCUE 125 in QSO with Kinloss Rescue to report that he was landing soon, in USB at 1837Z; RESCUE 131 in QSO with Kinloss Rescue reporting ETA New Castle at 1935 with an incubator on board with low battery. Requesting quick transfer of the patient. Later requested WX info. In USB at 1845Z. (CG/KY)

5696.0: CG 2105 (HU-25) on final to Charleston secures guard with CAMSLANT at 1159Z. (MC/SC)

5708.0: REACH 0177 (C-17A, 62 AW) ALE initiated p/p to Metro for WX at Fort Campbell, KY at 2117Z; 8PAXR (poss. USN PAX River) clg 8JACK (poss. USN Jacksonville) in ALE USB at 2058Z. (MC/SC)

5847.0: R23966 (UH-60A) clg T1Z147 (1-147 AVN) in ALE USB at 1454Z. (MC/SC)

5875.0: R26541 (UH-60L) clg COROPS in ALE USB at 1729Z: R23760 (UH-60A) clg CECIL (FL ARNG, Cecil Field) in ALE USB at 1535Z. (MC/SC)

6235.0: TADIL data transmission in LINK-11 at 2327Z. (MC/SC)

6240.0: Unid Tadiran encrypted voice, audible under Russian broadcast station, in USB at 0332Z. (GV/CO)

6371.0: NATO exercise traffic, callsigns heard include: R0F, Y4Z, A2R, A3R, P1C, F6J; QRM from buzzy CW that sounded like Russian mil, in USB at 1700Z. (CG/KY)

6445.0: Unid Japanese slot machine station idling, in QPSK at 0649Z. (GV/CO)

6519.0: WLO (Shipcom LLC, Mobile, AL) with WX bulletin re: Cuba issuing tropical storm warning for Hurricane Paloma, in USB at 0304Z. (GV/CO)

6535.0: Dakar Radio wkg N7386 for SELCAL check, both heard, in USB at 0258Z. (GV/CO)

6586.0: New York Radio wkg Air France 493 for SELCAL check in USB at 0346Z; NY wkg Continental 312 for SELCAL check in USB at 0012Z. (ALS)

6604.0: New York VOLMET, recites Terminal Aerodrome WX forecasts for Indianapolis, St Louis, Pittsburgh, in USB at 0337Z. (ALS)

6628.0: New York ATC working various aircraft for SELCAL checks in USB at 0345Z; also heard another night working aircraft that was unheard here, setting this frequency primary with 3016.0 kHz secondary, in USB at 0255Z. (GV/CO)

6628.0: New York Radio wkg KLM 766 for posrep in USB at 0143Z; Santa Maria Radio wkg airliner 253 for posrep in USB at 0145Z; NY wkg American 68; QSYs to 5598.0 kHz, in USB at 0149Z. (ALS)

6673.0: San Francisco Radio wkg American 285 re: clearance to new altitude, in USB at 0252Z. (GV/CO)

6742.0: Sector St. Pete wkg SHARK 04 at 1151Z. (MC/SC)

6754.0: Trenton Military VOLMET in USB at 0250Z. (GV/CO)

ADVANCED SPECIALTIES INC.
Orders/Quotes 1-800-926-9HAM
www.advancedspecialties.net
BIG ONLINE CATALOG
BCD996T 6000 Channel Digital Trunking Scanner
GRE PSR-500 Digital Triple Trunking Handheld
UNIDEN BEARCAT & GRE DIGITAL SCANNERS • CB • AMATEUR • RADIOS & ACCESSORIES
ALINCO • YAESU • GALAXY • GRECOM • COBRA
(201)-VHF-2067
114 Essex Street, Lodi, NJ 07644
Closed Sunday & Monday

POPULAR COMMUNICATIONS
Hobby Radio at its BEST!
SUBSCRIBE TODAY!
1 year - 12 issues $32.95
2 years - 24 issues $58.95
3 years - 36 issues $85.95
CN/MX–1 yr $42.95, 2 yrs $78.95, 3 yrs $115.95; FN AirPost–1 yr $52.95, 2 yrs $98.95, 3yrs $145.95
Payable in US dollars only.
Note: Allow 6-8 weeks for delivery of first issue.
25 Newbridge Rd, Hicksville, NY 11801
Call 1-800-853-9797
www.popular-communications.com

6760.0: TADIL data transmission in LINK-11 at 0134Z. (MC/SC)

6840.0: Enigma E10 numbers station, YL/EE with 5-letter groups, USB and a carrier were present, LSB was very weak, no jamming heard, in USB at 2135Z. (CG/KY)

6855.0: Enigma V2A numbers station, YL/SS with 5-figure groups in AM at 2130Z. (CG/KY)

7633.5: USAF MARS Operators AFA3HS (Leawood, KS) and AFA1QW (Greenwood, IN) in QSO in USB at 1420Z. (ALS)

7648.5: R23966 (UH-60A) clg T832MED (832nd Medical Co., WN ARNG) in ALE USB at 2313Z. (MC/SC)

7811.0: AFRTS Key West, FL, with news, commercials in USB at 0457Z. (JK/NY)

8056.0: TADIL data transmission in LINK-11 at 0008Z. (MC/SC)

8156.0: CORAL HARBOUR BASE (Royal Bahamas SDF) with traffic at 2257Z. (MC/SC)

8171.5: T12 (12th Aviation Bn) clg R26860 (UH-60L) in ALE USB at 1909Z. (MC/SC)

8181.0: Unid numbers station with 5-letter groups in CW at 1642Z. (CG/KY)

8379.0: WHED, *OVERSEAS TEXAS CITY*, newly built 45,760-ton U.S.-registered oil products tanker w/MMSI, callsign and TST command in SITOR-A at 0105Z. V7GI4, *SOMERSET*, 23,500-ton Marshall Islands-registered general cargo ship w/MMSI and

abbreviated ID "SOME" in SITOR-A at 0324Z. ZCDV9, *LIVORNO EXPRESS*, 43,715-ton Bermuda-registered Hapag-Lloyd container ship w/AMVER/PR, MMSI, abbreviated ID "LIVO" and brief note of thanks to WLO for filing NBDP test report, 1,000 miles due east of Jacksonville, FL sailing on course 251 at 18 knots, vessel received 18 months ago on this frequency w/callsign WABU and U.S. registration, in SITOR-A at 0407Z. (SJ/KY)

8603.0: Unid MFSK32 signal, weak with QRM from a LINK-11 data transmission, in MFSK32 at 0341Z. (GV/CO)

8677.0: CBV, time station in Valparaiso, Chile, heavy RTTY QRM, in USB at 0116Z. (GV/CO)

8843.0: San Francisco Radio working Hawaiian 36 and handing off to Honolulu tower on VHF in USB at 0310Z. (GV/CO)

8912.0: RESCUE 1719 (HC-130, CGAS Clearwater) p/p to District 7 Miami Ops. MIAMI OPS directs them to do trackline search to Montego Bay for EPIRB at 2224Z. (MC/SC)

8971.0: GOLDENHAWK (TSC Brunswick) wkg WAFER 21 (P-3C) with tasking to locate merchant vessel at 2142Z. (MC/SC)

8983.0: SWORDFISH 17 (HU-25, CGAS Miami) wkg CAMSLANT with report of TOI at 2254Z. (MC/SC)

8992.0: LA 052 (P-3C, VP-5) p/p via Andrews HF-GCS at 1658Z. (MC/SC)

9007.0: SENTRY 61 (E-3 AWACS) p/p via TRENTON MILITARY to CORNERSTONE at 1723Z. (MC/SC)

9020.0: Link-11 data transmission at 2218 (MC/SC)

9186.0: Unid QSO in sloppy CW, both stations at good levels, in CW at 0101Z. (GV/CO)

9916.0: Russian XPH polytone numbers station, just going QRT, in proprietary PSK at 0213Z. (GV/CO)

10780.0: CAPE RADIO wkg KING 64 (HC-130P #64-14864, Patrick AFB 920RQW) for phone patch to Patrick Metro for WX for Patrick AFB at 2300Z; passes PIREP from position 33-35N, 72-15W (over Atlantic, east of Savannah, GA); then phone patch to DSN number for Patrick AFB King Ops; asks Customs be informed of late arrival, Maint. Status A2, in USB at 2110Z. (ALS)

10993.6: SHARK 19 clg CG 45603 at 1207Z. (MC/SC)

11175.0: HF-GCS Station LAJES wkg REACH 436 for phone patch to Charleston CP; reports cracked windshield; 1.5 hours out of Andrews AFB; wants to land at Andrews as scheduled, then continue to Charleston for repairs; has four crew chiefs aboard, all agree that cracks are on inside pane, a/c should be able to continue flight including leg to Charleston, in USB at 2222Z. (ALS)

11175.0: HF-GCS Station ANDREWS wkg REACH 436 for phone patch to DSN number for Andrews AFB CP, reports inbound with RON crew, but wants to cancel lodging since a/c is Maintenance Status 3 and will not RON, will be returning to Charleston for maintenance actions after offloading cargo at Andrews, a trans-load to Reach 164, in USB at 2232Z. (ALS)

11175.0: HF-GCS Station MCCLELLAN wkg LN052 for radio check; LN 052 wants phone patch also but request is not heard by MCCLELLAN, in USB at 1436Z; REACH 6012 (C-5B #86-0012, Travis AFB 60AMW) calls MAINSAIL for radio check; no joy, in USB at 2243Z. (ALS)

11175.0: HF-GCS Station ANDREWS passes short EAM for BRAKE SPROCKET in USB at 1645Z; HF-GCS Station MCCLELLAN wkg PALOMINO for radio check in USB at 2108Z. (ALS)

11175.0: HF-GCS Station MCCLELLAN wkg FIST FULL (callsign spelled) for phone patch to DSN number at MacDill AFB, FL; rqsts they confirm they are transmitting on their antenna; MacDill responds we need to go secure to verify that; FIST FULL says they cannot go secure now, will contact later; in USB monitored at 1441Z. (ALS)

11175.0: HF-GCS Station LAJES wkg OTIS 81 (USMC KC-130J, Cherry Point MCAS VMGR-252); rqst WX for LPLA (Lajes) and LPAZ (Santa Maria IAP, Azores), in USB at 1541Z. (ALS)

11175.0: HF-GCS station ANDREWS with a 6-character EAM for ASTRONOMER in USB at 1205Z. (CG/KY)

11205.0: HALIFAX MILITARY taking flight ops report from unid aircraft at 1242Z. (MC/SC)

11220.0: ICER 47 (B-52H, 5 BW) p/p request via McClellan HF-GCS to Chennault IAP CP, Lake Charles, LA, at 1846Z. (MC/SC)

11232.0: BRUTUS BRAVO/SENTRY 61 (E-3 AWACS) p/p via TRENTON MILITARY to CORNERSTONE for TST target coordinates at 1620Z. (MC/SC)

11282.0: San Francisco Radio working American 283 for altitude change and SELCAL check, in USB at 0149Z. (GV/CO)

11494.0: FOXTROT 33 (HU-25, CGAS Cape Cod) ops normal report to CAMSLANT at 2236; IGY (USCG Tug *Penobscot Bay* WTGB 107) clg Z03 in ALE USB at 1415Z. (MC/SC)

12442.0: Unid. station w/handsent 5N groups using AU34567NDT with occasional "R—" separators, straight key and decent fist, in CW from 1858–2003Z. (SJ/KY)

12479.0: 3EAV5, *HIGH GLOW*, 46,846-ton Panama-registered oil products tanker w/TEST message and vessel name ID, booming signal in SITOR-B at 1550Z. V7FG6, HEIDMAR BRAZOS, 78,657-ton Marshall Islands-registered crude oil tanker w/MMSI and abbreviated ID "HBSX" in SITOR-A at 1605Z. MYNJ6, *SAGA ANDORINHA*, 47,027-ton Isle of Man-registered general cargo ship w/AMVER/PR 15 miles south of Puerto Rico in SITOR-A at 1834Z. VRWL2, *FEDERAL YUKON*, 36,563-ton Hong Kong-registered bulk carrier w/garbled AMVER report, destination Les Escoumins Pilot Station, Quebec, Canada, for arrival in 2 days, included MMSI and abbreviated ID "FYNR" in SITOR-A at 1940Z. (SJ/KY)

12482.0: VRED4, *SAGA PIONEER*, 45,559-ton newly built Hong Kong-registered general cargo ship w/AMVER/PR, MMSI and abbreviated ID "SAPI," 500 miles southeast of St. John's, Newfoundland, en route to Rotterdam, Netherlands, in SITOR-A at 1955Z. (SJ/KY)

12482.5: 3FNW8, *SEKIYO*, 91,439-ton Panama-registered bulk carrier w/AMVER/SP, MMSI and abbreviated ID "SEKI," 400 miles SW of Honiara, Guadalcanal, in the Solomon Islands w/5 line route leg list for departure from Australian control and travel from the "AMVER LINE" due north between Papua New Guinea and the Solomons en route to the "JASREP LINE" for handover to Japanese vessel reporting system in 7 days, decent signal for my most distant vessel to date at 8,385 miles, in SITOR-A at 2000Z. (SJ/KY)

12503.5: Unid vessel w/SELCAL KYVM (3704) for UIW, Kaliningrad R., Russia in SITOR-A at 1800Z. (SJ/KY)

12606.0: UIW, Kaliningrad R., Russia w/marker "DE UIW KLD" in CW+SITOR-A at 1405Z. (SJ/KY)

12087.0: R23558 (UH-60A) clg T1Z147 (1-147 AVN) in ALE USB at 1807Z. (MC/SC)

13131.3: Unid Spanish-speaking boaters/fishermen, strong here, can hear boat engine in background, in USB at 0013Z. (GV/CO)

13907.0: CG 2302 (HC-144A, ATC Mobile) requests guard from CAMSLANT for flight along Alabama/Florida coast at 1422 (MC/SC)

13927.0: RHODY 38 (C-130 #06-1438, RI-ANG 143AS, Quonset State A/P, RI) via a USAF MARS operator for M&W phone patch to Massachusetts, ETA to home base 1930 EDT, in USB at 2050Z; USAF MARS Operator AFA2HF (Orange City, FL) wkg HAZARD 66 (Dyess AFB C-130, over Dallas-Ft. Worth) for M&W phone patches to Indiana and Michigan, in USB at 1607Z. (ALS)

13927.0: USAF MARS Operator AFA6PF (Los Angeles) wkg HAZARD 66 (C-130, Dyess AFB) for phone patch; Hazard 66 informs that he is en route to Scott AFB, in USB at 1627Z; USAF MARS Operator AFN2AC (Miami, FL) wkg REACH 9741 over Bradley Field, CT for M&W phone patch to Massachusetts; flight is headed to UK, in USB at 2044Z. (ALS)

13927.0: USAF MARS Operator AFA2CU (Chesapeake, VA) wkg REACH 5123 for M&W phone patch in USB at 2101Z; AFA2CU wkg REACH 370 for phone patch to Wisconsin area code, in USB heard at 1808Z. (ALS)

13927.0: USAF MARS Operator AFA1QW (Greenwood, IN) wkg SENTRY 60 (E-3 AWACS, Tinker AFB 552ACW) for M&W phone patch Oklahoma in USB at

Scan Our Web Site

1704Z; USAF MARS Operator AFA6PF (Los Angeles) wkg REACH 392T for phone patch to Andrews Command Post re ETA, in USB at 1710Z. (ALS)

13927.0: USAF MARS Operator AFA1QW (Greenwood, IN) wkg BLINK 11 (E-8C JSTARS, near Phoenix, AZ) for phone patch to DSN number for PEACHTREE OPS in USB at 1814Z. (ALS)

13927.0: USAF MARS Operator AFA6PF wkg RHODY 35 (C-130J 50-1435), RI-ANG, Quonset State A/p, RI) for phone patch in USB at 1829Z; AFA6PF wkg RHODY 35 for phone patch to DSN number for RI-ANG, RHODY 35 passes sim code for phone and receives unblock code, in USB heard at 1904Z. (ALS)

13927.0: USAF MARS operator AFA6PF wkg DOOM 91 (B-52H, Barksdale AFB) for phone patch to DSN number for Barksdale RED OPS, reports Engine #6 has been shut down due to high oil pressure indication, tagged at 100; air refueling complete, in USB at 1925Z. (ALS)

13927.0: USAF MARS Operator AFA2CU (Chesapeake, VA) wkg DOOM 91 for DSN phone patch to RED OPS, resumes report on Engine #6 shutdown; is told to continue with mission (he has 7 more engines!), in USB at 1925Z. (ALS)

13927.0: USAF MARS Operator AFA6PF wkg REACH 392T for phone patch to Andrews Command Post re: ETA, in USB at 1710Z. (ALS)

13927.0: USAF MARS Operator AFA1QW (Greenwood, IN) wkg REACH 392T for phone patch to DSN number at OH-ANG base, Youngstown, OH in USB at 1717Z. (ALS)

3927.0: USAF MARS Operator AFA6PF wkg REACH 392T for phone patch to DSN number at OH-ANG, Youngstown, OH; rqsts message relayed re: landing at 8:00 PM, in USB at 1722Z. (ALS)

14364.0: Link-11 data transmission at 2210Z. (MC/SC)

14671.5: ENIGMA M51 w/fast machine-sent 5L traffic and standard NR and date header formats in CW at 1515Z. (SJ/KY)

15016.0: CW490 (C-130T, VR-54) with MAINSAIL call at 2218Z. (MC/SC)

16685.5: H3UY, *NOBLE SPIRIT*, 45,282-ton Panama-registered chemical/oil products tanker w/monthly NBDP test message to MOLTANK London via WLO, Shipcom R., Mobile, AL, also included MMSI and abbreviated ID "NOBL," in SITOR-A at 2055Z. (SJ/KY)

16690.5: MHME, *OCEAN PREDATOR*, 27,656-ton United Kingdom-registered bulk carrier w/MMSI, abbreviated ID "PRED" and OPR command in SITOR-A at 1815Z. (SJ/KY)

16696.5: Unid. vessel w/SELCAL XVSY (1097) for NMN, USCG CAMSLANT, Chesapeake, VA, 213 days after SITOR operations were quietly terminated there, in SITOR-A at 2147Z. (SJ/KY) ■

readers' market

Advertising Rates for Readers' Mart: Non-commercial ads are 30 cents per word, including abbreviations and addresses; minimum charge $6.00 per issue. Ads from firms offering commercial products or services are $1.00 per word; minimum charge $20.00 per issue. Boldface words are $1.20 each (specify which words). Leading key words set in all caps at no additional charge. All ads *must be prepaid in full* at time of insertion; a 5% discount is offered for prepaid 6 time insertions. All ads must be typewritten double spaced.

Approval: All ad copy is subject to Publisher's approval and may be modified to eliminate references to equipment and practices which are either illegal or otherwise not within the spirit or coverage scope of the magazine.

Closing Date: The 10th day in the third month preceding date of publication. Because the advertisers and equipment contained in Readers' Market have not been investigated, the Publisher of *Popular Communications* cannot vouch for the merchandise listed therein. Direct all correspondence and ad copy to: Attention: Classified Dept., PC Readers' Market, 25 Newbridge Rd., Hicksville, NY 11801.

SuperBertha.com ULTIMATE LONG BOOM OWA YAGIS: Designed by WA3FET and K3LR. Scott W3TX. 814-881-9258.

COMMUNICATIONS MONITORING ANTENNAS, HF/VHF/UHF Super Discone $49.75, AntennaCraft Scantenna $47.70, 30–1200 MHz. 4–12 dB Log Periodic $69.50, 806–900 MHz. 13 dB 9 element Yagi $74.00, MURS/GMRS Dual Band Base $48.95. All prices **INCLUDE** Priority S&H&I. See these antennas plus many, many more for Amateur, Business, CB, and Monitoring radio, plus cellular phone antennas on the web at: **www.antennawarehouse.com** MC/Visa Order line 877-680-7818. To help maintain our low pricing, we do not print catalogs.

FOR SALE - DRAKE TR-7/TR-7A/R-7/R-7A Service kit. Includes 13 Extender Boards and Digital Jumper Card. $64.75 includes postage. See http://wb4hfn.com/Services/W7AVK/tr7ext2.htm Bob W7AVK, 5581 Panorama Drive, Moses Lake, WA 98837, w7avk@arrrl.net, 509-750-7589.

SuperBertha.com CUSTOM ROTATING POLES: No guy wires, entire pole rotates, stack all your antennas, rotor at ground level, 50ft to 300ft high, EIA-TIA-222-G. Starting at $37,799.00. Scott W3TX, 814-881-9258.

ADVERTISERS' INDEX

Advertiser	Page #	Website Address
AOR USA, Inc.	7,Cov III	www.aorusa.com
Advanced Specialties	81	www.advancedspecialties.net
Alinco	11	www.alinco.com
Antique Radio Classified	39	www.antiqueradio.com
C. Crane Company	23	www.ccrane.com
CQ Bookshop	17,24,27	www.cq-amateur-radio.com
Communications Electronics	25	www.usascan.com
Computer Aided Technologies	45	www.scancat.com
Etón Corporation	18,19	www.etoncorp.com
Grundig	18,19	www.etoncorp.com
Homeland Security	58	www.ready.gov
ICOM America, Inc.	Cov. IV	www.icomamerica.com
Kenwood	5	www.kenwoodusa.com
MFJ Enterprises, Inc.	3	www.mfjenterprises.com
Monitoring Times	77	www.grove-ent.com
PowerPort	23	www.powerportstore.com
QCWA	58	www.qcwa.org
RSBG	15,68	www.cq-amateur-radio.com
RadioActiveRadios	39	www.radioactiveradios.com
REACT International, Inc.	35	www.reactintl.org
Universal Radio	1	www.universal-radio.com
Yaesu	Cov II	www.vxstdusa.com

Reach this dynamic audience with your advertising message, contact Arnie Sposato at 253-853-4080, FAX 253-853-4070, or e-mail: advertising@popular-communications.com.

Friends, Excelsior, And The Elusive Wiring Diagram

by Bill Price, N3AVY
chrodoc@earthlink.net

"I'll award a Brass Figlagee with oak leaf palm to anyone who can draw such a circuit. I'll also throw in a nice book on the joys of ham radio for the first five who make a serious effort."

Old friend and loyal reader Joe Maurus, formerly of Pumpkin Center, Louisiana, is now not only a resident of Idaho (famous for its spuds and considerably different weather patterns than the Louisiana delta), but he's hung up his EMT badge and replaced it with an official document proclaiming that he's a spud-worthy farmer, according to his new state's agricultural organization. No snowbirding for him—he's now 100 percent Idahoan. Older friend Norm has become a true snowbird, spending only 49.9 percent of his time at one end of US Route 1 or the other, depending on how the tax laws are written. Too bad I can't get those two guys together—that would be a pair a full house couldn't beat. Maybe they can work out a sked on the ham bands.

Speaking of ham bands, my smarter brother, Microft Price, was always going to get a ham license but could never master the code. For the past few years, I've told him that the code requirement has been dropped, but now he tells me it's not the code that held him back, but all that electronics stuff. When I offered to buy him all the necessary study guides and materials so he could pass the test with ease, he told me there was no place to put an antenna now that he's in an apartment. He told me our cousin Aesop had stopped by to give him a bag of grapes, but he threw them away after Aesop left. Probably sour, he said.

And speaking of difficulties, last month I got to see how the other half lives. Our kindly editor Edith "Can't you have that in by yesterday?" Lennon asked if I would like to try writing a normal article—you know, one with actual facts, pictures, captions, and a coherent thread throughout. I foolishly acquiesced. How hard could it be? All those other guys in the stable write normal articles every month.

By the eve of the deadline, I think I handed her a list of frequencies, some call letters, and a dog-eared picture of H.V. Kaltenborn. By now you've all seen the article "Listening to the Nation's Capital," and I've learned my lesson: Don't try to imitate the real writers—just turn in your silly bit of humor every 30 days and be glad someone in the office likes you.

Although I keep my email address right where all the stalkers can see it, I do have a spam-filter in place to minimize the questionable pharmaceutical ads I receive. *Pop'Comm* readers are not easily put off by the spamblocker's auto-reply message requesting that they send some identifying bit of info so I will recognize them. One former high-seas radio operator just wrote "silent period 500Kc"; others have mentioned equally esoteric bits of radio trivia so I'd recognize them right away as *Pop'Comm* readers. But the best yet was just the word "Excelsior!" (with the requisite exclamation point), signifying that the writer was yet another Jean Shepherd fan. I have never had so much fun writing about a person whose work I truly enjoyed, and gotten so much "fan mail" to boot. Alas, they are fans of Jean Shepherd, and not necessarily me, though we share our admiration and enjoyment of Shep and thank the many illicit recorders who have preserved his and so many other old radio broadcasts, which would have otherwise vanished into the ether.

Let me offer a secret password for anyone who wants to get past the spam filter that guards my privacy. Although you can be as creative as you like, if you're not in a creative mood, just write "POPCOMM" when the spam-filter asks for a brief message to get my attention. You won't be ignored.

But I digress...back to hamming. Maybe it's time for a confession. You see, I also had younger days when I thought it would be impossible to ever learn Morse code with any proficiency, and like (probably) so many others, I too tried every way possible to avoid learning the dits and dahs. Perhaps the most frustrating was my "lighted letter board" approach in which I would start with a two-foot-square piece of plywood and fasten 10 rows of 10 light bulb sockets onto it. Simple enough so far. Then, I would get 36 doorbell buttons that I would arrange in a keyboard-like fashion with 26 letters and 10 numbers.

By now, you've probably figured out that I would wire the "system" so that pressing an "A" would light up the bulbs which would represent the letter "A," and so forth. Fortunately, I never bought the plywood, the hundred sockets, the 36 buttons, and the several hundred miles of wire represented by my pencil lines. I was at least smart enough to try to draw the wiring diagram before actually buying, cutting, and connecting the wire.

Never in my life have I felt so stupid. I kept getting larger and larger sheets of paper until I had my father bring me home some four-foot-wide end rolls of newsprint, which weren't big enough either. I'll award a Brass Figlagee with oak leaf palm to anyone who can draw such a circuit. I'll also throw in a nice book on the joys of ham radio for the first five who make a serious effort. The results might even make an interesting article. Excelsior! ■

Scan Our Web Site

Want to SEE who is watching you?

The AR-STV handheld receiver captures hidden video signals!

Now, with the AR-STV handheld wireless camera receiver from AOR, you can see who is watching you on wireless video surveillance cameras. It's a valuable addition to any security operation. This easy to operate receiver features a large 2.5 inch color LCD display, still picture recorder and sensor that captures video signals in real-time. The USB connector makes it easy to download stored images into a computer. And the AR-STV comes complete with an internal clock that allows captured images to be time-stamped. With an optional 4 GB SD memory card, the AR-STV can be used to store up to nearly 2000 images.

Add to the power of your security force with this pocket-sized video receiver from AOR!

- Receives and displays analog video signals on L-band (1.2 GHz) or S-band (2.4 GHz)
- 2.5 inch color LCD display
- Still picture recorder
- Can be set for continuous search between 900 ~ 2800 MHz
- Detects NTSC or PAL analog video signals in real-time
- Built-in clock allows captured images to be time-stamped
- USB connector makes it easy to download stored images into a computer
- Easy to operate
- Powered by four AA size batteries or external DC power
- NiMH batteries, belt clip and battery charger included
- Rubber duck antenna with SMA connector
- Optional 4 GB SD memory card can store nearly 2000 images

Available from your favorite AOR dealer!

AOR®
Authority on Radio Communications

AOR U.S.A., Inc.
20655 S. Western Ave., Suite 112, Torrance, CA 90501, USA
Tel: 310-787-8615 Fax: 310-787-8619
info@aorusa.com • www.aorusa.com

Specifications are subject to change without notice or obligation.

Bringing the world to your desktop.

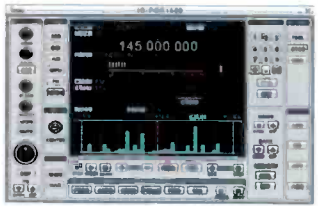
Your car dash. Kitchen table. Flybridge.

Rec room. Office cubicle. Hotel room.

Vacation home. Ham shack. Cockpit.

IC-PCR1500

- 0.01 ~ 3299.99 MHz*
- AM, FM, WFM, CW, SSB
- Record and Save Audio as .WAV File
- USB Cable Connection
- Optional DSP



IC-PCR2500

- 0.01 ~ 3299.99 MHz* (Main) 50 to 1300 MHz* (Sub)
- AM, FM, WFM, CW, SSB
- Optional APCO 25 and D-STAR
- Dual Wideband Receivers
- Dual Watch PC window

Icom black box receivers

It all starts with a little black box. Plug it in to your PC or opt for one of the remote head versions. Whichever way you go, go with Icom wide-band!

IC-R1500

- 0.01 ~ 3299.99 MHz*
- AM, FM, WFM, CW, SSB
- Single Receiver
- Mobile or PC Controlled

IC-R2500

- 0.01 ~ 3299.99 MHz* (Main) 50 to 1300 MHz* (Sub)
- AM, FM, WFM, CW, SSB
- Dual Wideband Receiver
- Mobile or PC Controlled
- Optional APCO 25 and D-STAR
- Dual Receiver Diversity

Bonito

Now bundled with RadioCom 4.5

Icom's black box radios now come bundled with Bonito's RadioCom 4.5. With Radio-Control, Equalizer-Filter-Analyzer, AudioRecorder, RTTY-, CW-, WFAX-, SatFax, SSTV-, PSK- and Time Signal Decoding, Frequency- and Schedule-Manager, as well as SatTracking...(whew), you have EVERYTHING in one program.

THE WORLD IN YOUR HAND:

IC-R20
ADVANCED OPS
0.150 – 3304.0 MHz*

IC-R5
SHIRT-POCKET COMPACT
0.5 – 1300.0 MHz*

Visit your Icom dealer today!
Free literature: 425.450.6088
www.icomamerica.com

ICOM

*Frequency specs may vary. Refer to owner's manual for exact frequency specs.

©2009 Icom America Inc. The Icom logo is a registered trademark of Icom Inc. All specifications are subject to change without notice or obligation. 30136