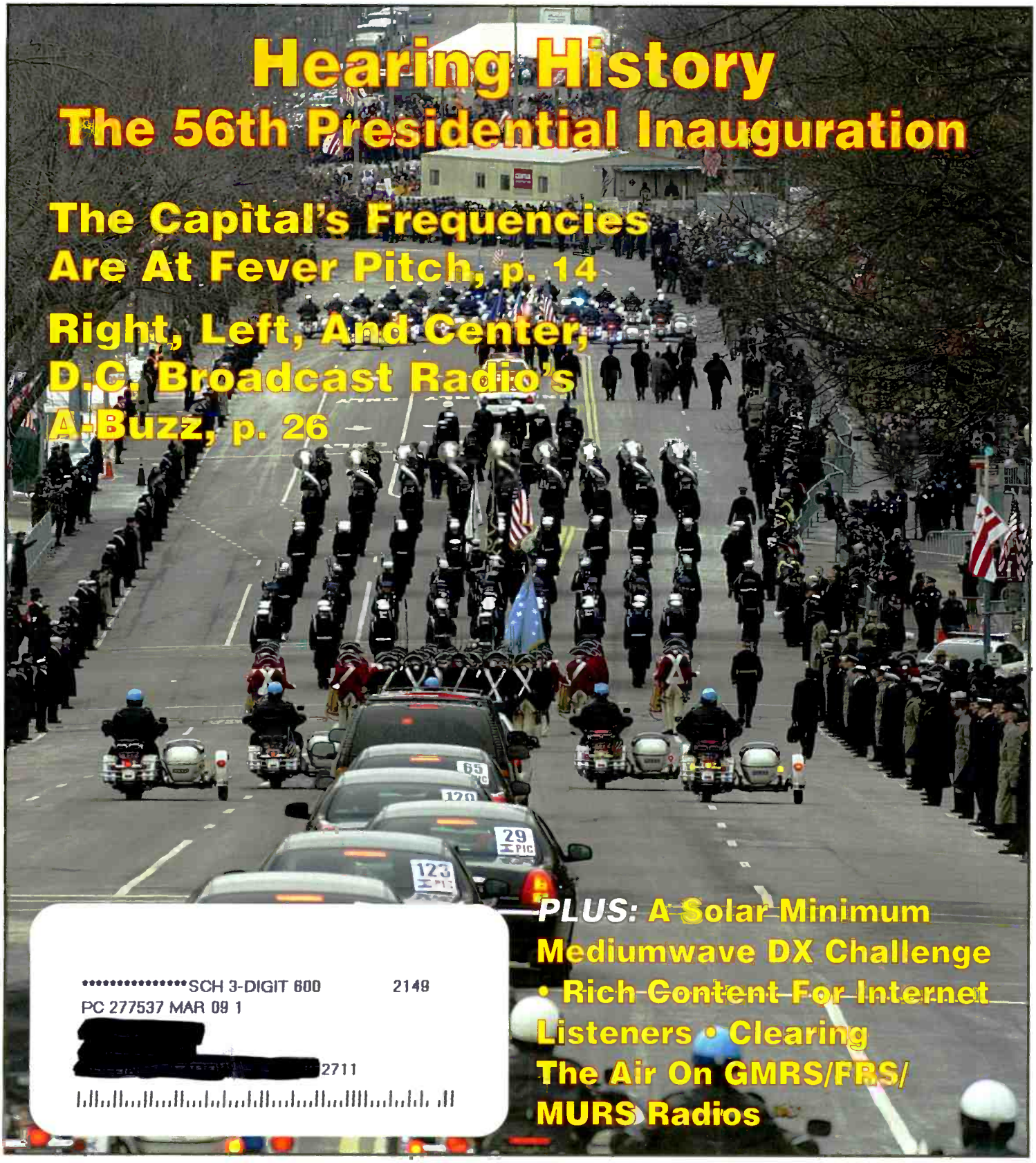
45635

POPULAR COMMUNICATIONS

JANUARY 2009

Shortwave Listening • Scanning • AM & FM • Radio History



Hearing History

The 56th Presidential Inauguration

The Capital's Frequencies Are At Fever Pitch, p. 14

Right, Left, And Center, D.C. Broadcast Radio's A-Buzz, p. 26

PLUS: A Solar Minimum Mediumwave DX Challenge • Rich Content For Internet Listeners • Clearing The Air On GMRS/FRS/ MURS Radios

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
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- DIGITAL SIGNAL PROCESSING / BANDPASS FILTER, NOISE REDUCTION, NOTCH FILTER, NARROW CW PEAK FILTER (Optional DSP-1 requires)
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- 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

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.

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etón E1 & E1 XM

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*).

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6830 Americana Pkwy.
Reynoldsburg, Ohio
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- Returns subject to a 15% restocking fee.
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POPULAR COMMUNICATIONS

JANUARY 2009

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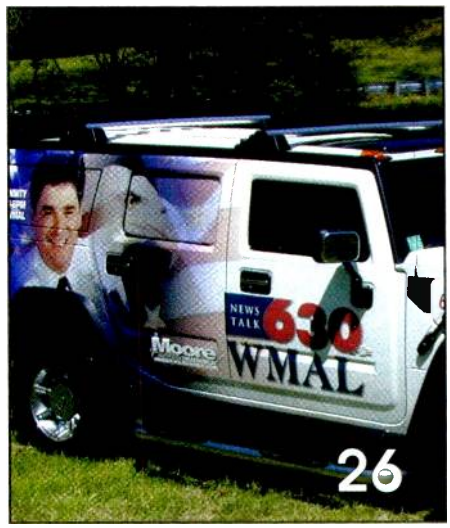
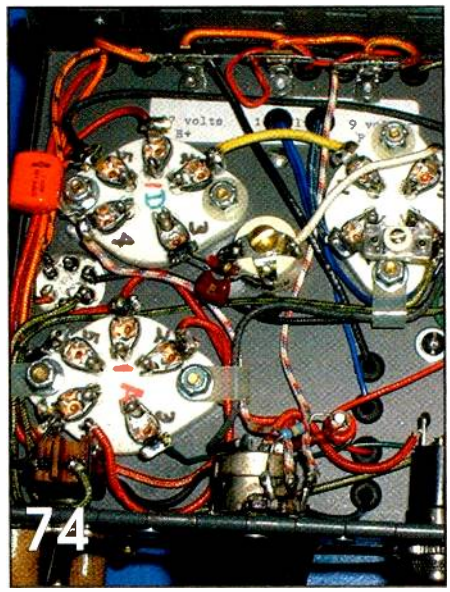




FEATURES

FEATURED COLUMNS

ON THE COVER

Participants in the 55th Presidential Inaugural Parade make their way down Pennsylvania Avenue as thousands of spectators watch. More than 5,000 men and women in uniform provide military ceremonial support to the Presidential Inauguration, a tradition dating back to George Washington's 1789 Inauguration. Find out where and how to listen in on the historic 56th Presidential Inauguration in this issue's feature articles by Alan Henney and Bill Price. (U.S. Navy photo by Journalist 2nd Class Mark O'Donald)

COLUMNS

DEPARTMENTS

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. 3⅛x1¼x4 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 prescletor 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.

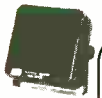
MFJ-956 **$69.95**

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

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Tech Help: (662) 323-0549
FAX:(662)323-6551 8-4:30 CST, Mon.-Fri. ***Add shipping***

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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

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EDITORIAL
Tuning In

One For The Ages

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

It's November 5, 2008, as I write this, the morning after a truly historic election in the United States. I'd written the main words for the cover—"Hearing History"—a couple of days ago, however, because there was no way this election would *not* be historic. No matter how the country chose, "isms" were going to fall, whether racism, ageism, sexism. It was going to be momentous either way, but with the country's selection of Senator Barack Obama as the first African-American president, it became one for the ages. We are unquestionably bearing witness to extremely exciting, if difficult, times. Whatever your political stripe, whomever you voted for (or didn't), you've got to admit, the news just got a lot more interesting.

It seems that so many of the people I meet with an incurable "radio habit" are also political junkies—I'm sure it's just a generalized craving for information—so I'm betting that, like me, many of you are in for one long and serious bender as we watch and listen to history unfold before our eyes and ears.

Last night I remained glued to television's visuals for the evening's election returns and "expert analysis." Today, I broadened my quest for info by taking to the radio waves (with a little help from the Internet). It's been a blast listening to the cacophony of rejoicings, tirades, opinions, and predictions as I tune between the liberal voices on Air America and the syndicated shows of conservatives Rush Limbaugh, Sean Hannity, and others. But the most interesting, to me, have been the reactions coming back from the far corners of the globe. And it's been inspiring knowing that it was radio, by way of the VOA, BBC, and others, that brought our news to the farthest reaches, to places like rural Kenya, the country of Obama's father, and to Vietnam, where John McCain languished for so long as a POW. It seems the whole world devoured the developments of the campaigns and their culmination with an awareness of great import. It's been said that when the United States has an election, the world has an election. The passionate responses appear to bear that out.

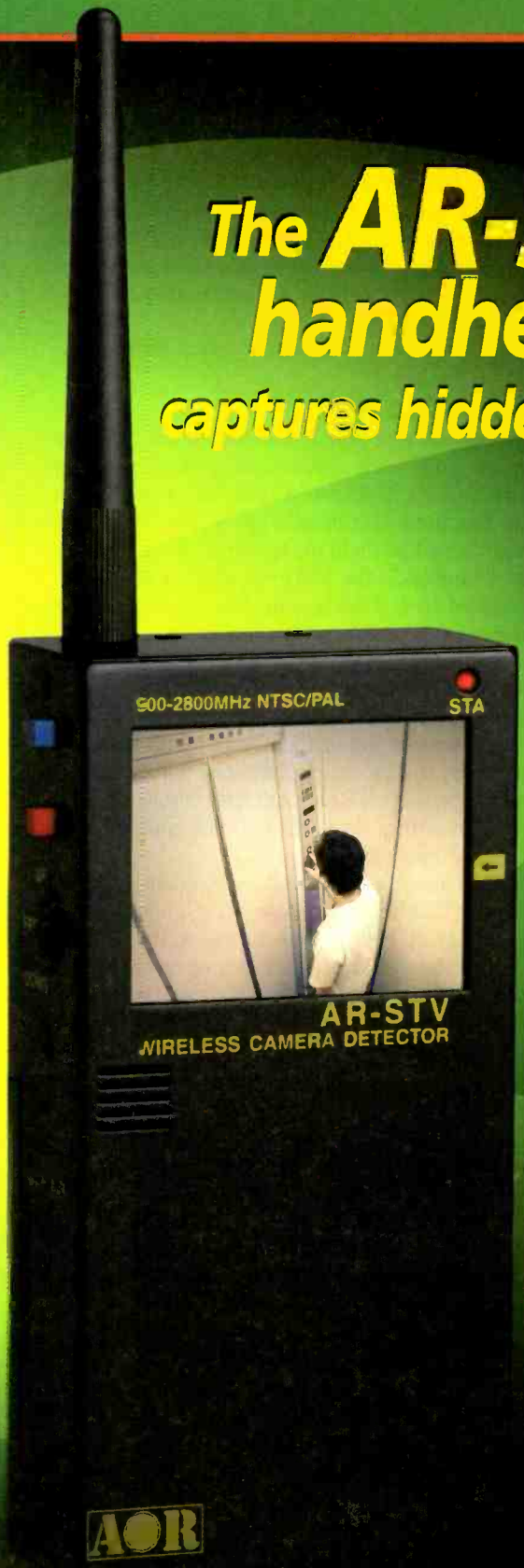
"It's been said that when the United States has an election, the world has an election. The passionate responses appear to bear that out."

So, with an awareness of great import, this issue celebrates this amazing time in our national journey with in-depth coverage of, well, *the coverage* that will surround the passing of the mantle of governance on January 20, 2009, from President George W. Bush to President Barack Obama. Our cover story "Scanning The 56th Presidential Inauguration," by Alan Henney, provides an exhaustive "starting point" for scanning the communications hullabaloo should you be lucky enough to be in the D.C. area for the festivities. If you're too far afield from the scanning frequencies to take it all in that way, don't despair: Bill Price walks you through what awaits you on the broadcast bands in "Listening To The Nation's Capital."

The Oath of Office that will be sworn on the steps of the Capitol this month will be a moment not only in political history, but in broadcast history as well, taking its rightful place in the record of watershed events. So scan it, tune it, stream it, do whatever it takes to absorb it. This is a moment of a lifetime, and it will not come again.

And, from all of us at *Pop'Comm*, a very Happy New Year to you and yours.

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

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The Weirder Side Of Wireless

by Staff

Thou Shalt Not E-Steal

In a country known for marijuana cafes, the judgment seems a little harsh. A Dutch court convicted two youths of theft for stealing virtual items in a computer game and sentenced them to community service, according to an Associated Press report. The Leeuwarden District Court said the culprits, ages 15 and 14, had coerced a 13-year-old boy into transferring a "virtual amulet and a virtual mask" from the online adventure game RuneScape to their game accounts, the report continued. "These virtual goods are goods (under Dutch law), so this is theft," the court said. Identities of the minors were not released. The 15-year-old was sentenced to 200 hours of service, and the 14-year-old to 160 hours. There have been a few other such cases around the world, but varying conclusions have been reached as to the legal status of "virtual goods."

On the other side of the globe, a 43-year-old Japanese woman, apparently infuriated by her "divorce" in a virtual game world, killed her online husband's digital persona. She was arrested on suspicion of hacking. Specifically, it's claimed that she illegally accessed a computer, manipulated electronic data, used his identification and password to log onto a popular interactive game, and carry out the "virtual murder." If convicted she could face up to five years in prison or a fine of up to $5,000.

Tokyo police also arrested a 16-year-old boy on charges of stealing virtual currency worth $360,000 in an interactive role playing game by manipulating another player's portfolio using a stolen ID and password.

Radio Eavesdroppers Hear You Type

Two Swiss security researchers from the Security and Cryptography Laboratory at the Ecole Polytechnique Federale De Lausanne have published a video demonstrating how electronic emanations from wired computer keyboards can be deciphered to reveal the user's keystrokes, according to an article in *InformationWeek*. In the video, one of the researchers uses a laptop connected to a PS/2 keyboard to type the words, "Trust No One," a phrase familiar to fans of television's *The X-Files*. The video shows how a program that receives data from an eavesdropping antenna converts the data back into the typed words.

The researches, Martin Vuagnoux and Sylvain Pasini, said they found four different ways "to fully or partially recover keystrokes from wired keyboards at a distance up to 20 meters, even through walls." They tested 11 different wired keyboards and found that they were all vulnerable to at least one of the four attack methods. Their findings seem to indicate that any device that emits radio frequency waves may be vulnerable to a sophisticated eavesdropper. They concluded that wired keyboards are not safe to transmit sensitive information.

Let's not even talk about wireless technology.

Dressed To Call

You won't be able to use the excuse that you forgot your cell phone if you're wearing CuteCircuit's M-Dress, a little silk number that also functions as a mobile phone. Such fetching combos are known in the techno-fashion industry as "wearables." The M-Dress works with a standard SIM card, and when the dress rings, you raise your hand to your head to answer the call.

According to CuteCircuit's website, "The most used communication tool today is the mobile phone, we believe that the wearable technology and the telecommunication market will merge in a not very distant future. Many of our wearables are compatible via Bluetooth with mobile phones, this allows for a faster deployment and adoption of this technology."

CuteCircuit's not alone. Jane McCann, Director of Smart Clothes and Wearable Technology at the University of Wales, predicts that in the next 10 years clothes will have all kinds of in-built functionality. "A garment might have devices on it to help you find your way somewhere, or to tell you how fit you are. It could tell you where someone is to help you meet them, or tell you what's on at a museum or club," she recently told CNN.

Putin's Pooch Continues A Canine Tradition

Russian Prime Minister Vladimir Putin can let his beloved dog, Koni, run far ahead of the pack without fear of losing him. His black Labrador now sports a collar containing satellite-guided positioning equipment. The technology is familiar to radio hobbyists as the Global Positioning System, but Russia wants its own system and is determined to upgrade a Soviet-era satellite navigation program. The navigation system, known as GLONASS, was supposed to be fully operational by the beginning of last year, but was delayed by equipment flaws and other technical problems.

The Russians have a history of using man's best friend in the vanguard of space science. In 1957, the Soviet Union launched a female terrier mix named Laika into orbit. Koni's chances of making it home are considerably better. ■

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[1]Note that certain frequencies are unavailable. [2]5W output

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ADS#39008

News, Trends, And Short Takes

by D. Prabakaran

WorldSpace Files For Bankruptcy Protection

WorldSpace, Inc., along with its U.S. subsidiaries WorldSpace Systems Corporation and AfriSpace, Inc., have filed voluntary petitions for reorganization under Chapter 11 of the United States Bankruptcy Code in the United States Bankruptcy Court in Delaware. WorldSpace will continue to operate its business and manage its assets as a "debtor-in-possession" under the jurisdiction of the court and in accordance with the applicable provisions of the Bankruptcy Code and the orders of the court. The holders of the company's existing senior secured and convertible notes have agreed to provide, subject to the satisfaction of certain conditions, a "debtor-in-possession" financing facility of up to $13 million for a period of 90 days to facilitate a sale transaction. The financing is expected to enable the company to continue to pay salaries of critical employees and continue operations, which are critical to preserving the value of its core assets through the term of the facility. (Source: WorldSpace)

Russian Opposition Leaders Ask U.S. Not To Cut Russian-Language Broadcasts

Three leading figures of the Russian opposition called on Washington to reverse its decision to reduce Radio Liberty's Russian-language broadcasts this year. They said that Russian citizens, at a time when Moscow has established "practically complete control" over domestic radio and television, would lose a vital source of "objective information." In a letter to the U.S. State Department, the foreign affairs committees, and the Helsinki Commission of the Congress, and presidential candidates John McCain and Barak Obama, the three—Vladimir Bukovsky, Vladimir Kara-Murza and Boris Nemtsov—said that reducing such broadcasts from abroad would make their struggle for freedom that much more difficult.

The Voice of America ended Russian-language radio broadcasting last summer as part of a general cost-cutting effort and because the affiliates in Russia on which its programming was broadcast increasingly refused, under pressure from the Russian government, to carry VOA programs. (Source: GeorgianDaily.com)

Archives: BBC Planned Reassuring Message For Nuclear War

The BBC planned to transmit reassuring messages in the event of a nuclear war, telling people to "stay calm," remain indoors, and conserve food and water, newly released archives show. The authoritative voice of the broadcaster's Wartime Broadcasting Service would have transmitted a list of advice every two hours in the event of a nuclear attack by the Soviet Union during the Cold War.

"This country has been attacked with nuclear weapons. Communications have been severely disrupted, and the number of casualties and the extent of the damage are not yet known," the message stated. "Remember, there is nothing to be gained by trying to get away. By leaving your homes you could be exposing yourselves to greater danger...Radioactive fall-out, which followed a nuclear explosion, is many times more dangerous if you are directly exposed to it in the open," it continued. "Stay tuned to this wavelength, stay calm and stay in your own homes.

The transcript was part of files declassified by the National Archives, which releases official documents after 30 years. The archive files included recommendations that the BBC broadcast live updates, to show that the BBC had not been "obliterated," and discussions over who should read the announcements to give them a more authoritative tone. (Source: AFP)

Illegal Radio Stations Mushrooming In Taiwan Despite Clampdown

Taiwan's National Communication Commission (NCC) has recently stepped up its clampdown on unlicensed radio stations around the country. Chen Chuan-ping, director of the NCC Northern Regional Regulatory Department, said that the crackdown resulted in halving the number of illegal radio stations in Taiwan to around 50. According to NCC statistics, the government has cracked down on 330 underground radio stations over the past two years, but some have set up again in other locations, so the number has remained at around 100.

Under the Telecommunications Act, persons found operating unlicensed radio stations that cause interference may be subject to fines of up to NT$600,000 (US$18,400) and imprisonment of up to two years. Chen said that increased raids on such stations are only part of efforts to root out underground radio broadcasting, and that the measures include assisting illegal operators to become legal. In order to address this problem, the NCC has decided to open a new bandwidth to accommodate more than 40 private stations. (Source: Taiwan News) ■

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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 hydride 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.

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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.

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Capitol Hill And FCC Actions Affecting Communications

by Richard Fisher, KI6SN

Legislation Introduced To Require Bundling Of Satellite-HD Radio

The chairman of the U.S. House Subcommittee on Telecommunications and the Internet has introduced legislation that would force satellite radio manufacturers to include HD receivers, according to the online edition of *Radio* magazine.

U.S. Rep. Ed Markey (D-MA) and a bipartisan group from the Energy and Commerce Committee cosponsored HR 7157, the "Radio All Digital Channel Receiver Act." The group included Representatives Lee Terry (R-NE), Charlie Gonzalez (D-TX), Greg Walden (R-OR), Joe Wilson (R-SC), and Dan Burton (R-IN). Also listed as co-sponsors are Barbara Lee (D-CA), and Mark Souder (R-IN).

"The legislation requires that 'apparatus shipped in interstate commerce or manufactured in the United States that is designed to receive signals broadcast in both the satellite digital audio radio service and the terrestrial AM or FM radio broadcast service be equipped with technology that is capable of receiving and playing digital radio signals as transmitted by terrestrial AM or FM stations,'" the report said. The National Association of Broadcasters supported the legislation.

"But with time running out for the 110th Congress," *Radio* said, "and with representatives preoccupied with an unprecedented fiscal crisis...the fate of HR 7157 is far from certain."

Pennsylvania Adopts Law Accommodating Antenna Height

A bill requiring Pennsylvania municipalities to "reasonably accommodate amateur radio service communications, and to impose only the minimum regulations necessary to accomplish the legitimate purpose of the municipality" has been signed into state law.

In late 2008, Gov. Edward G. Rendell (D) signed the legislation that assures radio amateurs the right to erect antenna support structures up to 65 feet without a Special Use Permit, according to an American Radio Relay League report. The bill passed in the state House by a vote of 196-1; it passed in the Senate with a by of 49-1.

The law also stipulates that "no ordinance, regulation, plan or any other action shall restrict amateur radio antenna height to less than 65 feet above ground level, but a municipality may impose necessary regulations to ensure the safety of amateur radio antenna structures, but must reasonably accommodate amateur service communications," the ARRL said.

"Senate Bill 884 (now Act 88), an Act amending Title 53 (Municipalities Generally) of the Pennsylvania Consolidated Statutes, Restricting Municipalities from Regulating Amateur Radio Service Communications," the ARRL wrote, "was first introduced on June 1, 2007, by Pennsylvania Sen. Stewart J. Greenleaf (R) who represents portions of Bucks and Montgomery Counties."

Key Issues Identified For WRC-11 By Radio Amateurs

The American Radio Relay League, representing radio amateurs across the United States, has identified several priorities in its participation in the World Radio Conference in 2011. Key WRC-11 issues include:

- A possible frequency allocation near 500 kHz, providing "amateurs' first access to the lower part of the medium frequency (MF) band." ARRL CEO David Sumner, K1ZZ, said a "'600 meter' band offers exciting possibilities for reliable ground wave communication through the application of digital signal processing techniques to a portion of the spectrum that is as old as radio itself."
- Opposition to initiatives to allocate spectrum between 3 and 50 MHz for oceanographic radar applications.
- Support for better protection against interference from short-range radio devices.
- Study of regulatory measures for software-defined radio and cognitive radio systems, "which offer both opportunities and threats to existing radio services."

The League will also consider agenda items for the next WRC, expected to take place in 2015. ■

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- **Power options keep you in control**
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After The Digital TV Transition

by Rob de Santos
commhorizons@gmail.com

The U.S. transition to digital TV is nearly upon us. While everyone else is looking at the immediate situation, right now we're going to look at what comes after. There are many new technologies and questions surrounding the future of television, so let's examine some of them.

Low-power TV stations. Perhaps one of the first questions is still up for discussion at the FCC: How to deal with the low-power TV stations? Many LPTV stations are "shoe string" operations run by staffs of mostly volunteers. Expensive new digital studios seem way beyond financial means for them. Most of us don't spend much time watching an LPTV station even if one is available to us. Why? Few are carried by local cable and satellite services even now. If we believe they are worth saving, then fixes of both a political and technological nature will be needed. For the latter, it should be possible to find an approach using low-cost computer hardware and cheaper transmitter technology, provided there's a will to do so, the FCC is flexible on the requirements, and the broadcast industry doesn't put up too many roadblocks.

Higher resolutions. Already, "super-HD" is on the technological horizon and appearing in very high-end DVD players. In the near term this may well just be 1080p or other incremental increases that stay within the limits of current TV manufacturing capabilities. It seems unlikely that the public will be willing to go out and replace those new digital TVs anytime in the near future, no matter how the economy goes.

The big leaps in consumer goods only come along decades apart when the implementation costs are high (I'm still waiting for the car that will do the driving and save me the hassle!). However, if TVs have certain built-in capability and are firmware-upgradable, then change might come along less gradually. Organic light-emitting diodes (OLED) are among the newest trends in TV manufacturing and along with quadruple HD (3840 x 2160 pixels) should start appearing in stores in 2010. Broadcasters will upgrade more slowly, so for now QHD will be limited to DVDs as a source. Another emerging technology is "laser TV," which promises more accurate color reproduction at lower power levels. At present it's too expensive for all but the highest end customers.

3-D television. Certainly 3-D has come a long way since my youth and the films of the 1960s, but as a home viewing tool it still isn't "a natural" for most of us, nor is it built into televisions. The virtual reality worlds familiar to computer users, however, should make the upcoming generation of TV viewers more comfortable with this environment and create demand. So you can expect to see more 3-D and virtual reality television in the coming years.

"The virtual reality worlds familiar to computer users, however, should make the upcoming generation of TV viewers more comfortable with this environment and create demand. So you can expect to see more 3-D and virtual reality television in the coming years."

Holographic television. Also in the virtual reality realm is holography. Getting beyond the symbols on your credit card and some consumer packaging has been a slow process, and this technology lags behind. The necessary computer processing power and transmitter power is just now approaching feasibility and should be accelerated by the digital transition. However, it's likely to still be many years before holographic television is familiar to the typical TV viewer. A recent Japanese government research report suggested it would be ready for market in 2020.

TV on the go. It may be way past obvious to some, but TVs will continue to both grow in size *and* to shrink. Mobile TVs represent a trend that won't end soon, but what size is just right? We already have TV on mobile phones and PDAs, and there's little reason to think we've seen the smallest screens or widest implementation yet. Will small TVs become commonplace in cars and public transport?

A related issue concerns the developments we may see for emergency use. Your "portable" TV today is probably analog-only. Most converter boxes do not provide battery backup. Electronics manufacturers and broadcasters are discussing this issue but no agreement on a standard for energy-efficient mobile TVs (compatible with digital television) has yet been reached.

Computers as televisions and televisions as computers. The integration of computer technology into every electronic device in our lives is pretty much guaranteed. It will be interesting to see which integrated devices prove to have staying power. Computers have given us digital video recorders (DVRs), and if you've got a DVR or TiVo you *know* how much it can change viewing habits! Will iPhones and YouTube be the way we view much of our TV in the future? A recent *New York Times* article reported estimates that 20 percent or more of video is now viewed via the Internet on computers and mobile devices.

Finally, a word for what this means to the TV DXer. The times they are a-changin' and the days of analog *E*-skip seem numbered. But when one door closes, another opens and that's the case here. Scanning moved right along with digital technology as it became commonplace with first responders. Just how far away can you decode a digital TV signal? What skip characteristics are needed for distance viewing to be possible? If you've done any DTV DXing already, I'd like to hear your experiences for a future column.

Let me know what *you* think about the future of television. See you next month. ■

We are delighted to announce the publication of the 2009 edition of *World Radio TV Handbook*, the bestselling directory of global broadcasting on LW, MW, SW & FM

The Features section includes a stimulating introduction to the art of FM DXing, reviews of the latest equipment, and a fascinating account of five All India Radio stations.

The remaining pages are, as usual, full of information on:

- National and International broadcasts and broadcasters by country with frequencies, powers, languages, station addresses, email, web, phone and fax, leading personnel, QSL policy, and more
- Clandestine and other target broadcasters
- MW frequency listings by region
- International and domestic SW frequency listings, as well as DRM listings
- International SW broadcasts in English, French, German, Portuguese & Spanish, listed by UTC
- Equipment reviews, *Digital Update* and maps showing the latest information on SW transmitter locations
- A further revision of TV by country
- Reference section with Transmitter Site Location Table, STF Transmissions, DX clubs, Internet Resources, and much more

Available December 2008

SOME COMMENTS ON WRTH 2008

WRTH 2008 continues to set radio hobby standards. It remains the most respected and authoritative radio reference book in the world, and should be in every hobbyist listening post. The dedicated staff at WRTH have once again provided the radio listener with the ultimate guide – *Gayle Van Horn W4GVH, Monitoring Times*

The 2008 edition, the 62nd, is once again the best and most comprehensive ever . . . we highly recommend it – *Radio Netherlands Media Network*

Authoritative information for everyone involved in international broadcasting – *Communications Africa*

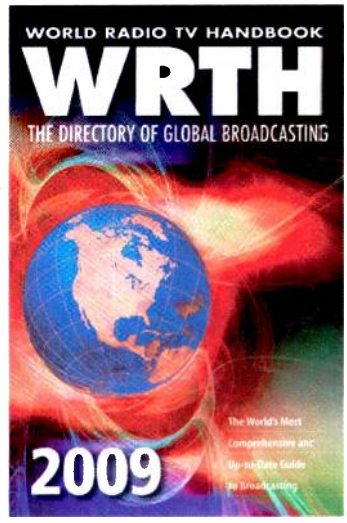
WRTH 2008 remains the best and most comprehensive shortwave guide. No other guide is as detailed. A must for every listener's and amateur's shack – *Hannes Grünsteidl*, Austria

I am very impressed with the *WRTH* these days and the updates are absolutely outstanding – *Hans Johnson, Cumbre DX*

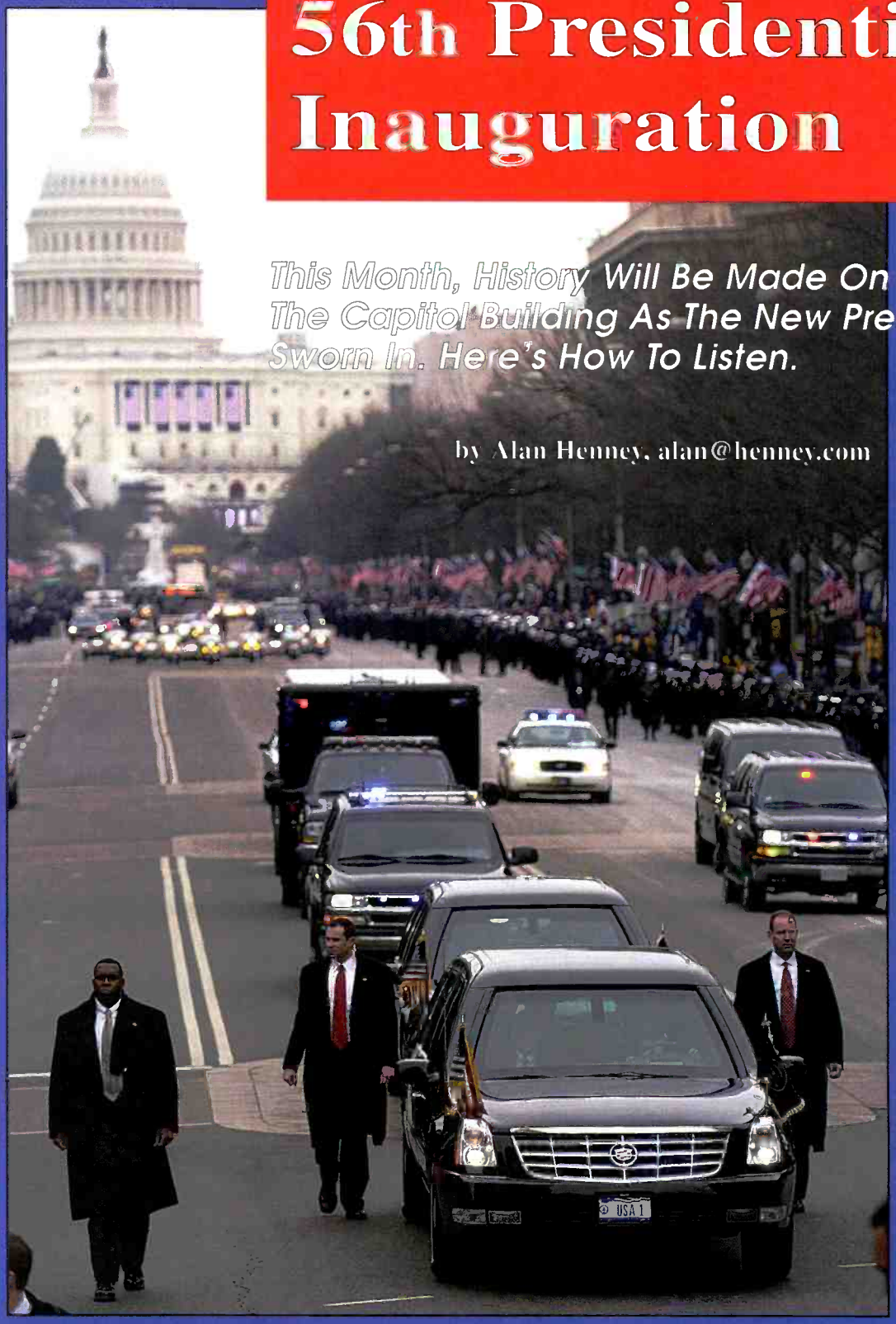
I find *WRTH* to be my radio reference of choice – *Bentley Chan*, Hong Kong

I have never seen such a wonderful informative book, it's like a bible for DXers – *Imran Mehr, Unique Radio Listeners' Club*, Pakistan

I congratulate you on producing such an excellent reference book – *P M Youds*, UK



Scanning The 56th Presidential Inauguration



This Month, History Will Be Made On The Steps Of The Capitol Building As The New President Is Sworn In. Here's How To Listen.

by Alan Henney, alan@henney.com

> *"Much of the Secret Service traffic is encrypted, although we had reports that the advance teams during this past campaign cycle often communicated in the clear."*

Flanked by Secret Service agents, U.S. President George W. Bush and First Lady, Laura Bush, travel the inaugural parade route inside an armored limousine headed toward the White House after renewing the Oath of Office earlier in the day at the Capitol with thousands of spectators in attendance. (Public domain photo)

America's new President will take the Oath of Office on January 20, 2009. For the country as a whole, it's a unique federal holiday that observes the peaceful transfer of government. But for scanner listeners, the inauguration offers exciting monitoring opportunities unlike any other occasion.

If you are in the Washington, D.C. area, or plan to visit it for this historic occasion, this guide is a good starting point for your monitoring activities. Please share your findings with the rest of us on the Scan-DC email list (see www.qth.net). Even if you can't witness history in person on that day, much of what follows will still be useful for when you do visit our nation's capital.

Power Players

When it comes to the inauguration, there are three main players involved.

The first is the Presidential Inaugural Committee (PIC), which relies on private donations and is directly responsible to the elected president. It's formed after each general election. PIC organizes, plans, and executes most inaugural celebration activities. The PIC is responsible for selecting participants in the parade and other official events, assigning credentials to media covering the inauguration and surrounding festivities, and answering questions about inaugural events.

For communications in the past, PIC has used a 900 MHz business trunked system, various UHF business band repeater and simplex channels, cellular and text pagers.

The second is the Joint Congressional Committee on Inaugural Ceremonies (JCCIC), which plans and executes all inaugural activities at the U.S. Capitol, including the inaugural swearing-in ceremony of the president and vice president and the traditional inaugural luncheon that follows. (See http://inaugural.senate.gov/.)

The third player is the Joint Task Force-Armed Forces Inaugural Committee (JTF-AFIC), which is charged with coordinating all military ceremonial participation and support for the presidential inauguration. Military participation traditionally includes musical units, marching bands, color guards, firing details and salute batteries. JTF-AFIC also provides a limited amount of approved logistical support.

JTF-AFIC is affiliated with the Military District of Washington (MDW) and its communications systems, which are explained in the military section. (See www.jfhqncr.northcom.mil/afic/.)

Federal Agencies

U.S. Capitol Police

Capitol Police channel usage varies from day to day. The department tends to use the first three channels for routine dispatching, and its last two for specialized units, command staff, and protection details. Specialized USCPD officers have additional simplex channels beyond 10, which often use the input or output frequencies of channels 3, 4, or 5 but with a different CTCSS or DCS (try the inputs of 164.6, 164.625, and 164.8).

Alan Henney is the editor of the "Capitol Hill Monitors" newsletter and co-author of the *Washington-Baltimore Scanner Almanac*. Electronic newsletters are free, see http://henney.com/chm.

Scanner Frequency Abbreviations

p - paging	r - repeater
t - trunked	d - duplex
s - simplex	

While traveling, USCPD officers have used the common-agency channels of 163.1 and 168.35, either simplex or repeated. The department continues to use analog radios.

U.S. Capitol PD Channels

169.2250	r/s	[156.7]	CH1/6
165.5375	r/s	[118.8]	CH2/7
170.1750	r/s	[107.2]	CH3/8
162.2500	r/s	[146.2]	CH4/9
162.6125	r/s	[127.3]	CH5/10

Other U.S. Capitol Hill Radio Users

167.8875	p	[None]	House Republican Pager
168.3125	p	[None]	House Democrat Pager
173.6375	r	[Astro]	Supreme Court Security
406.3875	r	[d723]	Capitol Tours
408.1250	r	[136.5]	Library of Congress Security
409.5125	r	[d073]	Govt Printing Office Security
416.1500	p	[None]	Capitol Emerg Alerting Sys

National Park Service - U.S. Park Police

166.7250	r/s	[127.3]	CH1/6 Secondary
166.9250	r/s	[127.3]	CH2/7 Dispatch
167.0750	r/s	[127.3]	CH3/8 Administrative
166.8500	s	[127.3]	CH4 Tactical

Federal Protective Service

415.2000	r/s	[131.8/Astro]	CH1/2
411.2750	r/s	[131.8/Astro]	CH3/4
414.4750	r/s	[131.8/Astro]	CH5/6

NTIA Passport Trunked System

Most of the Smithsonian museums have transitioned to a Passport radio system in downtown Washington. Passport, a variant of LTR trunking, is not "trackable" using scanners, but it is analog and can be monitored on a scanner.

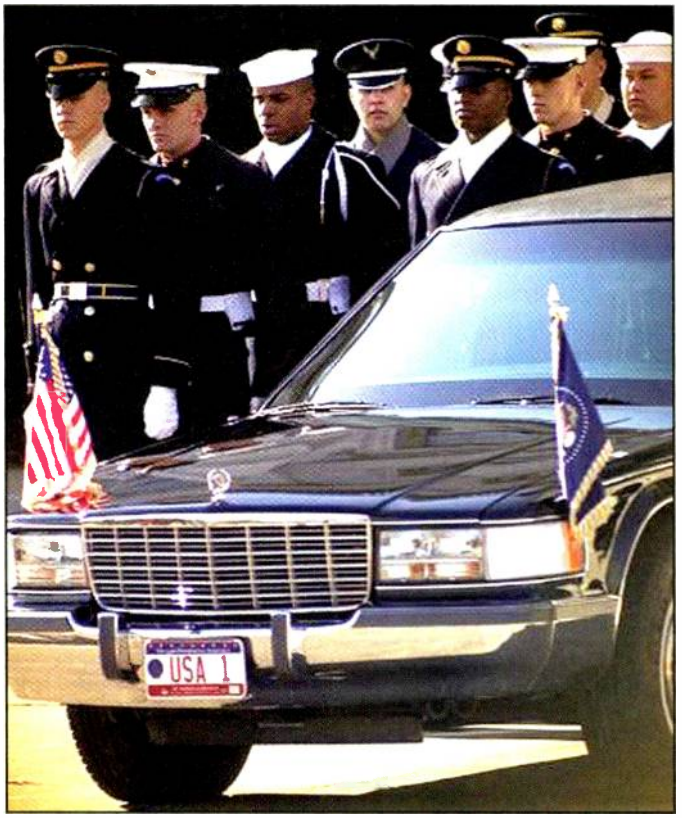
407.0750	t	Voice
407.3750	t	Voice
408.5500	t	Voice
408.8750	t	Voice
410.3125	t	Voice

Health & Human Services Department

HHS operates, funds, and/or oversees several medical teams that will be available during inaugural events. The Disaster Medical Assistance Teams (DMAT) provide medical care during a disaster or other event.

The National Disaster Medical System (NDMS) assists local agencies with the medical impacts of major peacetime disasters and provides support to the military and the Department of Veterans Affairs for casualties brought back to the United States.

The National Medical Response Team (NMRT) provides medical and decontamination services and/or assists agencies in hazardous materials environments. The D.C. NMRT group uses



A military honor guard escorts the presidential limo along the parade route. (DoD photo)

talkgroups on both the old and new Arlington County trunked system.

407.1250	r	[Astro/100.0]	DMAT
409.0000	r	[Astro/100.0]	DMAT
406.8625	s/r	[Astro/141.3]	NDMS 1/2
407.2625	s/r	[Astro/141.3]	NDMS 3/4
407.4625	s/r	[Astro/141.3]	NDMS 5/6
409.0750	s/r	[Astro/141.3]	NDMS 7/8
412.8375	s	[Astro/141.3]	NDMS 9
412.8625	s	[Astro/141.3]	NDMS 10
412.8750	s	[Astro/141.3]	NDMS 11
412.9000	s	[Astro/141.3]	NDMS 12
412.8875	s	[Astro/141.3]	NDMS 13
409.4625	s	[Astro/141.3]	NDMS 14
34096	t	(hex 853)	NMRT-A (Arl. A1H-old trunk)
35344	t	(hex 8A1)	NMRT-B (Arl. A1I-old trunk)
35376	t	(hex 8A3)	NMRT Cmd (Arl. A1J-old trunk)
00045	t	(hex 02D)	NMRT-A (Arl. A1H-new trunk)
00046	t	(hex 02E)	NMRT-B (Arl. A1I-new trunk)
00047	t	(hex 02F)	NMRT Cmd (Arl. A1J-new trunk)

Federal Emergency Management Agency

FEMA, much like HHS, sponsors several teams that will likely stage during the inauguration. FEMA has a standard set of channels for use nationwide, and others specifically intended for the National Capital Region.

Mobile Emergency Resource Support (MERS) teams provide electronic communications support to local public safety agencies.

FEMA will probably place the Fairfax and/or Montgomery US&R teams on "alert status" during the inauguration. They specialize in rescuing persons trapped in confined spaces. Both teams will likely have their county and perhaps their FEMA radios available for use.

406.4500	s/r	[Astro]	NCR 1-4 DC Main
409.8625	s/r	[Astro]	NCR 5-6 DC Alternate
412.8875	s	[Astro]	NCR 7
412.9125	s	[Astro]	NCR 8
410.8625	s/r	[Astro]	NCR 9/10
407.4500	s/r	[Astro]	NCR 11/12
408.0625	s/r	[Astro]	NCR 13/14
409.4625	s	[Astro]	NCR 15
418.4625	s	[141.3]	NCR Common
406.2625	s/r	[Astro]	FEMA 1/2
407.0625	s/r	[Astro]	FEMA 3/4
407.6625	s/r	[Astro]	FEMA 5/6
409.0625	s/r	[Astro]	FEMA 7/8
410.4625	s/r	[Astro]	FEMA 9/10
407.4500	s/r	[Astro]	FEMA 11/12
412.8250	s	[Astro]	MERS 1
412.8500	s	[Astro]	MERS 2
412.8375	s	[Astro]	MERS 3
412.8625	s	[Astro]	MERS 4
412.8750	s	[Astro]	MERS 5
412.9000	s	[Astro]	MERS 6
412.8875	s	[Astro]	MERS 7
412.9125	s	[Astro]	MERS 8
410.8625	s/r	[Astro]	MERS 9/10
407.4500	s/r	[Astro]	MERS 11/12
408.0625	s/r	[Astro]	MERS 13/14
409.4625	s/r	[Astro]	MERS 15
408.8625	s/r	[Astro/141.3]	US&R 1/2
409.2625	s/r	[Astro/141.3]	US&R 3/4
409.6625	s/r	[Astro/141.3]	US&R 5/6
409.8625	s/r	[Astro/141.3]	US&R 7/8
410.2625	s/r	[Astro/141.3]	US&R 9/10
410.6625	s/r	[Astro/141.3]	US&R 11/12
412.8250	s	[Astro/141.3]	US&R 13
412.8500	s	[Astro/141.3]	US&R 14
04784	t	(hex 12B)	Mont. Co. trunk (74-K)

Federal Communications Commission

The FCC was active during past events in Washington, often tracking pirate broadcasters operated by protesters. Also of concern are threats that activists will interfere with public safety communication, or the remote possibility that a radio transmitter could be used as a detonator.

167.0500 r [Astro/173.8] FCC field enfo

Federal Bureau of Investigation

FBI involvement is limited. Agents provide intelligence and advice. In addition, the FBI's SWAT and other specialty units such as the Joint Terrorism Task Force (JTTF) will be on stand-by. They could use one of many FBI channels, but this is the primary.

167.4375 r [167.9] D.C. Administrative

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Some presidential inaugural events, like this fireworks display during the 2005 Inauguration, are open to the public. They present a unique opportunity for scanner listeners to monitor history in the making. (DoD photo)

State Department

The State Department provides security for the Secretary of State and foreign official visitors, except heads of state, who are protected by the Secret Service. The standard CTCSS was 151.4, but all channels appear to use Astro now.

407.8625	r	[Astro]	Bldg security "Side Door"
408.6000	r	[Astro]	Protection details
407.6000	r	[Astro]	Protection details
409.7125	r	[Astro]	Protection details

Secret Service

Secret Service agents protect the president, past presidents and foreign heads of state. Since the inauguration has been designated a national special security event (NSSE), the Secret Service assumes its role as the lead agency for the design and implementation of the operational security plan.

Much of the Secret Service traffic is encrypted, although we had reports that the advance teams during this past campaign cycle often communicated in the clear. The Department of Homeland Security Common frequency, 166.4625, once known as Treasury Common, is often a federal law enforcement command post channel. The federal agencies have a slew of interop channels (see below).

One may find the Secret Service or an allied agency using additional VHF frequencies not normally used in Washington. Try the White House Communications Agency channels listed in the military section, too.

165.7875	s	[103.5/Astro]	Baker
165.3750	s	[103.5]	Charlie
165.2125	s	[103.5/Astro]	Mike
164.6500	s	[103.5]	Tango
164.8875	s	[103.5]	Oscar
164.4000	s	[103.5]	Papa
165.6875	s	[103.5/Astro]	Washington Field Office
170.0000	s	[103.5]	WFO Alternate
166.4625	s	[None]	DHS-Common 1 (was T-Common)
166.5875	s	[None]	DHS-Common 2 (was T-Common)
167.0125	s	[Astro]	Vice President's Detail
167.0375	s	[Astro]	President's Detail

Uniformed Division, Secret Service

The UDSS provides security at the White House and selected federal and foreign/diplomat facilities in the Washington area.

162.0750	r	[Astro]	White House 1 (169.9375 in)
163.3125	r	[Astro]	White House 2 (170.4375 in)
170.0000	s	[Astro]	White House Admin/Blair House
164.1750	p	[None]	White House Notification System
166.2000	s	[103.5]	Vice President's Residence
162.3125	r	[Astro]	Foreign Missions 1 (171.7625 in)
164.4375	r	[Astro]	Foreign Missions 2 (172.5625 in)
170.9875	s	[Astro]	Foreign Missions 3
170.0000	s	[127.3]	Inter Ops (Secret Service common)
164.1000	s	[Astro]	Canine Tac

Immigrations and Customs Enforcement

136.3750	s	ICE Aircraft
164.7750	r	Agents
165.2375	r	ICE Aircraft and Agents
282.4250	s	ICE Aircraft

Federal Common-Use, Joint Law Enfo and Incident Response Frequencies

These common-use frequencies are available for use on a shared basis by all federal agencies: 163.1/168.35, 163.7125, 168.6125, 173.625/167.1375, 407.525/416.525, 409.05/418.05, 409.075/418.075, 409.3375/418.3375, 412.825, 412.8375, 412.85, 412.8625, 412.875, 412.8875, 412.9 and 412.9125. The older wide-band channels included: 408.4, 418.05, 418.075 and 418.575.

FCC Public Notice DA 01-1621 established the following frequencies for joint law enforcement. They are programmed in new radios used by Federal agencies in the D.C. area and are designated as "L-E" channels. All use Astro transmission except for 167.0875, which is both Astro and analog with a 167.9 Hz CTCSS: 167.0875/162.0875, 167.25/162.2625, 167.75/162.8375, 168.1125/163.2875 and 168.4625/163.425. The UHF versions are: 409.9875/418.9875, 410.1875/419.1875, 410.6125/419.6125, 414.0375, 414.0625, 414.3125 and 414.3375.

The same notice designated these as joint incident response ("I-R") channels: 169.5375/164.7125, 170.0125/165.25, 170.4125/165.9625, 170.6875/165.575 and 173.0375/167.325. The UHF set is: 410.2375/419.2375, 410.4375/419.4375, 410.6375/419.6375, 410.8375/419.8375, 413.1875 and 413.2125.

Military Agencies

Armed Forces Inaugural Committee

During past inaugurations, AFIC cut its radio traffic almost in half through the use of computer networks and that trend will likely continue. But AFIC has always made a partial appearance on repeater and simplex voice channels in the lower VHF band. During each inauguration the frequencies vary but always came from the 138–144 MHz or 148–151 MHz band. AFIC's

These mysterious shipping containers with attached antenna towers are used to jam radio communication (presumably to thwart a terrorist attempt to activate a hidden IED). The first inauguration for which the jammers were deployed was in 2005. They are typically activated prior to the arrival of the presidential motorcade; a mobile version is deployed in pairs for use with motorcades.

command and control nets in recent times have also operated on Virginia's Fort Belvoir's trunked system, which has been consumed by the JFHQ-NCR 380 MHz trunked network.

Joint Force Headquarters – National Capital Region

The recently formed JFHQ-NCR is responsible for helping to plan and coordinate military assistance for homeland defense and civil support in the region. Joint-NCR was formally activated on September 22, 2004, and provides a common command structure for all Defense Department forces, including the Coast Guard in the greater Washington, D.C., area. Major component commands include the Army Military District of Washington, the Naval District of Washington (NDW), the Marine Corps National Capital Region Command, and the 11th and 89th Air Force Wings.

The Army's MDW has overall responsibility for the coordination and operation of DoD participation in government ceremonies in the capital area. MDW will be involved in almost every aspect of the ceremonies from security to transportation to logistical support. MDW's command, operations and logistics nets are known as "State Sword."

In addition to overseeing the DoD elements, JFHQ-NCR's mission is to coordinate and act as a liaison with local law enforcement and first responders throughout the NCR and beyond. Some talkgroups on its trunked network are patched or patched-capable with civilian public safety channels.

During the 2005 inauguration, the JFHQ-NCR 380 MHz trunked network was in its infancy. Today it is a massive system of networked sites that links facilities under its command. Some of the system's talkgroups are encrypted, but many are not. Those sites closest to D.C. are given here.

Users can roam the system and operate off any networked radio site. That makes monitoring difficult since there is no guarantee that one of the users will always be affiliating on the talkgroup one is monitoring on a particular site.

For a list of talkgroups, see http://tinyurl.com/4z3zc2. Talkgroups that will probably apply most to the 2009 Inauguration include the 200s, which are used at the Pentagon and by the Pentagon Force Protection Agency, the 300s at Fort Myer, and 400s by JFHQ-NCR.

Also try the following:

001–0101 Fort Belvoir, VA 381.675, 381.825, 381.975, 385.0125, 385.2125, 385.8875, 386.1875, 386.3375.

001–0303 Bolling AFB, DC 386.0625, 386.9625, 388.2625, 388.8875, 389.1625, 389.2375, 389.4875.

001–0606 Bethesda NNMC, MD 385.0875, 385.325, 385.725, 385.9375, 387.175, 387.475, 387.975.

002–0101 Ft Myer, VA 380.0625, 380.325, 380.375, 380.625, 380.675, 380.825, 380.975, 381.0875, 381.2375, 381.2875, 381.625, 381.775, 381.925.

002–0202 Ft McNair, DC 380.2125, 380.525, 380.775, 381.1375.

007–0202 Army Research Lab Adelphi, MD 389.575.

008–0101 Tysons Corner, VA 380.075, 380.425, 380.725.

009–0101 Silver Hill, MD 380.275, 380.575, 380.875, 381.7375.

010–0202 NGA Bethesda, MD 385.8625, 387.1875, 387.4625, 387.7875, 389.075.

00C–0101 Walter Reed AMC, DC 385.7125, 385.9125, 386.2125, 386.5625, 386.8125.

White House Communications Agency

Another important military element that provides support to the inauguration as well as the president is the White House Communications Agency (WHCA). WHCA personnel routinely use Secret Service channels and DoD talkgroups.

169.9250	s	Delta
167.9000	s	Hotel, White House Motor Pool
166.7000	s	November
166.2000	s	Naval Support Facility, Camp David
166.5125	s	Sierra
167.0250	p	Whiskey (old paging channel)
162.6875	d	Yankee (old phone patch base)
171.2875	d	Zulu (old phone patch mobile)
375.0000	s	Helipad Comms

Andrews Air Force Base

Andrews AFB channels may be especially interesting prior to and after the inauguration as various VIPs arrive and depart. The base has its own set of talkgroups on its 380 MHz trunked system.

17a–0101 Andrews AFB, MD 385.2125, 385.3125, 385.9, 385.9125, 386.0375, 386.2, 386.3375, 386.6375, 386.8.

Andrews Air Force Base

118.400 / 349.000	Andrews Tower
119.300 / 335.500	Arrival
122.850 / 372.200	Pilot to Dispatch
124.000 / 279.575	Arlington Cemetery Fly-bys
125.650 / 348.725	Departure

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Petty Officer 2nd Class John Leo, U.S. Coast Guard, and Senior Airman Daniel Tercero, U.S. Air Force, enable antennas during an operations check January 7, 2005, in preparation for the 55th Presidential Inauguration. (DoD photo by Tech. Sgt. Kevin J. Gruenwald, U.S. Air Force)

141.550 / 378.100	Command Post & Wing Ops
141.700 / 292.200	1st Helo Squad (89th A/W) ("Mussel")
251.500 / 362.900	Navy Ops
344.600	Metro (WX)
351.200	Liberator (756th ARS) Command Post

USMC Executive Flight Squadron

The Marine Corps presidential and vice presidential executive flight squadron is known in military circles as "HMX-1," to the Secret Service as "Nighthawk," and to the American taxpayer as "Marine 1" (or Marine 2). Helos are based in Quantico, but often stage in Anacostia.

265.800	Squadron Common (Quantico)
273.950	Squadron Operations
276.400	Squadron Operations
320.400	Squadron Maintenance (Quantico)
355.300	Quantico Base Ops

Coast Guard

156.800	Marine CH16 (Hailing, Distress)
156.850	Marine CH17 (D.C. Harbor Patrol)

Tech Sgt. Paul Coupaud, a Public Affairs representative for Joint Task Force-Armed Forces Inaugural Committee, glances at a book during a Joint Operations Center (JOC) exercise at the Mary Switzer Building in downtown Washington, D.C., January 12, 2005. (DoD photo by Staff Sgt. Matthew Hannen, U.S. Air Force)

157.050	Marine CH21 (CG, Blackjack helos)
157.150	Marine CH23 (CG Sta. Washington)
157.075	Marine CH81 (CG Aux/MSO)
157.175	Marine CH83 (CG, Air Sta. Atl. City)
345.000	Coast Guard UHF Primary
237.900	Coast Guard UHF Secondary
326.150	Coast Guard UHF Working Primary
379.050	Coast Guard UHF Working Secondary

Combat Air Patrols

139.700	Huntress, Coast Guard Helos
139.900	Huntress, Coast Guard Helos
260.900	Huntress
228.900	Huntress
135.525 / 350.250	Guard Dog CAP control

Many thanks go to our local military aviation expert, Ron Perron, for recommending these frequencies.

D.C. Government

D.C. Fire & EMS

Motorola trunked: 852.6125, 852.6375, 852.6625, 852.6875, 852.7125, 852.7375, 852.7625, 852.7875, 855.2125, 855.2375, 855.4625, 856.9875, 857.9875, 858.9875, 859.9875 and 860.9875

Key D.C. Fire/EMS channels:

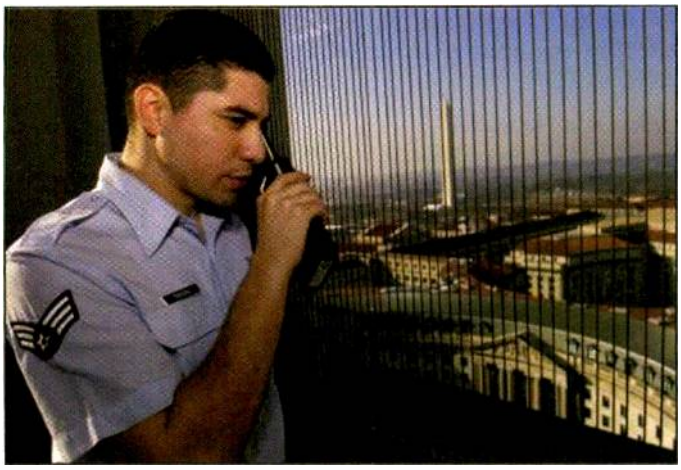
01616	t	(hex 065)	0-01 Dispatch (simulcasts 154.19)
01632	t	(hex 066)	0-02 Main
01648	t	(hex 067)	0-03 Fire Ground 03
01904	t	(hex 077)	0-11 EMS 1
01920	t	(hex 078)	0-12 EMS 2
867.4875	s	[156.7]	0-15 VRS/DIR 2 (veh rpt sys)
867.7625	s	[156.7]	0-16 VRS/DIR 1
02096	t	(hex 083)	A-11 Special Event 1
02112	t	(hex 084)	A-12 Special Event 2
02128	t	(hex 085)	A-13 Special Event 3
02016	t	(hex 07E)	B-03 Fire Ground B3

These talkgroups are on the same trunked system as D.C. Fire/EMS but some may be patched through to the MPD UHF trunked system for coordination purposes.

09936	t	(hex 26D)	NCR-Mutual Aid Fire 1
09968	t	(hex 26F)	NCR-Mutual Aid Fire 2
09984	t	(hex 270)	NCR-Mutual Aid Fire 3
10032	t	(hex 273)	NCR-Mutual Aid Fire 4
34832	t	(hex 881)	DC Prot Svc (bldg security)
35600	t	(hex 8B1)	Traffic Management
59952	t	(hex EA3)	NCR Mutual Aid 1 (fire/police)
59968	t	(hex EA4)	NCR Mutual Aid 2 (fire/police)
59984	t	(hex EA5)	NCR Mutual Aid 3 (police)
60000	t	(hex EA6)	NCR Mutual Aid 4 (police)

Metropolitan Police Department

Talkgroups that will likely be assigned for special use during the inauguration and other special events appear below. Encrypted-only groups have been omitted. Talkgroups will be assigned to various details and elements as required, including MPDs Civil Disturbance Units (CDU), traffic, vending, prisoner control, and Special Operations Division (SOD). Most inau-



Air Force Senior Airman Daniel Tercero, Communications Journeyman assigned to the JTF-AFIC, performs a network operations check using a Motorola VHF Saber, January 10, 2005, in preparation for the 55th Presidential Inauguration. (DoD Photo by Tech. Sgt. Kevin J. Gruenwald, US Air Force)

gural sites and visitor locations are within the 1st, 2nd, 3rd, and 5th districts, which are listed along with the talkgroups likely to be used for special events.

Motorola trunk: 453.45, 460.025, 460.1, 460.15, 460.2, 460.25, 460.275, 460.325, 460.35, 460.375, 460.4, 460.425, 460.45, 460.475 and 460.5

Key MPD Channels

16400	t	(hex 401)	1st District
16432	t	(hex 403)	2nd District
16464	t	(hex 405)	3rd District
16528	t	(hex 409)	5th District
16624	t	(hex 40F)	Citywide 1
21232	t	(hex 52F)	Citywide 2
16656	t	(hex 411)	SOD 1, Special Events
18288	t	(hex 477)	Special Events 1
18320	t	(hex 479)	Special Events 2
18352	t	(hex 47B)	Special Events 3
18384	t	(hex 47D)	Special Events 4
21136	t	(hex 529)	Tactical 1
21168	t	(hex 52B)	Tactical 2
21200	t	(hex 52D)	Tactical 3
21360	t	(hex 537)	Command
458.0375	s	[Astro]	SOD Surveillance 1
453.9375	s	[Astro]	SOD Surveillance 2
460.0625	s	[Astro]	Citywide Surveillance 1
460.3375	s	[Astro]	Citywide Surveillance 2
460.2625	s	[Astro]	Citywide & SOD Surveillance 3

Common Mutual Aid Channels

Suburban police, EMS, and fire personnel will assist with inaugural activities using D.C. Fire/EMS and their own radios. The mutual aid and COG channels are receiving more use during special events. The 800 MHz channels use a CTCSS of 156.7, but by agreement, the COG (also known as RINS) channels may be used for digital or analog intra-agency communication without the 156.7 CTCSS. The VHF channels use no tone.

123.0250	s	Public Safety Helos (helicopter common)
154.2800	s	Fire Mutual Aid 2
154.2950	s	Fire Mutual Aid 1
462.4000	r	Hospital Mutual Aid
866.0125	r	National Calling Channel
866.5125	r	National Tac 1
867.0125	r	National Tac 2
867.5125	r	National Tac 3
868.0125	r	National Tac 4
866.3625	r	Police Mutual Aid
868.5125	r	Council of Governments 1
866.8375	r	Council of Governments 2
867.2375	r	Council of Governments 3
867.4875	r	Council of Governments 4
866.8625	r	Council of Governments 5
867.7625	r	Council of Governments 6

Transportation

Metropolitan Washington Airports Authority

MWAA is the authority that runs Reagan and Dulles airports. It has its own digital Motorola trunked radio system. MWAA police often escort dignitaries to/from the airports using this radio system. Frequencies are: 866.05, 866.675, 866.725, 866.8875, 866.925, 867.2, 867.35, 867.4375, 867.4625, 867.5375, 867.5625, 868.2125, 868.7125 and 868.8.

Washington Metropolitan Area Transit Authority

The WMATA is slowly migrating to a 490 MHz trunked system, but these channels will continue to be used through the inauguration.

161.3850	r/s	CH1/2 Metrobus/rail Police
160.2600	s	Rail Ops
160.3800	s	Rail Ops
160.6200	s	Rail Ops
161.2350	s	Rail Ops

Amtrak and Union Station

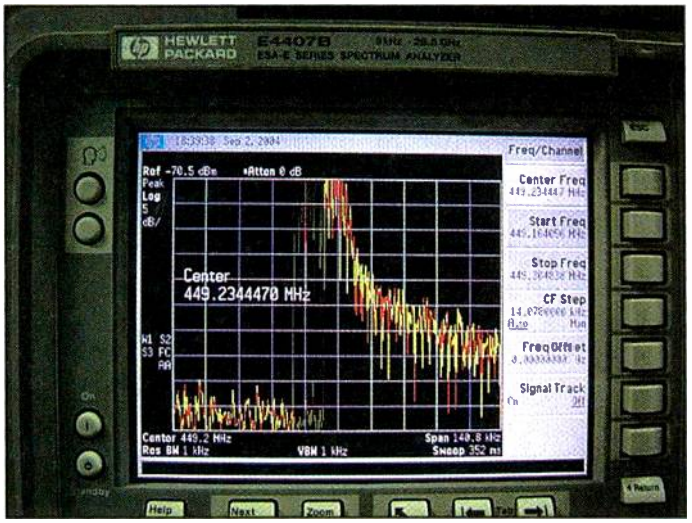
160.2900	r	CH1 Yardmaster
160.3500	r	CH2 Train Maintenance
160.4400	r	CH3 Station Ops
160.9200	s	Amtrak Road
161.2950	r	Amtrak Police Primary
161.2050	r	Amtrak Police Tac/Car to Car
173.3750	s	Amtrak Police CID
452.9000	s	Terminal Services

Washington National Airport (Mount Vernon Sector)

118.300 / 306.300	Final East DCAFE
118.950 / 257.200	West 9500' & below TYSON
119.100 / 257.600	Reagan Tower
119.300 / 335.500	Approach ADWAR
119.850 / 322.300	West QJAAY
120.750	Wash Helo Control
121.050 / 343.700	West 10,000' up to FL 230 FLUKY
121.500 / 243.000	Aircraft Emergency
124.000 / 279.575	Andrews for Arlington Flybys ADWFR
124.200 / 269.000	East ENSUE
124.700 / 338.200	Final West DCAFW
125.650 / 348.725	East 9500' & below KRANT
126.550 / 269.500	East 10,000' up to FL 190 DAILY
128.350 / 270.275	South East 19,000' down TO 3000' DEALE

News Media

These frequencies are those commonly used by the media in Washington. Expect to find many temporary frequencies used just for inaugural coverage. During the past four inaugurations,



A spectrum analyzer displays the actual jamming carrier. The center of the jamming carrier moves on a regular basis in automatic mode or it can be set to transmit on a specific center frequency. It is a wide-band carrier that cancels out any narrow-band or digital carriers within 0 to 50 MHz in width.

the FCC allowed the Washington Executive Broadcast Engineers, the local media frequency coordinator, to temporarily assign frequencies from UHF TV Channel 15 (477–482 MHz) to broadcast users. For more info, see www.webe.org/pages/freq.html.

IFB (interruptable fold-back) channels are used to relay broadcast audio to crews in the field. The feed can be interrupted by the director to provide cues and instructions. Channels used by engineering crews (electronic news gathering) are listed as ENG.

Television Networks

450.4125	s	[136.5]	ABC IFB
455.0875	s	[136.5]	ABC CH1 Desk
455.5875	s	[136.5]	ABC CH2 ENG
450.5875	s	[136.5]	ABC CH3 Couriers
450.0500	s	[107.2]	CBS CH3 Maint 2
450.1500	s	[107.2]	CBS CH1 Maint 1
450.2875	s	[107.2]	CBS CH4 Desk
450.4875	r	[107.2]	CBS CH2 Desk
450.5125	r/s	[107.2]	CBS CH6/10 Techs
450.6125	s	[107.2]	CBS CH11
450.7500	s	[107.2]	CBS CH12
450.8000	s	[107.2]	CBS CH5/9 IFB 1
455.2625	s	[107.2]	CBS CH13
455.2875	s	[107.2]	CBS CH8 Freq 8
455.6125	s	[107.2]	CBS CH7 IFB 2
161.6700	s	[d331]	NBC Desk
450.5500	s	[d306]	NBC CH2 IFB
455.8500	s	[d306]	NBC CH4 IFB

Cable News Networks

450.1875	r/s	[127.3]	CNN CH1/2 ENG
450.8875	r/s	[127.3]	CNN CH3/4 Desk
450.5625	r	[d165]	C-SPAN Field Base
495.4375	r/s	[d243]	Fox News
495.4625	r/s	[d243]	Fox News

412.8250	VOA IFB
412.8375	VOA IFB
412.8500	VOA IFB
412.8625	VOA IFB
415.9375	VOA Two Way
418.0500	VOA Two Way
418.5750	VOA Two Way

Local Stations

153.0500	s	[d331]	WRC Desk
450.4500	s	[d306]	WRC CH1 ENG
455.1500	s	[d306]	WRC CH3 IFB
161.7300	s	[None]	WTTG CH1 Desk
161.7600	s	[None]	WTTG CH2 Alternate
450.1125	r	[d311]	WJLA CH1 Desk
450.2625	r	[d311]	WJLA CH2 ENG
450.7500	s	[141.3]	WUSA CH1 unit-to-unit
450.2125	s	[141.3]	WUSA CH2 unit-to-unit
450.0875	s	[141.3]	WUSA CH3 Sky9
450.1875	r	[141.3]	WUSA CH4 Desk
455.9125	r	[141.3]	Metro Traffic

Check Out The Latest Updates

If you are lucky enough to be in the D.C. area for this exciting occasion, this information will help you nab a front row seat for all the communications action. Please drop me a line and let me know what you discover.

Many thanks go to David Schoenberger for his research. Once locations are selected for the inaugural activities, make certain to consult his Website for specific frequencies. It's located at http://davidschoenberger.net/scanning/dc/washington.htm. Also visit The Capital Hill Monitor's Scanner Links Page at http://henney.com/chm/. ■

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VHF Teknik - Military and civilian aviation band antennas

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Listening To The Nation's Capital

What You'll Enjoy (Or At Least Tune Or Otherwise Find) On The Broadcast Bands In Washington, D.C.

by Bill Price, N3AVY, chrodoc@earthlink.net

WAMU studios and HQ, on the campus of American University.

My name is Bill and I'm a radio junkie. I have no cable, no satellite, no TV antenna. I am powerless against radio. All that, and I live in the Washington, D.C., radio market. Who better to tell you about broadcast radio in the nation's capital?

We in this market are unique in several ways. The White House (the big one, on Pennsylvania Avenue) actually pays some of its people to listen to broadcast talk radio in this market, and probably in other markets as well. Also, many congressional offices pay more attention to political talk radio than they'd care to admit. Because we are a market of "political junkies," we have more than the nation's typical share of political talk radio—even on FM!

Living near, and often working in, Washington, D.C., Bill's never *not* listening to D.C.'s broadcast radio. He's also *Pop'Comm*'s "Loose Connection" columnist.

Washington, D.C., is the *only* market in the United States where you'll hear advertising aimed at legislators. It's "Radio-Lobbying." No other broadcast market offers you commercials touting the advantages of one military mid-air refueling tanker over another. I seriously doubt those ads are aimed at consumers; I know no one in *my* neighborhood is considering replacing an aging mid-air refueling tanker just now.

And even though anyone in the entire United States can call any senator or congressional representative toll free (and talk to a rude staffer), it's *this* market that abounds with advertising aimed at getting us to call our reps and tell them to vote for (or against) this or that. It's particularly interesting to listen to the tags at the end of these messages to see just who's sponsoring what, and what warm, cuddly, wholesome names these political or business organizations have chosen to make themselves sound like your next-door neighbor.

Unique FM Outlets

D.C has TWO (count 'em) PBS affiliates! We have the traditional WETA 90.9 (www.weta.org/fm), which plays classical music most of the day and gives us some NPR content from time to time—pretty much like any other PBS affiliate around the country. But wait! There's more!

We also have WAMU. That "AMU" part stands for American University, which is where WAMU 88.5 FM, (http://wamu.org/) is located and licensed—but it's far from what you might have come to think of as a "college FM station." It's mainly talk radio, and much of it is political (and *not* of a typically conservative nature), and some of that is syndicated around the country and, of course, is available on the Internet.

Because WAMU has followed other FM broadcasters and gone to HD radio, it also remains the home of 24-hour bluegrass music on one of its HD channels (something it's been famous for for years), and on its main channel, it brings us not only *A Prairie Home Companion* with Garrison Keillor, but also some of the world's best original radio programming every Saturday and Sunday evening, with Rob Bamberger's *Hot Jazz Saturday Night* (also syndicated) and Ed Walker's *The Big Broadcast* on Sundays, with a variety of old-time radio programs. Radio Junkies might want to know that Ed Walker is one of Washington, D.C., radio's original Joy Boys, along with Willard Scott (who lives not so far away here in Cowfield County, Virginia).

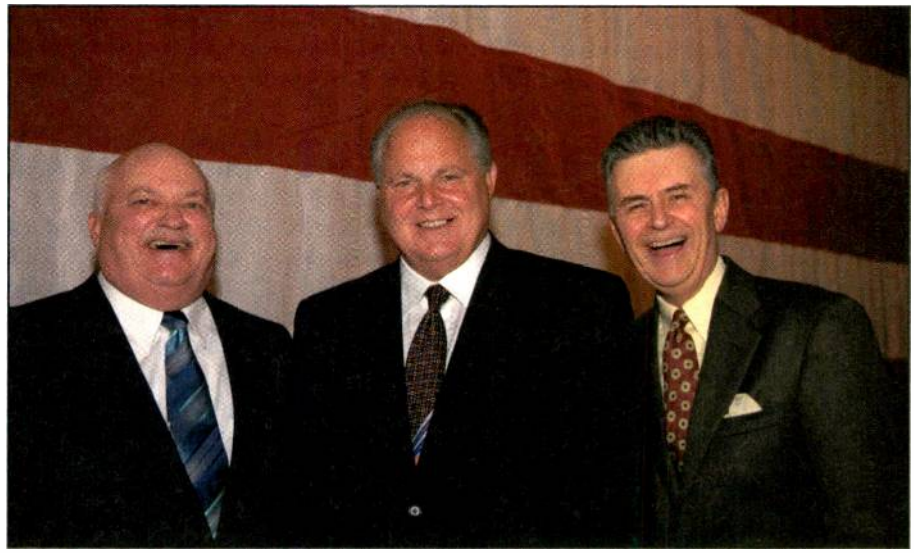
D.C.'s FM band also has C-SPAN Radio at 90.1 (bless you, Brian Lamb!), which carries much of the audio you'll hear on C-SPAN TV (and remember, there are three *different* C-SPAN TV channels).

Of course, Washington, D.C., radio has music. At least, some would call it that. I'm getting older, and grouchier, and my definition of music is narrowing while everyone else's is broadening. We didn't feel that listing music stations was necessary, as our readers can quickly scan the dial and find their favorite music format to fill time between the "important stuff."

Washington, D.C., does not have any commercial shortwave broadcasters, however the State Department does operate the Voice of America. If you get a chance, stop in, say hi to Condi Rice, and ask for a tour of the facilities. Walking around downtown, be sure to look up and see some steerable HF and other antennas on government buildings, and join the masses who wonder just what our government does with these things.

There is (or at least was—I haven't been able to receive it where I hang around) supposed to be a pirate station in the area. Several years ago it was reported to be on the AM band, at 1680 kHz, but is now said to operate on 87.9 FM as WSQT Guerrilla Radio. With the FCC liv-

WAMU's Ed Walker, host of Sunday night's *The Big Broadcast*. Ed was one of D.C. radio's original Joy Boys, along with Willard Scott.



Yes, the face on the right is familiar...that's Fred Grandy who once played Gopher on *The Love Boat* and now teams with co-host Andy Parks (left) for WMAL-AM's *The Grandy & Andy Morning Show*. In the middle is apparently some radio wannabee.

The attractive but empty studio at WETA-FM awaits classical music hosts.

ing right here in the neighborhood, it seems unlikely that such an operation would thrive for more than a few minutes. If you find it, I doubt they'll give an address where you can request a QSL card.

There is an (extremely) low-powered FM station called "Radio CPR" at 97.5 FM. Because it's unlicensed, it has no callsign as we know them. Radio CPR is a small community radio station operating in the Mount Pleasant, Columbia Heights, and Adams Morgan neighborhoods of Washington. CPR stands for "Community Power Radio." Find more about them at www.radiocpr.com/.

WTOP (now only FM) was once AM and FM and seems, at least to me, to have changed frequencies about as often as I change my socks. However, the station seems to like 103.5 and 107.7 for now, dropping its AM signal altogether. It's an all-news format, with a frequent repeat, and features one favorite of mine (hey, I'm the one writing this) named Mark Plotkin. Plotkin is a political commentator who seems to know at least as much about D.C. local politics as anyone who's ever sat near a politician or a microphone. While he might lean a little to one side, he doesn't let it show in his work. If you want to know about city politics in D.C., there's no one better.

WHUR Howard University Radio 96.3-FM (HD radio) is one of the few college radio stations which is actually a licensed broadcast station (most others are "over wire" or low-powered unlicensed and generally can't be received except in the dorms and on campus. Being in the district, WHUR's format is very urban and sticks to happenings within the district.

WJFK-FM 106.7 offers syndicated irreverent talk. It calls itself the "Talk Superstation." I can't listen very long, maybe you can. I think a better description would be syndicated irreverent lunacy. Some people like it—that's why they make chocolate and pistachio. It's not quite shock-jock stuff since the FCC raised the ante on indecency. They think they're funny; your mileage may vary.

AM In D.C.

Whether starting on the low-frequency end of the dial, or the high signal-strength and ratings end, WMAL 630 *is* AM radio in "the District."

WMAL-AM 630 is definitely the number one talk station in the nation's capital, and the first strong one you'll come to on the left end of the AM dial. Mornings begin early with *The Grandy & Andy Morning Show*. Its stars are Fred Grandy, who played Gopher on *The Love Boat* before serving a stint in the U.S. House of Representatives for his home state of Iowa, Andy Parks, who laughs at the same things I do and does battle with Fred each morning. Absolutely tops in AM morning drive-time radio.

After the 9 a.m. news, Chris Plante does three hours of local political talk from a conservative point of view. He's considered by many to be "too good for a local market" and that same "many" think he's headed for syndication soon, so catch him locally while you still can. The man holds some sort of record for ranting longer than any other host on a single breath.

At noon, WMAL airs syndicated programs from Rush Limbaugh, followed by Sean Hannity and Mark Levin until the 8

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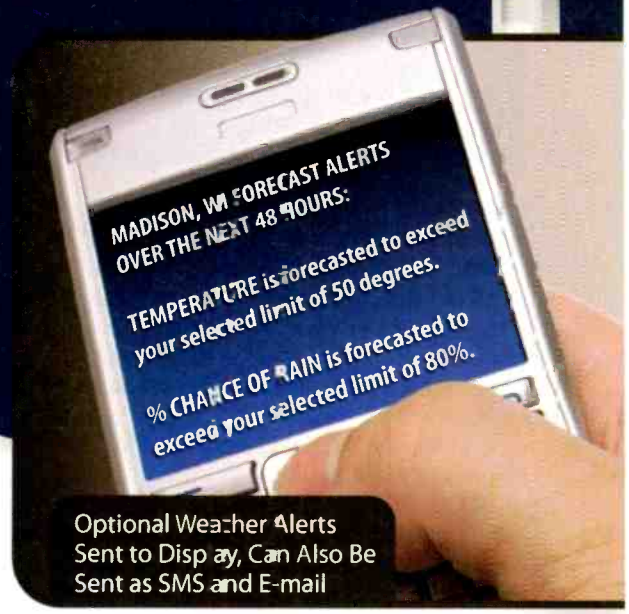

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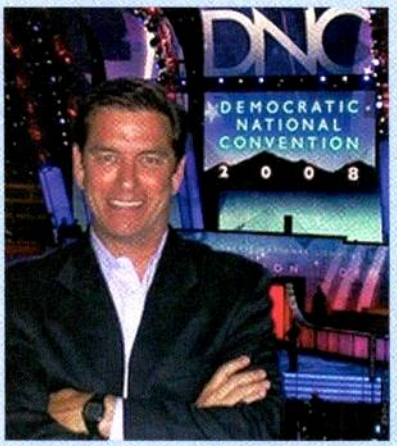


WMAL's Chris Plante works both sides of the aisle during election time.

WMAL's Moore Hummer adds some fun to Electronic News Gathering and remotes. (Moore is the dealership that gives the station the free hummer.)

p.m. news. It then goes back to local origination for two hours of Austin Hill, a recently transplanted Californian, with more conservative political talk until 10 p.m. when it switches over to the syndicated *Coast-to-Coast AM with George Noory*, who often hosts aliens, ghosts, and reincarnated CB radios.

Paul Harvey sneaks in just after Chris Plante and Mark Levin.

WTNT-AM 570 is licensed in nearby suburban Maryland, but can be heard throughout the District and "here and there" as propagation permits. TNT carries a generally conservative lineup of syndicated hosts, including some big names you won't hear elsewhere in this market, such as Dennis Miller, Erich "Mancow" Muller (I can only assume he's half-man, half-cow), Michael Savage, and Lars Larson.

WFVA-AM 1230 is not really in D.C. but in Fredericksburg, Virginia, and its signal is not about to knock WMAL out of the #1 spot. FVA does, however, bring us Glen Beck, a unique and entertaining talker from both radio and TV. He's on from 9 to 12 a.m. WFVA also carries Sean Hannity and his nemesis, Alan Colmes, along with other syndicated bigwigs like Laura Ingraham and George Noory.

WMET-AM 1160's general manager (who lets us know he's got a Ph.D.) tells us, "In the [programming] mix, you will hear Spanish and Ethiopian programming—reflecting the evolving nature of our world...WMET is a hybrid solution and a unique opportunity to reach emerging and affluent ethnic groups in Washington, D.C., Maryland, and Northern Virginia." I'm not sure what that means, but you can tune in and find out.

WWRC-1260 AM calls itself "Progressive Talk" and has two members of the talent lineup (Ed Schultz and Bill Press) whom I've heard of. It signal is not a deafening one in the marketplace. Its website also asks for donations.

I used to hear "The G-Man"—G. Gordon Liddy, former Watergate figure, strange person, and extremely interesting (if not what you'd call *mainstream*)—but alas, I can't find him listed on any broadcast stations in D.C. That's not to say he's not around, it's just that the competition for airtime slots in and near this market is brutal. One day you're up, the next day you're "*who?*"

By The Way... Those Little, Short Range AM "Message" Stations You Find Along The Highway

Well-meaning, invisible people may tell you to tune to 530 or 1610 or some other "way at the end of the dial" frequency for driving directions, detours, special event information, and other things that *Pop'Comm* readers can generally figure out for themselves anyway, but you might be just a little curious.

Of course, the special event people, the highway construction people, the state park people, and others don't build their own transmitters, but you can—although I'm not sure why you'd want to. While I was researching them, I found a wonderful little website that talks about how these tiny flea-power stations work, the rules involved in using them, and even a schematic drawing for those with waaaaaay too much time on their hands.

Take a look at www.techlib.com/electronics/amxmit.htm.

Leaky Coax?

Yes, it wouldn't be something you'd want for your own system, but a few manufacturers make it for "controlled radiation" systems, where they want you to be able to receive their signal while driving along a highway, but nowhere else. The answer to this is no antenna, but just a long run of "leaky coax," which has sections of the braid or shield removed so that the signal gets out to you if you're close to the coaxial transmission line, which is run along a highway, sidewalk, or railroad track. There's just no other way you could achieve an antenna pattern that's two miles long and 20 feet wide!

WOL-AM 1450, with one Internet listing calling it "Urban" and another calling it "Black," serves the D.C. market with everything from Al Sharpton to Sports and Business talk for urban citizens. Not a strong signal in all areas of the city, and weak in suburban Virginia.

There are numerous (too numerous to mention) sports, foreign language, specialized ethnic, gospel, and other specialized stations on the AM band (even *Federal News Radio*, which appears to be part of WTOP-FM but is on the AM band). There are very few AM signals that are strong throughout the listening area, which must be due to the required directivity and power restrictions in a geographically crowded market.

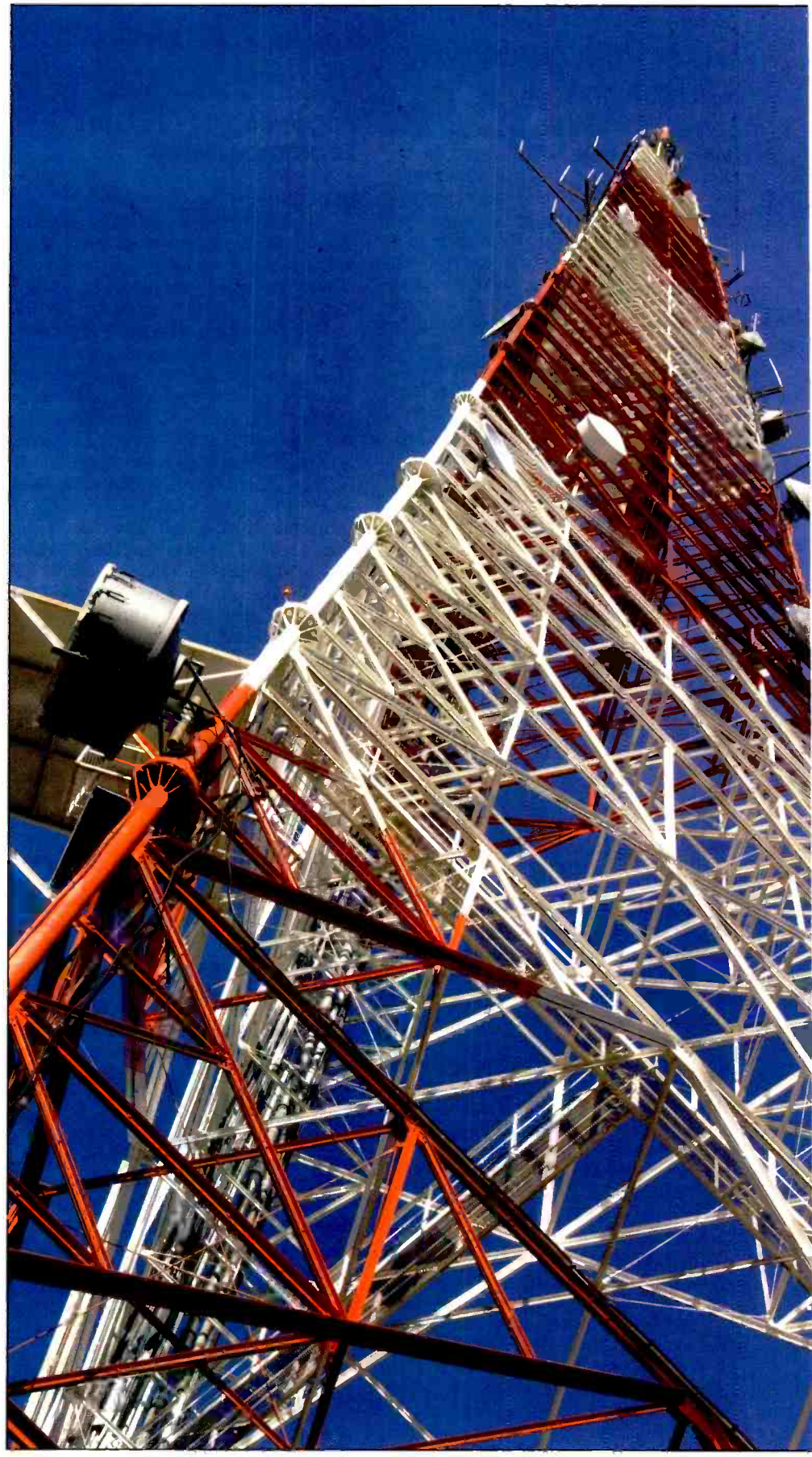
Also Check Out...

If your travels ever do lead you to the nation's political maelstrom, there's plenty of interesting going's-on outside the broadcast bands. For instance, scanner listeners will appreciate the complete lack of communications coordination between the District's umpteen law enforcement agencies, which generally don't cooperate with each other in other ways, either.

Daring monitors might want to take a ride west to Remington, Virginia, which is a beautiful small town with some sort of U.S. government communication facility just south of town. You can ride past it, but to my knowledge, you can't get inside, meet any public relations people, or twist their dials. You *can*, however, look over their fence at their antennas and other structures—so long as you don't stare too long. The several businesses downtown are each worth a visit. They don't make towns like this any more.

The "electronically curious" can also ride west from D.C. on Route 7 toward Leesburg, Virginia, where they'll recognize even more "larger than you could afford at home" antennas. Those belong to the FAA, which is headquartered there. While the staff at that agency has important work to do and likely cannot offer tours of their facility, we in the communication business in the D.C. area have found them to be very cooperative in helping us locate strange sources of interference without tipping their hands. Ahhh, diplomacy.

With the upcoming 56th Inauguration of the new President of the United States, this is a particularly exciting time to be in town, but come visit anytime. Whenever you're in the nation's capital, you're sure to get an earful. ■



WAMU's tower is shared by many users in the Washington, D.C., area.

Pop'Comm January 2009 Reader Survey Questions

This month we'd like to ask about special events and your hobby. Please use the Reader Survey Card and circle all appropriate numbers. You can also take our survey online at our website at www.popular-communications. com. 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.

Have you ever traveled to be a special place or occasion with your radio to hear events unfold in person?

Yes 1
No 2

If so, what do you bring?

AM/FM broadcast band radio 3
Shortwave radio.....4
Scanner.....5
Ham radio.....6
Other two-way radio.....7

If you can't personally be somewhere for an important event, how much effort do you put into trying to listen live?

I am glued to my radio 8
I'll pull in the local signals if possible....9
I'll listen to streaming media.....10
TV is my only option 11
Not that interested 12

Highlights from September's Reader Survey

September's survey asked about the transition to Digital TV. An impressive 98 percent of respondents knew about the upcoming switchover, and 92 percent were comfortable that they understood it (though I keep hearing from readers who say they're still confused, hence the letters on this page).

The percentages of readers who will and will not be affected are split pretty evenly down the middle, with 48 percent getting analog signals via antennas and the rest using paid subscriber service, a built-in converter, or accessing translator or low-power stations.

Of those who will be affected, 52 percent had already bought their converter box, and of those 40 percent had already installed it (time's running out, so hopefully that number is much higher by now!).

And 44 percent of respondents thought the transition worth the fuss, 32 thought it wasn't, 12 said "what fuss?," and another 12 percent thought the question not worth the fuss.

The winner of a free sub or extension to *Pop'Comm* this month is **Rick Sitz** of **Bradenton, Florida**. Congratulations, Rick.

FEEDBACK
Our Readers Speak Out

Regarding DTV In Our September Issue

Dear Editor:

As usual, your issue had many great articles and makes enjoyable reading. The article by Don Rotolo on Digital TV ["Countdown To Digital Television"] was good, but as I have been finding at all the "help sites," VCRs are not really mentioned. I am trying to get ready for the changeover and have my coupons, now I find out that the converter boxes are not all the same, made by dozens of manufacturers and they differ in features. I have been to Best Buy, Walmart, Curcuit City, and Radio Shack. All have different features and the people selling them are not too full of info, other than a "yes," or "no."

Im full of questions: What features are needed and which box is best? How do I hook up a VCR to this box. I have two VCRs into one TV; do I need two boxes? How do I find an antenna, which seems to have disappeared from the market. In talking to people, I found others have some of the same questions. Hopefully you will provide more details in a future issue.

Harry
Via email

Don Rotolo responds...

Dear Harry:

Thank you for writing, and I'm glad that you enjoyed my article on Digital TV. Let me try to answer your questions.

As for which features are needed and which box is best, it really depends upon one's personal preferences; that is, what's best for you may not be best for me. All the converter boxes eligible for the coupon will decode DTV signals for your analog TV—what else you want it to do is a matter of taste. You need to decide what additional features are right for you. Do you want a direct video and audio output? Do you need an AC socket on the back of the converter for your TV? Do you want a remote control, and if so do you want that remote to also be able to control your TV?

As is the nature of all product design, manufacturers put in features hoping you will buy their offering. Unfortunately, there's no one place you can go to compare every possible feature there is. Instead, one possibility would be to find out what brands and models are available in your area, and then learn about the features of each (Google is your friend). Another possibility would be to just buy whatever's at hand, and later decide if it does what you need—chances are it will.

As for connecting a VCR, pretend the DTV box is a "special" antenna that only receives Channel 3 or 4. Tune the DTV box however you like, and whatever that is will come out on Channel 3/4. That goes into the VCR, then back out again to the TV. If you have a manual for a VCR, look in there as they cover the subject well. Just think of the DTV box as a cable TV box for the sake of hookups.

Once the over-the-air DTV signal is converted to a Channel 3 or 4 analog TV signal, how you view or record it is up to you. You have one signal coming out of the converter box; you can run it into the VCR, and through and back out to the TV. If you have a second VCR, you can split that signal, run it through both and then to the TV, or if you want to record something and watch a second program, then you need something to get a second signal—indeed, a second box is not a bad idea.

Antennas for DTV are no different than those for any other TV signal of the same channel. Many DTV signals are on the UHF band, so be sure to get one that covers UHF and VHF. RadioShack has a good selection, a Web search will find national and local retailers who sell antennas. Even a pair of rabbit ears might be enough, depending on how far you live from the TV transmitters.

What is most interesting about these questions is that they are the same ones from 30 years ago, when cable TV became popular.

Don, N2IRZ

The following letter was sent to Kent Britain, Pop'Comm*'s "Antenna Room" columnist, and Kent responds below...*

Dear Kent:

I built one of your HDTV antennas ["A Cheap And EZ HDTV Antenna Project"] out of PVC and it really does a nice job. I really enjoyed the article in *Pop'Comm*, and have a friend who built one also. Question: I have TV stations to the west of me and also to the southeast of me about the same distance away. Can you stack two of these antennas using a splitter pointing in different directions, and if so , how far apart do they need to be. I just got mine together yesterday and plan on a few changes, maybe a preamp—who knows.

Bob
Via email

Dear Bob:

If you're using a splitter and pointing two antennas in two directions, there is no classic "stacking distance"; after all, you're not trying to combine both antennas on the same signal. So a foot or two apart is fine, longer tends to have more coax loss, but hey, if it works go for it. A preamp will help. The average TV has a very poor sensitivity. There is a trade off between sensitivity and the ability to handle strong local signals. So if you don't have any stations real close, the preamp will probably help.

Kent, WA5VJB

Radio Austria International, Hear Today, Gone Tomorrow, And Farewell Flevoland

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

And there goes another one down the tubes! Radio Austria International was due to end its English language broadcasts at the end of 2008. They haven't announced why, but probably it's one of the same old excuses: "everyone" is moving to the Web, or they lack the necessary Euros, or you can now hear "Austria Today" anytime, anywhere on your Blackberry, Blueberry, Raspberry or whatever, and now even on your electric toothbrush. As a dedicated shortwave listener, all that's left for you to do is sputter...or make your feelings known at http://oe1.orf.at/service/international. Click the link labeled "Kontakt" on the upper left side of the page.

After the news of the end of Radio Nederland's shortwave service to North America in last month's column we learn of another RN self-inflicted wound. The huge 500 kW Flevoland transmitters are being decommissioned and will be used for spare parts. At the moment I don't know what—if anything—will be done with the antennas and buildings at the site. Perhaps the entire area will be given over to tulips! Whatever happens it's not a good sign for the long-term health of Radio Nederland. The downhill roll has begun.

Radio Republik Indonesia, Serui (Irian Jaya), confirmed Rich D'Angelo's reception of its station on 4605.

Brazil continues to see more action. Long inactive Radio 9 de Julho has returned to shortwave, on 9820, operated by the Archdiocese of Sao Paulo. Radio Havana Cuba makes use of this frequency, especially in the evenings, so bagging the Brazilian is likely to call for some late nights or crack-of-dawn monitoring. It appears that the mediumwave outlet on 1600 kHz operates continuously, but how much of that programming gets relayed on shortwave isn't clear.

There's a new Bolivian operating on 6075, identifying as Radio Causachun Coca in Cochabamba, being heard by some in the 1000 period (which seems to sign on at 1000). The content appears to be all political talk, so the station may be tied into the political instability going on in Bolivia these days.

Nigeria keeps claiming news space lately. A rebel group—the Movement for the Emancipation of the Niger Delta (MEND)—has declared war against the government. La Paz has responded with many dozens of arrests. This is not a particularly nice group of people, apparently, and their efforts have already hurt Nigeria's oil industry. You can, of course, check the Voice of Nigeria for developments. It's on 15120 from 1500 to 2300. And on 7255 from 0500. You may also want to check Radio Kaduna, 4770, which has English from their 0430 sign on.

Reader Logs

Remember, your shortwave broadcast station logs are always welcome. Just *please* be sure to double or triple space between the items, list each logging by its home country and include your last name and state abbreviation after each log. Also needed are spare QSLs or good color copies you don't need returned, station stuff such as schedules, brochures, pennants, photos, and anything else you think would be of interest. And, golly, it would really be nice if you sent a photo of you and your shack (hope springs eternal!).

Help Wanted

We believe the "Global Information Guide" offers more logs than any other monthly SW publication (533* 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 (*note new email address*!). 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.*

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 at 0330 sign on. (Brossell, WI; Maxant, WV) 0335. (MacKenzie, CA)

ANGUILLA—Caribbean Beacon/University Network, 6090 at 0610 with Milisa Scott announcing that the former KTBN transmitter had arrived. (Maxant, WV)

ASCENSCION IS.—BBCWS Atlantic Relay, 6035 to 0459* in FF, closing with ID and frequency. (D'Aangelo, PA) 6135 at 0312 and 17885 in FF at 1733. (MacKenzie, CA) 15400 at 1104. (Fraser, ME)

AUSTRALIA—Radio Australia (Shepparton site except where noted), 6020 at 1105 and 9580 at 1230. (Maxant, WV) 6020 at 1143 and 9580 at 1055. (Fraser, ME) 9580 at 1726, 11880 at 1826, 15515 at 0420 and 17750 at 0347. (MacKenzie, CA) 9785-Darwin at 2200. (Taylor, WI) 11660-Brandon at 2120. (Ronda, OK) 15160 at 0605. (Ng, Malaysia) 15240 at 0250, //15515. (Parker, PA) 15240//15515 at 0334. (Brossell, WI)

ABC Northern Territories Service, 2325-Tennant Creek at 1223 with apparent sports talk. (Strawman, IA) 4835-Alice Springs weak with M/W talks at 2225. (Parker, PA)

CVC-The Voice, 17830-Darwin with rel vocal group at 0408. (MacKenzie, CA)

AUSTRIA—Austrian Radio International, 6144 in GG at 0540. (Ronda, OK) GG at 2000. (Gay, KY) 13775 via Sackville at 1615. (Maxant, WV)

BELARUS—Radio Belarus, 7260-Minsk in RR heard at 2231 with folk-style music. (Taylor, WI)

BOLIVIA—Radio Mosoj Chaski, Cochabamba, 3310 at 0001 in (p) Quechua. (Parker, PA) 0111 with W in QQ. (Ronda, OK) Weak at 0930 but much stronger an hour later. (Wilkner, FL)

Radio Virgin de Remedios, Tupiza, 4111.6 at 2353 in SS with M/W talk. Generally poor in noise but now and then strong for a second or two. (Parker, PA)

Radio San Miguel, Riberalta, 4699.3 at 0122 with man in SS. (Parker, PA)

Radio Eco, Reyes, 4409.7 at 0041 with traces of M in SS. Using sideband was helpful. (Parker, PA) Weak at 2340 at 0000. (Wilkner, FL)

Radio Yura, Yura, 4716.6 at 0020 with songs and talk in SS. (Ronda, OK)

Radio Mallku, Potosi (p) 4796.4 at 0350, although not shown as operating at this time this is the only thing listed for this odd frequency. (Parker, PA)

Radio San Jose, San Jose de Chiquitos, 5580.2 at 2350 with music but covered by RTTY at 0000. (Wilkner, FL)

BONAIRE—Radio Nederland Relay, 6190 in DD at 0330 and 17810 in DD at 2105. (MacKenzie, CA)

BRAZIL (All in PP)—Radio Imaculada Conceicao, Campo Grande, 4755 heard at 0340 with call-in pgm. (Parker, PA)

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

Radio Difusora, Londrina, 4815 poor with lively talk at 0010. (Ronda, OK)

Radio Cultural Ondas Tropicais, Manaus, 4845.2 at 0005 under Radio Mauritania, then fair after RM closed. (Ronda, OK) 0127 with lively Brazilian music. (Taylor, WI) 2232 with ballads, Mauritania dominant. (Parker, PA)

Radio Alvorada, Londrina, 4865 with M talk and slow music at 0405. (Parker, PA) 1049 but beginning to fade by 1055. (Ronda, OK)

Radio Clube do Para, Belem, 4885 at 0211, with boisterous M in phone interview. (Parker, PA) 0445 with uptempo Brazilian music. (Wood, TN)

Radio Educacao Rural, Tefe, 4925.2 with M talk, soft music at 0035. (Ronda, OK) 0145 to 0202 close. (Parker, PA)

Radio Anhanguera, Araguaina, 4905 with LA pops at 0123. (Strawman, IA) 2257 ID jingle at TOH. (Parker, PA)

Radio Difusora, Macapa, 4915 at 2307 with the usual reverb annor and pops. (Parker,PA)

Radio Mundial, Osasco, 4974.8 at 0127 with traces of male vocal and other music. Very weak. (Parker, PA)

Radio Brazil Central, Goiania, 4985 at 0020 with talk, IDs, //11815 was good. (D'Angelo, PA) 2325 with ID, blues guitar. (Parker, PA)

Radio Educacao Rural, Campo Grande, (t) 5034.3 at 0145 and 1045. Several mentions of "educacao," all at poor level. (Taylor, WI)

Radio Bandeirantes, SaoPaulo, 6090 at 0410 with music, talk, promos, ID jingles. Anguilla and Nigeria were not on, leaving the frequency clear. (Alexander, PA)

Radio Nacional Amazonia, Brasilia, 6185 at 0030 with a phone-in program, ID at 0030. (Ronda, OK) 6188.5 at 2345, ID at 0059. (Taylor, WI) 11780 at 0100. (Alexander, PA) 0246 with sports. (Parker, PA) 0358 with comments. Off at 0359. (MacKenzie, CA)

BOTSWANA—VOA Botswana Relay, Moepeng Hill, 4930 at 0410 with news. (Parker, PA) 17895 at 2050 with African vocals, VOA IS and ID at 2100 and off. (MacKenzie, CA)

BULGARIA—Radio Bulgaria, 7200 in RR at 0314 and 15700 in BB at 1306. (Brossell, WI) 7200 at 0429 opening. (D'Angelo, PA) 0635. (Maxant, WV) 9400 in RR at 0345. (MacKenzie, CA) 9700 at 0230. (Parker, PA)

Radio Varna, 6000 at 2110 in BB with possible news at 2200. (Alexander, PA)

BURKINA FASO—Radio Burkina, 5030 at 2246 with music variety, M in FF hosting. (D'Angelo, PA) 2345 with FF talk, Afropops, anthem at 0000 and off at 0001. Splatter from Radio Rebelde. (Alexander, PA)

CANADA—RCI, 6000 at 2315 with "Maple Leaf Mailbag" and 9515 at 1612 on riots and violence in immigrant neighborhoods. (Fraser, ME) 7230 via Vatican at 0316 with talk in AA. Also 9520 via Austria in AA at 0336. (Brossell, WI) 1620 with Canadian weather. (Maxant, WV) 13650 in AA at 1905, 15235 in FF at 1915, 15330 in FF at 2116. (MacKenzie, CA)

CBC Northern Quebec Service, 9525 at 2115 with W DJ and American vocals. (Maxant, WV)

CFRX, Toronto, 6070v with "Weekend Morning Show" at 1148, frequent CFRB IDs. (Ronda, OK) Slightly off frequency at 1433. (Alexander, PA) 1615 with call-in show. (Maxant, WV)

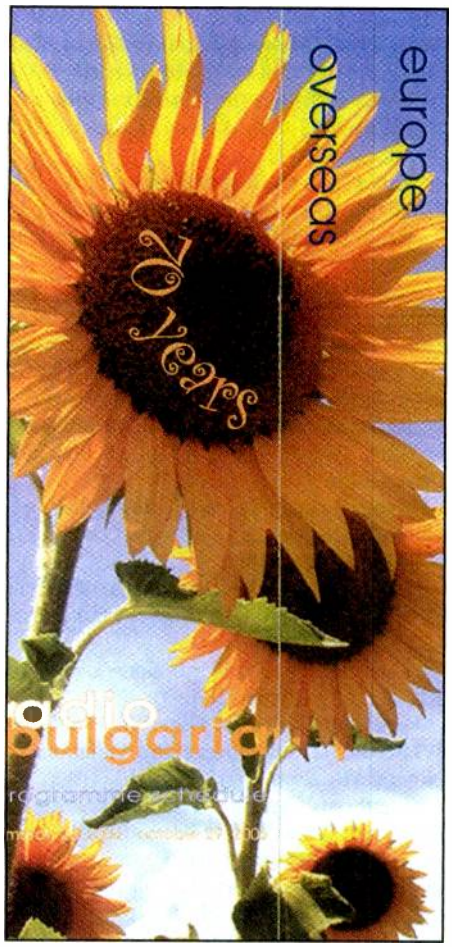
CHAD—Radio Nationale Tchadienne, 4905 at 0450 in FF playing a mix of FF pops and highlife vocals. Long talk at 0512. (D'Angelo, PA) 0450 with M annor singing along with some of the selections. (Wood, TN) 0510. (Ronda, OK)

CHILE—CVC-La Voz, Santiago, 11970 in SS at 0349 and 17680 in SS at 1738. (MacKenzie, CA) 15410 at 1234 with PP vocals. (Brossell, WI)

CHINA—China Radio International, 7160-Nanning, good in Mandarin at 1214, also 7175 via Russia at 2220. (Gay, KY) 7285 via Albania at 2140 with "China Drive" pgm, //5960. (Alexander, PA) 9665 via Brazil in SS at 0327 and 9685-Urumqi in RR at 1219. (Brossell, WI) 9570 via Albania in CC at 0355, 9665 via Brazil in SS at 0313, 9790 via Cuba in CC at 0410, 13700 via Canada in SS at 2226,15160 in CC at 0432 and 15665 in RR at 0416. (MacKenzie, CA)

CNR/CPBS, 7110-Shijiazhuang in Mandarin at 1207.(Ronda, OK) 9845-Beijing in CC at 1250 with Firedrake in the backgound. (Brossell, WI)

Voice of the Strait, Fuzhou, 4900 in CC at 1211. (Strawman, IA) 1310. (Ng, Malaysia)



Radio Bulgaria is still sending out anniversary material two years after the event. After 70 years of operation I guess they're allowed. (Thanks Rich D'Angelo)

Voice of Pujiang, Shanghai, 3280 in CC at 1355. (Ng, Malaysia)

Firedrake Music Jammer, 7280 at 1715, 7355 at 1905, 9865 at 1835, 11640 at 0418 and 15635 at 0419. (MacKenzie, CA) 9780 against Radio Taiwan at 1212, 11665//11710 both vs. Radio Taiwan. Also 15285 vs. BBC-Singapore at 1515. (Brossell, WI)

COLOMBIA—La Voz del Guaviare, San Jose de Guaviare, 6035 at 0052 with M in SS and an ad string. (D'Angelo, PA)

Marfil Estereo, Puerto Lleras, 5910 in SS at 0050. (Ronda, OK) 0354 with SS religious talk, ID at 0401 and LA music. (D'Angelo, PA)

CROATIA—Croatian Radio, 3985-Deanovec in Croatian with an interview at 0121. (Parker, PA) 9830 with news in Croatian at 1300. (Gay, KY) 9925 via Germany. Two minutes of news in EE at 2228, SS at 2230. (Alexander, PA)

CUBA—Radio Havana Cuba, 11680 in SS at 0320, //11760. Also 13760 in SS at 2230, //9550, 11750, 11880. (MacKenzie, CA)

CZECH REPUBLIC—Radio Prague, 6080 at 0335 condemning Russia. (Maxant, WV) 0336 via Canada. (MacKenzie, CA) 9445 at 0342, also 9955 (*via WRMI—gld*) at 0224 with mailbag pgm. (Brossell, WI)

DJIBOUTI—Radio Djibouti, 4780 in vernacular at 0335 with music on a stringed instrument. (Parker, PA)

ECUADOR—HCJB, 3220-Pifo, in Quechua at 0110 poor with religious songs and talks. (Ronda, OK) 0930. (Wilkner, PA) 9745 in SS at 0422. (MacKenzie, CA)

Radio el Buen Pastor, Saraguro, 4815 at 0151 in SS with slow vocals. (Parker, PA) (p) at 0950 to 1030. (Wilkner, PA)

La Voz del Napo/Radio Maria, Tena, 3280 at 0203 with seeming live religious service in SS. (Ronda, OK) 0245 with Radio Maria pgmng. (Parker, PA)

HD2IOA time station, Guayaquil, 3810 at 0358. (Wood, TN) 0420. (Parker, PA)

EGYPT—Radio Cairo/Egyptian Radio, 9290-Abis at 0020 with AA discussion, repeated mentions of Iran. (Ronda, OK) 7270-Zabal at 0236. (Parker, PA) 0315 with news. (Maxant, WV) 0318. (Brossell, WI) 9250 Radio Wadi el-Nil service, 2130 in AA with talk in Koran, possible drama. (Alexander, PA) 11550 at 2130 with Egyptian music. (Maxant, WV)

ENGLAND—BBC, 3255 via Meyerton at 0430 and 7120 via Meyerton at 0500. (Ronda, OK) 7120 at 0440. (Parker, PA) 9605 Singapore Relay at 1507 in Mandarin. (Strawman, IA) In Hindi at 1728. (MacKenzie, CA) 9875 Cyprus relay in listed Pashto at 0223. Also 1750 at 1237. (Brossell, WI)

IBRA Radio, 9675 via Nauen at 2000 with religious talks in various African languages with some music numbers. Off at 2029. (D'Angelo, PA)

Bible Voice Network, 9490 via Germany heard at 0030 with "Right from the Heart" pgm. (Ng, Malaysia)

EQUATORIAL GUINEA—Radio Nacional, Bata, 5005 at 2240 with Afropops, highlife, SS anmts, anthem at 2259 and off at 2301. (Alexander, PA)

Radio Nacional, Malabo, 6250 at 0507 with national anthem, SS opening anmts, Afropops. (Alexander, PA)

Radio Africa, 15190 at 2122 with gospel songs and religious talk. (Ronda, OK) 2200 with usual US-produced religious pgms to 2251. Contact info given just before close. (Alexander, PA)

ERITREA—Voice of the Broad Masses, 7100 and 7175 from 0355 open, talk at 0400. None of these were in parallel but all used the VOBME IS. Also 7220 (new) with sign on at 0357 on a different date. (Alexander, PA)

ETHIOPIA—Radio Ethiopia, 7110-Gedja at 0259 sign on. IS of 12 notes on an electronic keyboard, chimes at 0300 and Amharic talk. //5989.8 was weak. The 9 MHz frequency was not heard. (Ronda, OK) 0306 in (p) Amharic. (Brossell, WI) 0318 with HOA vocals. (D'Angelo, PA)

Radio Fana, Addis Ababa, 6110 at 0257 sign on with IS, opening anmt and local music. Also 7210 from *0255 but covered by BBC at 0300. (Alexander, PA)

Voice of the Tigray Revolution, 5950 at *0259 with brief HOA music. Poor with RTI via Florida dominating the channel. (Alexander, PA)

FRANCE—Radio France International, 11725 monitored at 0620. (Maxant, WV) 17620 in FF at 1934 and 17850 in FF at 1734. (MacKenzie, CA)

FRENCH GUIANA—Radio France International, 17620 in FF at 2128, 17630 in SS at 2108. (MacKenzie, CA)

GABON—Africa Number One, 17630 at 1237 with highlife music in FF. (Brossell, WI)

GERMANY—Deutsche Welle, 6075 in GG at 1945 and 11865 Rwanda Relay at 2005. (Gay, KY) 7245 Rwanda Relay in SS at 0437 and 17680 in FF at 1737. Also 15445 from an unknown site in AA at 1926. (MacKenzie, CA) 11865 Rwanda at 2010. (Brossell, WI)

GREECE—Voice of Greece, 9420 in Greek at 0348.//7475. (MacKenzie, CA) 15630 in Greek at 1306. (Brossell, WI)

Radio Makedonias, 9935 in Greek at 1504. (Gay, KY)

GUATEMALA—Radio Buenas Nuevas, San Sebastian, 4799v at 0111 with sappy, slow pops. (Parker, PA) 0212 with SS romantic ballads. (Ronda, OK) 0440 with Christian music. (Wood, TN)

Radio Verdad, Chiquimula, 4052.5 at 0020 with M and SS talks. (Parker, PA) 1111 with EE pgm "Unshakled" and "This is Radio Verdad, Chiquimula, Guatemala."

HAWAII—KWHR, 12130 at 1245 with EE sermon. (Brossell, WI)

HONDURAS—Radio Luz y Vida, San Luis, 3250v, at 0110 with SS talk and religious music. (Alexander, PA) SS annor with rustic dance music. (Taylor, WI) 0215 with soft vocals. (Ronda, OK) 0235 slow country/western. (Parker, PA) 0348 with SS pgm, ID, preaching and off at 0353. (Wood, TN) 1143. (Wilkner, FL)

HRMI Radio Misiones Internacionales, Comayaguela, 3340 at 0054 with gospel chorus. Some EE preaching noted at 1121. (Ronda, OK) 0132 with continuous religious vocals to 0152* (D'Angelo, PA) 0135 brief SS anmts, EE religious pgm. (Alexander, PA) 0308 in SS. (Parker, PA)

HUNGARY—Magyar Radio, 3975-Jaszbereny at 0456 in HH with anmts and IS. 0500* (Parker, PA)

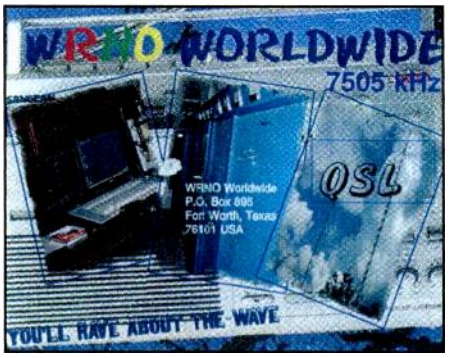
IRAN—VOIRI/Voice of Justice, 3985-Kalamabad at 0115 in Farsi. (Parker, PA) 7235 with an interview at 0210. (Maxant, WV) 15085 in FF at 1855. (Brossell, WI) 12025 in listed Armenian at 0313, 15085 in FF at 1900 with //13755 poor. (Ronda, OK)

INDONESIA—RRI Makassar (p), 4750 monitored at 1107 in II. (Ronda, OK) 1227 (p). (Strawman, IA)

RRI Fak Fak, (p) 4790 at 1155 with Holy Koran. (Strawman, IA)

Radio Republik Indonesia, 9680-Cimanggis in II with request pgm at 0635. (Ng, Malaysia)

INDIA—All India Radio, 4800-Hyderabad at 0120, briefly against the Guatemalan. Also 4880 at 0205 with woman in II. (Parker, PA) 9870-Bengaluru with



WRNO confirms reception of its nighttime 7505 frequency. (Thanks Rich D'Angelo)

A cool QSL from The Voice of Turkey. (Thanks Paul Gager of Austria)

Vividh Bharati service at 1357. (Gay, KY) 0037. (Strawman, IA) 0041. (Ronda, OK)

ISRAEL—Kol Israel, 15760 in HH at 1757. (Maxant, WV)

ITALY—Italian Radio Relay Service, 7290 at 1921, but very weak. (Alexander, PA)

JAPAN—Radio Japan/NHK, 5960 via Canada, in JJ at 0325, 9760 in JJ at 0410, 9835 in JJ at 1738 and 17810 via Singapore in JJ at 0410. (MacKenzie, CA) 6120 via Canada at 1220. (Fraser, ME) 11740 via Singapore in CC at 1234. (Brossell, WI) 15215 in Bengali at 1300 and 15590-Yamata in EE but with JJ pops at 0905. (Ng, Malaysia) 15400 via Ascension in FF at 1250. (Fraser, ME)

Radio Nikkei, 3925 at 1128 with classical piano. (Ronda, OK) 1130 in JJ with laughing annors. (Wood, TN) 1152 with semi-classical piano and W comments. (Strawman, IA) 6055 at 1025 with JJ talk, brief EE phrases. (Alexander, PA)

KUWAIT—Radio Kuwait, 11675 in AA at 0315. (MacKenzie, CA) 11990 with US pops at 2013. (Brossell, WI)

LIBERIA—ELWA, Monrovia, 6070 at 2235 with gospel music to closing anmts, anthem at 2300 and off at 2302. Some adjacent channel splatter. No sign of CFRX. (Alexander, PA)

LIBYA—Radio Jamahiriya/Voice of Africa, 21695-Sabratha at 1550 with threshold signal. Stronger on 17725 with IDs, local music, EE news at 1551. (Alexander, PA)

LITHUANIA—Radio Vilnius, 11690-Sitkuani, at 0035. (Maxant, WV)

MADAGASCAR—Radio National Malagasy (p), 5010 at 0055 with fairly strong carrier but just traces of music. (Parker, PA) 0200 with a variety of light instl music, chorals and local ballads. (Alexander, PA) 0322 with talks in Malagasy. (Brossell, WI)

MALAYSIA—RTV Malaysia, 5030-Kuching (Sarawak) with Malay pops at 1235. (Ng, Malaysia)

MALI—RTV Malienne, Bamako, 5995 at 0712 with M in FF and phone-in show, music segment, different pgm with M/W hosts. (D'Angelo, PA) 2335 with FF talk, variety of music. Off at 0001. (Alexander, PA)

MAURITANIA—Radio Mauritanie, Nouakchott, 4845 in (p) AA at 2232 with talks. Colliding with the Brazilian, but dominant. (Parker, PA)

MEXICO—Radio Mil, Mexico City, 6010 at 1048 with ranchera vocals, IDs at 1046 and 1049. (Strawman, IA)

MOROCCO—RT Marocaine, 15340 in AA at 1300 with ID and presumed news. (Brossell, WI)

NETHERLANDS—The Mighty KBC, 6055 via Sitkuani (Lithuania) with old US pops at 2150. (Maxant, WV) 9770 via Lithuania at 1037 in a test transmission with pops, Beatles songs. (Alexander, PA)

Radio Nederland, 5910 via Russia in DD at 1340. (Ng, Malaysia) 9845 at 0035 on their economy. (Maxant, WV) 9895 in DD at 1415. (Gay, KY)

NEW ZEALAND—Radio New Zealand International, 6170 with regional news at 1316 and 9615 with phone-in requests at 1116. (Ronda, OK) 7145 at 1050. (Fraser, ME) 0601 talk about flooding on the south island. Also 15720 at 0255 announcing as "voice of the Pacific" and into news. (Maxant, WV) 0338 on New Zealand military in WWII. (Brossell, WI) 2110 on drug use. (MacKenzie, CA)

NIGER—La Voix du Sahel, Niamey, 9705 in FF at 2215 with a variety of FF and Afropops. Covered by India opening at 2245. (Alexander, PA)

NIGERIA—Voice of Nigeria, 7255-Ikorodu, poor in FF monitored at 2155. Into Hausa at 1100. (Ronda, OK) 15120 at 2053. (Fraser, ME)

NORTH KOREA—Voice of Korea, 11710 at 1305 with EE news by W, 1500 with IS, ID and anthem. (Strawman, IA) 15180 at 0120 on conspiracy against North Korea by the US and Japan. (Maxant, WV) (*Ahhhh, a conspiracy theory!—gld*)

Korean Central Broadcasting Station, (t) 2850 in KK at 1138. (Taylor, WI) 11735 in KK at 1219. (Brossell, WI)

NORTHERN MARIANAS—KFBS, Saipan, 9465 in RR at 1310. (Brossell, WI)

OPPOSITION—Radio Free Asia, 17880 via Saipan in CC at 0405. (MacKenzie, CA)

Voice of Biafra (to Nigeria), 15280 via WHRI at 2053 with African music, EE ID. (Paszkiewicz, WI)

Radio Solh (to Afghanistan), 17700 with Middle eastern music at 1243. (Brossell, WI)

Radio Free Europe, 9520 via Hungary in RR at 0215. (Brossell, WI)

Voice of Peace and Democracy (to Eritrea), 7165 via Ethiopia. at 0400 to 0430 close. Talks in listed Tigrinya, local drums, HOA music. Was better on //9600v. This is M-W-F only at 0400-0430. (Alexander, PA)

Radio Marti (to Cuba), 5980 in SS heard at 1203. (Wood, TN) 7365 in SS at 0256. (MacKenzie, CA)

Radio Voice of the People (to Zimbabwe), 9895 via Madagascar in heavily accented EE at 0412. (Ronda, OK)

Radio Payam-e Dost (to Iran), 4760 via Grigoriopol at 0310 with songs and talk in listed Farsi. (Brossell, WI)

Echo of Hope (to North Korea), 3985 in KK at 1143. (Ronda, OK)

Voice of Biafra (to Nigeria), 17650 via WHRI at 2025 on human rights violations in Nigeria. (Brossell, WI)

Southern Sudan Interactive Radio Instruction (to Sudan), 15390 via South Africa at *1300-1330* with EE lesson, frequent doorbell chimes, short instl breaks. Similar pgmng on 15760 from *1302. This is M-W-F only. (Alexander, PA)

Sudan Radio Service (to Sudan), 15650 at 1502 poor in noisy conditions. Also 17690 via Sines, at *1500 with EE talks on local issues and short music breaks. (Alexander, PA)

SW Radio Africa (to Zimbabwe), 12035 via Rampisham at 1746 to 1859 close with group vocals, interview and a couple of calls in local languages. (D'Angelo, PA) 1747. (Paszkiewicz, WI)

Voice of the People (to North Korea), 3910 with KK talk heard at 1105. Strong jamming. (Ng, Malaysia)

Radio Nacional de la RASD (to Morroco), 6300-Rabuni, Algeria, at 0736 with continuous AA vocals to fanfare at 0801, ID and news. (D'Angelo, PA)

Radio Liberty, 7290 via Germany in listed Avar at 0315 and 11700 via Philippines in RR at 1235.(Brossell, WI)

PAPUA NEW GUINEA—Radio East Sepik, Wewak (New Guinea), 2225 at 1148 with possible sermon, seemed // to 3385-Rabaul. (Strawman, IA) 1214 with soft guitar and M in Tok Pisin. (Ronda, OK)

PERU—(all in SS)—Radio Sicuani, Sicuani, 4825.5 at 1030 with M DJ and mentions of Peru. (Wilkner, FL)

Radio Libertad, Junin, 5039.2 at 1055 with Andean flute and talk. (Wilkner, FL)

Radio Maranon, Jaen, 4835.6 at 1030 with flute solos, comml. (Wilkner, FL)

Radio Tarma, Tarma, 4775 monitored at 0345 colliding with TWR but mostly dominant. (Parker, PA)

Radio Victoria, Lima, 6019.4 at 0440 with national anthem at 0502, anmts and ballads (Alexander, PA)

Radio Vision, Chiclayo, 4790 heard at 0332 with long-winded sermon. (Strawman, IA) 0341with usual preacher addressing congregation. (Parker, PA) 0405 with preacher. (Ronda, OK)

1050 talk alternating with hymns. (Taylor, WI)

PHILIPPINES—FEBC, 9430 in CC heard at 1209. (Brossell, WI) 15450 in II at 0900. (Ng, Malaysia)

Radio Veritas Asia, 9615 at 1145 with Mandarin talk, religious music, closing EE anmts at 1155 and off at 1156. (Alexander, PA) 1216 in Mandarin. (Brossell, WI)

PIRATE—Dead Cat Radio, 6925u at 1719. Weak level with rock and a gobbling noise. Fortunately their ID came at a 1723 peak. (Zeller, OH)

Sycko Radio, 6925u at 0105-0121* with rock and man saying this was a live show. (Zeller, OH)

WPON—"The Weapon," *6925u at 0005-0054.* Rock, comments on the first George Bush and his Iraq policies—sound of a weapon being cocked, then fired. No contact address given. (Lobdell, MA)

WTCR, 6925u at 0148 with classic rock things. Usual "20th Century Radio" slogan and Belfast address. (Zeller, OH) 0210 with 60s numbers (Hassig, IL)

Northwoods Radio, 6925u at 1225 with pop numbers, laughing anncr, loon calls, ID and address. (Lobdell, MA) *1313-1328* weak with usual pgm, loon sounds at sign on and sign off, one clear ID. (Zeller, OH)

Undercover Radio, 6925u at *0108 and *2255 with Dr. Benway repeating his New Year show for 2007. Anncd the Merlin address and undercoverradio@gmail.com for reports. 0108 pgm had many "Hello Radio" mentions and tests of his mobile transmitter. (Zeller,OH) 0200 and 2300, the former being a 20th anniversary broadcast with excerpts from previous show. The 2300 pgm was an old story about a trip down the Pacific coast highway. (Hassig, IL)

WMPR, 6925am at 2315 with the usual techno pop and computerized-sounding IDs. (Lobdell, MA)

Radio Jamba International, 6925u at 0026 with ID and interview with "Bad Andy." (D'Angelo, PA)

WBNY, 6925u at 1729 with Commander Bunny stuff. Also 2253 talking about his platform, offering campaign bumper stickers for $3 to the Belfast address. (Zeller, OH)

Mystery Radio (Euro) 6220 at 0003 with ID after two songs, then continuous pops. (D'Angelo, PA)

POLAND—Radio Polonia, 9525 via Germany in EE at 1215 with press reviews. Suffered from deep fades. (Fraser, ME)

PORTUGAL—RDP International, 15560 at 1800 with an interview in PP. (MacKenzie, CA) 15690 in PP at 1518. (Brossell, WI)

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 (*again, it's a new email address*). 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 **Brian Alexander** of **Mechanicsburg, Pennsylvania**, who is now making regular use of the indispensable 2009 edition of *Passport to World Band Radio*, courtesy of our friends at Universal Radio. You can't do better than check with these guys for all of your radio hobby needs. You can reach them at (614) 866-4267 or on the Web at www.universal-radio.com, or via regular mail at 6830 Americana Parkway, Reynoldsburg, OH 43068. Ask for a copy of their giant free catalog of shortwave and other radio goodies.

PRIDNESTROVIE—Radio PMR, 6040 with local news in EE at 2302, ID. (Paszkiewicz, WI)

ROMANIA—Radio Romania Int'l, 7185 at 2225 with talk. (Gay, KY) 9655 with EE/RR lesson. Also 11940 at 2030. (Maxant, WV) 15220 ending DX pgm at 1252. (Brossell, WI)

RUSSIA—Voice of Russia, 7125 via Moldova in RR at 0326, 9435-Petropavlovsk with EE at 0352, //9665,11985 in RR/EE at 1750, 13775 at 0438, //9435, 9665, 13635. (MacKenzie, CA) 5900-Armavir in EE at 0426 with "Back In the USSR" pgm. (Parker, PA) 6145 in AA at 2245, off at 2300. (Fraser, ME) 7120 in RR at 1810. (Gay, KY) 9800-Armavir in RR at 0220, 12030-Irkusk in RR at 1231 and 12065-Chita in listed VV at 1244. (Brossell, WI) 7300-Khabarovsk in CC at 1250. Also 15510-Samara in Pashto/Dari at 1332. (Strawman, IA) 12030-Irkusk in RR at 1230. (Ronda, OK) 17495 with EE news at 0805. (Ng, Malaysia)

Radio Rossii, 7200-Yakutsk in RR at 1055. (Ronda, OK) 1150. (Taylor, WI) 7320-Magadan at 1240. (Strawman, IA) 12070 in RR at 0445. (MacKenzie, CA)

SAO TOME—VOA Relay, 4960 with news at 0405. (Ronda, OK) 0425 with "Daybreak Africa" at 0425. (Parker, PA)

SAUDI ARABIA—BSKSA, 11820 with Koran at 2008. (Brossell, WI) 15170 in AA at 0428 and 17560 in AA at 1742. (MacKenzie, CA) 15360 with Koran recitations at 1245. (Ronda, OK)

SIERRA LEONE—Cotton Tree News, 9525 via Ascension at 0745 with an interview cut off by 0800 close. (D'Angelo, PA)

SOLOMON ISLANDS—SIBC, Honiara, 5019.9 with improved audio at 1010. Havana notched. (Wilkner, FL)

SLOVAKIA—Radio Slovakia International, 5930 at with EE comments at 0110. (Maxant, WV)

SOUTH AFRICA—Channel Africa, 3345 with news and commentary at 0415. (Ronda, OK) 3345 at 0320 and 7390 at 0450. Abrupt close at 0455. (Parker, PA) 6120 in Swahili at 0333. (Wood, TN) 7390 in FF at 0434. (MacKenzie, CA)

Radio Sondergrense, 3320 in Afrikaans at 0305. (Parker, PA) 0340 with pops, including some Dolly Parton. (Wood, TN) 0430 with classical music. (Ronda, OK)

SOUTH KOREA—KBS World Radio, 9560 via Canada at 0235. (Maxant, WV) 9650 on an undersea rock claimed by South Korea, Japan and China. (Fraser, ME)

SPAIN—Radio Exterior de Espana, 3350 Costa Rica Relay in SS at 0325. (Parker, PA) 6040 Costa Rica, in SS at 0340, 6055 in SS at 0317, 9535 in SS at 0405, 9630 in SS at 0425, 15110 with a sports event in SS at 1910, 17895 in SS at 1740 and 17715 in SS at 1743. (MacKnzie, CA)

SUDAN—Miraya 101 FM, 15650 via Slovakia heard at 1456 with tribal music, time pips and ID at 1501 and into EE news. (Alexander, PA)

SWAZILAND—Trans World Radio, Manzini, 3200 at 0400 beginning GG at 0400, //4775. (Ronda, OK) 4775 with religious pgm in listed Lomwe, transmission break at 0358 and into GG at 0400. (Ronda, OK) 0420 in GG. (D'Angelo, PA) 0429 in GG. (Wood, TN) 0440 in EE. (Parker, PA)

SWEDEN—Radio Sweden International, 6010 via Canada at 0245, 6065 at 2145 and 7420 also at 2145. (Maxant, WV) 15240 with 70th anniversary celebration. (Brossell, WI)

SYRIA—Radio Damascus, 9333 monitored at 2155 but suffered from very low audio. (Maxant, WV)

TAJIKISTAN—Tajik Radio 1, Yangiyul, 4635 in (p) Tajik with W talk, poor at 0050. (Parker, PA)

TANZANIA—Radio Tanzania, 11735, Zanzibar, at 1757 with local vocals, drums at

In Times Past...

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

Radio Delcar, Chiclayo, Peru, 6700 in SS at 0425 on December 12, 1957, running 250 watts (and the very devil to verify!). (Dexter, IA)

1759, time pips and into Spice FM news and Koran at 1825. (Alexander, PA)

TAIWAN—Radio Taiwan International, 5960 via Florida at 0330. (MacKenzie, CA) 11635 with CC ID at 1300 and into Hakka. (Ng, Malaysia)

THAILAND—Radio Thailand, 9680 at 2031 in EE and into listed Thai at 2045. Also 12120 at 0052 in EE, gongs, NA and into listed Thai at 0102. (Alexander, PA) 9805 with news at 1400. (Ng, Malaysia) 11625-Udon Thani at 1300 with Thai bells and EE ID before going into JJ. (Taylor, WI) 1309 with JJ service. (Strawman,IA)

TURKEY—Voice of Turkey, 7325 at 0305. (Maxant, WV) 0315, //5975. (MacKenzie, CA) 0320 with "DX Corner." (Brossell, WI) 0332 with DX show. (Strawman, IA) 13635 at 1230 to 1257 shut down with Turkish songs. (Brossell, WI) 15450 at 1235 with a report on an underwater motorcycle. (Fraser, ME)

TURKMENISTAN—Radio Turkmenistan, Ashqabut, 5014 with talk at 1234. (Ng, Malaysia)

TUNISIA—RT Tunisienne, 7275 with AA talks at 0320. Also 9720 in AA at 0220. (Brossell, WI)

UKRAINE—Radio Ukraine Int'l, 7440 in UU at 0140. (MacKenzie, CA) 0332 with songs in Ukrainian. (Brossell, WI) 0340. (Maxant, WV)

USA—Voice of America, 6045 via Ascension in Hausa at 0503. (D'Angelo, PA) 9335 Kuwait relay in Dari at 1720, 9575-Greenville at 0407 and 15580 with news at 1755. (MacKenzie, CA) 9715-Thailand Relay with "Exploration" at 0045 and 11705 Philippine Relay with news at 0117. (Ng, Malaysia) 9780 Sri Lanka Relay at 0119. (Strawman, IA) 0125. (Ronda, OK) 11625 Thailand Relay in CC at 1223. (Brossell, WI)

Adventist World Radio/Voice of Hope, 11955 at 2105 on digesting vegetables. (Maxant, WV)

Trans World Radio, 6105 via Wertachtal at 0715-0750 close. (D'Angelo, PA) 7215 via South Africa at 0325 with bells IS, EE ID, and into listed Amharic. (Strawman, IA)

WTJC, Newport, 9370 with religious pgms at 0429. (MacKenzie, CA)

WYFR/Family Radio, 9545 via Taiwan in CC at 0925. (Ng, Malaysia) 11985 via Rwanda in FF at 2111. (Strawman, IA) 12060 via Krasnodar in FF at 2034. (Ronda, OK)

WWCR, Nashville, 7465 at 2245 with "Golden Age of Radio Theatre" with an English murder mystery. (Fraser, ME)

WBOH, Newport, 5920 at 1158 ending ID with mention of "93.7 FM, Newport, North Carolina." Then postal address and call for reception reports. (Wood, TN)

WWRB, Manchester, 3185 at 0345 with big bands, then Brother Stair. (Wood, TN) 5050 in FF at 2250, then into EE at 2303. (D'Angelo, PA)

WRNO, Metairie, 7505 at 0145 with many IDs as "WRNO Worldwide" with thanks for the many reports received and a request for more. Address given as WRNO Radio, P.O. Box 895, Ft. Worth, TX 76101. Also annced email address, but not copied. (Wood, TN)

WINB, Red Lion, 13570 in EE at 1810. (MacKenzie, CA)

VATICAN—Vatican Radio, 6020 with CC ID and frequency anmt to 1215 close. (Ng, Malaysia) 6040 via Canada at 0240 opening. (Maxant, WV) 7125 in SS at 0320 and 7305 in SS at 0305. (MacKenzie, CA) 7250 to 2020 close. (Gay, KY) 11625 at 1818 in possible Latin. (Fraser, ME)

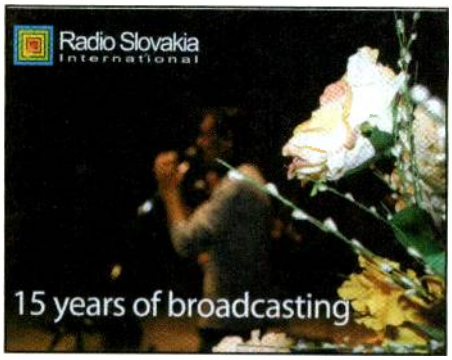
VENEZUELA—Radio Nacional, 15290 via Cuba in SS at 1922. (MacKenzie, CA)

VIETNAM—Voice of Vietnam, 6175 via Canada in SS at 0307. (MacKenzie, CA) 7210 with VV W talk at 0705. (Ng, Malaysia) 9725 via Moosbrunn at 1710 (Paszkiewicz, WI)

ZAMBIA—Zambia National Brdcstg, Pgm 1, 5915 at 0426 in (p) listed Bemba language with M/W talk. (Parker, PA) 0240 open with Fish Eagle IS, choral anthem, f/by vernacular talk. Also 6165 at *0243 with similar sign on routine. Barely audible under Radio Nederland. (Alexander, PA)

CVC International, 4965 at 0503 with heavily-accented EE news. (Parker, PA) 9430 at 0530 with lively talk and pop songs. (Ronda, OK) 0535. (Maxant, WV)

ZIMBABWE—Voice of Zimbabwe, 4828 at 0105. Poor with chorals. (Ronda, OK) Poor at 0157. (Parker, PA)



Radio Slovakia International celebrates 15 years with this QSL card. (Thanks Paul Gager)

A recent QSL card design from Radio Damascus, which isn't coming in so well these days. (Thanks Paul Gager)

And that's a wrap! An ocean of thanks to the following folk who checked in with their logs this time: Stewart MacKenzie, CA; Chris Gay, Lexington, KY; Robert Fraser, Belfast, ME; Peter Ng, Jahore, Malaysia; Brian Alexander, Mechanicsburg, PA; Jim Ronda, Tulsa, OK; Jerry Strawman, Des Moines, IA; William Hassig, Mt. Prospect, IL; Joe Wood, Greenback, TN; Charles Maxant, Hinton, WV; George Zeller, Cleveland, OH; Chris Lobdell, Stoneham, MA; Bob Brossell, Pewaukee, WI; Robert Wilkner, Pompano Beach, FL; Rich D'Angelo, Wyomissing, PA; Rich Parker, Pennsburg, PA; Sheryl Paszkiewicz, Manitowoc, WI; and Mark Taylor, Madison, WI. Thanks to each of you.

Until next month—good listening! ■

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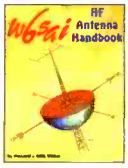

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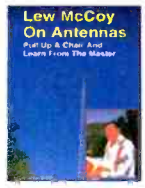

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This listing is designed to help you hear more shortwave broadcasting stations. The list covers a variety of stations, including international broadcasters beaming programs to North America, others to other parts of the world, as well as local and 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	6290	Radio Cairo, Egypt	AA
0030	11690	Radio Vilnius, Lithuania	
0030	9715	Voice of America Thailand Relay	
0030	9490	Democratic Voice of Burma, via Germany	BB
0100	11780	Radio National Amazonas, Brazil	PP
0100	3310	Radio Mosoj Chaski, Bolivia	SS
0100	4052.5	Radio Verdad, Guatemala	SS
0100	15180	Voice of Korea, North Korea	
0100	7505	WRNO, Louisiana	
0100	5930	Radio Slovakia International	
0100	9780	Voice of America Relay, Sri Lanka	
0100	11705	Voice of America Relay, Philippines	
0100	6010	La Voz de su Concencia, Colombia	SS
0100	5940	Magyar Radio, Hungary	HH
0200	9875	BBC Relay, Cyprus	Pashto
0200	6110	Radio Fana, Ethiopia	Amharic
0200	4915	Radio Nacional Macapa, Brazil	PP
0200	4905	Radio Anhanguera, Brazil	PP
0200	7210	VOIRI/Voice of Justice. Iran	
0200	3340	Radio Misiones Internacionales, Honduras	SS
0200	9800	Voice of Russia	RR
0200	7365	Radio Marti	SS
0200	9520	Radio Free Europe	RR
0200	4828	Voice of Zimbabwe	
0230	9700	Radio Bulgaria	
0230	6010	Radio Sweden, via Canada	
0230	4780	Radio Cultural Coatan, Guatemala	SS
0230	5015	Radio Altura, Peru	SS
z3030	4775	Trans World Radio, Swaziland	EE, others
0300	4780	Radio Djibouti	FF
0300	3810	HD2IOA, Ecuador	time checks
0300	7270	Radio Cairo, Egypt	
0300	7110	Radio Ethiopia	Amharic
0300	4930	VOA Botswana Relay	
0300	6190	Radio Nederland Bonaire Relay	DD
0300	11680	Radio Havana Cuba	SS
0300	9445	Radio Prague, Czech Republic	
0300	5910	Marfil Estereo, Colombia	SS
0300	11970	CVC-La Voz, Chile	SS
0300	7125	Voice of Russia, via Moldova	
0300	7290	Radio Liberty/RFE/RL, via Germany	various
0300	4790	Radio Vision, Peru	SS
0300	6175	Voice of Vietnam, via Canada	SS
0300	7305	Vatican Radio	SS
0300	3185	WWRB, Tennessee	
0300	3350	Radio Exterior de Espana, Spain, Costa Rica Relay	SS
0300	7275	RT Tunisienne, Tunisia	AA
0300	7325	Voice of Turkey, via Canada	
0300	5915	Zambia National Broadcasting Corp.	EE/vernacular
0300	4940	Radio Amazonas, Venezuela	SS, irregular
0300	5025	Radio Rebelde, Cuba	sS
0330	7245	Radio Tirana, Albania	
0330	4755	Radio Imaculada Conceicao, Brazil	PP
0330	9400	Radio Bulgaria	RR
0330	6080	Radio Prague, Czech Republic, via Canada	
0330	5960	Radio Japan, via Canada	JJ
0330	9420	Voice of Greece	Greek
0330	4775	Radio Tarma, Peru	SS
0330	5960	Radio Taiwan International, via Florida	
0330	7215	Trans World Radio, via South Africa	Amharic
0330	6120	Channel Africa, South Africa	Swahili
0330	7440	Radio Ukraine International	
0400	9745	HCJB, Ecuador	SS
0400	7100	Voice of the Broad Masses, Eritrea	vernacular
0400	3255	BBC Relay, South Africa	
0400	9665	China Radio International, via Brazil	SS
0400	4800	Radio Buenas Nuevas, Guatemala	SS
0400	5010	RTV Malagasy, Madagascar	
0400	7165	Voice of Peace and Democracy	Tigringa
0400	9895	Radio Voice of the People, to Zimbabwe	
0400	9630	Radio Exterior de Espana, Spain	SS
0400	3345	Channel Africa, South Africa	
0400	3320	Radio Sondergrense, South Africa	Afrikaans
0400	3200	Trans World Radio, Swaziland	
0400	9780	Republic of Yemen Radio	AA
0430	4905	RN Tchadienne, Chad	FF
0430	4885	Radio Clube do Para, Brazil	PP
0430	3975	Magyar Radio, Hungary	HH
0430	7245	Voice of Germany, Rwanda Relay	
0430	7120	Voice of Russia	
0430	15110	Tartastan Wave, Russia	RR
0430	6020	Radio Victoria, Peru	SS
0430	4960	Voice of America Relay, Sao Tome	
0430	4770	Radio Nigeria	

UTC	Freq.	Station/Country	Notes
0500	6250	Radio Nacional, Malabo, Equatorial Guinea	SS
0500	5030	Radio Burkina, Burkina Faso	FF
0500	6185	Radio Educacion, Mexico	
0500	7255	Voice of Nigeria	
0500	7120	BBC Relay, South Africa	
0500	6045	Voice of America, via Ascension Is.	Hausa
0500	9430	CVC International, Zambia	
0530	9655	Radio Romania International	
0600	6070	CFRX/CFRB, Canada	
0600	3800	Radio Transcontinental, Mexico	SS
0700	5995	RT Malienne, Mali	FF
0700	6105	Trans World Radio, via Germany	
0730	9525	Cotton Tree News, Sierra Leone, via Ascension	
0800	4835	VL8A, Alice Springs, Australia	
0930	3280	La Voz del Napo/Radio Maria, Ecuador	SS
1000	4815	Radio el Buen Pastor, Ecuador	SS
1000	6155	Radio Austria International	GG
1000	5020	Solomon Islands Broadcasting Corp	
1000	4717	Radio Yura, Bolivia	SS
1030	4835	Radio Maranon, Peru	SS
1100	6020	Radio Australia	
1100	3925	Radio Nikkei, Japan	JJ
1100	3250	Radio Luz y Vida, Honduras	SS
1100	4845	Radio Mauritanie, Mauritania	AA
1100	9655	Radio New Zealand	
1100	6010	Radio Mil, Mexico	SS
1130	4790	Radio Repiblik Indonesia, FakFak	II
1130	9615	Radio Veritas Asia, Philippines	Mandarin
1130	3235	Radio West Sepik, Papua New Guinea	Pidgin
1130	2285	Radio East New Britain, Papua New Guinea	Pidgin
1200	4900	Voice of the Strait, China	CC
1200	9845	CPBS/National Radio	CC
1200	6120	Radio Japan, via Canada	JJ
1200	11735	Korean Central Broadcasting Station, North Korea	KK
1200	3335	Radio East Sepik, Papua New Guinea	Pidgin
1200	9430	Far East Broadcasting Co., Philippines	CC
1200	5920	WBOH, North Carolina	
1200	9525	Voice of Indonesia	
1230	11750	BBC Thailand Relay	
1230	3755	Radio Republik Indonesia, Makassar	II
1230	17630	Africa Number One, Gabon	FF
1230	12130	KWHR, Hawaii	
1230	5030	RTV Malaysia, Sarawak	Malay
1230	7320	Radio Rossii. Russia	
1230	15220	Radio Romania International	
1230	9525	Radio Polonia, Poland, via Germany	
1230	11700	Radio Liberty-RFE/RL	RR
1230	15450	Voice of Turkey	
1230	15380	Broadcasting Service of the Kingdom, Saudi Arabia	AA
1230	7390	Radio Free Asia, via Sri Lanka	Burmese
1300	9580	Radio Australia	
1300	15630	Voice of Greece	Greek
1300	9465	KFBS, Northern Marianas	RR
1300	6170	Radio New Zealand International	
1300	15340	RT Marocaine, Morocco	AA
1300	11570	Radio Free Afghanistan via Sri Lanka	Pashto
1330	15510	Voice of Russia	Pashto/Dari
1400	9870	All India Radio	HH
1400	9895	Radio Nederland	DD
1400	9805	Radio Thailand	
1430	15650	Miraya 101 FM, Sudan, via Slovakia	EE/AA
1500	9935	Radio Makedonias, Greece	Greek
1500	17725	Radio Jamahirya/Voice of Africa, Libya	
1500	17690	Sudan Radio Service, via Portugal	EE/AA
1500	15690	RDP International, Portugal	PP
1700	9605	BBC Relay, Singapore	
1700	17885	BBC Relay, Ascension Island,	
1700	17680	CVC-La Voz, Chile	SS
1700	15760	Kol Israel	HH
1700	12935	SW Radio Africa, to Zimbabwe	
1700	9725	Voice of Vietnam, via Austria	
1700	17595	Radio Exterior de Espana, Spain	SS
1700	9335	Voice of America Relay, Kuwait	Dari
1800	15580	RDP International, Portugal	PP
1800	11625	Vatican Radio	
1800	11735	Radio Tanzania, Zanzibar	EE/Swahili
1800	13570	WINB, Pennsylvania	
1830	15085	Voice of Islamic Republic of Iran	FF
1900	17620	Radio France International	FF
1900	15290	Radio Nacional Venezuela, via Cuba	SS
1900	15110	Radio Exterior de Espana, Spain	SS
1900	7290	Italian Radio Relay Service, via Slovakia	
1900	15120	Voice of Nigeria	EE, various
2000	9657	IBRA Radio, via Germany	various
2000	11865	Voice of Germany, via England	
2000	11990	Radio Kuwait	
2000	11820	Broadcasting Service of the Kingdom, Saudi Arabia	AA
2030	17650	Voice of Biafra, via WHRI	Fridays
2030	9680	Radio Thailand	
2030	12060	WYFR, via Russia	FF
2100	11550	Radio Cairo. Egypt	
2100	15190	Radio Africa, Equatorial Guinea	
2100	9625	CBC Northern Quebec Service, Canada	
2100	15330	Radio Canada International	FF
2100	15720	Radio New Zealand International	
2100	11985	WYFR, via Rwanda	Ff
2100	9335	Radio Damascus, Syria	
2100	11620	All India Radio	
2130	17630	Radio France International Relay, French Guiana	SS
2130	6055	The Mighty KBC, Netherlands, via Lithuania	
2130	7420	Radio Sweden, via Canada	
2130	9580	Africa Number One, Gabon	FF
2200	9925	Croatian Radio, via Germany	Croatian, others
2200	9705	La Voix du Sahel, Niger	FF
2200	7465	WWCR, Tennessee	
2200	6160	CKZN, Canada	
2230	5005	Radio Nacional, Bata, Equatorial Guinea	SS,
2230	7360	Radio Belarus	RR
2230	9760	Cyprus Broadcasting Corporation	Greek; wknds
2300	6300	Radio Nacional de la RASD, Algeria	SS/AA
2300	6040	Radio PMR, Pridnestrovie	EE. others
2300	4111	Radio Virgen de Remedios, Bolivia	SS
2300	9855	Radio Kuwait	AA
2330	4985	Radio Brazil Central	PP

New, Interesting, And Useful Communications Products

by Staff

FlexRadio Systems Software-Defined Radios

FlexRadio Systems has added two new products to its line of software-defined radios (SDRs). The FLEX-3000 and FLEX-1500 provide an affordable mid-level and an entry-level SDR option for radio hobbyists.

The FLEX-3000, a scaled-down version of the company's FLEX-5000, features high-performance 24-bit A/D and D/A converters for portable or fixed operation. Designed to fit in a laptop computer case, it measures only 12.25 x 12.25 x 1.75 inches and weighs just 7 pounds. Like the FLEX-5000, the FLEX-3000 is a 100-watt 160–6 meter all-mode transceiver that connects to your computer via a FireWire cable. A built-in tuner (ATU) is included at no additional cost.

The FLEX-1500 is an SDR QRP radio in a compact package that connects to your computer via a USB cable. The FLEX-1500 covers 160–6 meters with power output between 500 mW and 1 watt.

The FLEX-3000 and FLEX-1500 both use FlexRadio PowerSDR as the software component underlying the software-defined radio systems. PowerSDR is a premium SDR software package developed and maintained exclusively by FlexRadio Systems.

The FLEX-3000, which was expected to begin shipping in January, is being advertised on the company's website for $1599; the FLEX-1500 is expected to begin shipping in April and is listed for $499. For more information, visit www.flex-radio.com.

Aluratek Internet Radio Jukebox

Aluratek, Inc., a maker of computer peripherals and consumer electronic products, introduced

Aluratek's Internet Radio Jukebox is a USB-powered device that allows instant access to over 13,000 Internet radio stations in over 150 countries with no monthly subscription fees.

a flash-memory-based device that allows users to stream Internet radio stations from around the globe with no monthly subscription fees. The company's USB-powered Internet Radio Jukebox allows instant access to over 13,000 Internet radio stations in over 150 countries. Delivering a plug-n-play user experience, Aluratek's Internet Radio Jukebox auto-launches a software-based media player through a common USB interface found on any laptop or other computer that allows users to find, save, and play online radio stations all over the world.

The Internet Radio Jukebox not only organizes and catalogs Internet radio stations but also determines the quality of audio reception available to weed out low bandwidth broadcasts. An intuitive user interface allows searches of audio programming in a variety of ways and saves data for future use.

The Internet Jukebox lists for $39.99 and is available through CDW, PC Connection, Amazon.com, PC Mall, Buy.com, Provantage.com, and other e-tailers. For more information, visit www.aluratek.com.

FlexRadio's FLEX-3000 is a scaled-down version of the company's FLEX-5000 software-defined radio. It is designed for portable and fixed operation.

Scanner Master Expands Product Line

Scanner Master has recently expanded its line of scanners, scanner software, antennas, and scanner accessories for radio hobbyists. The company also announced that it is now the North American master distributor of Butel ARC Software, and offers CD-ROM and download versions of its software for every computer-controlled and programmable scanner on the market. Additionally, it is also the master distributor for the SSE and Jim line of products out of the UK, the Waters & Stanton and Watson line, also out of the UK, and the DD Amtek line of scanner accessories from the Czech Republic. All these manufacturers and distributors offer custom, high-performance band-pass and notch filters, indoor and outdoor scanner preamplifiers, speakers, antennas, and more.

Scanner Master is developing its own line of scanner accessories as well and currently offers base and portable scanner stands for desktops. Its desk mount for a single portable scanner lists for $39.95; its three-base scanner model lists for $69.95.

Check out Scanner Master's offerings, including the Uniden-Bearcat, GRE GRECOM, RadioShack and AOR scanners, at www.scannermaster.com, or call or e-mail the company for a free catalog at 1-800-SCANNER or info@scannermaster.com.

Scanner Master offers two versions of desk mounts for scanners: single-portable and three-base scanners. It has also recently expanded its line of scanner-related products it distributes.

International Callsign Handbook, 2nd Edition, From Teak Publishing

Teak Publishing announced the release of its second eBook, the *International Callsign Handbook*, 2nd edition, by Gayle and Larry Van Horn. Radio hobbyists interested in receiving and identifying radio stations in the HF/VHF/UHF radio spectrums now have this new CD-ROM publication to aid them. The *International Callsign Handbook* is a concise world directory of various types of radio station identifications covering military, government, maritime, aeronautical, and fixed radio stations. Thousands of callsigns and other types of identifiers have been collected from the authors' personal logbooks, official sources, and hobbyists who contributed their material. It is published in Adobe Acrobat (PDF) electronic format and is fully searchable/printable. It can be run on any computer platform and uses the Adobe Acrobat reader program (a free Internet download).

The *International Callsign Handbook* is 1,414 pages long and retails for $19.95 (plus $3.00 shipping and handling). Dealer pricing is available. For more information, contact Teak Publishing at P.O. Box 297, Brasstown, NC 28902, or via mail at teakpub@brmemc.net.

The *International Callsign Handbook*, 2nd edition, by Gayle and Larry Van Horn, is a concise world directory on CD-ROM of various types of radio station identifications covering military, government, maritime, aeronautical, and fixed radio stations.

Up Close: The ICOM IC-R2500 Part III—The Control Head

by Ken Reiss
radioken@earthlink.net

Last time we looked at the software that makes the IC-R2500 tick, but for our last look at this excellent receiver, we'll focus on what makes the R2500 unique, namely the hardware control head.

The control head attaches to the main unit by a cable that looks a lot like a telephone cable. As shipped, it's about 10 feet long, but an extension is also available if necessary for mobile installation. Only the single cable is needed for the control head; no separate power is required as with many other remote controller units. This makes installation and removal a snap.

For the most part, the hardware controller emulates the functions of the PC software in a much more compact, and portable, format. Of course, there are a few tradeoffs that have to be made when you don't have a full-fledged computer available.

One of the key differences between the computer control software and the hardware controller is memory operation. The computer software can store 2,500 channels in memory banks and an additional 50 pairs (100 total) of channels of scan edge memories (scan edge memories are used to scan portions of the band starting at one frequency and continuing to another). Because it operates on your computer, it's a simple matter to save one set of 2,500 memories and load another, so memory is practically unlimited on most PC-controlled systems.

The ICOM IC-R2500's control head attaches to the main unit by a cable that looks a lot like a telephone cable.

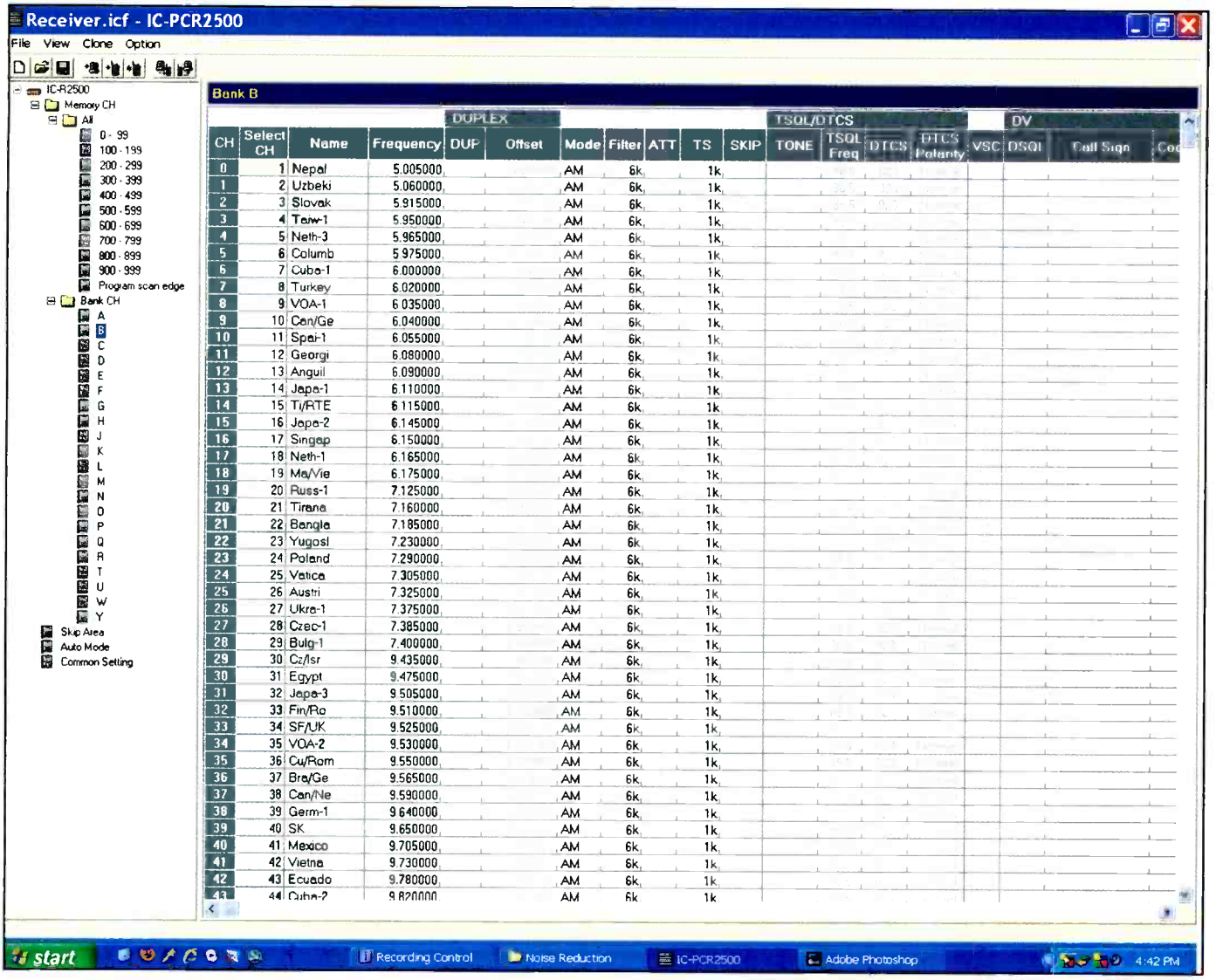
The hardware controller only has access to 1,000 memory channels and 50 pairs of scan edge memories. Because of this difference, there are some interesting challenges getting memory channels moved from the PC to the controller or back. The 1,000 memory channels (plus 50 pairs of scan edge frequencies) can be treated as one big group, or divided into banks for scanning control.

To accomplish this, there's the R2500 cloning software, a module of the PC control software. Its main function is to translate the memory files from the format used on the PC to a format that's acceptable to the hardware controller. This isn't so hard if you don't have all the channels full in the software, but it's not so easy if you have a full 2,500-channel memory file and a 1,000-channel limit. If there's empty space available in the 2,500 channels, the blanks are just skipped in an effort to make room. If not, it will convert the first 1,000 channels and ignore the rest.

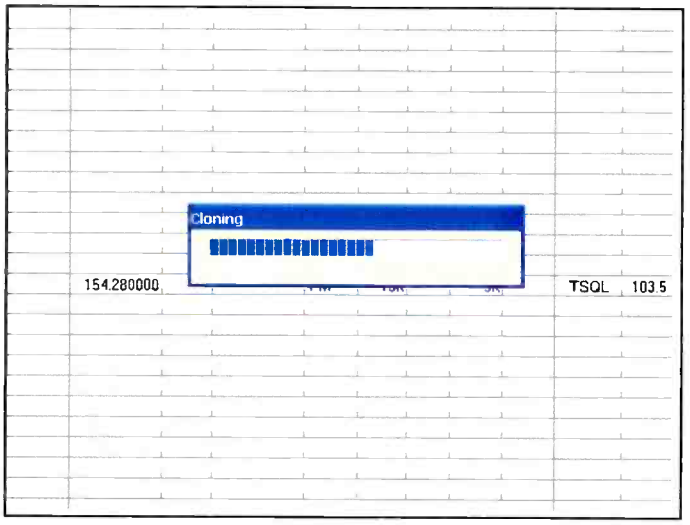
Once loaded, the controller has some, but not all, of the same scanning modes available as the PC software. Memory scan is the most common mode that would be useful to a scanner listener. This scan steps through the memory channels, except those that are designated as skip memories (working a lot like a lockout function on a traditional scanner). Push and hold the SET/SKIP button to lock or unlock a memory channel.

A choice is also available as to whether to scan all banks, or only those selected. The skip scan will operate with this mode, making a versatile scan for a communications receiver.

The Programmed Scan mode uses the pairs of frequencies stored in those extra 100 memory channels to dictate a start and a stop frequency for the scan. While not a complete search function,



A fairly complete worksheet is presented in the cloning module so control of the controller's memory is easy and quick.



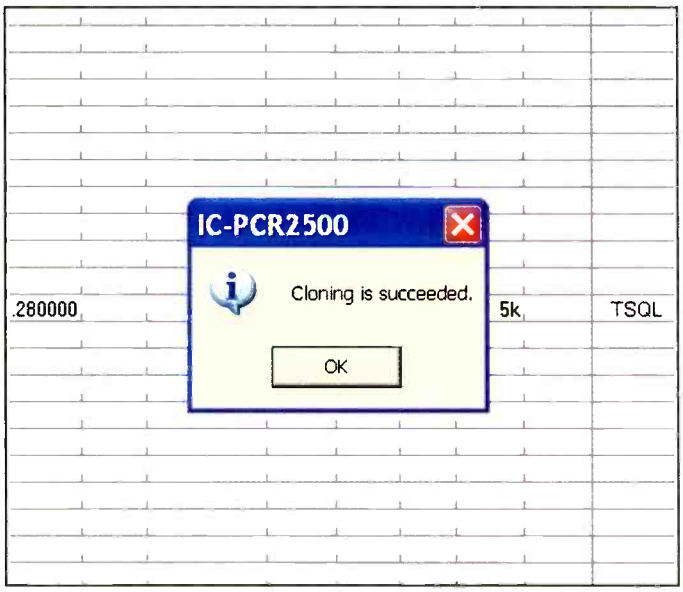
Once the data has been entered, it's sent to the receiver in a "cloning" step.

it's about as close as you'll get from any communications receiver and is versatile enough for the limited searching I've tried with the receiver.

Manual Operation

It's possible to fully operate the R2500 without the aid of a PC, although it's probably not desirable in most cases. Just like any mobile receiver with limited controls and available panel space, the controls for the operation of the controller can be a bit confusing at first, but with practice they're easily mastered.

Programming a memory channel requires the following steps: Set the desired frequency and mode using the dial in the VFO mode. Push and hold the VFO/MR switch for one second to enter the select memory write mode. Rotate the dial to select the memory channel to be programmed and, finally, push and hold the VFO/MR button for one second again to actually write the frequency to memory. Three beeps will sound as a confirmation of your success! You can write the same data to multiple memory channels by simply repeating the process if you'd

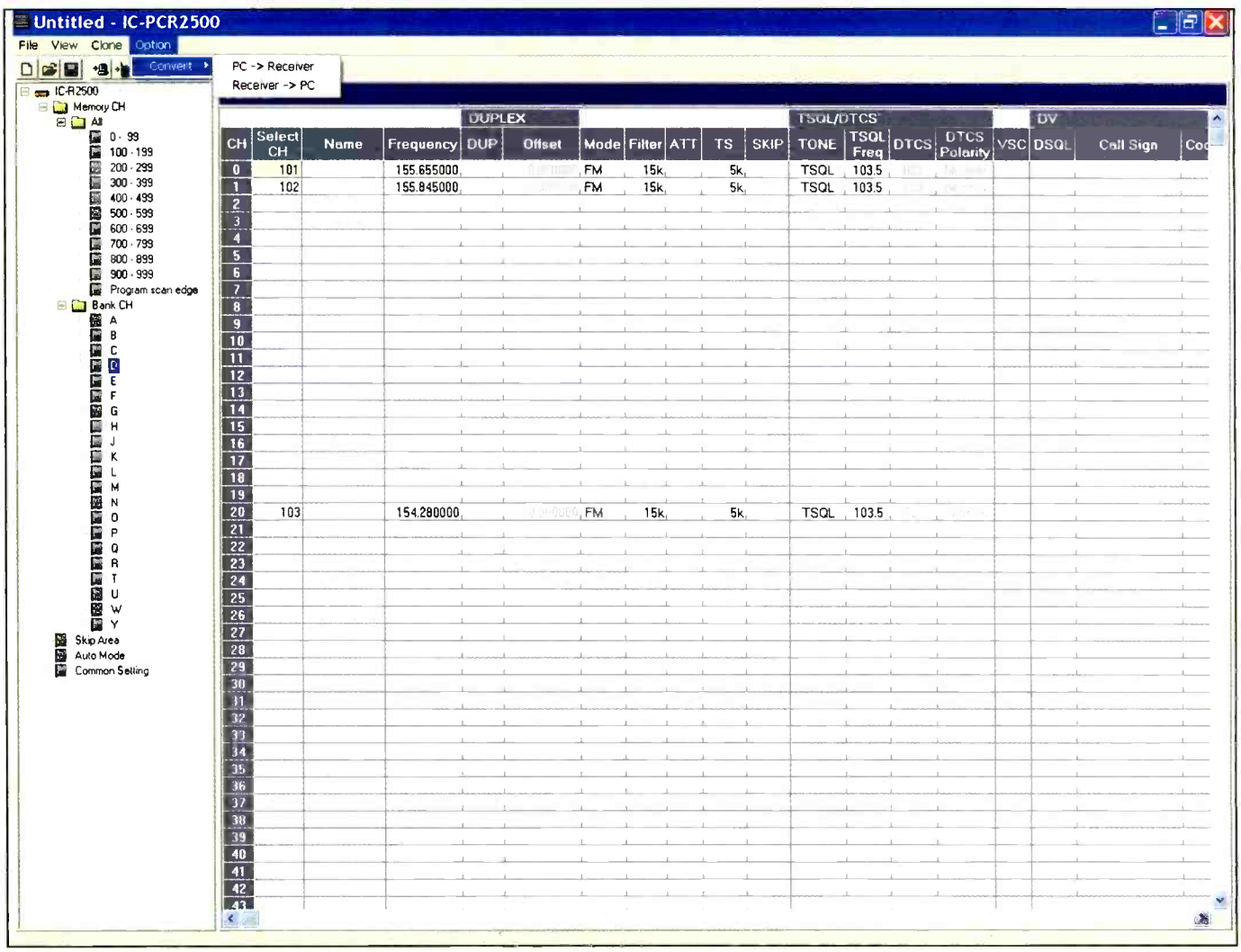


Once completed, the cloning success confirms that the radio is now loaded and ready to go "computerless."

like a common frequency to be in multiple banks, which is a nice feature for those who program that way.

Once the memory is written, you can then go back and enter an alpha tag for that memory. You select the desired memory channel and push the same VFO/MR switch for one second to enter the select memory write mode, just like before. Then you push SET/SKIP several times to find the m name programming. The frequency readout will disappear and a blinking cursor will indicate that you're in the memory alpha mode. Using the dial control you can select the characters, pressing ATT/PRIO to move the cursor to the right as you get the characters selected. When you're finished, press the VFO/MR switch for one second to complete the process.

Once you've done a few, it's not hard, but it's really not intuitive. The selection or use of the multi function buttons is also not very clear. There's nothing about the placement or the labeling of the ATT/PRIO mode button that would indicate that's how you progress from one character to another. It's not a flaw unique to this radio or to ICOM; it's just a limitation of the sophistication of the radio and the limited controls available. Programming it with the PC is much easier and a lot more fun, although knowing how to do it (or having a cheat sheet some-



The cloning module is also where the frequencies are converted from PC software format to controller format or back. Note the banks structure on the left side of the window and the few channels filled in and ready to be loaded. Tone squelch controls are also here, similar to the controls in the PC software.

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*.

Our frequency this month will be **446.0**. Have a listen and let me know what you hear. We'll enter you into our drawing, but you *must* include your address with the email or letter. Email to radioken@earthlink.net (please include the frequency in the subject for correct routing) or via snail mail to Ken Reiss, 9051 Watson Rd. #309, St. Louis, MO 63126, and please be sure to include the frequency on the front of the envelope or post card.

Our most recent winner is **Scott Heath** of **Jupiter, Florida**, who writes,

On the frequency of 118.4, I heard nothing! Even though I'm only about 25 miles away from Palm Beach International airport, I didn't hear anything on that frequency, although some nearby tuning of the VFO brings in the chatter from the planes (I also monitor ACARS from here).

Thanks for the submission and congratulations, Scott. Come on, let's hear from everyone (and don't forget that address!).

place) is probably a good idea, in case you need to make a change out in the field someday.

A Lot In The Box

Beyond that, the R2500 operates pretty much with the controller just like it does without it, which is to say that it's a first class communications receiver all around. It's easier to program with the PC, no doubt, but once programmed, it's a complete and high-performance receiver (only lacking trunking functions for a scanner enthusiast) that would be an excellent addition to any home or mobile installation.

Having DCS and CTCSS tone capabilities on a communications receiver is fairly unusual, and to that ICOM also adds the APCO-25 digital and the D-STAR options. That makes this one very complete and capable receiver.

Until next month, good listening!

During Solar Minimum Chances Are Good For Mediumwave "TNT" (Ten Nations Tonight)

by Bruce A. Conti
BAConti@aol.com

Some space weather forecasters are now predicting an extended solar minimum based on their observations over the past year. The sun has been spotless for most of the past few months. Hardly any new sunspots were observed in 2008 to indicate that the new solar cycle had actually begun.

For mediumwave broadcast DXers this is good news. It means an extended period of outstanding nighttime reception without solar disruptions. The aurora borealis or northern lights caused by solar activity can shut down mediumwave signal propagation across northern latitudes. The current lack of solar activity has allowed northern signal paths to remain open for some truly remarkable DX opportunities.

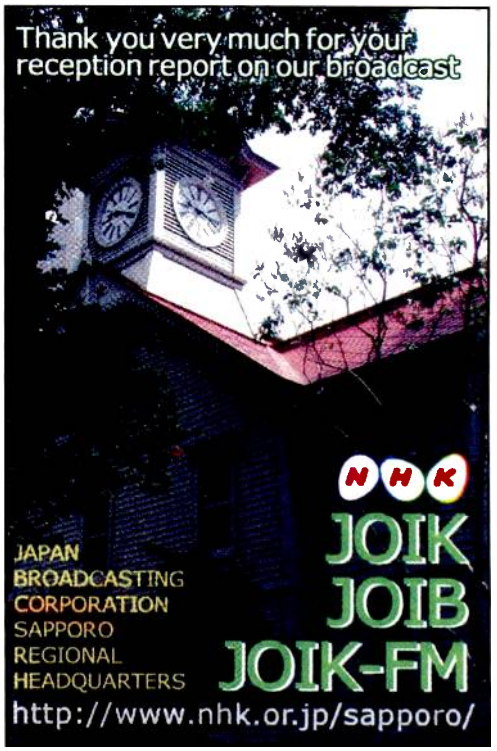
With that in mind here are some suggestions for DX signals from 10 countries that you could receive on your AM radio tonight. We begin with two top transoceanic targets, followed by distinctive transcontinental and Caribbean signals, and end with some challenging, but not impossible, overseas catches, all taking advantage of the quiet solar conditions.

Croatia

Glas Hrvatske, The Voice of Croatia, has been logged on 1134 kHz by DXers coast to coast. With 600 kW of power the signal is regularly received as far inland as Ohio, Tennessee, and Texas with minimal equipment, and it's also been logged by hard-core DXers in the Pacific Northwest. Programming is typically an eclectic mix of folk, rock, and pop music with news on the hour. Listen for daily broadcasts in English 0300–0330 UTC, beginning with station identification, "This is Croatian Radio, the Voice of Croatia," into Croatia Today news. The station is also recognizable by its unusual time pips at the top of the hour. Unlike other European broadcasters like the BBC, Deutschlandfunk, and Radio Nacional de España that use short pips counting down three to five seconds leading to one longer beep on the hour, the Glas Hrvatske pips are all significantly longer in duration. Identification of Croatia will become second nature after becoming familiar with this unusual time marker.

Japan

An easy target for listeners on the Pacific Coast, Japan represents the best chance for transpacific reception by East Coast North America DXers. JOIB Sapporo on 747 kHz and JOUB Akita on 774 kHz, both with 500 kW of power, have been reported in Arizona, Colorado, Florida, Oklahoma, Texas, and as far east as New Hampshire, while solar activity has remained low. The best opportunity for DXers in the Eastern Time zone to catch Japan will be at local dawn, or 1000–1200 UTC, during the longer nights of late autumn and winter. Signals often peak at local



QSL card from Sapporo, Japan.

sunrise and quickly fade out thereafter. JOIB and JOUB are Nippon Hoso Kyokai (NHK) network affiliates, which broadcast the network's daily English language lessons in 15-minute segments in this timeframe.

Mexico

Remember when Wolfman Jack could be heard across the country broadcasting from "The Mighty 1090" XERB? In some parts of the U.S. and Canada, radio stations south of the border are no longer as easy to hear as were the Top 40 rock 'n' roll border blasters of the past. On 1570 kHz listen for the morning rooster wake-up calls of XERF "La Poderosa," a former border blaster that still packs a pretty good punch despite increased co-channel congestion. West of the Rockies check the dial for 1090 XEPRS "Double X Sportsradio" (50 kW, sports talk in English, and formerly the Wolfman's XERB) and 1700 XEPE "The Talk of San Diego" (10 kW, news/talk in English) both located in the Baja California region just south of San Diego. DXers in the east will have better luck with signals from Mexico City such as 730 XEX "Estadio W" (100 kW), 900 XEW "W Radio" (250 kW), 940 XEQ "Bésame" (50 kW), 1000 XEOY "Radio Mil" (50 kW), and 1060 XEEP "Radio Educación" (100 kW). Reception is usually best after midnight during mid-winter when atmospheric noise levels are exceptionally low. ¡Viva México!

Canada

As difficult as it might be for northern DXers to receive Mexico, it can be even more challenging for southern DXers to hear Canada, especially in the desert southwest. The slow but steady migration of radio stations north of the border from AM to FM and DAB (digital audio broadcasting) means that it will only become more difficult to DX Canada in the future. Canada's historic first broadcaster, 600 CFCF (later CIQC) Montreal, abandoned its original AM dial position in 1999 to take over 940 kHz after CBM moved to FM, and once widely heard 1070 CBA New Brunswick was the latest high profile casualty in 2008, with more AM stations scheduled to trickle up to FM this year. Omni-directional (non-directional) 50 kW signals on relatively clear frequencies like 540 CBK Regina (CBC network), 740 CFMZ Toronto (nostalgia, formerly CHWO and CBL), 860 CJBC Toronto (CBC French), and 990 CBW Winnipeg (CBC) are your best bets overall. Additionally, DXers in the east should be able to hear Montreal stations 690 CINF "Info" all-news in French and 940 CINW with oldies music (formerly all-news, now "Montreal's greatest hits"). In the west listen for 690 CBU Vancouver and 1010 CBR Calgary, both carrying CBC network programs.

Cuba

While Canadians may fly to Cuba for winter vacation at their convenience, DXers in the United States will find it easier to travel there by radio. Radio Reloj network stations are the easiest to identify over long distances because of the unique "RR" Morse code identification repeated every minute and a syncopated clock (it sounds like WWV) always ticking in the background while announcers read news in Spanish. Even if you can't understand the announcers, there's a good chance you'll have *no problema* hearing the Morse code slice through co-channel interference. The most widely heard frequencies are 570, 860, 870, and 960 kHz. Radio Rebelde, "la emisora de la revolución desde la Habana," has been heard coast to coast broadcasting with as much power as 150 kW on 600, 670, 710, and 1180 kHz, plus 5025 shortwave. Listen for news, sports, music, culture, and of course propaganda programs in Spanish for Cuban citizens and expatriates.

St. Kitts & Nevis

This Leeward Island nation was the last British dependency in the Caribbean to become independent, in 1983. It's now home to the last of the Caribbean "split frequency" radio stations on the air, ZIZ St. Kitts at 555 kHz and The Voice of Nevis (VON) at 895 kHz. The Caribbean Islands used to have several radio stations assigned to split frequencies halfway between standard 10 kHz interval channels. 535 GBN Grenada, 595 DBS Dominica, 705 NBC St. Vincent, 825 Radio Paradise-St. Kitts, 885 ZJB Montserrat, and 1165 Caribbean Radio Lighthouse-Antigua are just some of the once-popular split frequency DX targets that have either moved on-channel or to FM because of the digital 10 kHz step tuning of modern AM receivers. ZIZ and VON are the only radio stations on their respective frequencies of 555 and 895 kHz worldwide, so they can be identified by carrier alone, though most DXers would prefer to hear some audio for positive identification. Along with local

music and sports, ZIZ relays the BBC World Service at night. VON broadcasts calypso, soca (the fusion of soul and calypso), and R&B music all night.

Turks & Caicos

530 kHz is the beginning of the AM broadcast band, or what some might say is the bottom of the dial. It's also where you're most likely to find Radio Visión Cristiana (RVC) broadcasting from the Turks & Caicos Islands. Aside from a few flea-powered highway advisory radio stations sprinkled across the United States, CIAO Brampton, Ontario, is the only full-power North American broadcaster on 530, which leaves the frequency wide open for DX reception. RVC broadcasts Christian programs in Spanish from its 40 kW island flagship station on 530, simulcast on network affiliates WRVP and WWRV. Station identification at the top of the hour is in English, "WWRV 1330 AM New York, WRVP 1310 AM Mount Kisco, 530 AM Caicos Island and British West Indies." There are a couple of potential surprises to be aware of while monitoring 530 though. CIAO broadcasts blocks of ethnic programs including Spanish, and Radio Enciclopedia from Cuba is on the same frequency, so make sure to get positive identification of RVC rather than mistaking it for Canada or Cuba.

United Kingdom

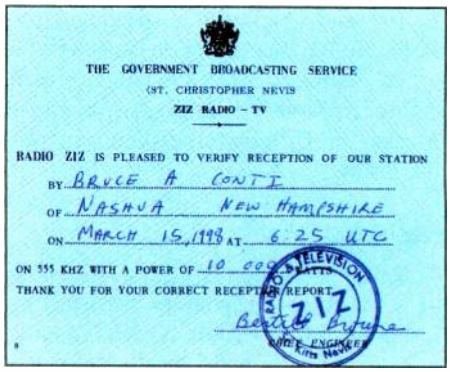
Absolute Radio, formerly known as Virgin Radio, on 1215 kHz is absolutely possible to hear east of the Rockies, while more of a challenge but not impossible on the west coast. Absolute Radio operates several synchronized transmitters at various locations in Great Britain with powers of 100 to 200 kW. The split frequency makes it an easy target in the east, and the high power combined with rock music programming has given Absolute Radio enough punch to be convincingly heard in the Pacific northwest during the current solar minimum. Alternative British targets regularly heard in the east are TalkSport on 1053 and 1089 kHz, BBC Five Live news/talk on 693 and 909 kHz, and BBC Radio Wales (100 kW) on 882 kHz.

Saudi Arabia

The Broadcast Service of the Kingdom of Saudi Arabia (BSKSA) at 1521 kHz is the signal heard 'round the world with an astounding 2000 kW of power. This signal often blows away the adjacent local radio stations at 1520 kHz in the northeast during sunset. Though 1521 can hold strong until transmitter site dawn, sunset is usually the best time for Atlantic coast reception of Middle East radio stations. If the filtering of your receiver isn't narrow enough to separate 1521 from 1520 kHz, then you may only hear a 1 kHz tone. This tone, called a heterodyne or "het," is generated when the receiver demodulates a signal at 1520 and mistakes the 1521 signal for part of the 1520 audio. The demodulation circuitry subtracts 1520 from 1521 resulting in a 1 kHz tone just like subtracting the audio from the 1520 carrier. So if you hear a clean 1 kHz tone interfering with a station on 1520, then you most likely have the superpower signal from Saudi Arabia within your reach. Try reorienting the antenna and tuning slightly above 1520 to pull in the 1521 audio. The BSKSA program on 1521 can also be heard on 9555 and 9870 kHz shortwave until 2300 UTC when the shortwave broadcast signs off the air.

South Korea

Radio station HLAZ on 1566 kHz from Cheju Island usually blasts into the Pacific northwest with 250 kW of power before sunrise and is often reported by DXers from the eastern slopes of the Rockies to Florida. The frequency is relatively clear in the predawn hours with only a handful of competing low-power co-channel signals from Australia, China, and the Philippines. There is a 1000 kW radio station located in India on 1566 kHz, but it's an extremely rare visitor to the Pacific coast and even less likely inland. So if you get a signal on 1566 at dawn, South Korea is a safe assumption.


THE GOVERNMENT BROADCASTING SERVICE
(ST. CHRISTOPHER NEVIS)
ZIZ RADIO – TV

RADIO ZIZ IS PLEASED TO VERIFY RECEPTION OF OUR STATION
BY BRUCE A CONTI
OF NASHUA NEW HAMPSHIRE
ON MARCH 15, 1998 AT 6.25 UTC
ON 555 KHZ WITH A POWER OF 10 000
THANK YOU FOR YOUR CORRECT RECEPTION REPORT
Bertrice Bryan
CHIEF ENGINEER

QSL card from ZIZ St. Kitts.

Radio Visión Cristiana promotional brochure.

This Month In Broadcast History

For you fans of broadcast trivia, here's a look back in time...

75 Years Ago (1934): President Franklin Roosevelt requested legislation that led to the Communications Act of 1934 and the establishment of the Federal Communications Commission.

50 Years Ago (1959): Philco introduced the first transistor TV. John Gambling began his radio career at WOR New York City where he remained an on-air personality for over 30 years until retirement. Fidel Castro addressed the nation of Cuba for the first time via Radio Rebelde as the Batista dictatorship was overthrown.

25 Years Ago (1984): "Radio Ga Ga" by the rock group Queen was released as a 45 rpm hit single. Pirate radio station "Laser 558" commenced broadcasting from aboard the MV Communicator anchored in international waters off the coast of England. Oprah became the new host of "AM Chicago" on WLS-TV, the program that was later to be nationally syndicated as "The Oprah Winfrey Show."

However, depending upon your location, careful planning may be required to catch even just a hint of HLAZ. The best chance of reception will be late December into January when winter nights are longest, especially now while solar activity is at a minimum for a good transpolar opening: the signal path passes north of Alaska for DXers in the Northeast United States. Before 1230 UTC the signal is beamed to China with programming in Chinese. After 1230 coinciding with Japanese programming the beam is aimed in a more favorable direction for transpacific reception which leaves a very narrow window of opportunity, although 7:30 a.m. Eastern Time is perhaps too late for East Coast North America DXers to take advantage of the higher power.

Broadcast Loggings

This month's selected logs begin with signals from the top 10 target countries. All times are UTC.

555 ZIZ Basseterre, St. Kitts & Nevis, at 0049 a soca vocal with '50s Sam Cooke and doo-wop influences. Better on southeast Kaz Delta antenna because of less WGAN slop than on northeast SuperLoop. (Connelly-MA)

570 CMDC Radio Reloj, Santa Clara, Cuba, at 0050 heard Reloj ticking and beeping mixed with WMCA. At 0105 monotone-drone news was heard mixed with domestics and an unidentified Latin American signal. (Connelly-MA)

600 HJHJ Radio Libertad, Barranquilla, Colombia, at 0834, "Música ranchera y música vallenata para que la goce Colombia...la voz de Colombia," local time check and Libertad mention. Poor-fair under Radio Rebelde. Verified per Henrik Klemetz and Gert Nilsson via RealDX. (Black-MA)

600 CMKV Radio Rebelde, Urbano Noris, Cuba, at 0105 carrying a speech parallel the 610 kHz Rebelde outlet; a good signal over an unidentified second Spanish speaker on the southeast Kaz Delta. (Connelly-MA)

600 YVQB Radio Sucre, Cumaná, Venezuela, at 0028 a man in "announcer voice" with "Radio Sucre" ID, promos with Sucre and Venezuela mentions, then man and woman with news. Fair under Radio Rebelde. (Black-MA)

693 BBC Radio 5, United Kingdom, at 0150 good with synchro echo; in-studio discussion. "RR" Morse code splatter from an unidentified Radio Reloj, Cuba. (Conti-ME) At 0230 good with synchro echo; "This is Five Live" into news headlines. (Conti-NH)

710 WFNR Blacksburg, Virginia, at 1151 with "Morning in America on AM 710 WFNR." Good, steady signal. (New-GA)

747 JOIB Sapporo, Japan, at 0958 a weak S5 signal at best; brief audio, talk in Japanese, clear top of the hour NHK time pips. Also 774 kHz carrier noted, S4 at best, likely from JOUB Akita. (Conti-NH)

750 KOAL Price, Utah, at 1040 with George Noory on Coast to Coast AM, and a local spot for a business in nearby Helper, Utah. Complete fadeouts and returns, considerable splash from the local station KIDR on 740 kHz. (Barton-AZ)

774 JOUB Akita, Japan, at 1018 heard heterodyne, then a man speaking in Japanese at 1031; poor strength with moderate 780 WBBM interference. At 1053 a man speaking in Japanese, then music; received on a barefoot SRF-T615 at an estimated 6033 mi/9709 km distance. (Allen-OK)

800 PJB TransWorld Radio, Bonaire, Netherlands Antilles, at 0101 a gospel vocal followed by Spanish preaching; good, dominant on southeast Kaz Delta that completely nulled co-channel WNNW. (Connelly-MA)

882 BBC Radio Wales, Washford, United Kingdom, at 0049 a discussion about national parks; fair. (Connelly-MA) At 0359 good, "BBC World Service is available 24 hours a day on DAB..." and time marker into BBC World Service news. (Conti-NH)

895 VON Bath Village, St. Kitts & Nevis, at 0047 heard with soca music; poor signal. (Connelly-MA) At 0900 fair with light R&B/soul vocals. (Conti-ME)

1030 XESDD Tijuana, Mexico, at 0441 Spanish romántica music, "La Tremenda" jingle, and ranchera music. Fair to poor; 1040 KLHT interference, no sign of KTWO Wyoming. (Park-HI)

1060 XEEP Radio Educación, México, at 0500 fair; "Esta es Radio Educación..." into a cultural program. (Conti-NH)

1089 TalkSport, United Kingdom, at 0000 an excellent signal; "From the Sky News Center, TalkSport News." (Conti-ME) At 0041 with telephone talk over somebody's digital HD hash. (Connelly-MA) At 0326 heard fragments of English news talk. Fair signal peaks. (Beu-TX)

1110 KFAB Omaha, Nebraska, at 1141 with "KFAB Timesaver Traffic." Usually buried in splash from the nearby local blowtorch KFNX on 1100 kHz. (Barton-AZ)

1120 KMOX St. Louis, Missouri, at 1100 heard with a null on KANN Roy, Utah. First logging in Arizona for me. Usually nulling KANN uncovers smoky mumble-rumble, but this morning heard KMOX above the rumble with good IDs, network news, local spots, local traffic reports and weather. ID as "News/Talk 1120 KMOX." (Barton-AZ)

1130 KWKH Shreveport, Louisiana, at 1130 heard with country music and ID. Not heard for the past year until this morning session. Readable, but only fair, and mixing with an unidentified Mexican station. (Barton-AZ)

1134 Glas Hrvatske, Zadar, Croatia, at 0043 heard with a country-sounding Slavic vocal; good. (Connelly-MA)

1140 KSFN North Las Vegas, Nevada, at 1330 noted with syndicated Dan Patrick sports talk show. Must be a program change; remember hearing "Opie & Anthony" here until now. (Barton-AZ)

1215 Absolute Radio, United Kingdom, at 0150 heard "Dude Looks Like a Lady" by Aerosmith, "Viva la Vida" by Coldplay, then an Absolute Radio ID by a woman; good. (Connelly-MA)

1521 BSKSA Duba, Saudi Arabia, at 0133 a fair peak with talk by a man in Arabic. (Beu-TX) At 2030 a good signal during receiver afternoon daylight; Middle Eastern music and a woman with Arabiya Saudiya ID, parallel 9555 and 9870 kHz. (Conti-ME) At 2300 with Arabic string music, a man and woman talking, then beeps into news; a huge signal. (Connelly-MA) 2325–2330 strong with a capella chanting by man and woman in Arabic. (DeLorenzo-MA)

1550 WNZF Bunnell, Florida, at 0259 with tropical storm updates and information. Decent signal fading in and out of a mix of stations. "When severe weather threatens Flagler County, count on WNZF..." (New-GA)

1600 KAHZ Pomona, California, at 0100 with a Chinese program and ID, but then covered by "Real Oldies 1600" KRKE Albuquerque, New Mexico. Nothing but the good times rock 'n' roll thereafter, at local sunset. (Barton-AZ)

Thanks to Richard Allen; Rick Barton; Mike Beu, KD5DSQ; Chris Black, N1CP; Mark Connelly, WA1ION; Marc DeLorenzo; Bert New; and Dale Park.

Until next time, 73 and Good DX! ■

More *Still* On CB Antenna Basics And Our HDTV Project

by Kent Britain, WA5VJB
wa5vjb@cq-amateur-radio.com

This month we'll cover a variety of antenna topics and make a quick revisit to the popular HDTV construction article that *Pop'Comm* ran last time. So warm up your Cobra 29 and that government HDTV converter box, and let's get started.

Loading Coils

A loading coil has loss, you can't escape that. A bigger coil, larger wire, low-loss plastics may help, but really only result in *less* loss. There are two ways to make a loading coil that has fewer turns and still works on 27 MHz. The first approach would be to make the antenna longer. Now you don't need as much coil, but you're back to those funny scraping noises when your car passes though parking garages again. The second approach involves reducing coil size. Let's take a look at that now.

Cap Hats

The capacitance hat (cap hat for short) has been used on AM broadcast antennas for over 80 years, and for good reason.

Like I said, you have loss in a loading coil. If you can do something that reduces the amount

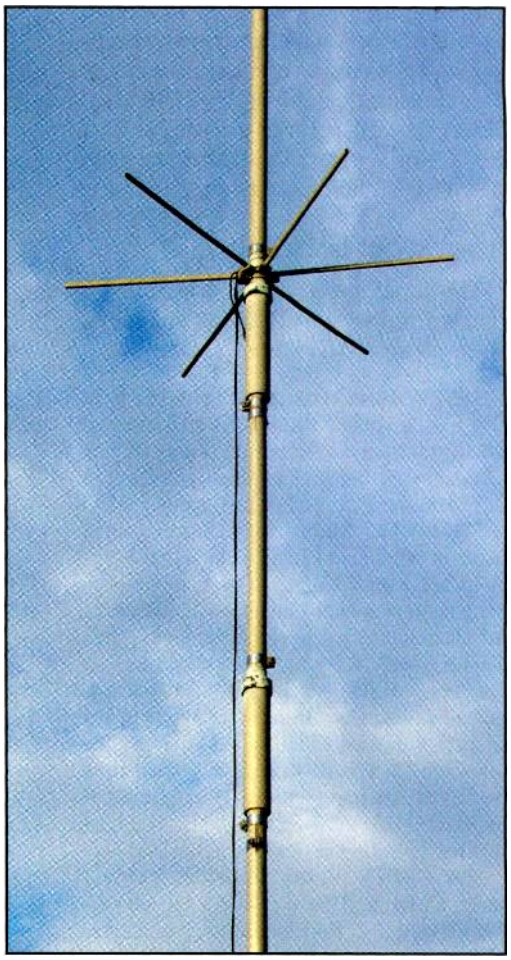


Photo A. This capacitance hat is a beauty.

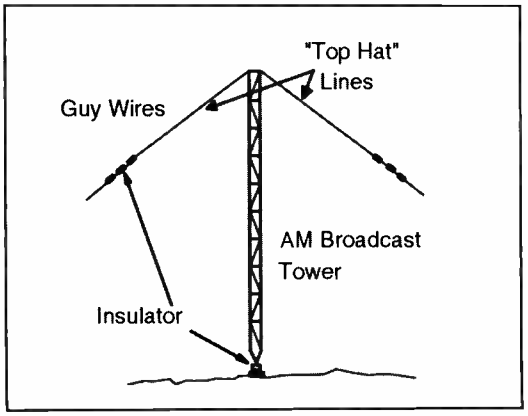


Figure 1. Using guy wires as a capacitance hat.

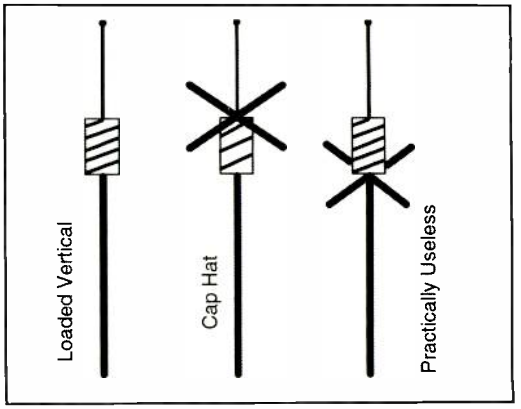


Figure 2. The proper setup for a capacitance hat.

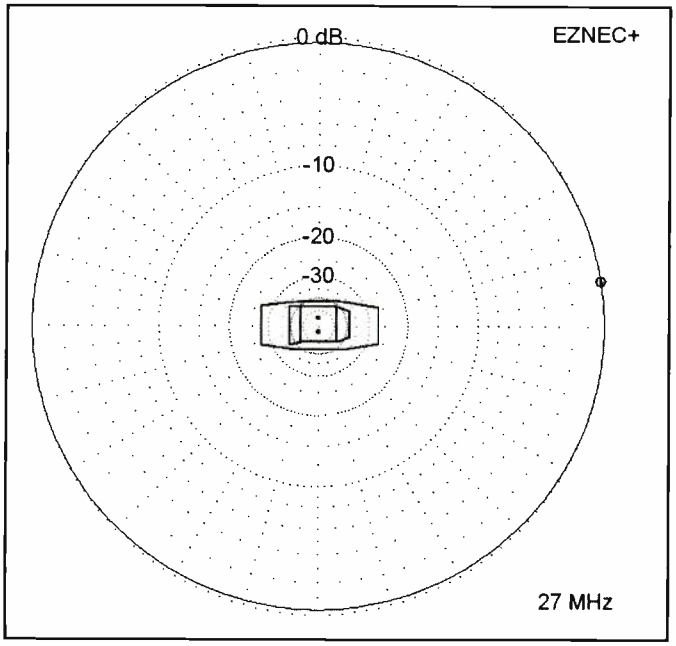


Figure 3. Dual CB antennas three feet apart.

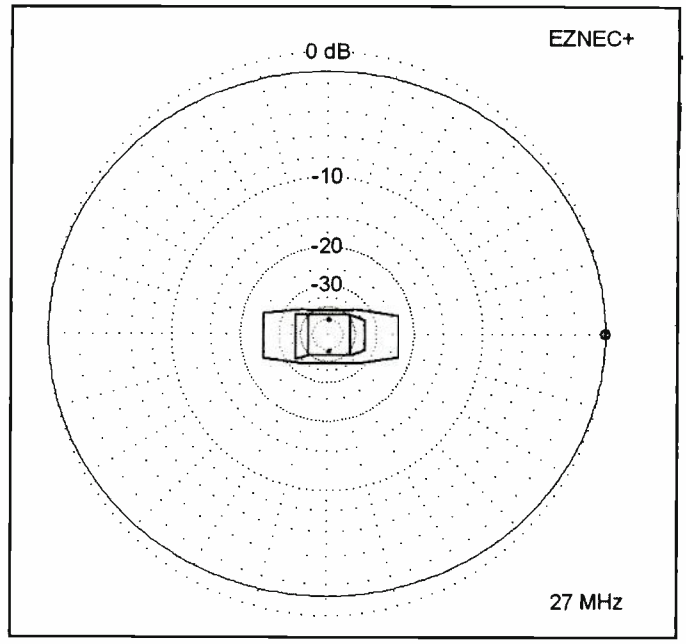


Figure 4. Dual CB antennas six feet apart.

of coil you need to tune the antenna, the better the antenna works. At the bottom of the AM broadcast band, a quarterwave vertical is about 130 meters long, or about 450 feet—that's a pretty tall antenna. But using the guy wires themselves as a cap hat (**Figure 1**), the station can make do with a shorter, or should I say cheaper, tower. Here you see the guy wires attached directly to the top of the tower. Some distance away, a number of insulators are used to electrically isolate the top section of guy wire. The wire loops in the insulator form their own low-value capacitor, so they'll usually use several insulators to break up this stray capacitance.

The short lines above the loading coil add some capacitance between the top of the antenna and ground. This lowers the frequency resonance of the antenna, and now you need less inductance to tune it. In **Photo A** you see the cap hat on my Hustler 5BTV vertical. The 5BTV is a trap vertical (I feel another column coming on), and the function of its cap hat is a bit more complex, but it greatly shortens the 40 meter section of the vertical. (By the way, I do believe in ground radials and have over 300 radials under that vertical—I feel yet another column coming on.)

The proper setup for this is shown in **Figure 2**. You add the cap hat, then remove some of the coil to retune the antenna. If you shorten the antenna to retune it, just remember, longer is better, so the antenna is not going to work as well. Put the cap hat under the coil, and it doesn't do much.

Retrofit kits often add a cap hat (for marketing reasons they often call them radials), but with them the user can't get to the coil so you have to shorten the antenna to re-resonate the antenna to 27 MHz. Basically, that means the buyer (you?) has just paid a bunch of money to make the antenna less efficient.

Dual Antennas

Here we show the plots of dual antennas at different spacings. If you mount them only a few feet apart on the luggage rack of

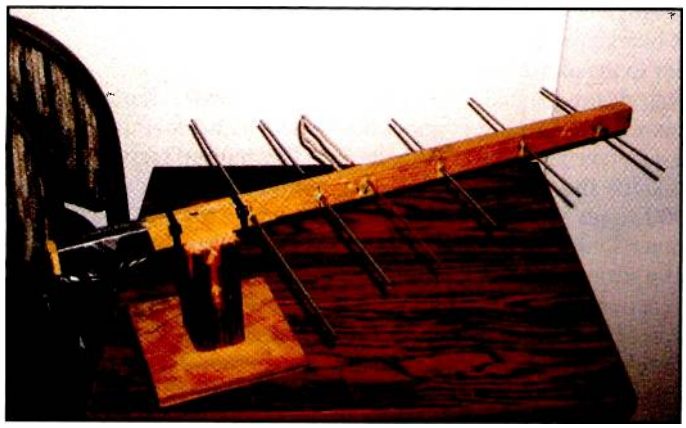


Photo B. HDTV antenna from reader Ethan in Portland, Oregon.

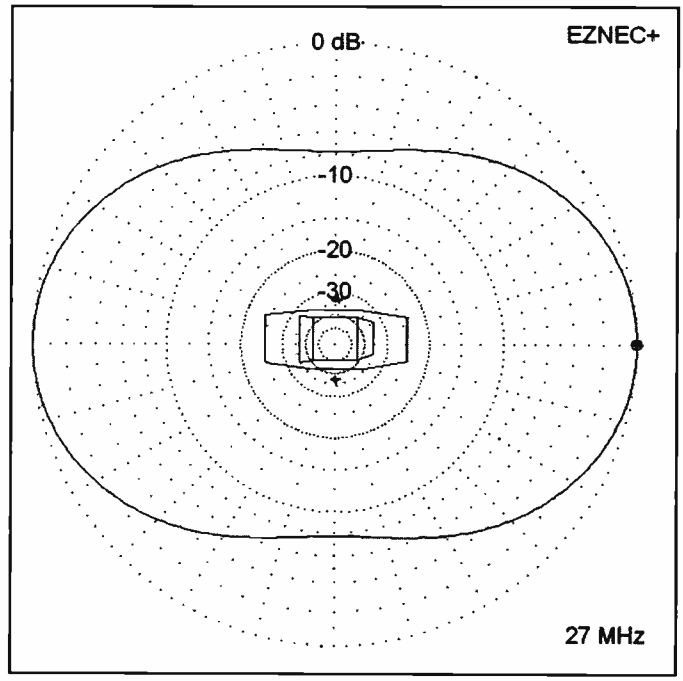


Figure 5. Dual CB antennas 12 feet apart.

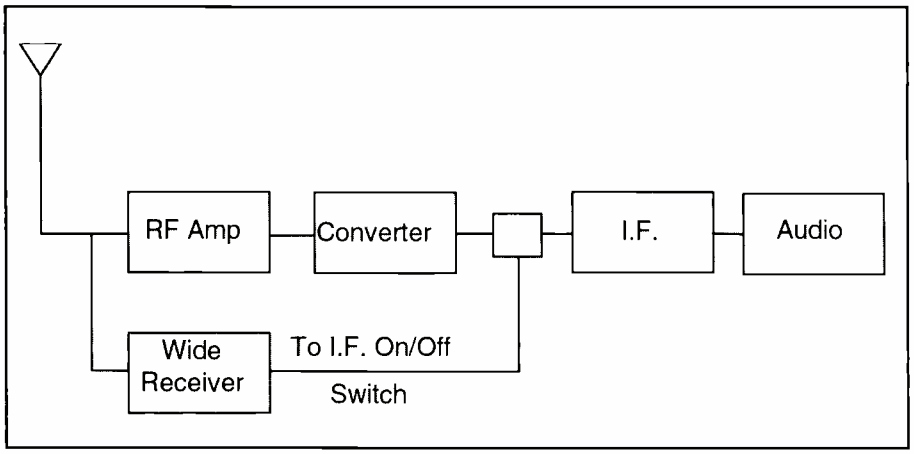


Figure 6. Block diagram of a noise blanker.

your Yugo, it may look sexy, but the second antenna isn't doing much. Your pattern is still pretty much a circle. In **Figure 3** we have the plot of two whip antennas three feet apart. The pattern is almost a perfect circle. Between the Peak and the Null there is only 2/10 of a dB difference.

Next up we show the antennas a little farther apart (**Figure 4**). At six-foot spacing the pattern is starting to develop a bit of an oval shape. Wow, a whole 1.5 dB difference between the front and the sides. A little more signal is going down the highway in front, and a little more signal is going out behind you. But at six feet, about the widest you can separate antennas on a car, it's still darn near an omni-directional pattern.

As you can see in **Figure 5**, when the antennas are 12 feet apart the pattern becomes really oval shaped. The signal down the highway is twice as strong, and you've picked this extra signal by taking the signal away from the sides of the pattern. This is a good pattern for trucks that spend most of their time on the highway, and truckers are mainly interested in talking to other trucks in front, or behind them. But as you can see this doesn't work for a car—the antennas are several feet beyond the sides of a typical car.

The bottom line: dual antennas just a few feet apart may make for a sexy-looking luggage rack, but they're not doing anything for you electrically.

AM Broadcast Antennas

I recently got a question from a young ham about what kind of antennas are put on top of those AM broadcast towers. Well, for one thing, they don't put the antenna on the top of the tower, the tower is the antenna! On 1 MHz, 1000 kHz on your dial, a radio wave is 300 meters long. So a quarterwave whip is 75 meters, or close to 240 feet long. Want a 5/8 antenna? How about 600 feet of tower! The tower is the antenna! The base of the tower is usually mounted on a large ceramic insulator with extra insulators on the guy wires, so think of it as a five-foot-wide steel whip.

More From The Inbox

From faithful reader Alan we get this question in an email: "How does a noise blanker work?"

There are a lot of circuits that are referred to as noise blankers, but this is how an RF noise blanker works in your receiver.

The idea is that the signal you want is on only a narrow frequency, say 3 to 10 kHz, but the noise burst from a spark plug, neon light, lighting, etc. is many MHz wide. If you're fortunate enough to own a receiver with a variety of IF filters, you know that the narrower the filter, the lower the noise. Well, with our noise blanker we're going the other way; we want the receiver to be very wide so we can hear any strong noise spikes.

In the diagram of **Figure 6** we show two receivers in a noise blanker-equipped radio. One receiver goes to the narrow IF filter for listening to your desired signal; the second receive channel is 1 MHz or more wide. This wide receiver picks up the noise pulses, and since the second receiver is 100 to 1,000 times wider, it hears the noise pulse much louder. When the noise receiver hears a strong signal, it switches off the main receiver's IF for the duration of the pulse (sort of like a reverse squelch control), so there's a hole in the signal you're listening to where the noise pulse had been. Much easier on the ears!

But if there's a strong nearby signal, the noise receiver just might mistake this strong signal for a spark plug. Then you'd hear distorted and choppy audio. And that's why the noise blanker has that NB switch with On and Off positions. There are times when you want to turn the noise blanker off, that is when the noise blanker is blanking from strong local signals.

HDTV Antenna Project

It's been a while since one of my construction projects stirred up this much activity. Reader Ethan passes along a photo of his version of the HDTV Yagi we recently covered made from the element of an old CB antenna and a piece of house wiring. He says it performs much better than his store-bought antenna. If you're looking for an HDTV antenna project like that shown in **Photo B**, or would like to pass the project along to a friend, the original article can now be downloaded from the *Pop'Comm* website at http://www.popular-communications.com/23-AntennasWeb92708.pdf. (And while you're at it, you can visit the home page and check the status of your *Pop'Comm* subscription.)

Before leaving the topic of HDTV, remember on the morning of February 18, you need to let your TV or converter box rescan for active channels. Of course, most of the analog stations will be gone (stations under 100 kW ERP can continue), but many of the DTV transmitters will move from their temporary allocations back to their main channels. For example, our local CBS affiliate has used Channel 11 for nearly 60 years, and currently its digital signal is on Channel 19. After midnight February 17, it will turn off the analog Channel 11, and move its digital signal from Channel 19 back to Channel 11. So you really need to rescan and update the lookup tables in your HDTV TV/converter.

Coming Up

I have quite a few technical details about how antennas work at a cell phone cell site that I'm pulling together for an upcoming column. I'm also working on a very flexible ferrite rod antenna for AM DX and SWL. Stayed tuned for both. And, as always, we appreciate your questions and suggestions for column topics. Just drop me an email at WA5VJB@cq-vhf.com. You can also visit www.wa5vjb.com for other antenna projects.

And don't forget to reprogram your HDTV TV/converter February 18! ■

Portals To Content Riches For Internet Radio Listening

by Dan Srebnick, K2DLS
k2dls@arrl.net

I was an early adopter of the Internet, once it leaked outside the academic world and became available to "the rest of us" (no association with that fruit-based computer company intended). Back when I first used the Internet, there was no graphical Web browser. We had Gopher, which was a text-based menu-driven way of searching for data. So I was suitably impressed when the first graphical Web browser, called Mosaic, came on the scene in 1993.

We spent a couple of years "surfing" the early websites during that short time before the Internet became a giant shopping mall, amazed at being able to see art from the Louvre in Paris or to watch Bluedog count by barking. For the uninitiated, Bluedog (recreated at www.louisianaschools.net/lde/intech/k6/day2/bluedog.htm) was one of the first webpages with the ability to play sounds. In 1995, Real Audio came along and turned the bark into a real bite: the ability to efficiently listen to radio stations over the Internet.

As you may recall, those of us with Internet in those days used dialup lines at 28.8 kbps; 56K modems did not become common for another couple of years. In the early days, I used to listen to the World Radio Network and lots of Dutch radio stations, such as Radio 538. After a couple of weeks of listening to 538 though, I began to wonder why they always seemed to be playing the same songs. That was when I realized that I was not listening to a live stream, but to a pro-

"RadioTime by no means limits itself to North American stations. The ever-changing homepage featured recommendations for stations in Athens and Paris. I'm currently listening to Kiss-FM, 92.9 MHz in Athens, Greece, and the reception is great."

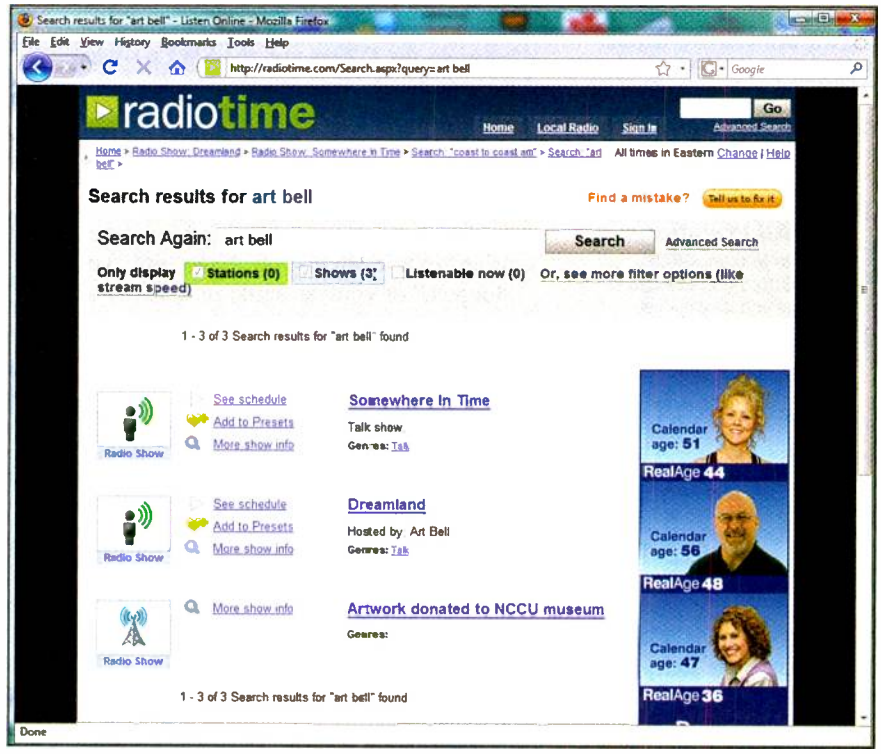


Figure 1. Here are the RadioTime results for a search on "Art Bell."

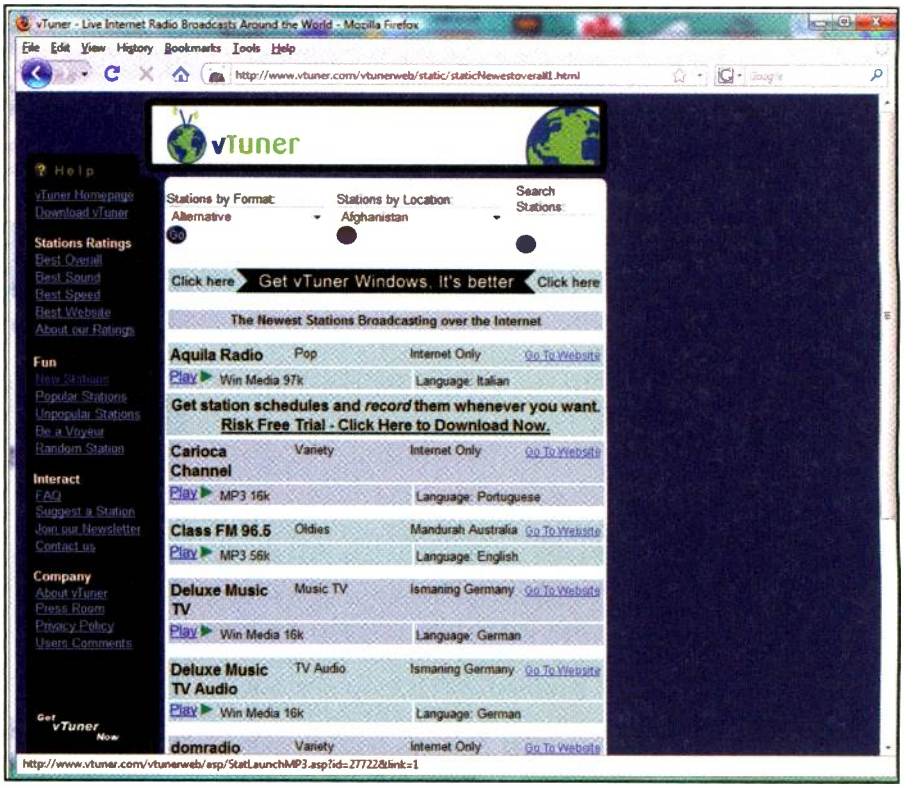


Figure 2. The "New Stations" listing from vtuner.com. Note that the computer audio format and streaming rate are listed next to the "Play" link for each station.

gram stored on the server. And thus it was that I became an "Internet DXer."

DXer Or IRL?

If you were around in the 1970s and 1980s, you'll remember the debates between the DXers and the SWLs—was it more meritorious to listen for the rare, exotic catch or to listen for program content? I always did a little of each, and so it goes as an Internet Radio Listener (IRL). The paradigm is amazingly similar. You can surf the net looking for something exotic that you have not yet "logged," or you can settle in to listen to an old friend like BBC Radio 4.

Tools Of The Trade

Most of the focus here will be on Windows tools, though you can easily listen to most Internet audio content using Mac OS or Linux. In the case of Linux, it's sometimes challenging to find the right codec (compressor/decompressor) to match your content, because of licensing restrictions on proprietary formats. Using Fedora Core 9, however, I find that I can readily listen to any content except for Windows Media.

There's currently a lot of overlap between the formats supported by the various players, but at a minimum yours should have Windows Media Player (it comes with Windows XP and Vista), Winamp (free and pay versions are available), and RealPlayer (also free and pay versions). See the "Media Player Hints" table for information on downloading the common media players for Windows.

You can also listen without a computer, if you have an 802.11 WiFi Internet Radio. I have the Acoustic Energy AE1 (www.acoustic-energy.co.uk), based upon a chipset from Reciva. There are plenty of other Reciva-based radios on the market, from well-known companies like Sangean and Roberts. We'll also assume some kind of broadband Internet service, with the ability to listen to the high-quality 128 kbps streams available from some stations.

It's RadioTime

I've recently taken a liking to RadioTime at http://radiotime.com. It's an online portal and guide all about radio content. RadioTime helps you to find local radio content by zip code, geographical location, genre, and subcategories. The website also suggests programs that you might like. I'm a fan of "Coast to Coast AM," with George Nory and Art Bell, and the search depicted in **Figure 1** revealed

Figure 3. How's this for TV DXing? Station ID of Franken TV in Germany as viewed through Windows Media Player and my Web browser.

when I can next hear an episode of Art Bell's exploration of the paranormal.

That's what I like most about RadioTime: it advises when you can next hear the program you're seeking. By clicking on the "See Schedule" link, I found that the program I want to hear will air on The Light 103.5 in Detroit in just under two hours. Try the same search, and you'll get results based upon the time you submit your search. The results also advise that I can hear the same program on 70 other stations, and present a link to view the airing schedules on those stations as well. With a free registration, you can build a list of radio station presets that you can go back to at will.

RadioTime by no means limits itself to North American stations. The ever-changing homepage featured recommendations for stations in Athens and Paris. I'm currently listening to Kiss-FM, 92.9 MHz in Athens, Greece, and the reception is great. To listen, click on the listen link and a media player opens up inside the Web browser. Over on the right side of the page is a list of stations that RadioTime thinks I also might like. Listed stations include Radio VBC in Vladivostok and Radyo Mydonose in Ankara. DXing was never so easy—and there's no fading or QRM.

Can't listen live? No problem here. RadioTime offers a "TIVO for Internet radio" that it calls "Red Button." You can download it from the radiotime.com website and use it free for two weeks. After that, register for $29 to continue.

Gentlemen, Adjust Your vTuners

vTuner, at http://vtuner.com (**Figure 2**), is another site I like. It offers search capability by genre and location and has amassed quite a menu of listening content. You can even listen to police scanners in other countries via vTuner. In addition to the website, you can get downloads of the vTuner 4.0 software, which you can use for free for 30 days and then have to register at a cost of $29.95. However, just from the website, with no additional cost, you can find new stations, popular stations, and with a twist, unpopular stations.

I decided to give a listen to CJTT in New Liskeard, Ontario, Canada, to see why it's so unpopular. It was playing some fairly common classic rock, so I can only assume that the classic rock audience prefers other alternatives. For a 24k stream, though, it did not sound bad.

You can also do some online TV DXing. Select the "Be A Voyeur" link, and you're presented with video content

Media Player Hints

You can download the following media players for Windows at no charge:

Windows Media Player—www.microsoft.com/windows/windowsmedia/default.mspx

Winamp—www.winamp.com/

RealPlayer—http://realplayer.com/

Quicktime—www.apple.com/quicktime/download/

choices. I'm now watching Franken TV from Nuremburg, Germany. My chances of pulling in this station on UHF may be slim to none, but via the Internet the only challenge is whether I have the required 300 kbps of bandwidth available. See **Figure 3** to see what I saw!

What Kind Of Reciva Is That?

Earlier I mentioned that no computer is necessary to listen to Internet radio—that is, if you have access to a WiFi network and an Internet radio. Reciva manufactures the chipset used by many popular Internet receivers and also has an interesting website that's both a portal to listening content and a control mechanism for your Reciva. The website (**Figure 4**) is at www.reciva.com and you need not actually own a Reciva-based radio to use it. Nor do you need to access the website to use your Reciva-based radio, although the website allows you to customize your list of favorite stations and podcasts.

Like vtuner.com and radiotime.com, the Reciva site allows you to search by location and genre. But the real power of this site is that it lets you register your Reciva radio so you can control it from the Internet. By so doing, you can send down lists of favorites (My Stations) to your Internet radio, along with the URLs of your favorite podcasts (My Podcasts), which can then be accessed without a computer at a later time. Using my AE1, I can go to sleep listening to ambient music from the French "Cryosleep" station or get riled up by listening to patriotic radio from Joyce Riley and Dave VonKleist on the Genesis Communications Network.

Reciva sites, and the radios themselves, come with a stock listing of stations to listen to. You can also add to your radio streams that aren't on the list or you can suggest new streams for indexing on the site. My AE1 came with presets for some of the BBC domestic networks, including Radio 1 and Radio 4. When you consider that the Beeb has all but abandoned the shortwave broadcast bands and that its remaining World Service broadcasts have been stripped of most content other than news and current affairs, what a joy it is to be able to listen to the time-honored spoken word programming of Radio 4 at will.

The Reciva site also has an excellent community bulletin board, where listeners carry on discussions around what to listen to, the merits of different Internet radios, and how to hack your radio to add features contained in software released meant for other radios. The Wiki site that covers how to hack your Reciva-based chipset radio may be viewed at http://sharpfin.zevv.nl/index.php/Main_Page. Tread carefully, no warranties are implied.

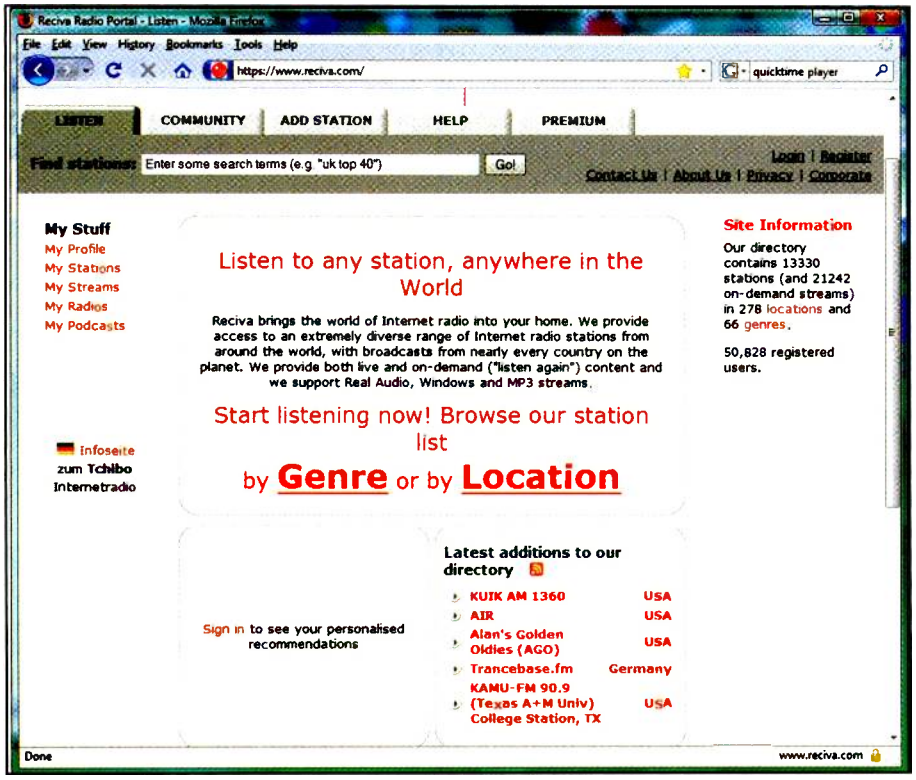


Figure 4. Reciva's website allows you to search by genre or location, but it can also download menus of favorites to your Reciva chipset-based Internet radio.

Is It Really Radio?

Like all the other "is it really radio discussions" around ham radio and Internet linking, it is what you think it is. I first started listening to shortwave to hear exotic sounds from distant lands. The journey continues, only the delivery method has changed. And the reception is typically better than I ever could have hoped.

SWLfest Time

It's time to plan your trip to the next Winter SWL Festival, taking place this year from March 13–14, 2009, in Kulpsville, Pennsylvania. This is where the shortwave faithful, the scanner scum, the pirates, and even Bozo show up every year to celebrate everything from DC to light. An annual feature is a demonstration of DRM (Digital Radio Mondiale) digital shortwave broadcasting, headed up by Kim Andrew Elliot of the Voice of America. Many broadcast stations add extra DRM broadcasts just for the Winterfesters in order to stimulate interest in this potential replacement for amplitude modulated broadcasts. In keeping with the Winterfest spirit, next time we'll talk about DRM and what may happen next.

73 de K2DLS

Clearing The Air On GMRS/FRS/MURS Radios

by John Kasupski, KC2HMZ
kc2hmz@verizon.net

"Concerning FRS/GMRS radios in particular, the consumer needs to understand some fundamentals before purchasing them for emergency/disaster use."

As technology marches (side by side with time) into the future, we are constantly amazed at the proliferation of communications devices being made available to the public. Consider, for example, the differences between the "bag phones" of years gone by and the current devices that have replaced them. The bag phone was relatively bulky and could do only one thing: connect to a network to send and receive telephone calls. Today's devices send and receive voice and text, may include a camera and be able to send and receive pictures, and might even be able to access the Internet.

So it is with radios. When I was born, a typical "portable" radio (**Photo A**) would hardly be considered portable in comparison to the handheld ham, CB, GMRS (General Mobile Radio Service), FRS (Family Radio Service), and MURS (Multi-Use Radio Service) of today. However, the arrival of some of these new devices on the market is a source of confusion to many consumers, especially those unfamiliar with radio communications technology and with the rules that govern the use of these radios.

This month, I'll attempt to present the facts concerning the use of some of these devices, especially the dual-use FRS/GMRS radios that can be found in department stores, truck stops, drug stores, and pretty much anywhere that consumer electronics are offered to the public.

Radio Facts You Need To Know

Concerning FRS/GMRS radios in particular, the consumer needs to understand some fundamentals before purchasing them for emergency/disaster use. This applies not only to individuals and families, but also to EmComm groups using them for CERT or other Citizen Corps initiatives, as well as ARES/RACES and other organizations that may use them to communicate by radio with civilians who don't have amateur licenses and therefore can't operate on the ham bands.

Photo A. This was considered a portable CB rig in the 1960s. Curb weight: 42 pounds—no thanks!

FRS is comprised of 14 specific UHF frequencies, and the rules authorize a maximum of ?-watt ERP (effective radiated power) on only those 14 frequencies. With FRS-only radios this is not a problem, you get those channels and the prescribed ?-watt output and everything is legal. No license is required as long as you stay on those seven frequencies, and at or below the maximum allowed power level.

The problem comes in when your access to FRS is through one of the dual-mode FRS/GMRS radios, like the one in **Photo B**. The GMRS shares FRS Channels 1–7 with the FRS, but GMRS also uses frequencies that are unique to GMRS, and allows higher power levels. The catch is that GMRS requires a license from the FCC, which currently costs $85 and is good for five years. The license covers you and your "family," which is usually defined as you, your spouse, and "blood relations" as well as adoptive children/parents.

Now, obviously, the GMRS license costs more than the radios, but it is good for five years (which means it may outlast those radios and the ones you buy to replace them!), and family

Photo B. A pair of typical FRS/GMRS radios as found in their natural habitat (a department store shelf).

members who have these radios can operate under your license. It also lets you operate dual-mode FRS/GMRS radios on all the channels the radio is capable of, and at the higher power level allowed under the GMRS rules.

Since UHF is a poor performer at distances over a mile or two, you may find that the higher power levels are needed, also justifying the GMRS license—or you might be attracted to MURS, which allows 2 watts at VHF frequencies. There are a few advantages to MURS besides the fact that it also requires no FCC license. One is that the power limit (2 watts) is specified in terms of the radio's power output, not ERP, so you can use gain antennas with these radios to extend their range. Another is that certain forms of digital communications are also permitted under MURS. Its disadvantages are that there are only five channels available and that the gear available is not as plentiful as that for FRS/GMRS.

While I'm on the subject license-free operation, I really ought to mention CB. The Class D Citizens' Band is also license-free, and it allows 4 watts output on 40 specific frequencies in either AM or SSB mode. The catch is that these are HF frequencies (11 meters), subject to the propagation conditions that go along with that territory. That means that while CB may be great for short-range emergency communications now that we're at the bottom of a sunspot cycle, it may be unusable for the purpose a few years from now when HF opens up again and signals come pouring in from thousands of miles away.

If you give some thought to these considerations, you'll quickly see why I can't spoon-feed an answer to the question, "Which one should I choose?" The correct answer *for you* depends on where you live, who else is using these same slices of the RF spectrum in your area, and various other factors. What works for me may not work at all for you.

Then again, the wise emergency communicator becomes familiar with *all* the communications tools at his or her disposal and uses whichever tool is best for a particular purpose at a particular time. Gear for all these radio services, and the license needed for GMRS, is really not prohibitively expensive for the average family, and since Rome doesn't have to be built in a day, you can start with any of the above and keep adding things until you're equipped to operate with all of them. This is perhaps the best approach, since it allows you to pick the one approach that's working under the conditions that prevail when you need to communicate. That's likely to be quite different from the conditions that prevailed two days before you needed to!

Incidentally, much of the above information pertaining to FCC rules and licensing is via the CERT email group on yahoo.com and courtesy of Grant Hopper, KB7WSD, the ARRL Volunteer Council for Washington State, whom I hereby acknowledge with many thanks. And since Grant is a fellow ham (as well as a fellow CERT volunteer), that brings me to the last radio service I'll mention this month...

A few years back, a seven-year-old girl (yes, that's right: sugar, spice, everything nice, age seven) earned her Extra class ham ticket. That's the one that allows operation in every mode and on every frequency permitted to hams licensed by the FCC. Your excuse for not having at least the entry-level Technician class license has grown wings and is on its way south—not just for the winter, but permanently. Get a study guide from one of the vendors who advertise in this very magazine and get busy!

A Final Thought...Beware Of Disaster Scam Artists

Since a big part of this column focuses on efforts to avoid becoming a victim, it bears mentioning that there are, unfortunately, scam artists who come out of the woodwork in the aftermath of a disaster (much like the vermin they are!) and will attempt to swindle money from disaster victims in a variety of ways.

They may come to a victim's door posing as representatives of FEMA or some other state or local agency, charging a fee to process applications for assistance or inspect damages at a victim's home or business. Others may call on the phone attempting to obtain personal information, which they then use to commit identity theft. There are also unscrupulous contractors who take money for work that's never completed.

The advice this month is simple: Don't let yourself be fooled by these insects. Disaster officials will never ask for a fee of any kind. Disaster officials will collect banking information only when an applicant first registers for assistance and requests direct deposit for aid funds. Disaster officials, including FEMA representatives, carry photo ID. Ask to see it. If you are still unsure, you can call FEMA to verify at 1-800-621-FEMA (3362) or, using TTY, at 1-800-462-7585.

Another thing to look for is official clothing, such as a FEMA shirt or jacket. But don't let its existence alone dissuade you from insisting on an official ID card, because you'd be amazed what clothing can be found in second-hand stores and at estate sales.

As for the scammers, here's hoping that these scoundrels who prey on innocent disaster victims are identified, prosecuted to the fullest extent of the law, and sentenced to a lengthy stretch in jail—preferably a dirty one!

And with that I'll sign off for this month's "EmComm Essentials." Until next time, stay safe and stay prepared. ■

Trivia And Toons

by R.B. Sturtevant, AD7IL

Q. Recently you said that the Allies never actually broke the German's Enigma codes. I heard they did. What's the story?

A. The Germans never broke Britain's Type X codes because they were thought to be too difficult, which they were, so the Germans never tried. The British, however, watched the Enigma traffic for operator errors. New operators would query more experienced ones asking about procedure in clear language transmissions. For instance, two operators might want to check on the settings for the day so that their machines would be synchronized. If done over the air this gave the code setting for the day to the British and they could read everything for that day. Routine led duplication, and duplication led to learning how to do the settings for the codes. Whenever the code system underwent a radical change, though, the Brits had to start all over again.

Without the close watch placed on the operators for errors, their mistakes wouldn't have been used to advantage by the intercept operators. The Luftwaffe was the worst offender, and their codes were compromised quickly and often. The U-boats of the Kriegsmarine, however, were much more careful about signals procedure. Their "Oyster code" was never broken. On the other hand, the British used Book codes that never changed and were soon open to the Germans, costing many lives and ships.

Q. What part did Radio Swan play in the Bay of Pigs attack by anti-Castro Cuban rebels?

A. The CIA-sponsored radio station on Swan Island was supposed to give the invading rebel forces their general commands and synchronize their activities on the ground. Before the attack, leaders were briefed that "Come back, do not go ahead" would mean the opposite and the attack should go forward as planned. If a message said, "The quetzal is on the branches of the tree" it would mean Castro's troops were waiting.

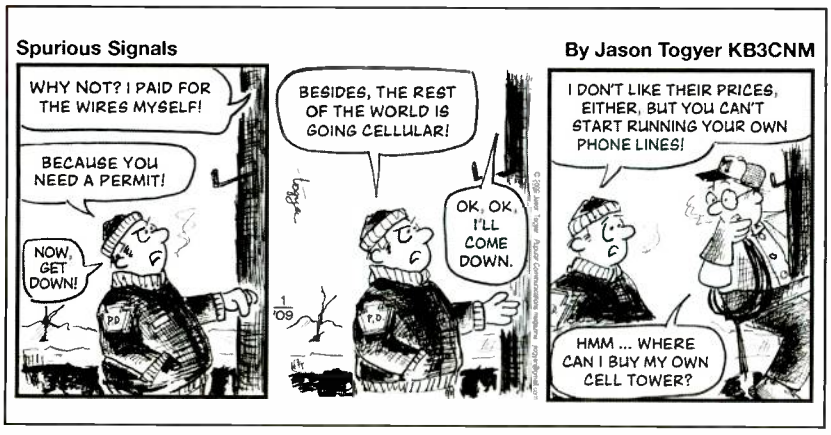
As the attack progressed, Howard Hunt, who fancied himself a disinformation expert, tried to duplicate the methods of the British against the Nazis by sending fake messages to alleged underground units. The message was "Alert! Alert! Look well at the rainbow. The first will rise very soon. Chico is in the house. Visit him. The sky is blue. Place the notice in the tree. The tree is brown and green. The letters arrived well. The letters are white. The fish will not take much time to rise. The fish is red." Hunt, a part-time spy novel writer, had not taken the time to build up a myth or the reality of a Cuba resistance movement. Nobody was listening and Castro knew it. Shortly after the Bay of Pigs debacle Radio Swan went dark.

Q. What were the Coast Watchers and what did they do?

A. Just before World War II broke out, Australia had a colonial system of its own in the Solomon Islands, an area that nobody else was particularly interested in. Throughout the Solomon group, "Police Boys" (natives recruited to help provide security) and colonial officers kept an eye on things for the Australian government. When war broke out, the colonial officers took their radios and went into hiding to report on Japanese movements in the area. Using Police Boys as scouts and bearers, the Coast Watcher system was set up to move the "radio stations" around. The equipment for one station weighed about 350 pounds, with the parts broken down weighing 75 to 100 pounds each.

The Coast Watchers might sight a group of Japanese bombers or a fleet of ships traveling through the narrow New Georgia Sound, known as "the Slot," and would call Guadalcanal with a message like "FORTY BOMBERS HEADING YOURS," sent via CW. With a four- or five-hour warning time, the Allies could have a surprise waiting for the Japanese when they reached their final destination. The Solomon Islanders generally supported the Coast Watchers and very few were turned in to the Japanese.

Operating in the mountainous terrain of the islands was backbreaking labor and dangerous with the Japanese hunting for them, but the intelligence provided by the Coast Watchers was invaluable. After the fighting in the Solomons was over Admiral Halsey, said "The Coast Watchers saved Guadalcanal and Guadalcanal saved the Pacific."■



The Washington, D.C., Area's Airport Threesome

by Tom Swisher, WA8PYR
airscan65@gmail.com

"...with three major airports serving the metropolitan Washington area in addition to all the other fun stuff, the Capital Region is hopping with activity."

It's January of the year following a Presidential election, folks, and you know what that means... No, not just another gaggle of politicians heading to Washington, D.C., garbed in black cloaks and slouch hats, looking like Dick Dastardly and chuckling evilly to themselves and each other (although I sometimes amuse myself with a little mind movie like that when our elected representatives pull a particularly reprehensible stunt).

That it's January means it will soon be Inauguration Day, the quadrennial celebration of the election or re-election of someone to sit in the White House (and get dumped on).

Inauguration Day is a major event in Washington, and rightly so. No matter whether you love, loathe, or are indifferent to the incoming occupant of the White House, Inauguration Day provides a wealth of monitoring opportunities. And with three major airports serving the metropolitan Washington area in addition to all the other fun stuff, the Capital Region is hopping with activity. So let's jump on the Metro and visit the first of our three—count 'em, three!—featured airports. For more on scanning the area for this momentous occasion, also see this issue's cover story, "Scanning The 56th Presidential Inauguration."

Ronald Reagan Washington National Airport (DCA)

Built on a mudflat alongside the Potomac River by the Federal government in 1940, Washington National was built to replace the previous field, Washington Hoover Airport. Located near where the Pentagon now stands, Hoover Field was built in 1926. Severely hampered from the start by a runway which crossed a major thoroughfare (vehicle traffic had to be stopped by police to permit airplanes to take off and land), it was joined in 1927 by Washington Airport, located adjacent to Hoover. The two merged in 1930 to create Washington-Hoover Airport. Washington-Hoover was still severely hampered; the main runway, while no longer crossing a major thoroughfare, had to contend with US Route 1, its power lines right alongside it, and a smokestack at one end of the field.

Washington National is perhaps best remembered as the site of the Air Florida crash in January 1982. The weather had been quite cold, and January 13 had been marked by near-blizzard conditions all day. Air Florida Flight 90 took off that afternoon, but did not gain sufficient altitude, having severe ice and snow buildup on the wings. The plane crashed into the Potomac River just a

Washington National Frequencies

Tower	119.1/257.6, 120.75 helicopter control
Ground	121.7/257.6
Approach	119.85 (W), 124.2 (E),128.35 (SE)
Departure	118.95 (west low), 121.05 (west high), 125.65 (east low), 126.55 (east high)
Clearance Delivery	128.25
Pre-Taxi Clearance	128.25
ATIS	132.65
Final approach	118.3 (E), 124.7 (W)
Unicom	122.95

American Airlines on the River Approach to DCA, flying past the Lincoln Memorial.

mile from the end of the runway, hitting the 14th Street Bridge and killing several motorists before crashing in the river. Of the 79 people on board Flight 90, only 5 survived.

Because of the nature of the Washington area, there are various restrictions placed on flight in the vicinity, especially during an inauguration. Even so, if Inauguration Day is bright and clear, you may catch aircraft on the "River Visual" approach. Widely considered one of the more challenging airport approaches, the River Visual approach for southbound aircraft involves following the Potomac River and making a steep descending right turn just before landing; conversely, aircraft taking off to the north must make a similarly steep ascending left turn and fly out upriver. These restrictions are to protect the No Fly zone around the Washington Monument, White House, and other government buildings, and even with the turns, aircraft come quite close to the edge of the zone.

National continues to serve today, having been upgraded and expanded in the 1950s and 1960a, and again in the 1990s when new terminals were built; the original terminal is currently being restored to its original architecture. Various noise and other restrictions placed on the airport over the years mean that it serves primarily domestic flights, except for a few international locations with customs pre-clearance, including the Bahamas, Bermuda, and major airports in Canada. For most international flights, you have to head 25 miles west to Dulles.

It was on February 6, 1998, that President Clinton signed the bill that changed the name of Washington National Airport to Ronald Reagan Washington National Airport in honor of the 40th president of the United States.

Washington Dulles International Airport (IAD)

Named for John Foster Dulles, Secretary of State during the Eisenhower administration, Dulles International Airport was built between 1958 and 1962. With an internationally famous main terminal building, it was the first airport in the world designed especially for jet aircraft, and it broke new ground for airport design, featuring many innovations including a midfield terminal and the use of mobile lounge vehicles to carry passengers to and from their aircraft.

Washington Dulles International has been an airport of firsts, not only architecturally and in the field of airport design, but also in aviation. The airport played host to the first commercial jumbo jets with the Boeing 747, and inaugurated supersonic air travel between the United States and Europe with Concorde flights to London and Paris. While relatively lightly used during its first decade or so of life, due to its distance from Washington, the airport has grown steadily with the suburbanization of the Virginia countryside surrounding it and the flight restrictions at National. Dulles is currently undergoing many updates and improvements; one will eliminate the once groundbreaking mobile lounge approach in favor of underground people movers and pedestrian walkways, as well as the addition of a concourse to the main terminal and a new fourth runway.

There are many airlines, both domestic and foreign, flying into the airport; a sampling of airlines includes United, AirTran,

Dulles International Frequencies

Tower	120.1/317.8 (01R/19L), 128.425/ 348.6 (01L/19R and 12/30)
Ground	121.9/317.8 (E), 132.45/348.6 (W)
Approach	120.45 (NW), 124.65 (S), 126.1 (NE)
Departure	125.05 (NE), 126.65 (SW)
Clearance Delivery	135.7/317.8
Overflow	125.8, 128.42, 132.45
ATIS	134.85
Midfield Ramp	129.55
Unicom	122.95

The Saarinen terminal at Dulles International.

A Pan Am Clipper seaplane display inside the International Terminal at BWI. (Wikipedia GNU Free Documentation image)

American, Continental, Delta, Northwest, and JetBlue on the domestic side; and Aer Lingus, Aeroflot, Air France, All Nippon Airways, Avianca, KLM, and Lufthansa on the international side.

There's plenty to see, do, and hear at Dulles. If you're planning on visiting, don't forget to stop by the Steven F. Udvar-Hazy Center, annex of the National Air and Space Museum. Opened in 2003, the annex complex houses several aircraft and other historic artifacts too large for the main Museum building on the Mall in Washington. Included are the B-29 Enola Gay, the space shuttle *Enterprise*, a prototype Boeing 707 and an Air France Concorde. Others include an SR-71 Blackbird, a Redstone rocket, and the *Gemini VII*. It's well worth a visit, but be prepared to spend most of a day there!

Moving right along...we've now landed at National and Dulles, but how else can we fly into Washington? Simple, let's just head a little north to Baltimore-Washington International.

Baltimore-Washington International Thurgood Marshall Airport (BWI)

Located 30 miles north of Washington, construction at BWI began in 1947 near Friendship Church, Maryland. Opened in 1950 as Friendship Airport, the facility was originally owned by the City of Baltimore, but was purchased in 1972 by the State of Maryland. A year later, the airport was renamed Baltimore/Washington International in the hopes of attracting some of the traffic to nearby Washington, D.C. The Maryland State Aviation Administration also began an extensive modernization program at the facility, including expanded terminals, the addition of upgraded instrument landing and guidance systems, and new air cargo terminals.

More recent work includes the BWI rail station opened in 1980, which allows passengers to arrive or depart via Amtrak's Northeast Corridor; with the heavy traffic (both road and air) in the region, travel by rail to New York or Washington is generally much faster than driving, catching a bus, or even flying regional airlines. There's also a light rail station that serves Baltimore and the surrounding area. And, on the eve of the new millennium, BWI opened a new international terminal to catch some of the traffic for the Washington area, but Dulles still gets the majority. In 2005, the name Thurgood Marshall was added to the airport's official designation in recognition of famous the Supreme Court Justice.

BWI Thurgood Marshall Airport Frequencies

Tower	119.4 257.8
Ground	121.9
Approach	119.0 (NE), 119.7 (SSE), 124.55 (ESE), 128.7 (W)
Clearance Delivery	118.05
ATIS	115.1, 127.8
Unicom	122.95

Airlines flying to BWI include domestic airlines Southwest, American, Delta, Northwest, AirTran, Continental, United, and US Airways, and international carriers Air Canada, Air Jamaica, British Airways, and USA3000. In addition, the Air Force's Air Mobility Command maintains a presence on the international side, flying troops out to active duty posts around the world.

If you're planning on making a vacation of it (in January?), be sure to stop by the Inner Harbor in Baltimore, home of the National Aquarium as well as a variety of attractions, including Oriole Park at Camden Yard, the Baltimore Maritime Museum, and a variety of museums. Don't forget to stop for a bite and get some authentic Maryland crab cakes while you're there.

A Capital Trifecta

So there you have it, a brief travelogue on the airports of the Washington, D.C., area. While you're tuning in to the airports, don't forget to also search the military aviation band between 225 and 380 MHz for the inevitable combat air patrol over Washington, which might be encrypted, but if not could provide some fascinating listening.

Enjoy your trip to D.C., and try to get home without any new taxes... ■

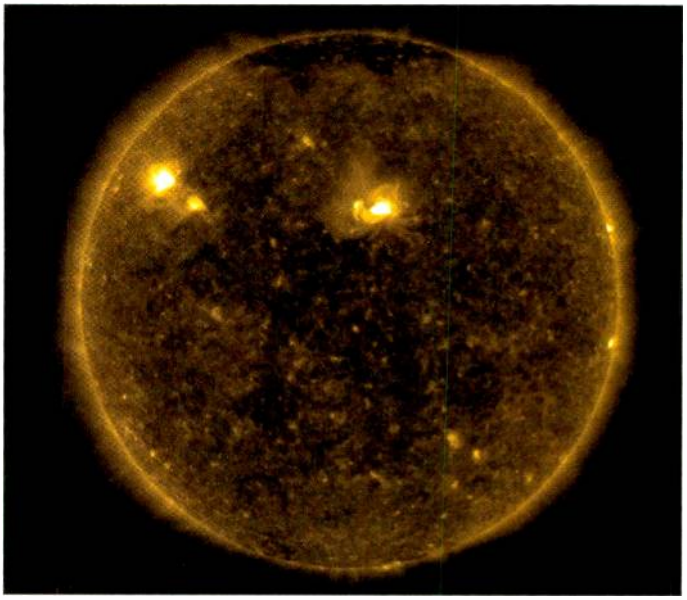
A New Year And A New Solar Cycle

by Tomas Hood,
NW7US, nw7us@arrl.net

Amid the recent chatter about how quiet the sun has been during 2008, solar scientists continued to forecast a slow but sure start to the new sunspot cycle, Cycle 24. While hobbyists discussed the possibility that the seemingly longer-than-usual solar cycle minimum could result in another Maunder Minimum (see below) and a mini-ice age, scientists down-played such a scenario.

The Maunder Minimum occurred during the period starting in 1645 and ending in 1715, an incredible 70 years during which sunspots were rarely observed. To the observer, this period is void of any evidence of any 11-year solar cycles. What's more, this period coincided with the infamous "Little Ice-Age," a series of extraordinarily cold winters occurring in the Northern Hemisphere.

As month after month passed during 2008 with little to no sunspot activity for days and weeks at a time, the general public perception leaned toward the sensational possibility of another Ice Age. Such thinking certainly makes for a good Hollywood Blockbuster movie.



October 2008 saw quite a change in solar sunspot activity, after months of inactivity. This image reveals an active region and one official sunspot that bear an eerie resemblance to two glowing eyes on a carved pumpkin, occurring appropriately during October. These were observed in the 284 wavelength of extreme Ultraviolet light. We haven't seen two active regions for a long time. The magnetic orientation of the sunspot and the positions of both make them appear to belong to the new solar cycle. (Source: SOHO/NASA)

For example, a fair amount of chatter developed during August 2008, because it was the first time since 1913 that a whole calendar month went by without observed sun spots. While unique in length, in a practical sense, this is not that remarkable; calendars mark arbitrary beginnings and endings, and a 30-day period occurring at any time is just that—30 days—with or without sunspots. And such periods were not uncommon during the solar cycle minimums of the past.

However, such speculation is unfounded. On September 11, a sunspot developed that ended a period of 52 continuous days with no spots. This is the fourth longest spot-free period on record. Both May and June 1913 were spotless, in a continuous spotless run of 92 days from April 8 to July 8. Cycle 19 was the biggest solar cycle on record, and it is interesting to note that it was preceded by long periods without spots. There was a 26-day spotless run from February 15 to March 4, 1953, followed by 27 days from January 12 through February 7, 1954, and 30 days beginning on June 3, 1954, and running through July 2. By October, as I write this column, these long periods of quiet appear to be over. Sunspot activity during October has been significantly high.

David Hathaway, a NASA solar physicist, has reported that the quiet of 2008 is not the second coming of the Maunder Minimum. "We have already observed a few sunspots from the next solar cycle. This suggests the solar cycle is progressing normally," he says.

"It does seem like it's taking a long time," allows Hathaway, "but I think we're just forgetting how long a solar minimum can last." The Maunder Minimum in the early 20th Century is a case in point, where there were periods of quiet lasting almost twice as long as the current spell.

Hathaway has studied international sunspot counts stretching all the way back to 1749 and he offers these statistics: "The average period of a solar cycle is 131 months with a standard deviation of 14 months. Decaying solar cycle 23 (the one we are experiencing now) has so far lasted

142 months—well within the first standard deviation and thus not at all abnormal. The last available 13-month smoothed sunspot number was 5.70. This is bigger than 12 of the last 23 solar minimum values."

In summary, he says, "the current minimum is not abnormally low or long." Additionally, the sunspots that are now occurring, though infrequent, are "Cycle 24 sunspots" (see **Photo**). Recent sunspots belong to either the dying Cycle 23, or to the new Cycle 24. How do we know which cycle a sunspot belongs to? Sunspots are classified based on the magnetic polarities occurring in the complex structures within the sunspot group. When one cycle merges into the next, the magnetic polarities reverse. The latest sunspots are more often occurring with the magnetic polarities consistent with the new solar Cycle 24.

Where's The DX?

With such long periods where there are no sunspots, you might think that radio propagation on shortwave frequencies is all but non-existent. Yet, the reports coming in show that DX can still be had. Some of this DX activity is the result of how the geomagnetic field disturbances can cause normal radio signal paths to become blocked, while other paths remain open.

Another blessing hidden in geomagnetic storms is the possible aurora that can occur when the solar particles enter Earth's atmosphere in the polar regions (in the aurora oval). The *E*-region of the ionosphere can become highly ionized during an aurora. These clouds or patches of highly energized ions reflect radio signals, providing a great radio propagation path on higher frequencies (upper shortwave through low-VHF). Overall, though, DX is better when the geomagnetic activity is low.

Those who spend reasonable periods of time "on the air" either monitoring or engaged in two-way HF communications find that there is plenty of action on the HF bands. Shortwave communications continue to work world-wide, offering exciting opportunities for radio hobbyists to establish DX contacts as well as regional contacts on a regular basis.

One observation made by active radio hobbyists is that day-to-day conditions are more consistent and without extremes as compared to the conditions occurring during a solar cycle maximum. During those months at the peak of a solar cycle, conditions vary from one extreme to another, with radio blackouts, rapid changes between sunspots, and geomagnetic storminess being a daily mix of challenges. During these months of minimal solar activity, conditions tend to remain consistently moderate, unless a geomagnetic disturbance causes the ionosphere to weaken more than is typical.

You can get 45-day planetary A index and solar flux predictions at www.swpc.noaa.gov/ftpmenu/forecasts/45DF.html . You can see the progress of the current solar cycle at www.swpc.noaa.gov/SolarCycle/ (see **Figure**).

High Frequency Propagation

We are in the heart of the winter season, with very short daylight hours. Average daily Maximum Usable Frequencies (MUFs) are at their seasonal lowest, but so are noise levels. During the winter months the MUFs are generally higher during the daylight hours than during the summer daylight hours. This provides short but strong openings on higher shortwave bands during the winter day. Then, at night, the MUF dips down much lower than what would be seen during the summer nights. Summertime MUFs are generally higher during the night hours than during the winter nights, in part because the ionosphere stays energized through the short nights. Winter nights are longer, so recombination of the ionosphere (which results in a lowering of the MUF) is more complete.

This also means that the *D* layer of the ionosphere is less ionized during the winter, allowing mediumwave and shortwave frequencies to propagate through the *D* layer and off the *E* and *F* layers. Finally, the seasonal decrease in weather-related noise makes it easier to hear the weaker DX signals on lower frequencies. With thunderstorms few and far between now, storm-related static and noise is greatly reduced.

Paths on 31 through 15 meters remain in their seasonal peak, especially between North America and Europe in the morning, and between North America and Asia during the late afternoon hours. Twenty-two and 19 meters continue to be the best daytime DX bands, with 31 and 25 running a close second. Plenty of surprises are possible on 31 meters during the morning and evening hours, and well into the hours of darkness. North/south paths on 25 through 15 meters will be reliable and open for most of the daylight hours, especially where paths terminate in the Southern Hemisphere. Nighttime conditions on these higher frequencies remain short and weak, with mostly north/south path openings since the Southern Hemisphere has longer daylight hours.

Signals are strong on 90 through 41 meters this year, and seasonally they are at their nighttime peak. 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.

Seventy-five through 120 meters continue to remain stable, with very low noise levels. Some high noise may occur during regional snowstorms, but on average you can expect great nighttime DX conditions with the longer hours of darkness. 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 are also greatly improved, unless we experience those intense CME events, where conditions will become degraded. Mediumwave DX is really hot during this season, which brings us to...

A Look At Mediumwave DXing—The Winter Season

The mediumwave broadcast band, also known in the United States as the AM broadcast band (or AM band) currently extends from 525 to 1700 kHz. In the United States and Canada, channels are spaced in even 10 kHz increments starting at 530 kHz. Elsewhere, channels are spaced in 9 kHz increments starting at 531 kHz.

The hunt for signals from faraway AM broadcasting stations is an exciting activity, especially during the late fall and winter. The distant stations you're able to hear depend largely upon signal propagation. Propagation at these frequencies is very different than it is for frequencies in the high frequency range (3 MHz through 30 MHz). Propagation of mediumwave signals varies depending upon the time of day, the season, and other factors.

For mediumwave, the most obvious factor for good DX is the time of day. The *D* layer of the ionosphere almost always absorbs mediumwave radio signals during the daylight hours. As a result, nearly all mediumwave signals received during mid-

day hours will arrive by groundwave propagation, rather than by skywaves refracted off the ionosphere. Groundwave propagation makes reception of signals over a few hundred miles away unusual in daylight. At night, however, the ionosphere refracts these mediumwave signals, making it possible for radio stations to be heard at much greater distances, sometimes from as far away as Australia, Europe, and Asia.

The groundwave, as its name implies, travels along a path close to the Earth's surface. The distance a groundwave can travel depends upon the transmitter power, frequency, antenna pattern, and the Earth's conductivity along the path of the signal. Lower frequencies travel greater distances, all other factors being equal. A signal on the lowest-end of the AM broadcast band, say, 540 kHz, will travel twice as far as a signal broadcast on, say, 1600 kHz, if all other parameters remain the same for both stations. If the land between the transmitting antenna and the receiving antenna is rocky, a groundwave signal might only travel 150 to 300 miles. On the other hand, if the signal is moving over salt water, the groundwave signal could make it some 1,000 miles away. While most groundwave signals are stable and strong, some fading and changes in reception can occur. Sometimes, this fading is caused by signal cancellation due to weak skywave reception at the same point where the groundwave component is received.

Groundwave propagation provides a broadcast station with reliable, stable coverage to its target audience, and radio station engineers optimize the antenna system to ensure the best delivery of that groundwave signal. During the day, because the *D* layer of the ionosphere so completely absorbs the mediumwave radio signals, groundwave is the only mode of propagation a mediumwave station can rely on. At night, however, because of the recombination that occurs in the *D* layer, and the sharp reduction in mediumwave signal absorption that results, many stations must reduce their power so as not interfere with other stations. Some stations must even cease transmitting during the night hours. Those stations that do not need to cease transmitting will have signals radiating up into the ionosphere and possibly refracting back to Earth at far distant locations, making for AM DX.

The ionosphere is, therefore, directly responsible for mediumwave DX signals. After sunset, when the *D* layer is no longer under direct radiation from the sun and nearly disappears, mediumwave signals make it up to the *E* and *F* layers, to be refracted back to the Earth, much like a flashlight beam might be reflected off a mirror. The distance of the skywave skip is anywhere from 10 to 500 or so miles. mediumwave DX signals may travel farther, if the ground is highly conductive, providing a reflection of the signal back up into the ionosphere. Multiple hop skywave signals can enable a broadcast signal at night to span thousands of miles. It's typical to hear European and Asian stations over the salt water of the oceans.

There's a region between about 10 miles out to about 500 miles where both the groundwave and the skywave signals can be heard. This typically causes a cancellation of the radio waves when the two signals arrive out of phase. The listener will experience deep fades, slow at times, or fast. Sometimes it's strong enough to cause severe distortion of the signal. Out beyond 500 miles, past the influence of groundwave signals, skywave signals also experience some fading and variations due to changes in the ionosphere.

Reception of mediumwave signals tends to be better in winter than in summer, because of lower levels of atmospheric noise and longer hours of darkness. During times of severe geomag-

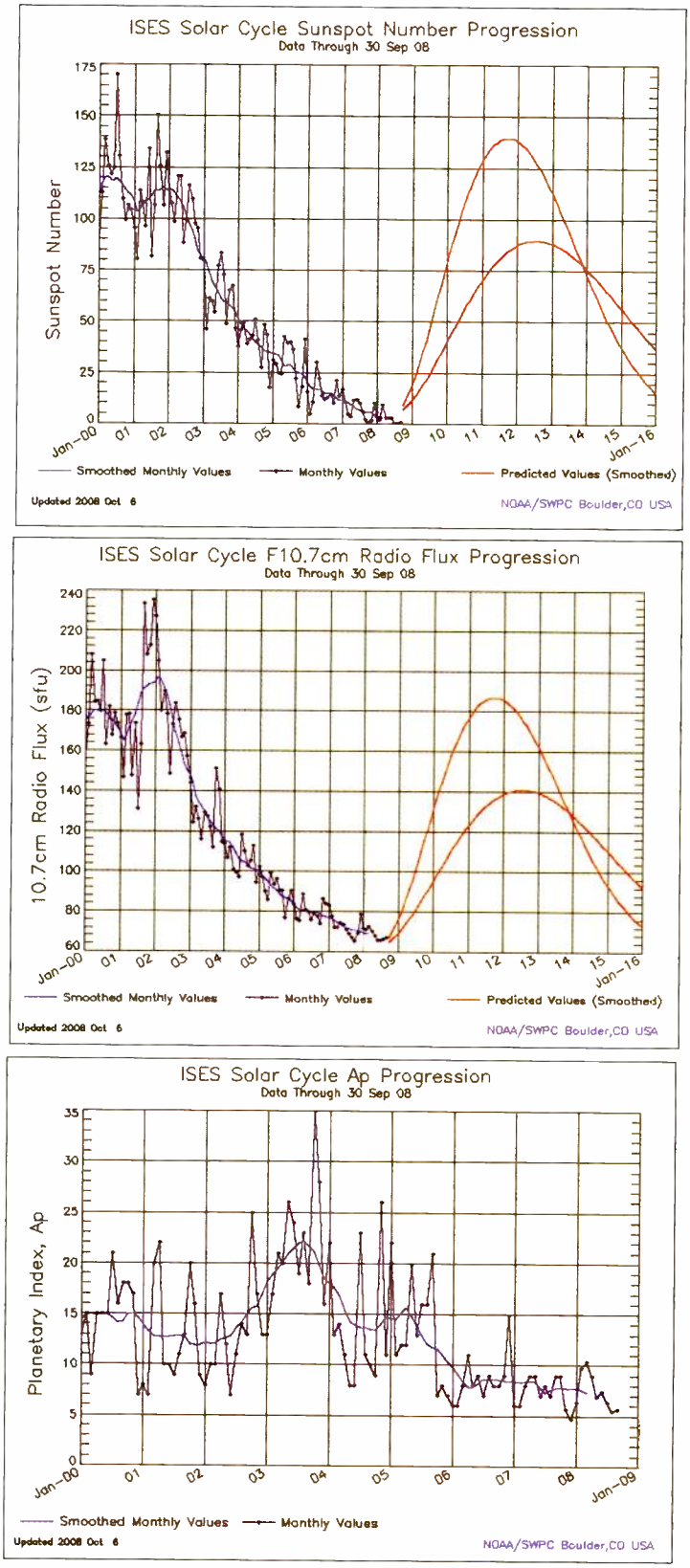


Figure. Solar Cycle 23 has passed and Cycle 24 is now slowly increasing in activity. These graphs plot the very quiet period between the two cycles, but also clearly indicate the slow but sure rise in new cycle activity. Notice in the bottom graph, of the planetary A-index, how much quieter the geomagnetic activity during this past solar cycle minimum has been. This makes for excellent mediumwave and shortwave DXing of weak signals. (Source: NOAA/SWPC Boulder, CO)

Optimum Working Frequencies (MHz) - For January 2009- Flux = 72, 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	18	15	11	11	10	10	9	9	9	9	9	8	8	8	12	16	18	19	20	20	20	20	20	19
NORTHERN SOUTH AMERICA	25	23	19	15	14	13	13	12	12	12	11	11	11	11	12	21	24	25	26	27	27	27	27	26
CENTRAL SOUTH AMERICA	24	22	18	14	14	13	13	12	12	12	12	11	11	11	15	22	24	26	27	27	27	27	27	26
SOUTHERN SOUTH AMERICA	26	25	22	15	14	14	13	13	12	12	12	12	11	11	11	20	23	25	26	26	27	28	28	27
WESTERN EUROPE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	12	12	11	11	9	8	8	8
EASTERN EUROPE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	10	9	9	9	8	8	8
EASTERN NORTH AMERICA	19	17	12	12	11	11	10	10	10	10	10	10	9	9	13	18	20	21	21	22	22	22	21	21
CENTRAL NORTH AMERICA	11	10	9	7	6	6	6	6	6	5	5	5	5	5	5	8	10	11	12	12	12	12	12	12
WESTERN NORTH AMERICA	6	6	5	4	3	3	3	3	3	3	2	2	2	2	2	2	4	5	6	6	6	6	6	6
SOUTHERN NORTH AMERICA	19	18	15	11	11	10	10	10	9	9	9	9	9	9	9	15	17	19	20	20	21	21	21	20
HAWAII	18	17	17	16	14	10	9	9	9	8	8	8	8	8	7	7	7	12	15	16	17	18	18	18
NORTHERN AFRICA	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	12	13	14	15	13	10	9	9	9
CENTRAL AFRICA	10	10	9	9	9	8	8	8	8	8	8	8	8	8	8	11	13	14	14	13	12	11	11	11
SOUTH AFRICA	17	15	11	11	11	10	10	10	10	9	9	9	9	9	13	17	18	19	20	20	20	20	20	19
MIDDLE EAST	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	11	12	10	9	9	9	8	8
JAPAN	16	16	16	15	13	10	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	11	14	16
CENTRAL ASIA	16	16	15	15	13	10	9	9	9	8	8	8	8	8	8	8	8	8	10	10	10	10	9	16
INDIA	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
THAILAND	16	15	15	14	12	9	9	9	8	8	8	8	8	8	8	8	8	8	10	10	10	10	10	10
AUSTRALIA	23	25	26	24	21	15	14	14	13	13	12	12	12	12	11	11	11	15	14	14	15	18	20	22
CHINA	14	15	14	13	11	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	9
SOUTH PACIFIC	26	27	26	24	20	15	14	14	13	13	12	12	12	12	11	11	11	15	16	18	20	22	23	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	19	16	12	12	11	11	11	10	10	10	10	10	9	15	19	21	22	23	24	24	24	23	23	21
NORTHERN SOUTH AMERICA	22	19	14	14	13	12	12	11	11	11	11	10	10	14	20	22	24	25	26	26	26	26	25	24
CENTRAL SOUTH AMERICA	23	18	15	14	13	13	12	12	12	12	11	11	11	19	23	24	26	27	27	28	28	28	27	25
SOUTHERN SOUTH AMERICA	25	22	17	16	15	14	13	13	12	12	12	12	11	11	21	22	24	25	26	27	27	28	28	27
WESTERN EUROPE	8	8	8	8	8	8	8	8	8	7	8	8	8	10	13	14	14	14	13	12	11	9	9	8
EASTERN EUROPE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	11	13	13	12	10	9	8	8	8	8
EASTERN NORTH AMERICA	13	11	9	8	8	8	7	7	7	7	7	7	7	7	12	14	15	16	16	16	16	16	15	15
CENTRAL NORTH AMERICA	6	6	4	4	3	3	3	3	3	3	3	3	3	3	4	6	6	7	7	7	7	7	7	7
WESTERN NORTH AMERICA	11	11	9	7	6	6	6	6	6	5	5	5	5	5	5	8	10	11	12	12	12	12	12	12
SOUTHERN NORTH AMERICA	13	12	9	8	7	7	7	7	6	6	6	6	6	6	9	12	13	14	15	15	15	15	15	14
HAWAII	20	19	18	15	11	11	10	10	10	9	9	9	9	9	9	9	9	16	18	20	21	21	21	21
NORTHERN AFRICA	10	9	9	9	9	8	8	8	8	8	8	8	8	12	14	16	16	17	17	17	12	12	11	11
CENTRAL AFRICA	10	9	9	9	9	8	8	8	8	8	8	8	8	12	14	15	16	17	17	13	12	12	11	11
SOUTH AFRICA	19	15	14	13	13	12	12	12	12	11	11	11	11	20	23	25	26	27	27	27	27	26	23	21
MIDDLE EAST	8	8	8	8	8	8	8	8	8	8	8	8	8	9	13	14	15	13	10	10	9	9	9	8
JAPAN	16	15	13	10	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	9	14	15
CENTRAL ASIA	15	14	13	10	9	9	9	8	8	8	8	8	8	8	8	8	10	10	10	10	10	10	9	16
INDIA	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
THAILAND	14	13	11	9	9	9	8	8	8	8	8	8	8	8	8	8	11	11	10	10	10	10	10	10
AUSTRALIA	23	25	23	20	15	14	13	13	12	12	12	12	11	11	11	11	16	15	14	14	16	18	20	22
CHINA	12	13	11	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
SOUTH PACIFIC	26	25	23	19	15	14	13	13	12	12	12	12	11	11	11	16	15	15	17	19	21	23	24	25

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	15	11	10	10	9	9	9	8	8	8	8	8	10	15	17	18	19	19	20	20	19	19	18	17
NORTHERN SOUTH AMERICA	19	16	15	14	13	12	11	11	10	10	10	10	12	16	19	21	22	23	24	24	23	23	22	21
CENTRAL SOUTH AMERICA	20	18	17	16	15	14	13	13	12	12	12	12	19	21	23	25	26	27	27	28	28	28	26	24
SOUTHERN SOUTH AMERICA	24	20	18	17	16	15	14	13	13	13	12	12	15	19	21	23	24	25	26	27	27	28	28	26
WESTERN EUROPE	8	8	8	8	7	7	7	7	7	7	7	7	13	14	15	15	15	15	14	13	12	9	9	8
EASTERN EUROPE	8	8	8	8	8	8	7	7	7	8	8	8	12	12	12	12	12	11	10	8	8	8	8	8
EASTERN NORTH AMERICA	6	4	4	4	4	3	3	3	3	3	3	3	3	6	7	7	8	8	8	8	8	8	7	7
CENTRAL NORTH AMERICA	14	11	9	9	8	8	8	8	8	7	7	7	7	8	13	15	16	17	17	17	17	17	16	15
WESTERN NORTH AMERICA	19	17	12	12	11	11	11	10	10	10	10	10	10	9	14	18	20	21	22	22	22	22	22	21
SOUTHERN NORTH AMERICA	15	13	10	9	9	9	8	8	8	8	8	8	8	10	15	16	18	18	19	19	19	18	18	17
HAWAII	20	18	13	12	12	11	11	10	10	10	10	10	10	9	10	10	10	18	20	22	23	23	22	21
NORTHERN AFRICA	11	10	10	10	10	10	10	9	10	10	9	14	18	20	21	22	22	22	20	18	13	12	12	11
CENTRAL AFRICA	11	10	10	10	10	10	10	10	10	10	9	14	18	20	21	22	22	21	19	14	13	12	11	11
SOUTH AFRICA	15	14	13	13	12	12	12	12	11	11	11	18	23	25	27	27	28	28	28	28	27	25	23	19
MIDDLE EAST	10	9	9	9	8	8	8	8	8	8	8	9	14	16	17	17	18	18	14	12	11	11	11	10
JAPAN	13	10	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	12	15
CENTRAL ASIA	12	10	9	9	9	8	8	8	8	8	8	8	8	8	11	11	10	10	10	10	10	10	9	14
INDIA	8	8	8	8	8	8	8	8	8	8	8	8	8	12	12	11	10	9	9	9	9	8	8	8
THAILAND	9	9	9	9	8	8	8	8	8	8	8	8	8	11	12	12	11	11	10	10	10	10	10	10
AUSTRALIA	24	22	15	14	14	13	13	12	12	12	12	11	11	11	18	17	16	15	14	14	16	19	21	22
CHINA	9	9	9	9	8	8	8	8	8	8	8	8	8	9	9	8	8	8	8	8	8	8	8	8
SOUTH PACIFIC	25	22	16	15	14	14	13	13	12	12	12	12	11	11	17	16	16	16	19	21	22	24	25	26

netic storms, when the planetary K-index is above 4, auroral ionization can absorb the skywave mediumwave signals, causing any higher-latitude broadcast signals to disappear, which would allow weaker mid- and low-latitude stations to be heard. At the same time, it's been observed that mid- and low-latitude skywave signals may be enhanced during these times because of ionospheric tilting and other phenomena. DXing of stations from south of the equator is often possible during highly active geomagnetic storms.

One of the most exciting aspects of mediumwave DXing is known as the "sunrise and sunset DXing window." The most fruitful times to reap distant mediumwave signals are from just before sunset to a few hours after sunset and again just before sunrise to a few hours afterward. The sunset skip period is particularly useful to DXers in the eastern part of North America, because stations in time zones farther west become audible after local daytime stations have stopped transmitting. Western DXers, on the other hand, have an advantage in being able to pick up many eastern stations as they begin their broadcast days in the morning.

Because of the seasonal decrease in geomagnetic activity during December and January, and because of the longer hours of darkness in the Northern Hemisphere, you will find a rich selection of mediumwave AM signals from as far away as Europe, South America, Asia, and even the South Pacific. Let me know your experiences.

VHF And Above

Don't forget to monitor the low VHF for DX TV signals (remember European TV uses AM for their audio, instead of FM), as there might be sporadic-*E* (*E*)openings once or twice this month. I'd like to hear from you if you catch one.

E activity can appear three to four days during January on the low VHF frequencies for stations in the Northern Hemisphere. The average opening may last an hour or two with distances of over 600 miles. A particularly good time to monitor for *E* activity is during the ARRL VHF contest, which begins at 1900Z January 19 and ends at 0400Z January 21, 2009. A surprise one- or two-hour opening has been known to occur during the contest period in the past and this has led to increased multiplier counts for contest efforts. This contest is on 50 MHz and higher amateur radio bands.

The Quantrantids meteor shower is the major meteor shower for January, and it can appear any time during the first week of January. This can sometimes be quite intense, so it may be a good idea to set up some 2 and 6 meter schedules. Morning meteor openings may be the best bet during this month.

Current Solar Cycle Progress

The Royal Observatory of Belgium reports that the monthly mean observed sunspot number for September 2008 is 1.1, up from the low of 0.5 of July and August, 2008. The lowest daily sunspot value of zero (0) was recorded for September 1–10, 12–21, 24–28, and 30. The highest daily sunspot count was 9 on September 23. The 12-month running smoothed sunspot number centered on March 2008 is 3.3. A smoothed sunspot count of 16, give or take about 4 points lower to 4 points higher, is expected for January 2009.

The Dominion Radio Astrophysical Observatory at Penticton, BC, Canada, reports a 10.7-cm observed monthly mean solar flux of 67.1 for September 2008. The 12-month smoothed 10.7-cm flux centered on March 2008 is 69.5. The predicted smoothed 10.7-cm solar flux for January 2009 is 72, give or take about 6 points.

The observed monthly mean planetary A-index (A) for September 2008 is 5. The 12-month smoothed A index centered on March 2008 is 7.4. Expect the overall geomagnetic activity to vary greatly between quiet to active during most days in January. 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 January.

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 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. Until next time, happy signal hunting!

73 de NW7US, Tomas Hood

Bob's Surplus Salvage Special

by Peter J. Bertini
radioconnection@juno.com

Faithful readers might recall Bob Ryan's Dumpster Diver Special receiver project featured a year or so ago. His small radio used a variety of parts that were scrounged from items that would otherwise be landfill material: tin covers served as front and rear panels and for the chassis itself. Many other common household items were cleverly adapted to fulfill many other design needs. And a majority of the electronic components were garnered from purveyors of surplus components, or scavenged from used electronic gear.

Bob is not one to rest on his laurels, and soon after the column ran, the U.S. Mail brought another small box to our doorstep. Inside was Bob's latest creation, which he dubbed the Surplus Salvage Special (**Photo A**). It was so named because many of the parts, both electrical and mechanical, were salvaged from surplus military gear available through Fair Radio[1].

I'm not going to go into great depth here, providing every detail needed to make an exact copy of the receiver; we've covered the topic closely in past columns and I'm sure most readers will be able to fill in the details from the schematic. Instead, both Bob and I encourage you to experiment with what's on hand and learn from your own experience. I'll offer additional commentary as needed. I've taken the liberty to make a few changes in Bob's design to suit my tastes, but both versions are suitable for experimentation by other potential builders. Bob welcomes correspondence, too, so feel free to contact him by mail with any questions that you may have[2].

Bob's Surplus Salvage Special draws on a proud Amateur Radio tradition: modifying military surplus gear or salvaged components to enable hams to get on the air at a low cost! The art of surplus military conversion was at its peak at the con-

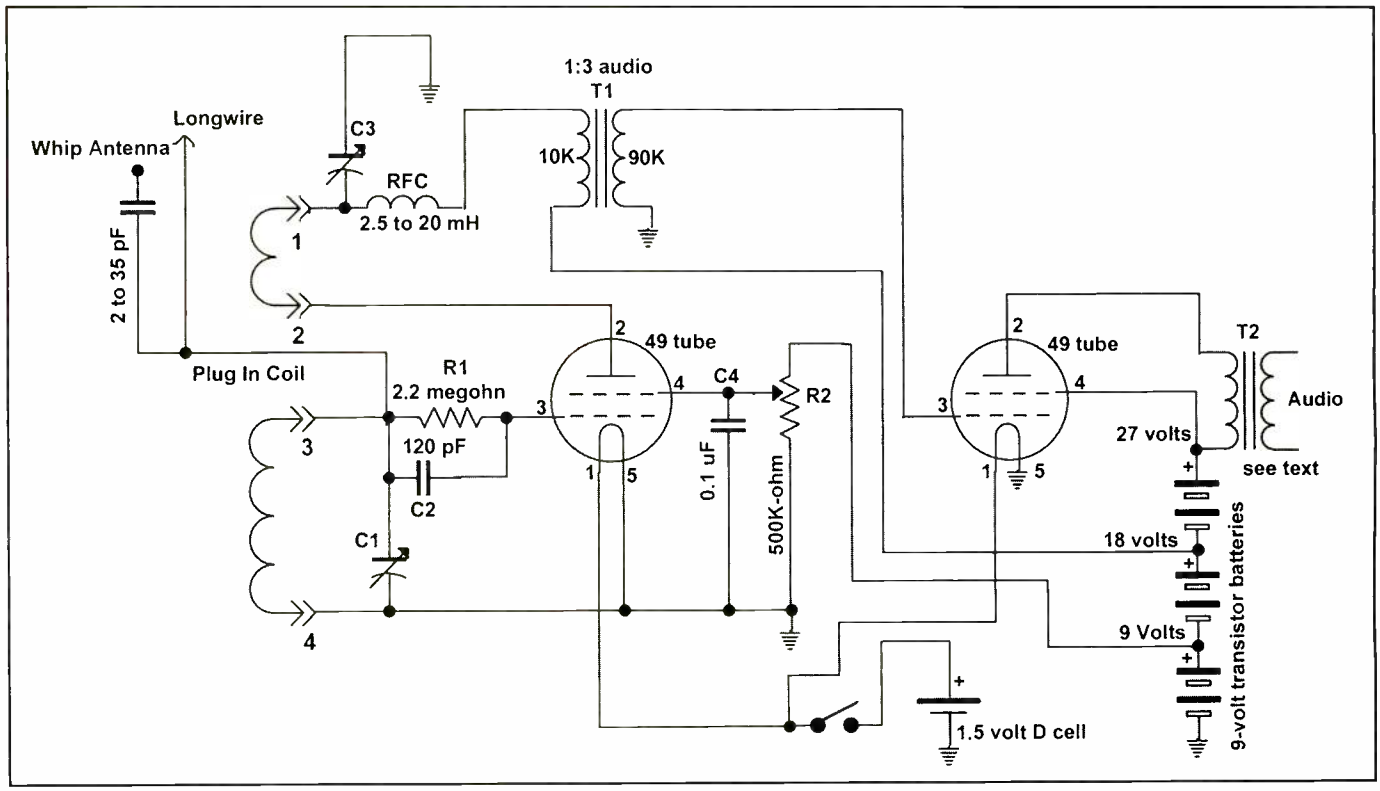


Figure. This is the schematic for Bob Ryan's Surplus Salvage Special two-tube regenerative radio receiver.

Scan Our Web Site

Photo A. Front view of the Surplus Salvage Special.

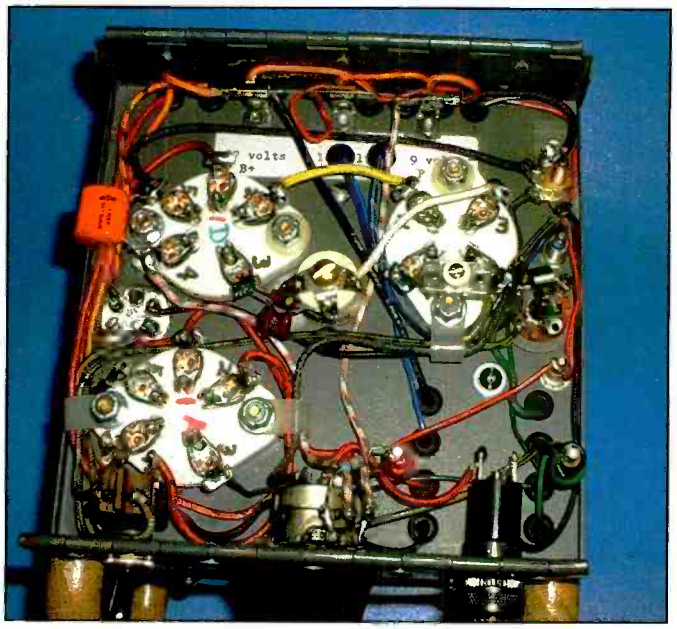


Photo B. Bottom view of the receiver chassis. High-quality ceramic sockets are used throughout!

clusion of WWII when tons of surplus military gear hit the scrap market. Our sister magazine, *CQ*, was one of the leaders in showing hams how to get the most from that old gear. Besides columns, the editors published several surplus conversion books that are handy reference works to this day. Some hams are old enough to fondly remember the many surplus houses that lined the old Radio Row in New York City; the area was razed to build the World Trade Towers decades ago and a radio legacy was lost to time.

The Circuit

Bob's receiver uses two battery tubes; both are type 49 tetrodes and have a screen grid with five-pin bases. Unlike the

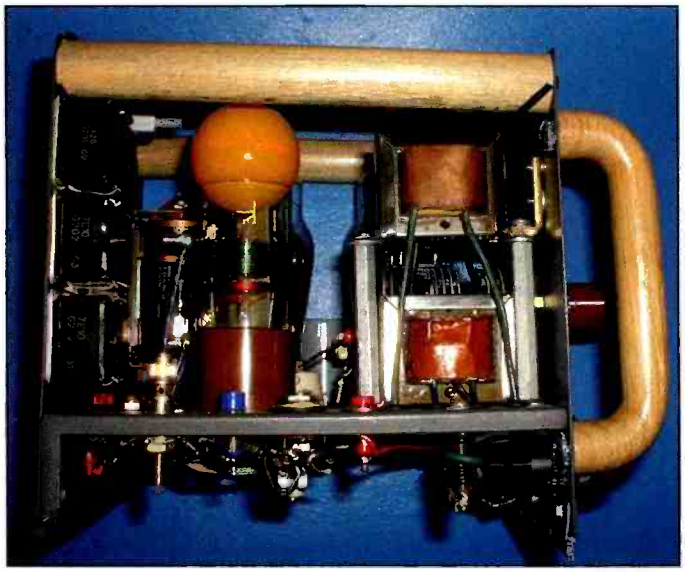


Photo C. The left side view shows the short wave coil that's currently being used. The two components to the front (right side) are the filament transformer that Bob adapted for use as the audio output (top device) to drive low impedance loudspeaker type loads and, below, the 1:3 interstage matching transformer

Photo D. The A battery, a single D cell is visible on the back wall. The UTC Subouncer transformer is visible between the two #49 tubes.

low-gain triodes used in our earlier projects, these tubes will provide a surprising amount of performance, especially in a two-tube design! While the tube filament is intended for two-volt operation, they do fine with a single D cell for the A supply. A set of three 9-volt batteries handles the B+ high-voltage needs for the radio. The transistor 9-volt batteries are wired in series, with taps for 9, 18 and 27 B+ supply voltages being available (see **Photo B**). Having a variety of voltages allows some experimentation in choosing the voltage that provides the smoothest regeneration action for reception.

The schematic for the Surplus Salvage Special is shown in the **Figure**. Note that instead of varying the tickler winding feedback, the screen grid voltage is adjusted by a front-panel potentiometer to set the regeneration point. Nine volts was more than ample for the screen supply regeneration control. Builders might find that some experimentation with fixed value resistors in series with either leg of the control could allow for more precise control of the most sensitive regeneration point. Ditto for experimenting with log or reverse log taper controls.

One caveat: Note that this potentiometer places a constant load on the 9-volt battery, even when the set is off. Use a potentiometer with a value greater than 100K ohms for the regeneration control; lower values will shorten the first 9-volt battery's life.

If you don't mind some additional complexity, use a multipole switch to turn off both the filament and B+ returns when the set is not in use.

Coil Sets

The coils follow the same styles as those used for any of Alfred Morgan's Boy's Receiver projects that appeared in his numerous technical books written for young lads, and they also follow the most popular four-pin coil layout of the day. If you're using vintage coils, make sure they follow the convention shown on the schematic. Bob also used a tuning capacitor (C1 on the schematic) with a 140 pF maximum value. This part is a three-section variable capacitor from Fair Radio with all three sections connected together. While Morgan and others used similar sized tuning capacitors, note that it will be impossible to fully tune the 540 to 1710 kHz broadcast band with only one or two coils. I use a set of four coils. A commonly available 365 pF capacitor may be substituted for greater tuning range.

Photo E. This oblique view shows overall top of chassis layout. Note the stacked set of three transistor batteries on the rear apron panel that the supply the B+ voltages for the receiver. The rotor plates for the tuning capacitor are just visible at front and center.

Random Thoughts

The grid leak resistor and capacitor combination consists of 120-pF silver mica capacitor (C2) and 2.2 megohm resistor (R1) in parallel. Vintage parts might look quaint, but it's been our experience that the older 1920s style mica capacitors are often

very leaky and will adversely affect the performance.

The 2.5 mH (milliHenry) RF choke value is optimal for shortwave listening. Experienced builders have told me that the 2.5 mH value might be marginal for the BC band; and they've suggested using values of up to 20 mH for that band. On the other hand, 2.5 mH chokes are more commonly available and appear to work fine. The value used for C3 is also hand-picked. A fixed value mica capacitor can be used here, but be careful not to go too high in value! Experiment with values between 300 pF and 1500 pF (.0015 µF) and select the one that works best. I personally prefer to use compression mica with a maximum value of 500 to 700 pF to permit some compensation for different coils. If the capacitor value is too high it might be impossible to limit or stop regeneration. This especially applies to coils that have tightly coupled tickler coils, or ticklers with more turns than are needed. Too small a value may have the opposite effect: it may be impossible to get the set near or into regeneration.

Bob used ceramic sockets for the tubes and coil sockets. Many old timers advocate the use of ceramic sockets to minimize losses, especially for the plug-in coil and regenerative detector stage. I'll remain neutral on the issue. (See **Photo C**.)

The 0.1 µF screen grid bypass capacitor (C4) is needed; this grid must be bypassed for audio and RF frequencies or gain will suffer. The audio stage's screen grid is held to a low-impedance signal return by the internal resistance of the batteries. Adding additional capacitors between the other supply voltages and ground will improve performance as the batteries age. Values of 0.47 µF should be adequate.

Audio Transformers

The interstage transformer (T1 on the schematic) is a 1:3 winding ratio; the Hammond HX-124A (10K to 90K impedance) will do fine here. The transformer is available from the folks at Radio Daze[3]. The audio output transformer (T2) merits some discussion. Bob's receiver has two audio output transformers, and a front panel toggle switch allows selecting either one. One is a miniature 20K ohm to 600 ohm UTC Subouncer transformer and the other is a 120-volt to 6-volt filament transformer that was pressed into audio service. The filament transformer works fine with low-impedance headphones or with loudspeaker—core saturation is not a problem with the relatively low plate current (**Photo D**).

The UTC Subouncer was a fine match for my JRC communications headphones, but these transformers are expensive and hard to find. Those wishing to use a pair of vintage 2K ohm headphones can connect them between the 49 plate and 27-volt B+ supply without the need for a transformer (**Photo E**). Note that Bob included pin jacks for that purpose on the top chassis. There's a pilot lamp on Bob's receiver to show when the power is left on. This is a good idea as it might save the batteries if the set is left playing and unattended; on the other hand, it takes a bit of battery power to light the lamp. Whether to include it or not is up to your discretion.

Antenna Options

Bob lives in a retirement community complex in California, and his antenna options are very limited. In fact, most of his DXing is late at night, when the ambient noise level from neighbors' TVs, microwaves, and fluorescent fixtures die off as other residents go off to bed. Believe it or not, Bob's antenna is only a short whip that he uses to shoot DX from his kitchen table! The whip is screwed directly to the antenna connection atop the chassis. Bob also supplied a small 3 pF vacuum capacitor that can be used between an outdoor long-wire antenna and the receiver to minimize loading. A more conventional approach would be to use a small 2 to 45 pF variable capacitor for the antenna coupling.

Two Thumbs Up

Bob's radio is a hot performer, and it delivers some surprising volume levels, even with very modest antennas. The twin 49 tube Surplus Salvage Special is a winner, and I hope some of you will try it and see for yourself.

Well, that's it for this time. Until next time, keep those soldering irons warm and those old tubes glowing! ■

References

1. Fair Radio Sales, 2395 St. Johns Road, Lima, OH 45804; Phone: (419) 227-6573; Fax: (419) 227-1313; Web: www.fairradio.com; Email: fairradio@fairradio.com.
2. Bob Ryan, Apt. 132, 1000 S. Gilbert Street, Hemet, CA 92543-7065.
3. Radio Daze, LLC, 7620 Omnitech Place, Victor, New York 14564: Phone: (585) 742-2020; Toll-Free Order Line: 877-653-8823 (USA only); Fax: (800) 456-6494; Web: www.radiodaze.com; Email: info@radiodaze.com.

It's Checkmates: USN S-3 Becomes Extinct This Month

by John Kasupski,
KC2HMZ,
kc2hmz@verizon.net

A chapter in U.S. military history will come to a close when the Navy's only remaining S-3 squadron, the VS-22 "Checkmates," are decommissioned at Naval Air Station Jacksonville this month. The only other remaining active S-3 squadron was disestablished last fall, when sailors, family members, retirees, and friends of the VS-32 "Maulers" turned out to bid farewell to the command during a ceremony in Hangar 117 at NAS JAX last September 25.

Photo A. A Grumman S-2E *Tracker* of anti-submarine squadron VS-22 Checkmates approaching the U.S. anti-submarine aircraft carrier *USS Essex* (CVS-9) in 1967. (USN photo)

The Checkmates, properly known as Sea Control Squadron Two Two, traces its origin all the way back to the torpedo squadron VT-42 established in June of 1945 at NAS Brunswick, Maine, which was also named "Checkmates." Equipped with the Grumman TBM-3E-3W *Avenger*, it was redesignated as attack squadron VA-2E in November of 1946 at NAS Oceana in Virginia, and then as composite squadron VC-22 in September of 1948. Finally the squadron became anti-submarine squadron VS-22 in April of 1950 at NAS Norfolk. It transitioned to the AF-2S/2W *Guardian* in the early 1950s and craft were identified by the tail code "SL." VS-22 was disestablished at NAS Quonset Point, Rhode Island, in June of 1956, but a new anti-submarine squadron VS-22 was established there in May of 1960.

Here I must note that the U.S. Navy does not acknowledge squadron traditions, so officially the old VS-22 and the new VS-22 were two different squadrons. Nevertheless, from 1960 to 1976 the "Checkmates" flew the Grumman S-2 aircraft based at Quonset Point and operating from Essex-class anti-submarine carriers (**Photo A**), mostly in the Atlantic Ocean and the Mediterranean Sea. In the summer of 1974 its pilots began training in Rockwell T2C and Douglas TA-4J aircraft, and VS-22 went on to become the Navy's first East Coast-based S-3 squadron.

The S-3 Vikings (**Photo B**), manufactured by Lockheed, were originally used as anti-submarine aircraft, but its mission shifted to surface warfare and aerial refueling during the late 1990s. After the retirement of the A-6 and A-7 aircraft, the Viking was the only airborne refueling platform organic to the Carrier Air Wings until the advent of the F/A-18E/F Super Hornet.

The aircraft also provided electronic warfare and surface surveillance capabilities to the carrier battle group and also served as an in-flight tanker, proving its value time and again as a carrier-based, subsonic, all-weather, multi-mission aircraft capable of extended missions. Because of the engines' high-pitched sound, it has also been nicknamed the "Hoover," after the brand of vacuum cleaner. A variation of this aircraft, the ES-

3A Shadow, served as long-range electronic reconnaissance (ELINT) aircraft.

The S-3 also made history in another way on May 1, 2003, when U.S. President George W. Bush rode in the co-pilot seat of a Viking that landed on the deck of USS *Abraham Lincoln*, where he delivered his speech announcing the end of major combat in the 2003 invasion of Iraq. This S-3 has been the only Navy flight to date to use the callsign NAVY ONE. The aircraft that President Bush flew in (**Photo C**) was retired shortly after, and on July 15, 2003, was accepted as an exhibit at the National Museum of Naval Aviation in Pensacola, Florida.

As for the "Checkmates," they not only made history as the Navy's first East Coast S-3 squadron, which I mentioned above, they also wrote themselves into the books by participating in the 1961 recovery of America's first astronaut, Alan B. Shepard, after his pioneering space flight on May 5 of that year. The squadron also participated in the recovery of Gemini 5 astronauts Gordon Cooper and Charles "Pete" Conrad and Apollo 7 astronauts Wally Shirra, Donn Eisele, and Walter Cunningham.

And so, while callsigns formerly assigned to S-3 squadrons may or may not be reassigned for other uses, this historic aircraft will fade from U.S. military use. However, NASA has an S-3 that has been transformed into a state-of-the-art NASA research aircraft, based at the Glenn Research Center in Cleveland. Perhaps non-military uses will be found for some of the other remaining S-3 airframes as well!

A New Years' Resolution For Radio Hobbyists

While I have you here with your nose in the January issue, let me take this opportunity to wish you and yours a happy, safe, and prosperous 2009. May the DX be in your wires!

Many folks make New Year's resolutions. These are often rather bland, involving things like not eating pizza, but I'd like to offer a potential New Year's resolution concerning radio for those of you who might be scratching your heads trying to come up with a good one this year. So how about this:

I will finally break down and build or buy an interface and try my hand at decoding digital signals.

If you're one of the remaining bastions of all-voice communications monitoring, now might be a good time for you to take the plunge. Unless you're too busy in some winter activity, such as skiing, playing hockey, or throwing snowballs at your neighbors' cars that drags you outside where angels fear to tread during the winter months, building an interface makes an excellent construction project. It keeps you indoors, the soldering pencil supplements the heat provided by your furnace, and you'll wind up with a welcome addition to your monitoring station's capabilities. Just be careful not to lay that soldering pencil on top of your logbook: Class A fires in enclosed spaces such as your "shack" tend to contribute a little *too much* heat!

If you aren't handy with a soldering pencil, or your eyes are getting like mine and you have a hard time seeing what you're soldering, check back to my "Tech Showcase" item in the September 2008 issue of *Pop'Comm*. The SignaLink USB interface featured there will get virtually any radio interfaced to most any computer that has a USB port on it!

On To Our Readers' Logs

Last but certainly not least, our readers have contributed another splendid collection of logs. Those who did the right thing this month were 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); and Chris Gay, Lexington, Kentucky (CG/KY). Guys, many thanks!

Photo B. An S-3B from VS-22 at Eielson AFB during Exercise Red Flag, Alaska, July 2007. (DOD photo)

Photo C. S-3B Viking "Navy One" at the National Museum of Naval Aviation. (Photo by Kristian Jones)

2772.0: TADIL data transmission in LINK-11 at 0524Z. (GV/CO)

2872.0: Gander Radio wkg "Speedbird" flight for SELCAL check in USB at 0331Z; Shanwick Radio wkg airliners in USB at 0333Z; Gander wkg Lufthansa 457 for SELCAL check in USB at 0350Z. (ALS)

2971.0: Gander Radio wkg VIRGIN 76, clears climb to FL340, in USB at 0308Z. (ALS)

3050.0: Unid transmissions using speech inversion, weak, in USB at 0513Z. (GV/CO)

3150.0: E10 numbers station, YL/EE with 5-ltr grps for PCD, same msg on 4270 kHz with loud but ineffective jamming, in USB at 1917Z. (CG/KY)

3172.0: SHARES Region 4 and Region 6 Hurricane Net, heavy QRN, in USB at 0008Z. (MC/SC)

3384.0: TADIL data transmission in LINK-11 at 1122Z. (MC/SC)

3455.0: New York Radio wkg Martinair 618 for posrep in USB at 0237Z; NY wkg American 951 for posrep, SELCAL check in USB at 0313Z; NY wkg HOIST 99 (KC-10A, McGuire AFB 305AMW) for routing; handoff to New York Center VHF, in USB at 0447Z. (ALS)

4003.0: AAM4TTN, AAR4HI/T, AAR4HX in Army MARS training net in LSB at 0026Z. (MC/SC)

4020.9: AAR6VD, NCS for a MARS net in USB at 0030Z. (CG/KY)

4026.9: AAV4HL, AAR4GC/T, South Carolina, AAM4RDW, Alabama, AAR4WX, Alabama in Army MARS training net, in USB at 1129Z. (MC/SC)

4032.9: AAA3VA, AAM3VA, AAT4BC, North Carolina in Army MARS Region 3 net in LSB at 1138Z. (MC/SC)

4038.5: NNN0GBS South Carolina, NNN0ICX, and NNN0SLN in USN/USMC MARS net, in USB at 0034Z. (MC/SC)

4069.3: TW pirate beacon, very weak with QRM, in CW at 0615Z. (GV/CO)

4102.3: Pirate wind speed beacon "W," not much wind, in CW at 0616Z. (GV/CO)

4149.0: Tug SENTINEL WBN6510 ops report to WPE Jacksonville, in USB at 0502Z. (MC/SC)

4458.0: AAV4AR securing SHARES Hurricane Ike Support Net. QSY 10767.5 kHz. In USB at 1159Z. (MC/SC)

4517.0: USAF MARS net, AFA3HZ, AFF3KS, and others at various levels, in USB at 0207Z. (GV/CO)

5598.0: Santa Maria Aero working unheard AC in USB at 0622Z. (GV/CO)

5687.0: DHM91, Milte, Germany, in QSO with GERMAN NAVY 4521 who reported "ops normal" and requested WX rpt for ETMN, in USB at 1300Z; DHM91 working GERMAN AIR FORCE 304 via SELCAL, then relayed msg by voice in USB at 1310Z. (CG/KY)

5687.0: DHM91 in QSO with GERMAN NAVY 409 in USB at 1142Z; DHM91 in QSO with GERMAN AIR FORCE 049 who reported his departure time in USB at 1150Z. (CG/KY)

5690.0: CG 1719 (HC-130, CGAS Clearwater) p/p via CAMSLANT in USB at 2238Z. (MC/SC)

5717.0: TRENTON MILITARY wkg RESCUE 306 in USB at 0148Z. (MC/SC)

5732.0: OMAHA 42B (Piper PA-42) reporting 10-7 in USB at 0157Z. (MC/SC)

5847.0: R24610 (UH-60A) clg T1Z147 (1-147 AVN) in USB ALE at 0241Z. (MC/SC)

6215.0: CAMSLANT station identification in USB at 2255Z. (MC/SC)

6235.0: TADIL data transmission in LINK-11 at 1123Z. (MC/SC)

6322.0: Unid OM/EE fishermen near Hawaii talking about which run to make, good levels here, in USB heard at 0556Z. (GV/CO)

6586.0: New York Radio wkg SPEEDBIRD 252 for clearance to EGLL (Heathrow, London) in USB at 0209Z; NY wkg Europa 034 for posrep in USB at 0210Z; NY wkg Europa 064 for posrep in USB at 0316Z. (ALS)

6586.0: New York Radio wkg TEAL 70 (WC-130J Hurricane Hunter, Keesler AFB AFRC 403W 53WRS, on Tropical Storm Kyle mission); TEAL 70 reports next position in storm area as well as next position and altitude after leaving storm area, in USB at 0407Z. (ALS)

6586.0: New York Radio wkg REACH 290 for SELCAL check in USB at 0336Z. (ALS)

6604.0: New York and Gander VOLMET broadcasts of aviation weather in USB at 0320Z. (GV/CO)

6640.0: New York LDOC wkg "Big A 432" over Bogota, Colombia, for departure message: Out of SKBO (Bogota) 0630Z, off at 0704Z, ETA KMIA (Miami IAP) 1008Z; SELCAL check FMCH, in USB at 0712Z. (ALS)

6640.0: New York LDOC wkg AWP 434 (Arrow Airways "Big A 434"), a DC-10 en route from Eldorado IAP, Bogota, Colombia to Miami IAP; passes message: out at 0717Z, off at 0741Z, ETA Miami 1045Z, passes fuel, payload, gets SELCAL check, in USB at 0839Z. (ALS)

6640.0: New York Radio wkg TEAL 70 (WC-130J Hurricane Hunter, Keesler AFB AFRC 403W 53WRS, on Tropical Storm Kyle mission); told to contact NY on 8918 or backup 6586 before leaving storm area; will make shallow descent to 10,000 feet, in USB at 0404Z. (ALS)

6697.0: BACKFIRE with EAM broadcast in USB at 2247Z. (MC/SC)

6739.0: Andrews HF-GCS with all frequency call for JU290 in USB at 2027Z. (MC/SC)

6755.0: Unid OM/EE fishermen in QSO in USB at 0512Z. (GV/CO)

6795.0: TADIL data transmission in LINK-11 at 1124Z. (MC/SC)

6840.0: E10 numbers station, YL/EE with "EZI" callup for 3 minutes, then into 5-ltr grps in USB at 1934Z. (CG/KY)

6910.0: AAR4LL net control in SHARES Region 4 and Region 6 Hurricane Net in USB at 0103Z. (MC/SC)

6910.0: NCS046 in SHARES Region 6 Hurricane Ike Net in USB at 2326Z. (MC/SC)

7527.0: HAMMER requests OMAHA 31SK (P-3B) call ATO cell to closeout mission data. Followed by Parkhill encryption. In USB at 0014Z. (MC/SC)

7918.0: E10 numbers station, YL/EE with 71 5-ltr grps, light jamming; same msg on 5820 kHz with louder jamming; in USB at 1949Z. (CG/KY)

8120.0: Unid OM/SS calling ZULO UNO ALPHA, brought up another SS voice that sounded like Russian accent, then into digital comms, in USB at 0317Z. (GV/CO)

8156.0: CORAL HARBOUR BASE

(Bahamas SDF) with voice and modem traffic, in USB at 1253Z. (MC/SC)

8177.0: TADIL data transmission in LINK-11 at 1124Z. (MC/SC)

8301.6: SECTOR SAN JUAN clg SHARK 21 (USCGC CUSHING WPB 1321) in USB at 0151Z. (MC/SC)

8381.0: A8HJ9, *FEDERAL MARGAREE*, 27,000-ton Liberia-registered bulk carrier w/MMSI and abbreviated ID "MARG" in SITOR-A at 1810Z. (SJ/KY)

8389.5: 3EBC, *LYRA LEADER*, 21,453-ton Panama-registered vehicles carrier w/MMSI and AMVER/SP for departure from Mazatlan, Mexico, included detailed 13-line route leg list for travel down the Pacific coast of Mexico and Central America, around Punta Mala, Panama and on to Balboa to arrive for Canal transit in 4 days, in SITOR-A at 1123Z. (SJ/KY)

8776.0: PARK LANE with EAM broadcast in USB at 0040Z. (MC/SC)

8912.0: NOVEMBER 02 (HC-144A, ATC Mobile) requests guard from CAMSLANT at in USB 0029Z. (MC/SC)

8918.0: New York MWARA working various aircraft with mixed levels, in USB and SELCAL at 0154Z. (GV/CO)

8918.0: New York Radio calling DELTA 34 with no joy in USB at 2241Z; NY wkg AMERICAN 308 for posrep in USB at 2244Z; NY wkg CACTUS 1422 for posrep and handoff to JAX on VHF in USB at 2247Z; NY wkg UNITED 842 for posrep and handoff to JAX on VHF in USB at 2252Z. (ALS)

8918.0: New York Radio wkg TEAL 70 (WC-130J Hurricane Hunter, Keesler AFB AFRC 403W 53WRS, on Tropical Storm Kyle mission), too weak for NY to copy; they QSY to 6586, in USB at 0406Z. (ALS)

8971.0: GOLDFINCH 713 (P-3C) ops normal report to FIDDLE in USB at 1609Z. (MC/SC)

8971.0: FIDDLE (NAS Jacksonville TSC) wkg PELICAN 712 (P-3C, NAS Jacksonville VP-45) in USB and ANDVT at 0609Z. (ALS)

8971.0: FIDDLE wkg WAFER 25 (P-3C, NAS Jacksonville); also Wafer 25 air-air with Wafer 21, in USB at 1818Z; GOLDENHAWK (NAS Brunswick TSC) wkg WAFER 21 (P-3C); advises a 4 nmi standoff from location near Yankeetown, in USB at 1832Z. (ALS)

8983.0: CAMSLANT wkg CG 2120 (HU-25, ATC Mobile) with current hurricane position near Lafayette, LA, at 2109Z. (MC/SC)

8983.0: SWORDFISH 13 calling SHARK 16 (USCG assets) in USB at 2127Z. (ALS)

8983.0: USCG CAMSLANT wkg CG-2127 (HU-25A Falcon Jet, ATC-Mobile), en route to disabled vessel M/V *Atalina* in Gulf of Mexico; asked when they will refuel; responds will refuel at Corpus Christi IAP, in USB at 1543Z. (ALS)

8983.0: CAMSLANT wkg CG-2005 (HC-130J, CGAS-Elizabeth City) in USB at 1546Z; CAMSLANT wkg CG-2127 (HU-25A Falcon Jet, ATC-Mobile) which has located M/V *Atalina* at 27-13.28 North, 92-39.3 West, in USB at 1550Z. (ALS)

8983.0: CAMSLANT wkg CG-6531 (HH-65C, CGAS New Orleans) which has just departed home station, en route to Texas, in USB at 1610Z; same two stations heard again with CG-6531 giving POSREP 29-46N 91-07W in USB at 1641Z. (ALS)

8983.0: CAMSLANT wkg CG RESCUE 6535 (HH-65C, ATC Mobile); they QSY to secondary freq 5696, back to 8983; 6535 is unreadable to CAMSLANT on both freqs; in USB at 1632Z. (ALS)

9007.0: TRENTON MILITARY wkg CANFORCE 2631 (CC-130) at 2045Z. (MC/SC)

9020.0: TADIL data transmission in LINK-11 at 1819Z. (MC/SC)

9130.0: E10 NUMBERS STATION, YL/EE with 56 5-ltr grps for EZI in USB at 1915Z. (CG/KY)

10242.0: FOXTROT 33 (HU-25, CGAS Cape Cod) requests guard from CAMSLANT in USB at 2036Z. (MC/SC)

10315.0: MAGIC 63 in QSO with DHN66, Geilenkirchen, Germany; said by USB voice "going to send RATT msg" then into RTTY AT 1330Z. (CG/KY)

10493.0: WGY906 (FEMA Region 6, Denton, TX) standing by for Hurricane Ike emergency traffic in LSB at 0115Z. (MC/SC)

10767.5: AFA3HY, Shawnee, KS opening SHARES Hurricane Ike Support Net in USB at 1200Z. (MC/SC)

10780.0: CAPE RADIO (Cape Canaveral, FL) wkg PR-87 (EP-3E, Whidbey NAS) for radio check; rqsts QSY to Cape Radio Secondary 20390.0 kHz for radio check there also, in USB at 1959Z. (ALS)

10912.0: M51 NUMBERS STATION with 5-ltr grps in CW at 2150Z. (CG/KY)

10993.6: SECTOR KEY WEST asks SHARK 39 if they have acquired target on radar in USB at 1641Z. (MC/SC)

11175.0: ACCORDIAN p/p via Andrews HF-GCS to BOOKCASE in USB at 2015Z. (MC/SC)

11175.0: ELMENDORF calling ??JG with no joy (probably S4JG) in USB at 2322Z. (GV/CO)

11175.0: WEEKEND 77 calling Mainsail with no joy in USB at 1330Z; ANDREWS HF-GCS with SKYKING msg PWW auth V1 in USB at 1901Z; REACH 8225 calling MAINSAIL with no joy in USB at 1700Z. (CG/KY)

11175.0: HF-GCS Station ANDREWS recites 52-character EAM (37HMN6 etc.) in USB at 1605Z. (ALS)

11175.0: ANDREWS wkg SOONER 81 (poss. Tinker AFB KC-135) before QSY to 13200.0 kHz, in USB at 2146Z. (ALS)

11175.0: ANDREWS wkg PAT 534 (US Army Priority Air Transport) for phone patch to Area Code 703 (VA) number; they lose contact; in USB at 2138Z; OFFUTT working PAT 534 and completing same patch in USB at 2143Z. (ALS)

11175.0: ANDREWS with all-frequency call for SHUCK 81 (E-3 AWACS, Tinker AFB) in USB at 2140Z. (ALS)

11175.0: JW230 (C-130T, Brunswick

NAS VR-62 Nor'easters) calling MAINSAIL with no joy, in USB at 2029Z, PUERTO RICO wkg JW230 for radio check in USB at 2045Z. (ALS)

11175.0: OFFUTT wkg REACH 5030 (KC-10A #85-0030, McGuire AFB 305AMW) for radio check in USB at 1411Z. (ALS)

11175.0: HF-GCS Station ASCENSION, attempts comms but cannot copy aircraft, informs that they also monitor freqs 4724 and 6739, in USB at 0200Z. (ALS)

11175.0: HF-GCS Station LAJES wkg BLUE 62 (Coronet East tanker) for phone patch to DSN number for Pease ANGB PACK CP, BLUE 62 reports one hour out, maint. Status A-2 with three write-ups, 9 crew aboard; requests Customs, in USB at 1602Z. (ALS)

11175.0: LAJES wkg DRAGON 01, LAJES passes msg preamble JJA4FA; they QSY to 11220 kHz, in USB at 1516Z; OFFUTT wkg RANGER 308 (KC-130T #162308, Ft Worth NAS VMGR-234 "Rangers") for radio check in USB at 2004Z. (ALS)

11175.0: ANDREWS wkg LL-40 (P-3C, VP-30, NAS Jacksonville) for phone patch to Duty Officer; IDs as "side number 770," estimates on ground at 1635Z, in USB at 1535Z. (ALS)

11175.0: HF-GCS Station "McClellan" wkg TEAL 86 (WC-130J Hurricane Hunter, Keesler AFB 403W 53WRS) for phone patch in USB at 0136Z; "McClellan" attempts to work HERC 03 (C-130) but HERC 03 does not copy, in USB at 1444Z. (ALS)

11175.0: OFFUTT wkg REACH 1186 (C-17A #01-0186, McChord AFB 62AW) for phone patch to McGuire AFB CP; expects blocks time will be 1855Z, in USB at 1650Z. (ALS)

11175.0: PUERTO RICO wkg GOLD 11 (Coronet East mission tanker, inbound Moron AB Spain from Germany) for phone patch to Hilda Metro; for arrival WX; Hilda Metro transfers call to Hilda Duty Office to arrange for landing after hours, in USB at 2015Z. (ALS)

11175.0: LAJES wkg AX950 (C-130T, NAF Andrews VR-53) for phone patches to DSN numbers at Andrews AFB, inbound Andrews with 2345Z ETA from Bahamas; rqsts Customs support, in USB at 2057Z. (ALS)

11175.0: LAJES wkg CONQUEST (U.S. Mil) for phone patch, requests party come up on Orderwire, in USB at 2053Z. (ALS)

11205.0: TRENTON MILITARY wkg PATHFINDER 32 (CP-140, CFB Greenwood) in USB at 1331Z. (MC/SC)

11220.0: LAJES wkg DRAGON 01, LAJES passes msg preamble JJA4FA again following QSY here from 11175 kHz, in USB at 1520Z. (ALS)

11232.0: CANFORCE 2354 wkg TRENTON MILITARY for WX at Comox, Vancouver, and Abbotsford followed by p/p to WING OPS, in USB at 0025Z; TRENTON MILITARY wkg RESCUE 40 (HU-25 # 2140) for relay of ETA to Sheppard AFB for fuel. In USB at 2026Z. (MC/SC)

11232.0: TRENTON MILITARY working KING33 re: storing comtek material at command post, in USB at 0141Z. (GV/CO)

11232.0: TRENTON MILITARY wkg CANFORCE 2680 for phone patch to get current weather at Trenton and Ottawa, also requests Customs be told of their late arrival; in USB at 2325Z; TRENTON MILITARY wkg CANFORCE 1094 for POSREP, in USB at 2336Z. (ALS)

11232.0: TRENTON MILITARY wkg SENTRY 60 (E-3 AWACS, Tinker AFB) in Sector 7 for phone patch to DSN number for Tinker Metro to obtain WX for KRME (Griffiss AFB), in USB at 1651Z. (ALS)

11232.0: TRENTON MILITARY wkg SENTRY 40 (E-3 AWACS, Tinker AFB) for WX report; then phone patch to DSN number for Tinker AFB Ops, in USB at 1708Z. (ALS)

11232.0: TRENTON MILITARY wkg ATLAS 40 in USB at 1604Z. (ALS)

11494.0: FOXTROT 40 (HU-25) is diverted by CAMSLANT to Long Island Sound to search for a vessel needing a Medevac, in USB at 0023Z. (MC/SC)

12133.5: Armed Forces Radio network with intermittent audio transmission problem in USB at 0132Z. (GV/CO)

12479.0: S6OF, *EAGLE CHARLOTTE*, 107,169-ton Singapore-registered AET crude oil tanker w/MMSI and abbreviated ID "ECHA" in SITOR-A at 1415Z. A8OU2, *NEW ACTIVITY*, new Liberia-registered crude oil tanker w/AMVER/PR, MMSI and abbreviated ID "ACTT," 100 miles southwest of Jamaica and sailing NW, in SITOR-A at 1736Z. A8AP3, *PETROVSK*, 106,532-ton Liberia-registered crude oil tanker w/MMSI, abbreviated ID "PVSK" and TEST command in SITOR-A at 2034Z. (SJ/KY)

12482.0: H9CC, *IVS KWAITO*, 32,573-ton Panama-registered bulk carrier w/garbled AMVER/PR, MMSI and abbreviated ID "KWAI," en route to Baltimore, MD, to arrive in 3 days, in SITOR-A at 1615Z; vessel heard again this freq. w/similar traffic next day, 320 miles east of Daytona, FL, and sailing at 13.7 knots, in SITOR-A at 1618. (SJ/KY)

12497.5: Unid. vessel w/SELCAL VQYV (0270) for 7TK27, Boufarik R., Algeria, good signal but no contact, coast station on paired 12600.0 kHz not heard, in SITOR-A at 2320Z. (SJ/KY)

13330.0: TROUT 98 (probable KC-135) calls New York Radio for SELCAL check, no joy, in USB at 1600Z. (ALS)

13907.0: CG 1720 (HC-130, CGAS Clearwater) p/p via SERVICE CENTER in USB at 1907Z. (MC/SC)

13927.0: USAF MARS Operator AFA3HS (Kansas City) wkg SHARK 15 (C-130 on Coronet Oak Mission) for radio check; one radio working, other not; in USB at 1425Z. (ALS)

13927.0: USAF MARS Operator AFA1QW (Greenwood IN) wkg BATON 54 (EC-130J, PA-ANG 193SOW, Harrisburg

PA, 200 miles east of NJ coast) for phone patch to DSN number for BATON CP; BATON 54 is told other acft will depart at noon for Wilmington mission, in USB at 1522Z. (ALS)

13927.0: USAF MARS Operator AFA1CM (NY) wkg RICAN 75 (C-130, PR-ANG, San Juan, PR) for phone patch to DSN number for Davis-Monthan Metro; then M&W in USB at 1512Z. (ALS)

13927.0: DOOM 02 (B-52H, 2BW, Barksdale AFB, LA), in TX panhandle area, via USAF MARS station for phone patch to DSN number for Barksdale AFB 96BS Red Ops, Strong here, in USB at 1759Z. (ALS)

13927.0: KING 54 via USAF MARS station for phone patch to DSN number for Moffett Rescue Ops, passes ETA, in USB at 1826Z; DOOM 02 via USAF MARS Operator AFA6PF (Los Angeles) for phone patch to RED OPS regarding tanker status, in USB at 1851Z. (ALS)

13927.0: AFA6PF wkg REACH 7031 (over Massachusetts) for radio check; both sides strong here, in USB at 1730Z. (ALS)

13927.0: USAF MARS stations AFA6PF, then AGA2PA (Patrick AFB, FL) wkg HUSKY 58 but HUSKY 58 has both stations too weak to copy, everyone strong here, in USB at 1702Z. (ALS)

13927.0: USAF MARS station wkg REACH 8226 (C-5A, NY-ANG 105AW, Stewart ANGB, NY, en route to Chicago) for phone patch to DSN number for Stewart ANGB CP, in USB at 1917Z. (ALS)

13927.0: USAF MARS Operator AFA6AY (California) wkg REACH 636, who is at 34,000 feet over the Atlantic, for two M&W phone patches to Delaware and one to Ohio, in USB at 2313Z. (ALS)

13927.0: USAF MARS Operator AFA1RE (Maine) wkg REACH 496 for M&W phone patches to Colorado and North Carolina, in USB at 2339Z. (ALS)

13927.0: AFA6PF wkg REACH 869 (near Cincinnati, en route to Little Rock) for M&W phone patch to NC Area Code in USB heard at 1844Z; AFA6PF wkg REACH 7041 (C-17A #97-0041, Charleston AFB 437AW) for M&W phone patch in USB heard at 1936Z. (ALS)

13927.0: AFA6PF wkg RICAN 13 (C-130, PR-ANG, San Juan PR) for phone patch to Missouri area code in USB at 1700Z. (ALS)

13927.0: USAF MARS Operator "AFA1QW" (Greenwood IN) wkg REACH 714 (off the east coast of Canada) for phone patch to Lawton, OK regarding official business, in USB at 1550Z. (ALS)

14396.5: SHARES National Net opening for Hurricane Ike in USB at 2200Z. (MC/SC)

14626.6: Unid comms, SS/EE mixed, call-sign of GREYWOLF heard and several Central American countries mentioned, in LSB at 2148Z. (GV/CO)

20390.0: CAPE RADIO kHz USB 2000Z: Cape Radio (Cape Canaveral FL) wkg PR 87 (EP-3E, Whidbey NAS) for radio check here after QSY from 10780 kHz, in USB at 2000Z. (ALS)■

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ADVERTISERS' INDEX

A Capital Idea

by Bill Price, N3AVY
chrodoc@earthlink.net

Got some vacation time left before the snow falls? How about scanning Washington, D.C. for $25 a day. Batteries not included.

When I was too young to afford $5 a day, I remember seeing books telling me how I could go to Wherever for that mere pittance. It seemed as far off as a million dollars at the time—I think my allowance was $1.25 a week—and I later learned that the $5 daily rate did *not* include getting there. As I grew older and earned more, it seemed that the daily rate dangled by these books also grew—always staying just a little out of reach.

As someone who lives and works near our nation's capital, it has always seemed to me that people could visit D.C. for a mere pittance and find lots of scanning activity (and even some shortwave listening), making this a perfect place for visitors, especially *after* the heat of summer has gone by.

Like the tourist guides, I can't help you cover the expense of getting here, but I know from walking past Union Station (railroad) and the ever-exciting bus terminal just two blocks north of that historic location, that there are ways to get here that don't involve driving or flying.

Staying in D.C.: it's simple. Don't. While there are many lovely hotels within the city limits, there are few that you'd wish to pay for. Suburban Maryland and Virginia provide subway access to D.C. (and the subways are just fine) and have much lower motel rates. You can still find some that are in the $40 range if you look around. Here's where I'll do the first arithmetic: for a family of four (who can sleep in two beds), that's your first $10/day. I find the Virginia side generally easier, and a little more tourist friendly right about (and a little beyond) the end of the D.C. Metro line.

Of course, you can splurge for breakfast and head straight to the first fast-food drive-through and throw money away foolishly, but what youngsters would pass up handfuls of pre-sweetened dry cereal from Mega-Lo-Mart? Just think...good nourishment at about ¢50 a day, and if you let the kiddies share a pint of milk, they've had a downright healthy breakfast for about a dollar a head. You and your significant other will need a bit more sustenance, starting with some instant coffee from the complementary coffee pot in your room, and a bit of the milk you'll have to grab from the kiddies before they drain it dry.

I've always enjoyed brown-and-serve sausages warmed on a television chassis during my hotel stays, but our legal department warned me about advising non-professionals to remove the back of a TV set, so we'll assume you've brought your tiny microwave oven or been lucky enough to find a $40 motel which offers one in the room.

While you're tuning up the scanner for your first day's roaming (and I use the term to mean both on foot and with your scanners) you can be warming any of dozens of canned breakfast foods available at the many "dollar-stores" in suburban D.C. While I wanted to talk about heating various canned goods on the exhaust manifold of your car (especially during summer) that pesky legal department told me that was off-limits as well. Something about fumes, burning your hands, and all that silliness. I think that brings us up to about $11 per person, per day, so far.

You'll probably want to see the nearly 100 marvelous eating places in D.C.'s Union Station, which you can reach by the Metro. Your metro-passes are good all day (except during rush hours) and cost about $7 per person so we're up to about $18 before lunch.

After browsing the magnificent eateries there, you'll likely choose to ride the shiny escalator up to the main level, walking briskly past the expensive and trendy coffee and ice cream vendors to the Golden Arches for that famous dollar menu. Drinks can be had from the water fountain a few short paces to your left, and with two items each for mom and dad, and one each for the kiddies, we'll bring the total up to $19.50/day for each vacationer, leaving lots left for supper.

Remember, no building in D.C. can be taller than the dome of the capitol building, so you won't have to crane your neck to look up to find many strange antennas on top of government buildings. There are a couple of strange HF arrays right near the Smithsonian Metro stop that'll keep you guessing.

If the kids haven't yet discovered the joy of scanning and shortwave listening, there are the museums. Admission is free, just steer the little ones past the cafeteria and the gift shops (and keep them filling their water bottles wherever they can) while you're busy listening to the museum's security people discussing any skullduggery which might be taking place—history in the making in the museum of American History! On a rare serious note, I'll tell you that there is no *Smithsonian!* No, there are quite *a few Smithsonians*, each better than the other. They are magnificent, temperature controlled, out of the rain, and *FREE!*

If you are inclined to splurge *a bit* more than I've suggested (this is another rare occasion when I'm being serious), go a little beyond the end of the Metro and do your eating and sleeping near Manassas (where you folks from the north think we fought the Battle of Bull Run). You'll find bargain accommodations, great affordable family buffets, and some Civil War history for days when the concrete seems too hard. If you can find those elusive frequencies, you might hear some of the civil war "ghost communication" that the area is famous for. There are buses running from Manassas to and from the Metro, and a person roaming the Civil War Battlefield there just might find a friendly soldier who would offer a ride upon his trusty mount. Don't expect him to tell you what frequency they used back then—it's a secret.

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