

POPULAR COMMUNICATIONS

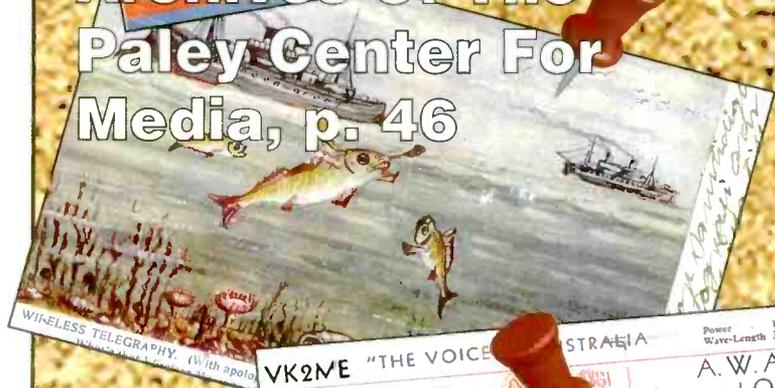
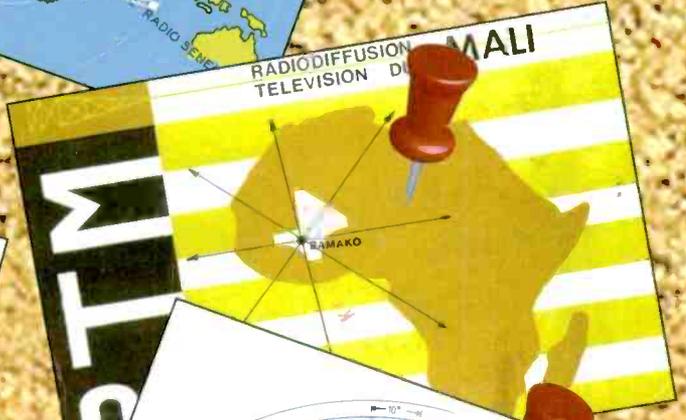
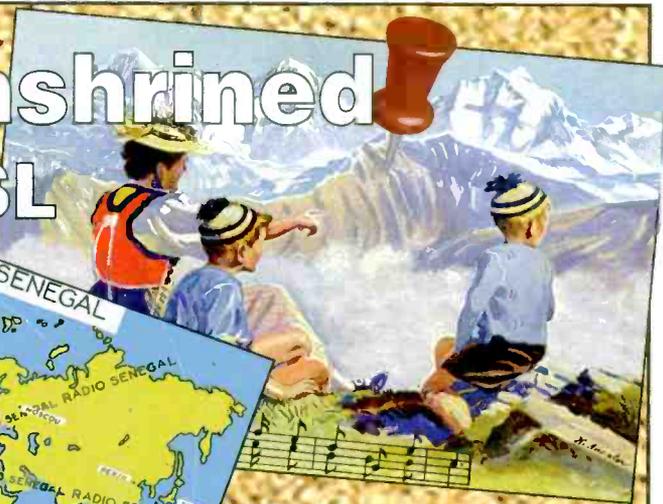
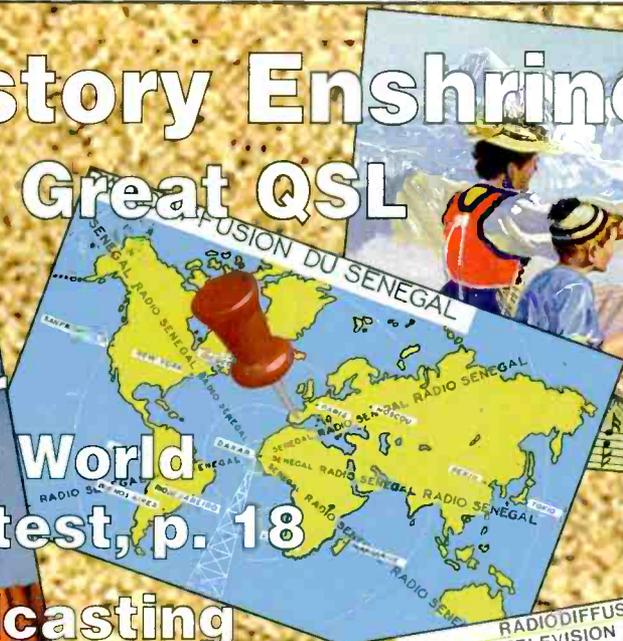
APRIL 2009

Shortwave Listening • Scanning • AM & FM • Radio History

Radio History Enshrined The World's Great QSL Collections

Get Ready For
The Adventist World
Radio DX Contest, p. 18

Explore Broadcasting
Archives Of The
Paley Center For
Media, p. 46



Power 12 Kilowatts
Wave-Length 31.28 Metres

STRAEIA
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Owns and Operates
Beam Wireless Services to Great Britain, The Continent of Europe and North and South America.
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Coastal Radio Stations in Australia, Papua, New Guinea and Fiji.
Wireless Services on ships of the Australian Mercantile Marine.
Radio-Electric Works for the manufacture of every type of transmitting equipment and Radiola broadcast receivers.
Research and experimental laboratories.

Radio Broadcasting Service
T.D. ON



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Universal Radio — Quality equipment since 1942.

YAESU VR-5000



The Yaesu VR-5000 provides sophisticated wideband reception. Coverage is from 100 kHz to 2600 MHz (2.6 GHz) less cellular, in AM, FM-N, FM-W, LSB, USB and CW. This radio features a real-time bandscope and you get 2000 alphanumeric memories grouped into 100 banks. Optional aids such as a DSP unit, voice synthesizer and digital voice recorder are available. Jacks on the back panel include: Mute, 13.8 VDC input, External Speaker, 10.7 MHz I-F Output, Antenna Input A (SO-239 50 ohm) & B (Hi Z 450 ohm), CAT Interface Jack (4800/9600/57600 bps). The VR-5000 comes with the PA28B 117 VAC adapter and a DC power cord. This radio is only 7.1 x 2.75 x 8 inches 4.2 Lbs. Please visit our website for full specifications, color photos and current price.

ACCESSORIES

- #3545 DSP-1 DSP Notch/NR/Bandp. \$119.95
- #0560 DVS-4 Digital Voice Recorder 49.95

YAESU

VR-120D PKG



The VR-120D is a compact wideband receiver covering 100 kHz to 1299.995 MHz (less cellular and image gaps), in AM, FM-N and FM-W with 640 alphanumeric memories. Scan features include: Full Mem. Scan, Mem. Bank Scan, Selected Mem. Channel Scan, Band-Limit Mem. Scan, Smart Search, Priority Channel Watch and Dual Watch. Manual tuning is via the tuning knob. A built-in AM ferrite loop insures good AM performance. A Channel Counter feature measures the frequency of a strong nearby signal. With BNC antenna, wrist strap and belt clip. This new VR-120D "PKG" configuration now includes the FNB79 NiCad battery, CA34 sleeve, NC82 stand and PA30B 120 VAC adapter. Size: 2.3 x 3.8 x 1 inches 8 oz.

Order #4120 \$139.98

ACCESSORIES

- #0384 CA34 Charging sleeve \$3.95
- #4332 CSC76 Carry Case 19.95
- #3646 EDC15 Cigarette lighter cord 36.95
- #0355 FNB79 Ni-Cad 2.4V 700 mA 9.95

YAESU

VR-500 PKG



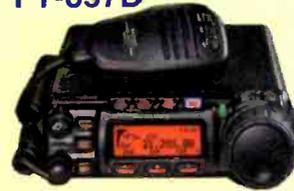
The Yaesu VR-500 is the first to provide wideband coverage plus single sideband capability in such a small and capable package. Coverage is solid from 100 kHz to 1300 MHz (1.3 GHz) less cellular, in AM, FM-N, FM-W, LSB, USB and CW. You get 1000 regular memories (10x100) plus tuning steps from 50 Hz to 100 kHz. Other features include: backlit keypad, priority, power-off timers, adjustable battery saver, 60 channel bandscope, attenuator, dual watch, alphanumeric recall, bank scanning Smart Search™. The VR-500 operates from two AA cells. Includes BNC antenna, hand strap and belt clip. This new Yaesu VR-500 "PKG" configuration also includes the NiCad battery and wall charger. Only 2.3 x 3.7 x 1" 8 oz. Please call or visit our website for more information and current price.

ACCESSORIES

- #4037 ADMS3 Win Software & PC cable \$37.95
- #4035 CSC72 Carry Case 19.95
- #1693 EDC5B DC Cable +Cigar Plug 23.95
- #3116 EDC6 DC Cable 6.95
- #0353 FNB79 NiCad Batt 2.4V 9.95
- #0594 NC6CB AC Adapter 13.95

YAESU

FT-857D



FREE Yaesu orange mug with FT-857D/897D.



The Yaesu FT-857D is the world's smallest HF/VHF/UHF multimode amateur transceiver covering 160 m to 70 cm with 100 watts on HF. Now with 60 meters and DSP2 built-in.

FT-897D



The Yaesu FT-897D is a multi-mode high-power base/mobile transceiver covering 160 m to 70 cm including 60 meters. Now with TCXO.

FT-817ND



FREE Yaesu orange urban case with FT-817ND.

The Yaesu FT-817ND is an improved, deluxe version of the hugely popular FT-317. It includes 60 meter coverage plus the new high capacity FNB-85 battery. This radio has an excellent shortwave receiver built-in and is a fully self-contained, battery-powered, low power amateur MF/HF/VHF/UHF QRP transceiver.

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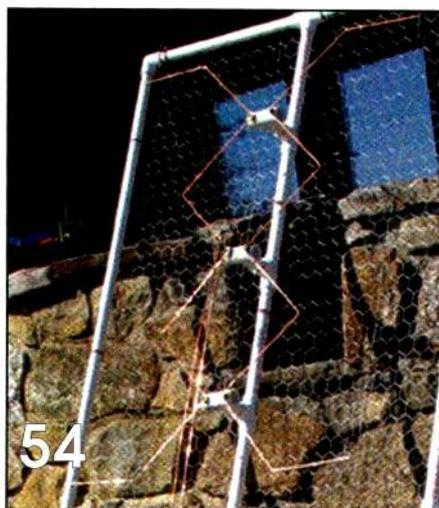
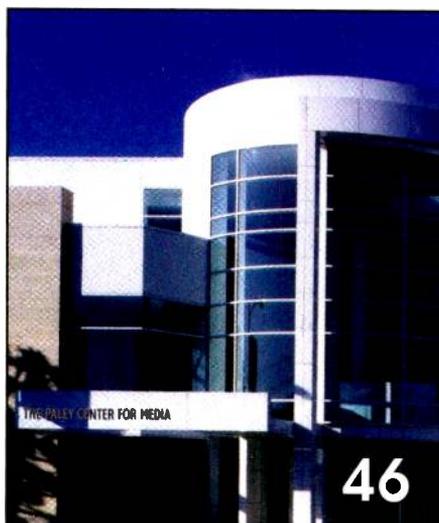
POPULAR COMMUNICATIONS CONTENTS

APRIL 2009
VOLUME 27, NUMBER 8



FEATURES

- 12 Treasure Troves Of Radio's Past—Millions Of QSL Cards Preserved In Only Five Locations**
A Look At The Major QSL Collections In The United States, Europe, And The South Pacific
by Dr. Adrian M. Peterson
- 18 The Adventist World Radio DX Contest**
The 2008 USA Contest Winner Deconstructs His Successful Strategy For This Popular Challenge
by Edward J. Insinger, WDX2RVO
- 31 Pop'Comm Bookcase:**
Listening On The Short Waves, 1945 To Today, and Broadcasting On The Short Waves, 1945 To Today, By Jerome S. Berg reviewed by Gerry Dexter
- 46 Exploring Broadcasting's Place In Society At The Paley Center For Media**
Great Listening And Learning Opportunities In New York And Los Angeles
by Dan Moseson, KC2OOM



ON THE COVER

QSL cards are among the most prized possessions of many radio hobbyists. And for those who love them, it's nice to know that countless are lovingly preserved in five fabulous collections. See "Treasure Troves Of Radio's Past" by Dr. Adrian M. Peterson, starting on page 10, for more. (Cover QSLs from the Adrian M. Peterson Collection. From top left: QSL card verifying reception of pulse tones heard in 1957 from Sputnik; Radiodiffusion du Senegal indicating transmitter location at Dakar; 1955 card from a painting depicting IS used for years by Swiss Radio International; oldest known humor card, postmarked in 1902; Radiodiffusion du Mali indicating transmitter location at Bamako; Australian station VK2ME, launched before World War II; ERF's unusual circular card)

COLUMNS

- 9 Horizons**
Semantic Communication
by Rob de Santos
- 24 Military Radio Monitoring**
Whiteman Air Force Base—
Missile Silos And A Series Of Firsts
by Mark Meece, N8ICW
- 35 Global Information Guide**
Good Signs For Shortwave—
Better Reception And New Stations
by Gerry L. Dexter
- 42 World Band Tuning Tips**
World News, Commentary, Music,
Sports, And Drama At Your Fingertips
- 49 Homeland Security**
Lessons Learned—And Applied—
From Emergencies
by Mitch Gill, NA7US
- 58 The Propagation Corner**
Shhhh! (We're Tracking Sunspots...)
by Tomas Hood, NW7US
- 63 Shannon's Broadcast Classics**
A Sentimental So Long To
Analog TV
by Shannon Huniwell
- 72 The Wireless Connection**
Concluding The Hickok
Traceometer Saga
by Peter J. Bertini
- 79 Utility Communications Digest**
Retune Your Shortwave Dials—
CHU Moves To 7850.0
by John Kasupski, KC2HMZ
- 84 The Loose Connection**
Electric Guitars, Dusty Tubes,
And Reader Shenanigans
by Bill Price, N3AVY

FEATURED COLUMNS

- 54 Ham Discoveries**
Hilltopping: A No-Cost 1,000-Foot
Tower For VHF+ DX Mania
by Kirk Kleinschmidt, NTØZ
- 68 Gordon West's Radio Ways**
Commercial Radiotelephone Licenses—
A Door To Job Opportunities?
by Gordon West, WB6NOA
- 76 Broadcast Technology**
Radio In Recession: Corporations
Counter With Cutbacks
by Bruce A. Conti

DEPARTMENTS

- 4 Tuning In**
An Editorial
- 6 Newsworthy**
Unwired, InfoCentral, And
Washington Beat
- 11 Our Readers Speak Out**
Letters
- 44 Power Up**
Radios & High-Tech Gear
- 71 Radio Fun**
Trivia And Toon

Tap into secret Shortwave Signals

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

MFJ-462B
\$199⁹⁵

Plug this self-contained MFJ Multi-Reader™ 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, Iraqi 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.

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 electrical 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 auxiliary or active antenna. 6x3x5 in. Remote has MFJ-1024 \$159⁹⁵ whip, 50 feet coax. 3x2x4 inches. 12 VDC or 110 VAC with MFJ-1312, \$15.95.

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."

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 MFJ-1022 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. 3 1/8x1 1/4x4 in.



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.

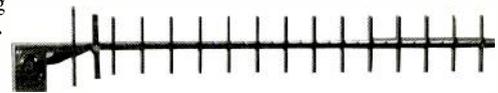
It's easy to read -- front-mounted 2 line 16 character LCD display has contrast adjustment.

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. 5 1/4x2 1/2xHx5 1/4D inches.

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



16-element, 15 dBi WiFi Yagi antenna greatly extends range of 802.11b/g, 2.4 GHz WiFi signals. 32 times stronger than isotropic 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. 18Wx2 3/4Hx1 1/4D 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.



Eliminate power line noise!



MFJ-1026
\$199⁹⁵

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 \$119⁹⁵

Preamplifier 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-Q receiver preselector 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.

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 Shortwave Headphones

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.

Super Passive Preselector

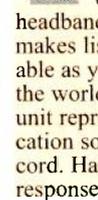
Improves any receiver! Suppresses strong out-of-band signals that cause intermod, blocking, cross modulation and phantom signals. Unique Hi-Q series tuned circuit adds super sharp front-end selectivity with excellent stopband attenuation and very low passband loss. Air variable capacitor with vernier.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

MFJ Shortwave Speaker

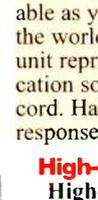
This MFJ ClearTone™ restores the broadcast quality sound of shortwave listening. Makes copying easier, enhances speech, improves intelligibility, reduces noise, static, hum. 3 in. speaker handles 8 Watts. 8 Ohm impedance. 6 foot cord.



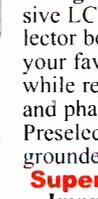
MFJ-392B
\$24⁹⁵



MFJ-956
\$69⁹⁵



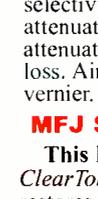
MFJ-1046
\$119⁹⁵



MFJ-1046C
\$119⁹⁵



MFJ-1046C
\$119⁹⁵



MFJ-281
\$12⁹⁵

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 Antenna Switches

MFJ-1704 \$79⁹⁵ MFJ-1702C \$39⁹⁵

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-461 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 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. 4 1/2Wx1Dx2H inches.

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EDITORIAL

Tuning In

What's The Buzz?

by Edith Lennon, N2ZRW

editor@popular-communications.com

An **un**stated theme hummed like a **sound wave** through this year's Consumer Electronics Show (CES) in Las Vegas January 8–11. The annual bacchanal celebrating shiny things, from state-of-the-art to silly-geeky, might have been a bit subdued thanks to the financial downturn, but audible in the general hoopla was a recurring motif: we've reached the level of technological sophistication in our electronic devices that ease of use is becoming more important than feature set. But ease of use means more than eliminating buttons (does my "standard" TV remote really need 49 buttons?). Get ready for the next pop culture invasion: consumer devices that talk to each other without your being involved.

Interconnectivity has been around a long time, in technological measurements, but if the czars of silicon have their way, it will soon be taking Peoria by storm. This is how it will work: In the (near?) future, you'll return home from vacation and your digital camera will "wake up" your PC and automatically download your new photos. You'll drive past an unfamiliar shopping center and your GPS will tell you, "That kayak you've been searching the Web for is on sale in a sporting goods store here and it's in stock." You'll switch on your TV and the remote will suggest a movie it "thinks" you might like. You'll turn on your HD car radio and the voice of your favorite singer will suggest some songs to listen to.

But how did they *know*? The laptop told the GPS, that told the TV, that told the HD radio...

The magic of Bluetooth is taking the human element out of the old game of telephone. Hey, I'm no technophobe, but this may take some getting used to. Besides the inevitable force-fed advertising 24/7, I'm not sure I want my TV, PC, GPS, refrigerator, vacuum cleaner, and hair dryer having chat sessions when I'm

not around (there's a crime in there somewhere...).

Ok, enough with the paranoia (did my toothbrush just snicker?), let's talk cool/quirky stuff.

For travelers, geocachers, and the generally confused, CES showcased a plethora of GPS systems, many taking interaction to a new level. Dual Electronics debuted its XNAV43HD with built-in HD radio connectivity that uses that bandwidth to obtain real-time traffic reports, real-time weather updates, and even local gas prices. Planned successor devices will offer an incredible degree of specificity ("Rain will begin this afternoon at 3:27," "There is a disabled vehicle two blocks ahead on the left").

Any *Lord Of The Rings* fans out there? Phil McKinney of Hewlett-Packard described a developing technology that will let you interact with devices using gestures. HP will have you slip on a special ring (the ring detects who has put it on) and wave your hand to change a TV or radio channel, lift your hand to raise the volume, poke a finger in the air to start a recording.

Too exhausted to press your TV remote's buttons (there are sooo many!) or lift your hand? There's no need to if you have Amulet Devices' Remote Control. This voice-activated remote control for the Vista Media Center responds to commands like "Play XM Station —" or "Watch TV Channel —." According to the company's online brochure, "In today's world of digital TV, online music, and more photos than you can imagine, it's time to take back control of your living room."

See, that's *just* what I'm worried about!

Issue Note

Our apologies to "ScanTech" fans disappointed by Ken Reiss' absence this month, but he was laid up with a walloping flu. He'll be back next issue.

AOR introduces the **AR-Mini**

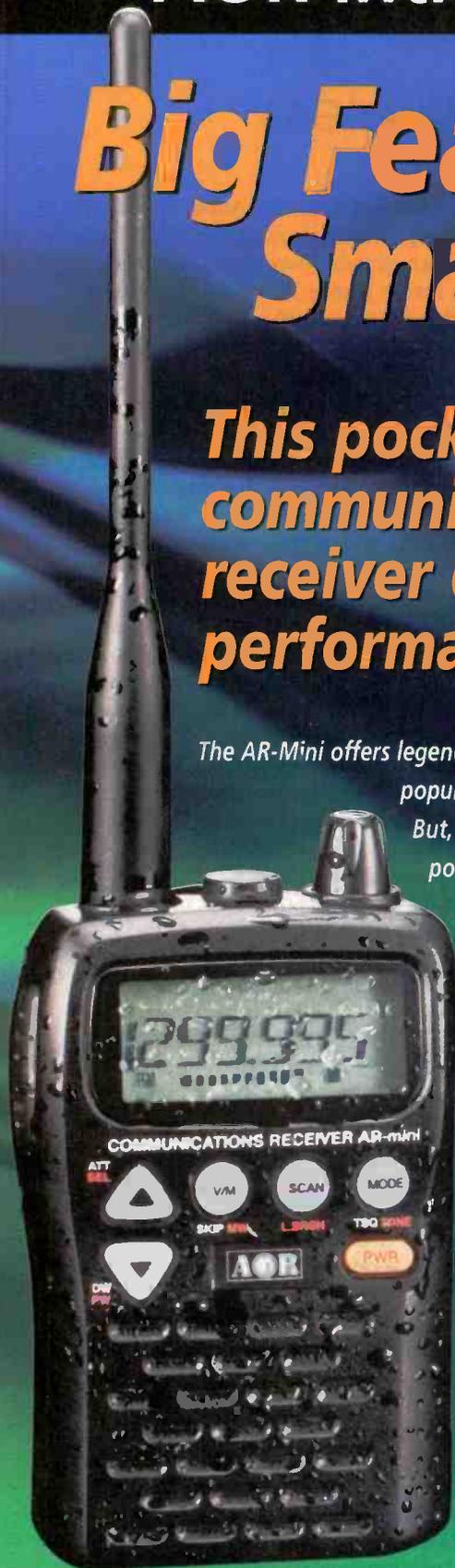
Big Features! Small Size!

***This pocket-size
communications
receiver delivers BIG
performance!***

The AR-Mini offers legendary AOR quality and a wide array of the most popular features found in the AR-8200 Mark III. But, the new AR-Mini does it all in a convenient pocket size water resistant version that's very easy on a budget.

Whether you use it for work or pleasure, you can take the AR-Mini with you to listen to public safety communications, airline traffic, marine communications weather channels, trackside communications at car and motorcycle races, radio and television reporters in the field, shortwave communications from around the world, amateur radio frequencies, AM and FM radio signals, analog TV audio and more.

Powered by two AA Ni-MH cells (1.2v), the AR-Mini operates for approximately 22 hours on a single battery charge but it can also be used with AA alkaline batteries or with an optional DC cigar-lighter adapter.



Actual size

AR-Mini Features include:

- 1000 memory channels (10 banks x 100 channels)
- AM, NFM: Triple conversion
WFM: Double conversion
- TCXO for greater stability
- 100kHz ~ 1299.995 MHz (+/-2.5ppm)*
- CTCSS and DCS
- Cloning capability (AR Mini to AR Mini or through PC connection)
- RF attenuator
- Automatic or selectable tuning steps
- Scan speed: 8 steps/sec.
- Priority Channel
- 2 VFOs
- Memory channel skip
- Battery save function with auto power off timer
- Free downloadable memory management software
- Preprogrammed "bug" detector frequencies with level beep to find hidden transceivers
- Small size: 2.4" x 3.7" x 0.9" (without projections)
- Weighs only 7.4 oz with antenna and batteries
- Signal meter
- Low battery indicator
- SMA antenna connector

***The AR-Mini is now available
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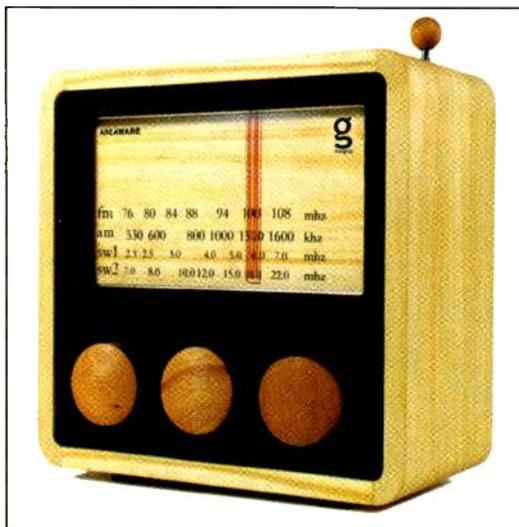
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The Weirder Side Of Wireless

by Staff



Eco-boutique Areaware's Magno wooden radio.

Something For Radio Huggers

Close your eyes and you can almost hear the bamboo xylophone—provided you turn down the volume on the shock jocks—thanks to an offering by New York eco-boutique Areaware (www.areaware.com), which is “renowned for unique design products with an emphasis on forward thinking technologies and original expression,” according to its website. Sprouting up at this year's Consumer Electronics Show, Areaware's line of sustainably harvested Magno wooden radios boasts an all-organic design—everything but the electronics themselves is made entirely of new growth wood by artisans in a small fishing village in Java. The multi-band radio—AM, FM and short-wave—even features wood-wrapped jacks to connect your iPod or other MP3 player in the back.

The Magno comes in two sizes, small and medium, to better enhance the feng shui of your home, especially if your home is a harmony of retro and Fisher Price styling. The company recommends oiling the uncoated surfaces of the radio “to encourage a deeper connection between user and object.” One would also like to protect the investment (a small one retails for \$200; a medium for \$250).

Burn After Listening

According to an Associated Press report, firefighters said a radio caused a fire at an elderly housing complex in Hopkinton, Rhode Island, that sent more than two dozen people to the hospital. Officials said that the fire inside a first-floor apartment was giving off hydrogen cyanide, caused when someone started an electric oven with a portable radio inside. Several firefighters

were overcome by the smoke. About 20 of them, along with eight residents and three EMTs, were taken to area hospitals. More than 40 rescue vehicles from across Rhode Island and Connecticut responded to the apartment complex to transport those injured, the report continued.

Painting The Town Secure

Will the latest tool for IT security now come in convenient liquid form? Japanese researchers have developed a paint that they say will block high-speed wireless signals, giving businesses a cheap option to protect their wireless networks, according an article on Techworld.com. RF-blocking paints are nothing new and have previously proven successful at shielding wireless devices and other electronic equipment within buildings. But newer technology is using higher frequencies to send data. For example, the best wave absorbers commercially available today are only effective up to around 50 GHz, whereas the latest wireless communications tend to use electromagnetic waves with a frequency of over 100 GHz plus, the article continued.

The Japanese researchers, led by Shin-ichi Ohkoshi at the University of Tokyo, say they have now blended a paint with aluminum iron oxide that resonates at the same frequencies used by Wi-Fi, thus canceling out any electromagnetic waves in that frequency. And it's a bargain! “We collaborated with DOWA Electronics, a Japanese industrial company [to make a 100-kilogram sample order],” Ohkoshi was reported as saying. “The manufacturing cost is very cheap, around [\$14] per kg.”

RadioShack: Do Do That Voodoo That You Do So Well

A Mexican sports daily is pinning its hopes of beating the U.S. in a World Cup qualifying match on voodoo—with help from a U.S.-based electronics chain, according to an Associated Press report. An advertisement in the sports daily *Record* invited fans to clip coupons and redeem them at their local RadioShack store for a voodoo-doll likeness of a U.S. player. The hope was that a little black magic might help Mexico break a decade of futility on the road versus its northern neighbor.

The press office of RadioShack in Fort Worth, Texas, did not immediately return phone calls and emails seeking comment, but the company's Mexico office confirmed its participation, according to AP. At press time, however, AFP News was reporting that RadioShack ordered its Mexican division not to distribute some 8,700 voodoo dolls wearing US soccer shirts.

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Bearcat® BCD396T Trunk Tracker IV

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

Frequency Coverage:

25.0000-512.0000 MHz., 764.0000-775.9875 MHz., 794.0000-823.9875 MHz., 849.0125-868.8765 MHz., 894.0125-956.0000 MHz., 1240.0000 MHz.-1300.0000 MHz.

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

Close Call Radio Frequency Capture - Bearcat exclusive technology locks onto nearby radio transmissions, even if you haven't programmed anything into your scanner. Useful for intelligence agencies for use at events where you don't have advance notice or knowledge of the radio communications systems and assets you need to intercept. The BCD396T scanner is designed to track Motorola Type I, Type II, Hybrid, SMARTNET, PRIVACY PLUS, LTR and EDACS® analog trunking systems on any band. Now, follow UHF High Band, UHF 800/900 MHz trunked public safety and public service systems just as if conventional two-way communications were used. **Dynamically Allocated Channel Memory** - The BCD396T scanner's memory is

organized so that it more closely matches how radio systems actually work. Organize channels any way you want, using Uniden's exclusive dynamic memory management system. 3,000 channels are typical but **over 6,000 channels are possible** depending on the scanner features used. You can also easily determine how much memory you have used and how much memory you have left. **Preprogrammed Systems** - The BCD396T is preprogrammed with over 400 channels covering police, fire and ambulance operations in the 25 most populated counties in the United States, plus the most popular digital systems. **3 AA NiMH or Alkaline battery operation and Charger** - 3 AA battery operation - The BCD396T includes 3 premium 2,300 mAh Nickel Metal Hydride AA batteries to give you the most economical power option available. You may also operate the BCD396T using 3 AA alkaline batteries. **Unique Data Skip** - Allows your scanner to skip unwanted data transmissions and reduces unwanted birds. **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.



Bearcat® BC246T Trunk Tracker III

Suggested list price \$399.95/CEI price \$214.95
Compact professional handheld TrunkTracker III scanner featuring Close Call and Dynamically Allocated Channel Memory (up to 2,500 channels), SAME Weather Alert, CTCSS/DCS, Alpha Tagging. Size: 2.72" Wide x 1.26" Deep x 4.6" High

Frequency Coverage:

25.0000-54.0000 MHz., 108.0000-174.0000 MHz., 216.0000-224.9800 MHz., 400.0000-512.0000 MHz., 806.0000-823.9875 MHz., 849.0125-868.9875 MHz., 894.0125-956.0000 MHz., 1240.0000 MHz.-1300.0000 MHz.

The handheld BC246T TrunkTracker scanner has so many features, we recommend you visit our web site at www.usascan.com and download the free owner's manual. Popular features include **Close Call Radio Frequency Capture** - Bearcat exclusive technology locks onto nearby radio transmissions, even if you haven't programmed anything into your scanner. **Dynamically Allocated Channel Memory** - Organize channels any way you want, using Uniden's exclusive dynamic memory management system. 1,600 channels are typical but **over 2,500 channels are possible** depending on the scanner features used. You can also easily determine how much memory is used. **Preprogrammed Service Search (10)** - Makes it easy to find interesting frequencies used by public safety, news media TV broadcast audio, Amateur (ham) radio, CB radio, Family Radio Service, special low power, railroad, aircraft, marine, racing and weather frequencies. **Quick Keys** - allow you to select systems and groups by pressing a single key. **Text Tagging** - Name each system, group, channel, talk group



ID, custom search range, and S.A.M.E. group using 16 characters per name. **Memory Backup** - When power is lost or disconnected, your BC246T retains the frequencies that were programmed in memory. **Unique Data Skip** - Allows the BC246T to skip over unwanted data transmissions and birds. **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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News, Trends, And Short Takes

by D. Prabakaran

Clear Channel To Lay Off 1,850 Workers

Clear Channel Communications Inc., is laying off about 1,850 workers nationwide, or nine percent of its workforce, as part of a cost-cutting move. The San Antonio-based media company, which employs 20,000 people across the United States, will implement other cost-cutting measures, including replacing some locally produced radio shows with syndicated content, according to the *Wall Street Journal*. Clear Channel operates some 800 radio stations nationwide. The company's revenue from radio broadcasting fell 7 percent in the third quarter of 2008. Once a public company, Clear Channel was purchased last July by CC Media Holdings Inc., a private equity company that includes Bain Capital Partners LLC and Thomas H. Lee Partners LP, for \$24 billion. (Source: *Denver Business Journal*)

Tall Towers Removed From HCJB's Site In Ecuador

Crews removed the last of the tall antennas and towers at Radio Station HCJB's international transmitter site in Ecuador since they would obstruct the flight path of the future international airport for the capital city of Quito. As earlier agreed upon by the Quito Airport Corporation (CORPAQ) and HCJB Global, the towers were removed prior to a December 31, 2008, deadline. With 14 other shorter antennas and towers still standing, the transmitters continue to broadcast. The station transmits 56 hours of analog signal and four hours of digital shortwave, according to Steve Sutherland who manages the Pifo site and staff. All shortwave broadcasts from Pifo are projected to end no later than 1 April, 2010. (Source: HCJB)

Radio France Internationale To Cut Jobs, "Modernize"

Radio France Internationale is going to shed over 200 jobs of a total of a thousand as part of a "modernization plan" that aims to win back audiences in certain parts of the world, in particular in Africa, to the detriment of six languages. The station has experienced recurring financial losses and shrinking audience figures, in particular in French-speaking Africa, where it is losing about 1.5 percent of its listeners every year. In the Ile-de-France (greater Paris) region, the audience has

fallen by 25 per cent since 2007. In an effort to build its audience, RFI will favor live broadcasting, enhance its multimedia side, and embark upon a "new language strategy" that will develop English, Portuguese and Swahili. It will cease to broadcast in German, Albanian, Polish, Serbo-Croat, Turkish and Laotian, however. (Source: AFP news agency)

Taliban Use Radio To Terrorize

Taliban militants are using radio to promulgate their interpretation of Islamic law in Pakistan's Swat valley, and failure to listen can result in lashing or beheading, the *New York Times* reported. Every night Taliban leader Shah Doran condemns "un-Islamic" activities such as selling digital video discs, watching cable television, singing and dancing, shaving beards and allowing girls to attend schools, in broadcasts beamed throughout the region, the newspaper reported. The Taliban leader also reveals the names of people who have been killed for violating their decrees and those the group plans to kill, according to the report. Most of Swat valley, with a population of 1.3 million people, is under Taliban control, the report said. Police afraid of the rebels are quitting their jobs after 70 officers were killed and 150 others injured last year by the militants, it said. (Source: Bloomberg News)

Palestinian Activists Reportedly Jam Israel Army Radio-Press TV

A group of Palestinian activists have reportedly jammed Israel Army Radio signals in southern regions of the occupied Palestinian territories. Palestinians, who according to Israeli officials took control of the airwaves from the Gaza Strip, broadcast statements in Arabic, Press TV's Beirut bureau reported. Jaffa-based Israel Army Radio, commonly known as Galatz among Israelis, is operated nationwide by Israel Defense Force and is mainly funded by the Israeli Ministry of Defense. Palestinian resistance groups had earlier disrupted the signals of two other Israeli radio stations and managed to air programs targeting audiences in south Israel.

For its part, Israel is blocking cell phone bandwidth, so very few amateur cell phone photographs are getting out of Gaza, according to a report in the *New York Times*. (Source: Press TV)

Semantic Communication

by Rob de Santos
commhorizons@gmail.com

“It’s clear that enriching all our media with semantic information would make it much that much more powerful...The payoff would be revolutionary...”

Computer technology, semantics, samba, end users, hottest technologies, voice recognition, Ford, Google, Toyota, Brazil, banks, Glenn Hauser, World of Radio, Radio Tirana, WBCQ...

What do all these things have in common? They’re all descriptive tags about this article. More properly they are *semantic information*, one of the hottest technologies in the Web world. And what is that, you ask? Well, think of semantic information as content that is descriptive and esthetic and includes names, facts, and logical relationships that tie data to higher-level descriptions. Here’s an example: Suppose you tell someone you own a car. Is that car red or black? Paid for with cash or obtained with a loan? Driven 31,231 miles or less, or more? Is it a Ford or a Toyota? Where can it go (perhaps it has 4-wheel drive)? All of the answers would be semantic information about the car you own.

What does that have to do with the future of communications? In short, everything, and not just on the World Wide Web. Let’s think of a radio program called *World of Radio*. Perhaps you’ve heard of it. Semantic information about it could include the creator (Glenn Hauser), stations that carry it (WRN, WBCQ, etc.), the length of the show (28 minutes), etc. It could also include additional information—this is the important part—such as what radio stations the program reported on and who were the contributors to the show.

Now suppose that information was linked in some way to the broadcast and you could index it, search it, and link to it? That would mean when Hauser reported on a programming change at Radio Tirana, he could provide a link that seamlessly and without significant effort on your part let you jump right to a recording of the broadcast in question. It would make the program even more informative and useful than it is today.

Another possibility would be a search in the opposite direction. Suppose Hauser wanted to know where his show was mentioned in the past week and have that information read back to him. A search made possible through the semantic information would enable him to find not just printed references, but also audio, video, etc. And, not just primary references, but secondary references (references to the references), too.

It’s clear that enriching all of our media with semantic information would make it much that

much more powerful. For that to happen, we’ll need to change not only how we create media, but also how it’s distributed and what happens when the end user receives it. The payoff would be revolutionary and bring us closer to the interconnected world the Web has always promised.

Among the requirements for the addition of semantic information will be voice recognition (so that software in a recording device can recognize words and automatically add semantic tags to the audio or video file); common and widely recognized ways of embedding the information in the file or recording (if the recipient’s device is to make use of the information); and better search mechanisms for audio and video than those that exist today. We’ll also need a smart search interface to become a standard feature of end-user technology, along with the tools that will make this easier (such as voice commands).

How close are we to such a “smart” world? While voice recognition is improving, if you’ve tried to navigate the voice menus at your bank or utility company lately you’ll appreciate that it has a long way to go before it’s as flexible as it will need to be for the semantic world. And the difficulties don’t stop at recognition of words, but involve all sort of details that might lead to completely wrong results (Hauser versus Howser).

On the positive side, the computer technology to handle semantic tags is evolving rapidly, and many websites already offer limited forms of this capability. The software to search, index, and properly utilize the semantic information isn’t quite as far along, but should also improve rapidly. Searching audio and video may be the hardest egg to crack though. It’s still a long way from being mature but the geniuses at companies like Google are hard at work on the problem.

So, it will be a few years before I can have my radio find that item on St. Helena that Hauser mentioned two months ago, right after that item on WRMI, but it’s coming. And, oh, I want a recording of that to feed into my car radio so I can listen to it tomorrow while I’m in traffic. Also, I want to know what receiver the listener used when he or she made the recording. I’ll ask my radio to do all this right after I listen to some samba music from Brazil.

That’s all for this month. As always, I welcome your comments and feedback.

Capitol Hill And FCC Actions Affecting Communications

by Richard Fisher, KI6SN **FCC Chairman Martin Steps Down; Copps Named Acting Chair; Genachowski In Wings**

In a whirlwind of Federal Communications Commission activity surrounding the inauguration of President Obama, FCC Chairman Kevin Martin has stepped down, Commissioner Michael Copps was named acting chairman, and Julius Genachowski was expected to be named new head of the agency.

Martin, who served in the Bush Administration, left the agency January 20 to join the Aspen Institute, a nonpartisan think tank, as a senior fellow in its Communications and Society Program. Martin was named FCC chairman by President Bush in March 2005, having joined the agency as a commissioner in July 2001. In his tenure, Martin was a champion for telecommunications industry deregulation and pushed for more competition in the cable market. He also called for stricter enforcement on broadcast indecency following Janet Jackson's "wardrobe malfunction" during the 2004 Super Bowl half time show.

Copps, a Democratic commissioner whose chair appointment was expected to be temporary, has pushed for media diversity.

It was widely reported that Julius Genachowski, a technical adviser in the Obama campaign, was the President's choice to head the FCC. During the presidential campaign, Genachowski was an advisor to the Obama camp on technology and fundraising.

A key initiative of the Obama campaign was to improve high-speed Internet access across the nation, and the Commission has played a pivotal role in that process. Genachowski helped craft the Obama campaign's Internet initiatives. In addition to the new chairman, Obama has a fifth seat to fill on the commission.

New Chairman Named To House Telecom Subcommittee

A Democrat from Virginia has been named chairman of the subcommittee on Communications, Technology and the Internet in the U.S. House of Representatives. Rep. Rick Boucher, a 13-term member of the House, took over the leadership role from Rep. Ed Markey, D-Mass. In turn, Markey took over Boucher's post as head of the Energy and Environment Subcommittee.

Boucher took on his new duties with February's planned transition to digital television looming on

the horizon. He had been working on legislation that would help underwrite the purchases of new, more efficient rooftop antennas to allow consumers to better receive the new digital signals.

DTV Transition Status Uncertain

A mere two days after receiving unanimous nods in the Senate, the Obama administration's proposed delay of the Digital TV transition was blocked when House Republicans defeated a bill to delay the scheduled February 17 date for the switch from analog to digital broadcasting to June 12. It is estimated that about 6.5 million U.S. households will be unprepared for the switchover if it proceeds as scheduled.

The 258-168 vote failed to clear the two-thirds threshold needed for passage in a victory for GOP members, who warn that postponing the transition from the current February deadline would confuse consumers, according to an Associated Press report. House Republicans say a delay also would burden wireless companies and public safety agencies waiting for the spectrum that will be freed up by the switch, and create added costs for television stations that would have to continue broadcasting both analog and digital signals for four more months, the report continued.

The Obama administration called for the transition date to be postponed after the Commerce Department hit its funding limit for coupons to subsidize digital TV converter boxes for consumers. The National Telecommunications and Information Administration, the arm of the Commerce Department administering the program, was sending out new coupons only as older, unredeemed ones reach a 90-day expiration date and freed up more money, according to AP. At press time, supporters of the delay hoped House Democrats would bring the bill up again for a regular floor vote, which would only require a simple majority to pass.

Notion Of DTV Delay Brings Outcry From First Responders

First responders—police and fire chiefs among them—had asked for a "carve out" from any DTV-delaying bill for analog TV channels being turned over to public safety uses when a proposal to put the switch to digital TV on hold was recommended in January.

"In a letter to the transition team, the Association of Public Safety Communications

Officials and the police and fire chief associations 'strongly recommended' that any extension of the Feb. 17 date 'exclude television channels occupying spectrum that will be used for public safety communications,'" according to a published report in *Broadcasting & Cable* magazine. "The FCC auctioned the 700 Mhz band—UHF channels between 52 and 69—for advanced wireless services, with a carve-out of some channels for public safety," the article said.

"All 50 states have already received licenses to operate on portions of the new spectrum, and many agencies across the nation have already acquired radios capable of operating in the 700 MHz band," the APCO and first responders letter to the Obama transition team said.

"Consumers Union, which first asked Congress to move the date, would 'enthusiastically endorse that kind of carve-out for public safety,' according to Communications Director David Butler," *Broadcasting & Cable* reported.

Bills Quickly Introduced To Block FCC On Fairness Doctrine

Battle lines were being drawn by Republicans in the 111th Congress to blunt any new attempts by the FCC to revive the Fairness Doctrine—an equal time requirement for broadcasters to present competing political viewpoints. On the first day bills could be introduced, Senate Republicans offered two pieces of legislation and House Republicans offered

one. One of the Senate bills was sponsored by 24 Republicans including Sens. Jim DeMint, R-S.C.; and James Inhofe, R-Okla. Sen. Inhofe also sponsored the second. Rep. Mike Pence, R-Ind., and Greg Walden, R-Ore., sponsored the House legislation. It has 70 co-sponsors.

Conservative talk-radio hosts expressed concern that an FCC led by Democrats could bring back the requirement. The FCC suspended the Fairness Doctrine in 1987. The doctrine had applied both to TV and radio stations. "Although Republicans and conservative talk show hosts have been fearful of the doctrine's revival, there has been little indication so far that Democrats plan to revive it," according to a published report on TVWeek.com ■

FEEDBACK

Our Readers Speak Out

A New Wave?

The following letter was sent to "The Antenna Room" columnist Kent Britain about a topic that we might start seeing some more of. Kent responds below:

Dear Kent:

I read your column in the November 2008 *Pop'Comm* and thought that I would reply to your request for information concerning Real-Time Virtual Radar. Until seeing your mention of this I had never heard of that being done by anyone else.

I did experiment with that concept several years ago. This occurred to me because of a Trident Scanner-Radar detector I had examined sometime in the dim past. It had a feature that warned a driver of the "bear in the air" speed cop in a light aircraft. It detected the squawk from the transponder of a nearby aircraft and flashed an alarm based on that.

I had developed articles for several of Gernsback's publications in the late 1980s (two of which became cover feature articles) and considered doing something to submit to them again. I never followed up on that project, but occasionally spent some time on a setup for a transponder-driven "radar display."

My shop contains an AOR AR5000A receiver coupled with the AOR SDU-5600 Spectrum Display Unit. This setup is close to ideal for the "radar" project. The display unit has two features that were useful for this experiment. Data may be displayed as a waterfall plot, which allows the short pulse trains to be displayed as a function of time versus frequency. There's also a store function that accumulates all hits until manually cleared.

As to determining the direction of the source of the pulse train, this should be possible. If my research is correct, a transducer interrogation pulse train is sent out directionally synced with the radar sweep. This pulse train at 1.030 GHz can be detected and indicate when the antenna is pointed at the receiver site. If the rotational period of the radar antenna is known and also the position of the experimenter in relation to the radar, then a time measurement from interrogation pulse to the detected response at 1.090 GHz should give the transducer's direction from the radar antenna.

I set up this experiment today and it seems to work ok. I live behind a hill about 15 miles west from Douglas International Airport at Charlotte, North Carolina, and was able to detect a weak pulse train at 1.030 GHz. I then took my car receiver (AOR AR3000) to a line-of-sight location to the airport and got a strong signal at 1.030. The spectrum analyzer remained set to the 1.090 GHz transponder frequency and had strong signals present at all times. The rotational period was about 1.3 seconds, which seems too fast. Next time I'm in Charlotte I'll go by the airport and note the rotation speed of the antennas.

In the attached photo the frequency is the x-axis and the stored shot shows max amplitude at a given frequency.

I look forward to your column and hope that you turn up more information on this subject.

Richard L. Pearson Sr., K4VMQ
Via email

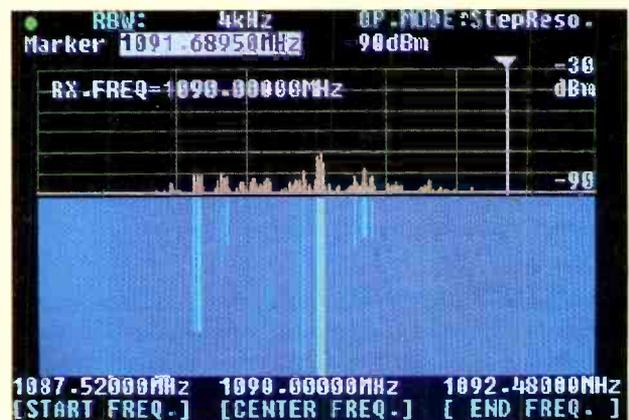
Dear Richard:

Interesting scan—thank you.

I just got back from England three days ago. There they have radios that take that transponder data and put it on a screen, thus you're watching a real-time map of the aircraft locations.

This is very popular in England, and about half of the scanner enthusiasts are using it. If it ever catches on over here, there is quite a variety of 1090 MHz antenna designs I could whip up for it. We'll keep our eyes on it.

Kent, WA5VJB



Treasure Troves Of Radio's Past—Millions Of QSL Cards Preserved In Only Five Locations

A Look At The Major QSL Collections In The United States, Europe, And The South Pacific

by Dr. Adrian M. Peterson

The QSL card is an integral part of the international radio scene for millions of radio hobbyists throughout the world. These highly prized collectors' items confirm the reception of a transmission from a broadcast or communication radio station, or a two-way QSO (contact) in amateur radio. In our modern era, the QSL card is issued by the transmitting station, and it confirms the listener's reception of that station.

Originally, the Morse code abbreviation "QSL?" meant, "Do you receive me?" and the answer "QSL" indicated, "Yes, I do receive you." Though the concept of the QSL card was introduced almost a century ago, interestingly these first cards were in reality reception report cards from a listener informing a wireless station that he had heard its transmission. Very rarely, if ever, did the wireless station respond to a listener's reception report card with another card confirming the listener's reception. But as time went by, the emphasis of QSL cards began to change from "I have heard your station and this is my reception report" to "Thank you for your reception report and we verify that you did indeed hear our station."

In the decades since then, untold millions of QSL cards have been issued by radio broadcasting stations, communication stations, amateur radio stations, and even FM and TV stations. Because the entire span of the QSL era is much longer than the life span of any radio aficionado, the earlier collectors of these items are unfortunately no longer with us. Some collections have been permanently lost, but others have been preserved, intentionally or even quite by chance.

Dr. Adrian M. Peterson is the DX Editor and Coordinator of International Relations, Adventist World Radio. He is also a Board Member of the National Association of Shortwave Broadcasters, USA.

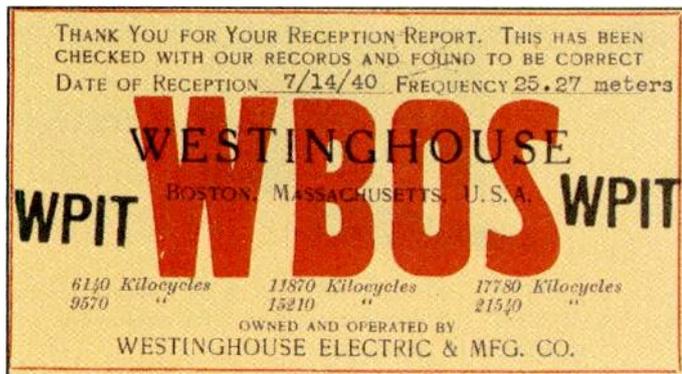


During the Pacific War, the Office of War Information hurriedly activated a whole network of shortwave stations in California for coverage of the Pacific Rim. This now famous red, white, and blue QSL card verifies the reception in Australia of the 50 kW station KWIX, which was located a little south of San Francisco. (All QSL cards from the Adrian M. Peterson Collection)

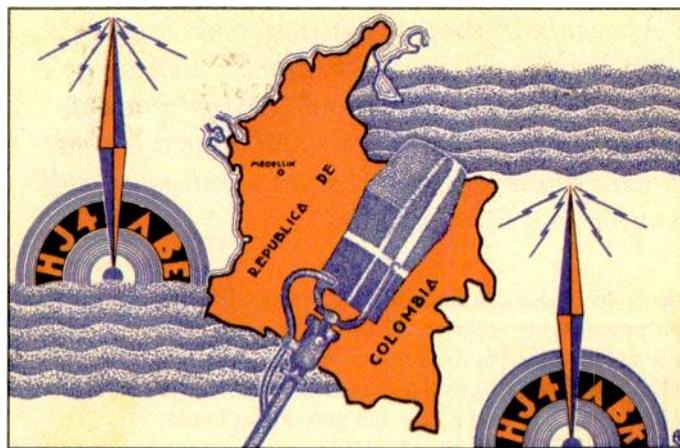
At five different locations in three different countries, serious attempts have been implemented in recent years to secure large and small collections of these old radio QSL cards for permanent preservation. These large museum collections are located in New Zealand, Austria, and the United States.

A Double Collection In New Zealand

In the early radio era, stretching from the 1920s through the end of World War II, New Zealand became quite famous in the international radio world because of the number of people in this rather isolated country down under who developed a high level of expertise in the reception of distant radio stations, both



The shortwave outlet for the famous KDKA in Pittsburg, Pennsylvania, was originally designated as W8XK, and in 1939 the callsign was regularized as WPIT. Station WBOS was located near Boston, and soon after the commencement of hostilities in the European conflict, transmitter WPIT was transferred and consolidated with WBOS. This quite rare QSL card shows the two callsigns at the one location.



"La Voz de Antiochia" in Medellin Colombia, could be heard on both mediumwave and shortwave back in 1938.

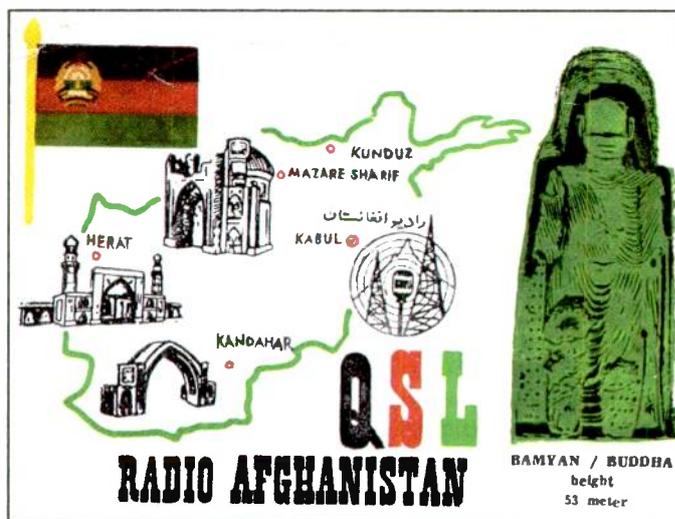
mediumwave and shortwave. The result was that some very large QSL collections were amassed, each containing many QSL cards that today are considered quite valuable, historically as well as financially. The sale of QSL cards on eBay by the thousands testifies to the financial value of these cards, with occasionally some exotic cards selling for thousands of dollars as well.

Back in the 1980s, the New Zealand Radio DX League (www.radiodx.com) obtained several important collections from some of its South Island members and placed them in the Hocken Library at the University of Otago in Dunedin. The NZRDXL is one of the oldest DX clubs in the world and traces its own heritage back to the early 1930s.

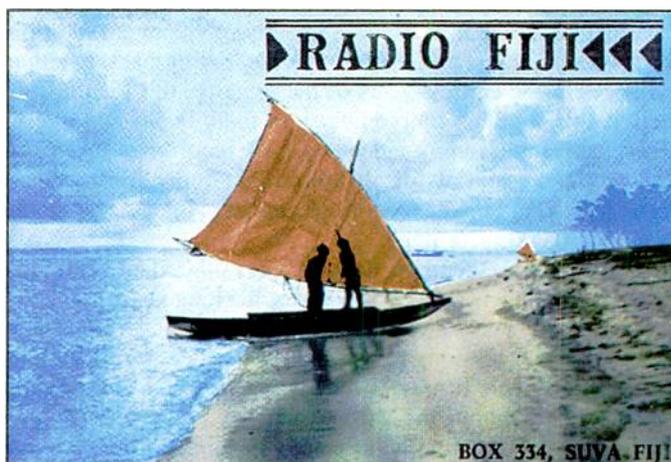
Any serious researcher into the history of radio broadcasting anywhere in the world would find this collection of enormous value. Among the many items of unique interest are:

- The entire collection of the late Arthur Cushen, MBE, the noted international radio monitor.
- A large number of cards from prewar and wartime American shortwave stations, including the now famous red, white, and blue cards from the "Voice of America" relay stations in California.
- Cards from the mobile railway broadcasting stations 5ZB in New Zealand and 3YB in Australia.
- QSLs from many radio stations in Australia and New Zealand that are now long silent.
- A monochrome card from the experimental shortwave station at Pennant Hills in Australia under its original callsign with the early prefix, A2ME.
- A shiny black & white card from station 4PM, the short-term mediumwave station in Port Moresby that was closed at the time of the Japanese advances in New Guinea.
- QSL letters from the more than 50 small radio stations operated by American forces during the Pacific War.
- QSL cards and letters from several of the 21 mobile stations operated by Australian forces during the Pacific War.

More recently, long-time New Zealand radio monitor and broadcaster, David Ricquish of Wellington, established the Asia and Pacific-wide organization known as the Radio Heritage Foundation (www.radioheritage.net). This foundation now provides a local alternative to the Hocken Library, which no longer



This 1983 QSL card from Radio Afghanistan shows a map of the country, together with its national flag and one of the massive statues carved into the mountain side at Bamiyan. A few years ago, the Taliban destroyed the two huge Buddhist statues at Bamiyan.



This picturesque 1974 QSL card from Radio Fiji verifies its mediumwave outlets as heard in the South Pacific.

“As you hold these venerable items in your own hands and peruse them with your own eyes, you gain an additional insight into the radio events of yesteryear and almost feel the thrill of tuning in to a distant wireless or radio station in a faraway land.”

accepts non-local collections due to space limitations. The RHF accepts into its archives all forms of radio memorabilia from the entire Asia-Pacific region, ensuring that many additional QSL collections, as well as other radio heritage items and audio collections can find a safe and permanent home.

The Wellington-based RHF is a registered not-for-profit organization and uses modern technology to give free access on a global basis to its QSL collections. RHF in New Zealand also supports radio research and publishing, public exhibitions of radio related memorabilia from earlier years, and historical radio programs over Radio New Zealand International. In addition, RHF also works directly with current broadcasting stations for the archiving of significant new audio material.

The growing number of QSL collections now archived with RHF includes verifications from mediumwave, shortwave, FM, and amateur radio stations located around the entire region, some dating back to the early 1920s. Maritime and aeronautical QSL collections are also accepted, because of the role wireless and radio played in early Pacific communications.

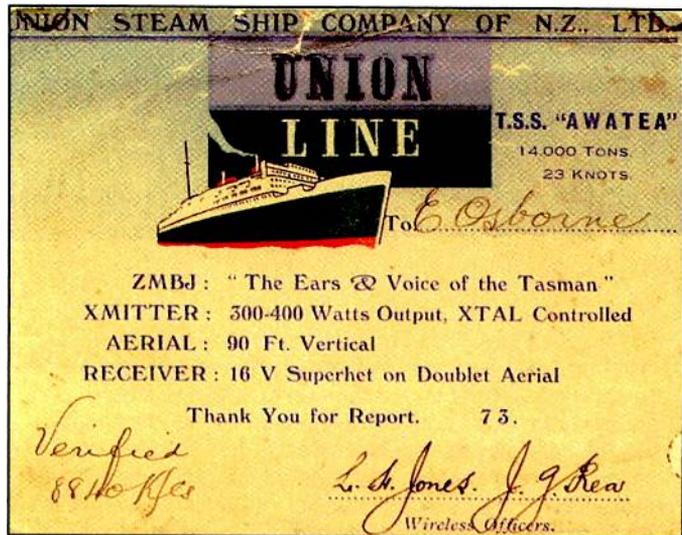
The RHF plans to begin digitizing and cataloging the thousands of QSL cards held in its own Wellington collection, as well as those held in the Hocken Library in Dunedin. The ultimate intent is for the entire collection of the noted Arthur Cushen, as well as many others in New Zealand and elsewhere in Asia and the Pacific and even beyond, to be available online to anyone anywhere in the world.

The Vienna Collection

Vienna, Austria, is famous worldwide for its cultural heritage and natural beauty. It's also famous in the radio world for a massive QSL collection, known as the International QSL Collection (www.qsl.at). The reference collections in this huge assemblage, currently numbering around seven million, are located in a building opposite the headquarters of ORF, Radio Austria International on Argentinierstrasse, Vienna. In addition to this monumental collection of QSLs, dating back in some instances to the earliest years of the practice, the Vienna collection also contains a large library of radio books and magazines, many thousands of video and audio recordings, and other radio-related materials of all kinds. The collection receives about a thousand media recordings annually, for a current total of about 30,000 recordings.

This fabulous Vienna collection was initiated by Professor Wolf Harranth, who is well known for his long years as an on-air personality with Radio Austria International. Thousands of new QSL accessions to this massive collection in Vienna arrive almost daily from all over Europe, as well as from other countries throughout the world, and they come packed into large cartons. The significant details of this entire collection are entered into a computer database for worldwide access.

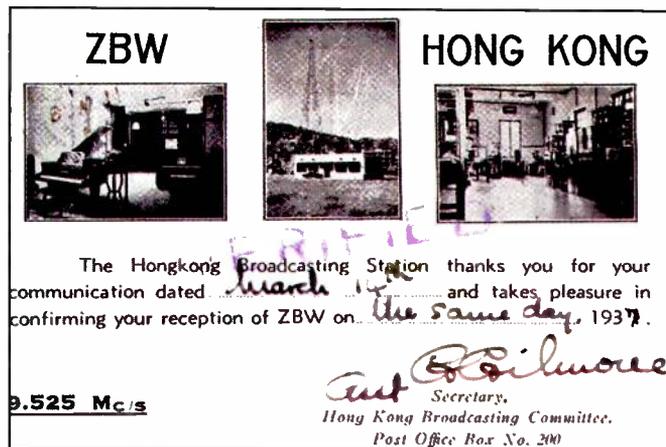
The Vienna collection was begun to preserve QSLs from radio broadcasting stations, but amateur organizations soon saw the value of donating amateur QSL cards to this facility for per-



There were two ship broadcasting stations in the passenger and cargo trade routes around Australian waters and across the Tasman Sea to New Zealand. The 400 watt broadcasting station ZMBJ was aboard the *Awatea*, which plied in both directions across the Tasman between Australia and New Zealand.



As far as we know, this is the oldest pirate QSL card. Note that station CBZ is located "1,000 miles south of Brisbane"; we can therefore guess that this pirate was located in Melbourne.



The exotic little 2 1/2 kW shortwave transmitter in Hong Kong was one of the world's most sought after stations. This 1937 card shows photos of their pre-war studio, transmitter building, and transmitter facilities.

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AM/FM and TV audio bands have been pre-set to make it easy to enjoy the DJ-K7/E right from the start.
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Five scan modes are available including preset frequencies, VFO, memory scan, programmed scan or tone scan to search for unknown CTCSS tones. The Timed/busy modes are selectable or all modes except the tone scan mode.
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- Priority receive
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- Auto or 16 different channel-steps to chose from
- 2-Way Key-lock
- Key-touch beep (on/off selectable), 39-tone Tone squelch, Attenuator (approx 20dB), Battery-save, Auto-Power-Off, Cable-clone, Monitor/Mute functions are just some examples of extremely loaded functions a DJ-X30 offers at no extra charge!
- Pager (bel) function alerts you with a beep and an icon when a signal is received
- Large, illuminated LCD screen capable of up to 6-digit alphanumeric display

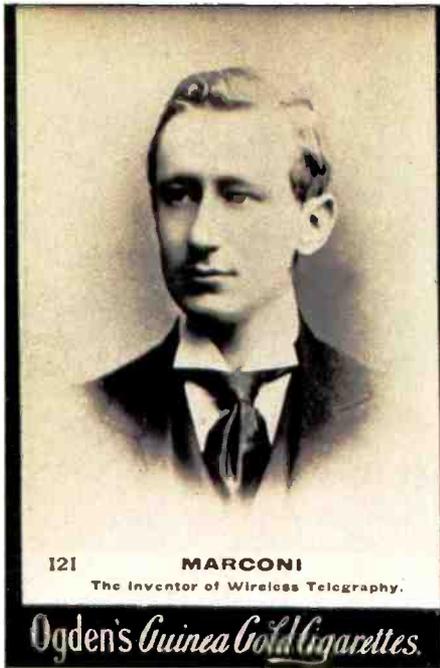
*cellular frequencies blocked on T model sold in USA



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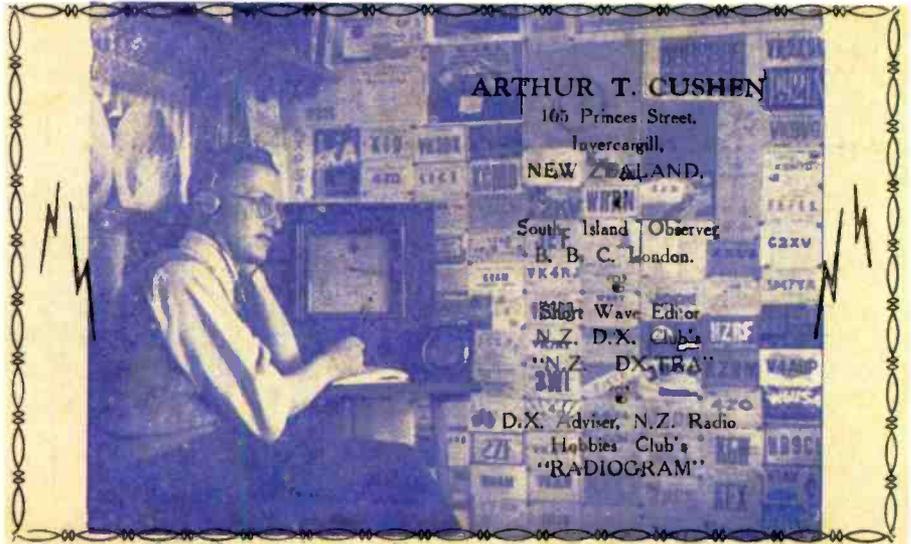
This is the world's first known wireless card. It depicts Marconi and was printed in England in 1901. It's very small, measuring just 2 1/4 by 1 1/2 inches.

manent preservation. Although there is a significant number of prewar QSLs in the Vienna collection, the vast majority of these cards is from the postwar years. In addition, broadcasting organizations throughout the world have contributed large amounts of historic archival material for storage and international access.

The custodians of the Vienna collection are grateful to a multitude of volunteers for the work they have done in archiving and cataloging, and the input of additional volunteers is most welcome. Their gratitude is also expressed for the generous donations from private and public organizations in their support of this international radio project.

CPRV In Maryland

Here in the United States, the Committee to Preserve Radio Verifications (www.ontheshortwaves.com) is very active in rescuing old QSL collections and has amassed a huge compilation. The CPRV organization was formed in 1986 by a small group of concerned international radio monitors, and is headed by the noted radio historian, Jerome S. Berg, whose two recently released books are reviewed elsewhere in this issue (see the "Pop'Comm Bookcase"). Altogether, he has written three volumes that contain the history of international shortwave



Personal radio card from the noted Arthur Cushen, Ace DXer and international radio monitor.

broadcasting and listening, and the CPRV QSL collection has provided him with significant and interesting radio history for his literary projects.

Originally, this massive collection was housed in Boston at the Christian Science headquarters of Monitor Radio and its shortwave station WCSN, but was later transferred to the University of Maryland, in suburban Washington, D.C. Today the CPRV collection is housed in the Library of American Broadcasting, which is one of the specialized collections of historic interest on the University of Maryland campus.

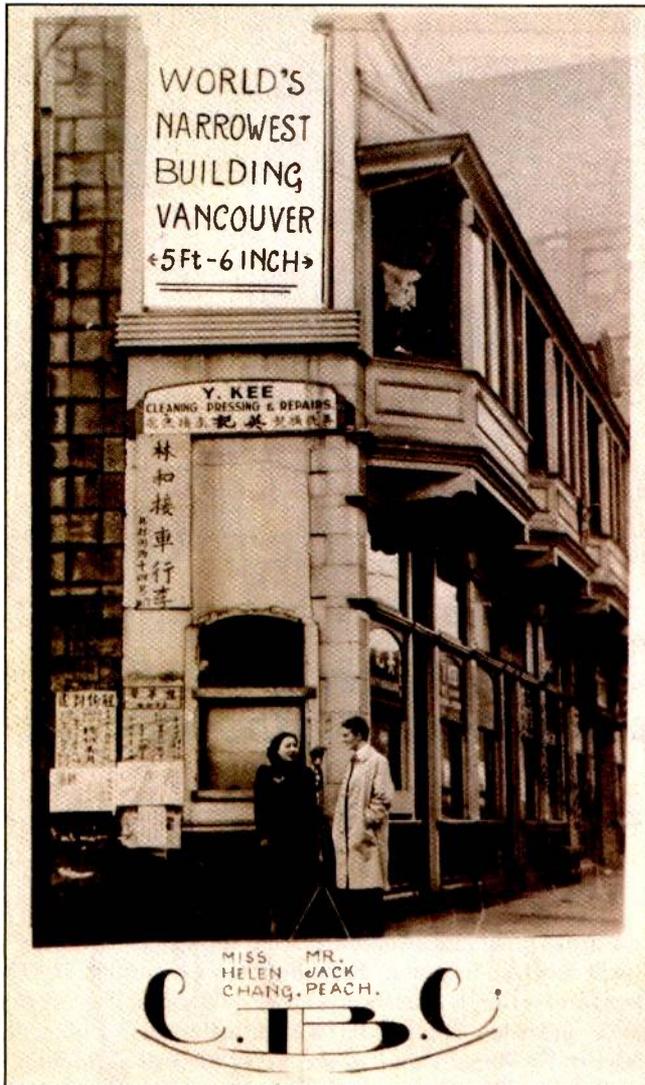
The CPRV compilation contains the complete collections of many well-known early DXers and radio monitors in the United States, and it provides ample

background for very interesting research. Originally this collection began with a focus on shortwave and mediumwave broadcasting stations, but as time went by, the collection has grown and QSLs from utility communication stations are housed here as well. Amateur cards are also included in the CPRV collection, particularly those with some special significance for radio history.

As with the other historic collections in Austria and New Zealand, the significant details in this American collection are also entered into a database for easy retrieval. The combination of collections from many different listeners, covering overlapping time frames, often makes it possible to examine the QSL policy and the history of a particular radio station.



The government-owned commercial network throughout New Zealand was on the air under the ZB callsigns. Station 4ZB was located in Dunedin.



This 1940 photo shows the world's narrowest building, just 5 1/2 feet wide, located in Vancouver BC. It was sent to a listener in Quebec in response to a program enquiry directed to the Canadian Broadcasting Corporation in Toronto.

Currently, the total number of QSL cards and letters in the fabulous CPRV collection at the University of Maryland stands at almost 40,000. Statistically, 32 percent of the QSLs are from shortwave broadcasting stations, 43 percent from U.S. mediumwave stations, 11 percent from mediumwave stations outside the U.S., and the remainder from utility communication and amateur stations. The oldest QSL card in this collection is dated 1921, and approximately one third of the entire collection is dated before 1950.

The CPRV has established a Registered Collections Program, whereby DXers can obtain stickers to place on their QSL collections, so that in due course, they will be donated to CPRV. These stickers are available from Jerry Berg, at jsberg@rcn.com.

The Indianapolis Collection

The fourth major collection of radio QSL cards of this type is currently located in Indianapolis, Indiana ([\[awr.org\]\(mailto:awr.org\)\). Originally, this collection was my own personal acquisition, which I'd started during World War II when I was a high school student living in a very small town in South Australia. The first QSL cards and letters received back in the 1940s were from mediumwave stations in Australia and New Zealand, though the reception of American shortwave stations during the war also featured prominently in those early DXing activities.](mailto:adrian@</p>
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As time passed, this personal QSL collection grew rapidly during a score of years of service in several countries of Asia, and a subsequent transfer to the United States nearly a quarter of a century ago. Over the years, some of the "holes" in this collection were filled in from other sources. Currently, the full tally of the Indianapolis collection is estimated at well over 35,000 QSL cards and letters, as well as other historic radio cards.

This Indiana collection contains QSLs from every mediumwave radio station in Australia up until the 1970s, most radio stations in New Zealand and the Pacific, as well as numerous shortwave stations from most countries throughout the world. Some of the unique QSLs in the collection are:

- QSLs from remote radio stations in Christmas Island, Cocos Island, and other exotic locations, as heard from the flight decks of passenger airliners.
- A complete collection of all the famous red, white, and blue QSL cards issued by the Voice of America during World War II.
- What is thought to be the world's first QSL card from a pirate radio station, CBZ in Australia, in 1927.
- What is thought to be the world's first QSL card from a ship radio station, NRRL on the *USS Seattle*, in Australian waters in 1925.
- A QSL card from a very early chronohertz station, W9XAM, Elgin Illinois, with its standard time signals, from 1930.
- The world's oldest wireless postcard, depicting Marconi, postmarked 1902.
- QSL cards from the pre-World War II radio broadcasting stations aboard two passenger liners in the Pacific, *Kanimbla* and *Awatea*.
- The only QSL card ever issued for the original experimental FM station in Kabul, Afghanistan.

The Good Ole Days!

There is no one alive on Earth today who was personally involved in the earliest days of wireless and radio; those events all occurred long before any of us were born. That knowledge only adds to the tremendous privilege it is to peruse these superb collections of historic QSL cards, located in the United States, in Vienna, and Down Under in New Zealand.

As you hold these venerable items in your own hands and peruse them with your own eyes, you gain an additional insight into the radio events of yesteryear and almost feel the thrill of tuning in to a distant wireless or radio station in a faraway land. But remember, in doing so, you're also touching the lives and experiences of the radio listeners who tuned in to these radio stations with equipment we'd describe today as primitive and unreliable. The past lives in these exotic QSL cards, from exotic radio stations, heard on exotic receiving equipment. ■

With co-operative input from David Ricquish, Radio Heritage, Wellington, New Zealand; Professor Wolf Harranth, The International QSL Collection, Vienna, Austria; Jerome S. Berg, CPRV, Lexington, Massachusetts.



The Adventist World Radio DX Contest

With The 2009 Contest Coming Up, The USA Winner Of This Popular Challenge Deconstructs His Successful Strategy For The 2008 QSL Alphabet Contest

by Edward J. Insinger, WDX2RVO

A highlight of the year for many radio hobbyists is the DX Contest sponsored by Adventist World Radio (AWR). Run by Dr. Adrian M. Peterson, AWR's DX Editor and International Relations Coordinator, the contest has been in existence since 1977 and is open to all listeners worldwide. Each year the contest has a different topic or theme, with previous themes including "World's Smallest QSL Cards" (1997), "DX Club Programs" (1983), "Five Best QSLs" (1995), "Most Beautiful QSL Cards" (2001), and "QSL Alphabet" (2008). Winners of the contest have come from Germany, England, Italy, India, Sri Lanka, Tunisia, Australia, New Zealand, and the United States. The 2009 DX Contest is scheduled for this June with a theme of "QSLs from Now-Silent Shortwave Stations."

To give you a bit of a leg up for your own foray into the excitement, I thought I'd share my approach to the 2008 QSL Alphabet Contest, for which I had the honor of being named Continental Winner for the USA. This article provides some helpful tips on how to set up your own winning strategy.

First, Some Background

AWR runs this contest for serious SWLers/DXers who listen for those hard-to-hear shortwave broadcasts and follow up with reception reports to QSL those stations. The contest topic is selected and judged by Dr. Peterson. Entry is by regular mail

Edward Insinger has logged over 150 countries on all continents and is an avid QSL seeker, as well as a Technical Monitor for Radio Vaticana. He contributes articles to the *NASWA Journal* and is an editor for the "Free Radio Weekly" email newsletter. Ed can be reached at lenapeland@aol.com.

and various prizes are awarded. For the 2008 contest the World Winner received a copy of Jerry Berg's book entitled *On The Short Waves* (Berg's latest books are reviewed elsewhere in this issue), and each continental winner received a choice of *Passport To World Band Radio 2008* or *World Radio TV Handbook 2008*. Continental Winners were chosen from Europe, Asia, Pacific, the USA, and the Americas. A new category, Honorable Mention, was established for 2008 and garnered by four additional winners.

The requirements for this contest differ from year to year. The specifics I've listed below apply to the 2008 contest and how I approached the topic and requirements, but you'll find it helpful in your own efforts.

The 2008 QSL Alphabet Contest

The requirements of the Alphabet Contest were fourfold and labeled with the letters A through D. For Part A participants had to list 26 of the QSLs in their collection to represent each letter of the English alphabet. For Part B they had to photocopy the five best QSL cards from this list. Part C called for submission of three reception reports from AWR transmissions via SW/MW/LW/FM/TV or utility communications (amateur and CB loggings are prohibited). Part D required the submission of three radio cards from participants' collections for donation to the QSL historic collection in Indiana (see "Treasure Troves Of Radio's Past" elsewhere in this issue for more).

Part A: Alphabet QSL List

For Part A, I set up a spreadsheet using the following headers: Country, Continent, Name of Station, Frequency, Date Heard, Date Verified and Type QSL. For example, under the

“AWR runs [the DX Contest] for serious SWLers/DXers who listen for those hard-to-hear shortwave broadcasts and follow up with reception reports to QSL those stations.”

letter “G” I had as my entry the Galapagos Islands, South America, La Voz de Galapagos, 3520 kHz, 27 January 1973, 21 March 1973, Green QSL Card. At the bottom of my spreadsheet, I included brief notes of clarification for entries. For the letter “O” I chose WRNO New Orleans, for “Q” WBCQ-The Planet, and for “X” CFRX-Toronto.

Part B Best QSLs

Part B involved choosing the “five best” QSLs from my list, photocopying front and back, and submitting the photocopies. To help make my entry really eye-catching come judging time, I came up with my own “subtheme”—shortwave stations broadcasting from remote places—and copied my QSLs in color. These are prized QSLs for me because of their stations’ distance from my location, low power transmissions, and geographic remoteness. They also exemplify why I enjoy the hobby of SWLing/DXing—it’s all a part of “Marconi’s wireless magic,” courtesy of the ionosphere, receiver circuitry, an outdoor longwire antenna, and reception of an audible shortwave signal as small as a few microvolts! I chose the QSLs I received from the following catches:

Antarctica. The Earth’s southernmost continent is replete with icebergs and penguins, but has no permanent residents. Within this ice mass lies a sector claimed by Argentina called Esperanza, where a laboratory and meteorological station have existed since 1952. On October 18, 1982, I logged LRA36-Radio Nacional “Arcangel San Gabriel,” on 15476 kHz. I received a blue and white QSL card from them, signed by Victor Luis Repetto, Mayor of Base De Ejercito “Esperanza,” Antartida Argentina. Of course, I enclosed IRCs with my QSL request to cover the cost of return postage.

Diego Garcia. In the Indian Ocean, about 1,000 miles south of India, lies the living coral atoll of Diego Garcia, part of the British Indian Ocean Territory. In 1971, the UK and the United States entered into an agreement for the establishment of a military base there. The atoll is strategically close to the Middle East, and supports military facilities for ships, supplies and air-

craft. Entry into Diego Garcia is restricted, but it is accessible via shortwave broadcasts in SSB, via relay from the American Forces Radio and Television Service. I logged one of these broadcasts on August 6, 2006, on 4319 kHz USB. Reception reports sent to NMC DET AFRTS-DMC, 23755 Z Street, Building 2730, Riverside, CA 92518-2017 will snag a color QSL, listing the original station as Diego Garcia.

Galapagos Islands. This archipelago of volcanic islands lies off the coast of Ecuador, South America, in the Pacific Ocean. They straddle the equator in a cluster of 13 main islands, one of which is San Cristóbal, home to abundant wildlife, including sea lions and giant tortoises. At its southern tip is the capitol of the province of Galapagos, Puerto Baquerizo Moreno. On January 27, 1973, I logged La Voz De Galapagos-HCVG8 on 3520 kHz. It was active at this time as part of the Franciscan Mission. The green QSL even lists reception using my Hallicrafters SX-100 Mark II receiver, signed by Father Jorge Narvaez.

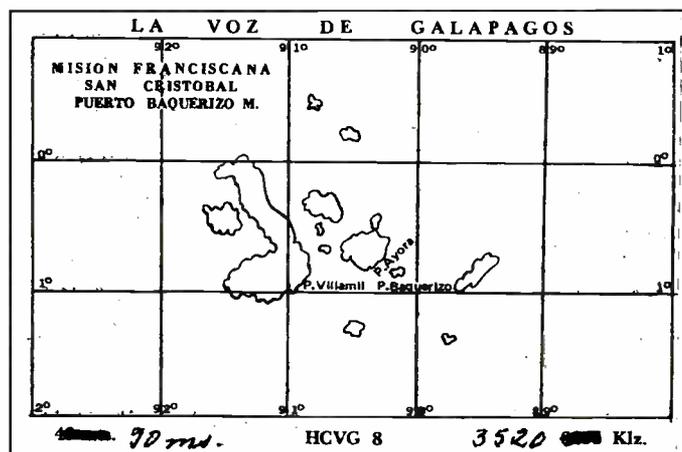
Iceland. Just south of the Arctic Circle, this island nation, officially known as the Republic of Iceland, is three quarters barren of vegetation. The capitol, Reykjavik, is home of the Icelandic State Broadcasting Service (Ríkisutvarpið RUV). Unfortunately, RUV ended its shortwave relays in 2007, but I caught it on February 14, 1982, when I logged the station operating on 13797 kHz. (Note: The Armed Forces Radio and Television Service operates a station from Keflavik for those seeking to log and verify this island country. Refer to *Passport to World Band Radio* for current schedule).



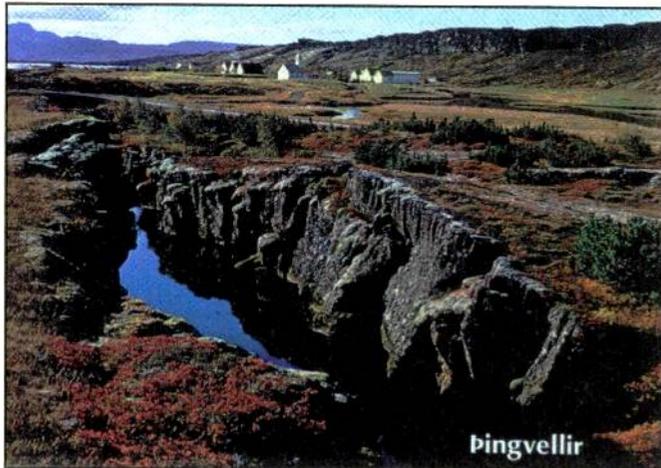
AFRTS QSL from Diego Garcia transmitter site.



LRA36 QSL from Base Esperanza, Antarctic Argentina.



The Voice of Galapagos QSL.



Icelandic State Broadcasting Service QSL.

DSWCI 50 years anniversary QSL

DSWCI 1956 - 2006 "Friendship through knowledge"

The Danish Shortwave Club International hereby verifies your report from station RADIO ST. HELENA, transmitter location JAMESTOWN, ST. HELENA on 11092.5 kHz, at 0016-0100 UTC, on NOV 05, 2006

THE DANISH SHORT WAVE CLUB INTERNATIONAL for short wave listeners and DXers

Radio St. Helena Day 2006 QSL, via DSWCI.

St. Helena. A tiny island of volcanic origin in the South Atlantic Ocean, St. Helena is a British territory 1,200 miles away from the nearest landmass. It's one of the most isolated places in the world (just try locating it on a map!) and is where Napoleon Bonaparte was exiled in 1815. Travel to the island is by ship only. There are 10 districts in St. Helena, one of which is the capitol

Jamestown, with a population of 1,000. Radio St. Helena broadcasts from here, but it's operational just one day a year (appropriately called Radio St. Helena Day)! On November 15, 2008, the station could be heard on 11092.5 kHz USB, using 1500 watts.

QSLing it is challenging and I'd been trying since 2006. Many listeners have reported no response from the station,

The 2009 Adventist World Radio DX Contest "QSLs From Now-Silent Shortwave Stations"

The title of the 2009 AWR DX Contest is "QSLs from Now-Silent Shortwave Stations." It is scheduled to take place in June, 2009. All entries must be sent to "The Now-Silent Shortwave Stations DX Contest," Adventist World Radio, P.O. Box 29235, Indianapolis, IN 46229, USA. Return postage (international currency notes, mint postage stamps or IRCs) is appreciated. No email entries allowed.

All contest entries must be postmarked at the listeners' location in any country of the world on any date during the month of June 2009. They must be delivered to the AWR postal address in Indianapolis, Indiana (above), no later than July 31, 2009. Check the Internet site at www.awr2.org for additional details and updates. In the interim, try logging AWR and sending the station a reception report for a QSL card that will be a nice addition to your collection.

The AWR's Dr. Adrian M. Peterson has provided *Popular Communications* with the following contest entry requirements:

1. List what you consider to be the five best QSLs in your collection from shortwave stations or transmitters that are no longer on the air. The "best" may be described as the station or transmitter itself, or the distance, power, or circumstances under which you heard the broadcast, or the QSL card itself, etc. (Note: Do NOT send the original cards.)

2. In one paragraph each, describe the reasons why you consider each card to be one of the best in your collection.

3. Enclose a photocopy of each of these five cards, preferably in color, though black and white may be acceptable.

4. Send at least three reception reports on any AWR broadcasts from KSDA Guam or any AWR relay broadcasts from any relay transmitter anywhere in the world. The AWR broadcasts may be on shortwave, mediumwave, or FM. All reception reports will be verified with a contest endorsement on the QSL card.



Color QSL for reception of AWR transmitter site, Moosbrunn, Austria.

5. Where possible, please enclose three radio cards for inclusion in the Indianapolis QSL Collection. These radio cards may be old or new and may be QSL cards, reception report cards, picture cards, etc. Not valid for this contest are amateur or CB QSL cards.

According to Dr. Peterson, the 2009 Contest will be of special interest to American SWLers since there will be additional awards to those listeners who send in reception reports of "Wavescan" broadcasts, carried over Jeff White's shortwave station, Radio Miami International (WRMI), during the month of June. This program is intended for shortwave radio hobbyists, with a special emphasis on the Asian continent. For more information, visit www.wrmi.net and click on Wavescan under the WRMI Programs heading on the home page.

despite its friendliness toward listeners and willingness to QSL. It appears that mail leaving St. Helena by ship route around the tip of Africa falls prey to pirates! In an effort to circumvent this "misrouting," all mail this year was requested to be sent "via UK & Ascension Island," keeping it under the watchful eyes of British authorities.

I sent my station reception report from 2006 to The Danish Shortwave Club International, Tavleager 31, DK 2670 Greve, Denmark. The DSWCI was kind enough to issue a 50 year anniversary QSL card, verifying my reception of Radio St. Helena.

Part C: Loggings Of AWR

Part C of the contest was the submission of three reception reports from any AWR transmission. (Refer to the usual printed sources or www.awr2.org or www.primetimeshortwave.com for times and frequencies.) For my location in Summit, New Jersey, the AWR transmitter in Moosbrunn, Austria, on 11955 kHz offered good reception at 2000 hours UTC. I provided 20 minutes of program content description, along with technical details of reception conditions and equipment used, as part of my reception report.

Part D: QSL Card Donations

For the Part D requirement of the donation of three or more QSLs (again, no amateur or CB QSLs are valid) from my collection, I chose QSLs I received from the Voice of America, Radio China International, Radio Nederland, Radio Vaticana and the Caribbean Beacon.

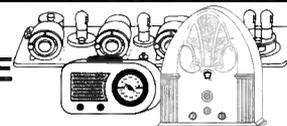
That pretty much wraps up what went into my submissions for the 2008 QSL Alphabet DX Contest. See the sidebar for some current information on what's required for the 2009 contest. And get started—June will be here before you know it.

You Can Win, But You Can't Lose

The approach outlined here helped me win last year, but even if I hadn't, I would have enjoyed myself just as much. So if you'd like to join in on the fun, this is an excellent time to begin reviewing your own QSL collection for verifications from stations no longer active on the shortwave bands.

Are you ready for the challenge? I bet you are! ■

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Whiteman Air Force Base— Missile Silos And A Series Of Firsts

by Mark Meece, N8ICW
ohioscan@gmail.com

This month “Military Radio Monitoring” takes us to the heartland of the United States—specifically to the “knobby” part of the State of Missouri. Located amid the rolling countryside of the Show Me State’s Johnson County, just a mere two miles south of Knob Noster (named for the geographical landmark in the town) and 20 miles west of Sedalia is Whiteman Air Force Base. Whiteman operates one 12,400-foot runway (1/19) and covers some 5,200 acres—not including missile fields! Read on...

The Early Years Of Whiteman

The origin of Whiteman AFB was the direct result of the Japanese attack on Pearl Harbor on December 7, 1941. As the United States mobilized its forces following the attack, the base activated on August 6, 1942, as the Sedalia Glider Base. It was not until August 1951, however, that the base really sprang to life as part of the Strategic Air Command (SAC).



A B-47B using rocket assisted take-off on April 15, 1954.
(Public domain photo)

“Over the course of the next six months the western Missouri landscape would sprout underground silos housing Intercontinental Ballistic Missiles (ICBM).”

The 4224th Air Base Squadron was activated by SAC and charged with overseeing the construction and refurbishing of the new Sedalia Air Force Base, work which continued until October 20, 1952, when the 4224th ABS was deactivated. The new host wing for the base became the 340th Bombardment Wing, and SAC ordered the command’s newest aircraft for delivery to the 340th—the new Boeing B-47 “Stratojet,” the country’s first swept wing strategic bomber and the KC-97 “Stratotanker” aircraft.

Runway repairs and base construction projects were finished in November 1953, and the first B-47 arrived in March 1954. By the time production ended over 1,200 Stratojets were in service all over the globe at SAC bases. The B-47 was removed from operational service 15 years later in the late 1960s. Ordinarily the B-47 carried a crew of three: a pilot, co-pilot (who operated the tail turret by remote), and an observer who did triple duty as navigator, bombardier, and radar operator.

Sedalia Air Force Base was officially renamed Whiteman Air Force Base on December 3, 1955, in honor of Sedalia native 2nd Lieutenant George A. Whiteman. Lieutenant Whiteman was one of the first airmen to be killed in World War II during the attack on Pearl Harbor, Hawaii.

The Minutemen Of Whiteman

As the 1960s progressed through the grip of the Cold War, Whiteman was selected by the United States Government to serve as a support base for the 4th Minuteman Strategic Missile Wing. It was not long after the site’s selection that second thoughts were voiced, as the original plan



A Boeing Minuteman Transporter-Erector, used by the 351st Strategic Missile Wing to ferry missile boosters to and from missile silos. It was retired in 1993 to static display at Whiteman AFB. (U.S. DefenseLink photo)

called for Minuteman missile sites to be spread out as far south as the Ozarks region. Those plans were eventually scrubbed, however, because of the region's high water table and inaccessible terrain. By the time final approval was reached on January 17, 1962, the launchers were placed in close proximity to Whiteman, making Whiteman the smallest Minuteman Base in terms of area.

A construction contract was awarded on March 20, 1962, to the firm of Morrison, Hardeman, Perrini, and Level for the low bid of \$60.6 million. While construction commenced days later, on April 2, the official groundbreaking ceremony did not take place until April 14, 1962, and was attended by Missouri Governor John Dalton and several area congressmen. Plans for the project included the removal of some 867,000 cubic yards of earth and rock. For construction of the hardened underground facilities and fifteen launch centers, contractors used 68,000 yards of concrete, 25,355 tons of reinforcing steel, and 15,120 tons of structural steel. The project included installation of 15 launch facilities, 150 missile silos, and numerous roads and bridges throughout the rural Missouri countryside. The project's lifeline, which connected all the facilities and launch sites, was a "Hardened Intersite Cable System," totaling around 1,777 miles and requiring the land rights-of-entry from over 6,000 landowners.

The construction was overseen by the Army Corp of Engineers' Ballistic Missile Construction Office, which set up resident offices at Whiteman. Just over a year later the Army Corp of Engineers and the civilian contractors turned the first flight of silos over to the Air Force Site Activation Task Force (SATAF) on June 10, 1963. SATAF was responsible for putting the finishing touches on the silos before turning over control of the facilities to SAC. The complex officially completed construction in June 1964.

SAC activated the 351st Strategic Missile Wing on February 1, 1963, the same year the 340th Bomb Wing phased out its operations at Whiteman and was transferred to Bergstrom Air Force Base, Texas, after 11 years of service at Whiteman. The Boeing Plant located at Hill Air Force Base in Utah produced

the Minuteman I missiles, the first one of which was delivered to the new complex on January 14, 1964.

Over the course of the next six months the western Missouri landscape would sprout underground silos housing Intercontinental Ballistic Missiles (ICBM). The last flight of missiles was activated to alert status on June 29, 1964, and the 351st became a fully operational strategic missile wing. Oscar-01 was the command center for 10 ICBMs, and while it was one of 15 such facilities spread across west central Missouri, it was the only one located on the base itself.

A mere two years later, the Force Modernization Program, initiated on May 7, 1966, saw all Minuteman Is replaced by Minuteman IIs, a transition completed in October 1967. The 351st became the first wing to complete the program. Whiteman remained pretty stable through the 1970s and '80s, but more change was set in motion with the signing by President George H.W. Bush and Russian President Boris Yeltsin of the Strategic Arms Reduction Treaty (START II) on January 3, 1993.

This treaty between the U.S. and Russia called for the reduction and limitation of strategic offensive arms. It was ratified by the U.S. Senate on January 26, 1996, but the Russian ratification became stalled. START II was never put into action and was eventually superseded by the Strategic Offensive Reductions Treaty (SORT). The Treaty led to the elimination of the Minuteman II ICBMs, and the 351st SMW was officially inactivated on July 31, 1995.

The Modernized Whiteman

It was with much fanfare that on January 5, 1987, Congressman Ike Skelton from Missouri's 4th Congressional District announced that Whiteman would become the site of the first deployment of the new B-2 Advanced Technology Bomber. The next year would see a massive wave of new construction to create support facilities for the new B-2 operations. On paper at least, the 509th Bombardment Wing was transferred to Whiteman on September 30, 1990, despite not having any personnel or equipment. On September 1, 1991 it was renamed the



A B-2 Spirit, from the 393rd Expeditionary Bomb Squadron, Whiteman Air Force Base, Missouri, flies in formation across the Pacific Ocean with F-15E Strike Eagles, from the 391st Expeditionary Force Squadron. (U.S. Air Force photo by Tech. Sgt. Cecilio Ricard)

509th Bomb Wing and came under command of the newly established Air Combat Command (ACC) on June 1, 1992.

After three years of non-operational status, the 509th became operational once more when personnel from Detachment 509 were assigned on April 1, 1993. The host responsibilities for Whiteman Air

Force Base officially transferred from the 351st SMW to the 509th on July 1, 1993. Six months later the first B-2 "Spirit" Stealth Bomber arrived on December 17, 1993. Today, the 509th Bomb Wing and its associate squadrons operate a fleet of 19 B-2 Spirits. Another tenant unit is the 442nd Fighter Wing of the U.S. Air

Force Reserves, flying the A-10 "Thunderbolt II."

A recommendation of the Department of Defense's 2005 Base Realignment and Closure (BRAC) calls for re-distributing the fleet of F-15s belonging to the 131st Fighter Wing of the Missouri Air National Guard based at St. Louis-Lambert International Airport to the 120th Fighter Wing based at Great Falls, Montana, and to Nellis Air Force Base, Nevada. All F-15s were expected to be redeployed by April 2009. The pilots of the 131st have been transferred to the 509th Bomb Wing as an associate unit, now re-designated as the 131st Bomb Wing, and will train on and fly the B-2. Also according to the 2005 BRAC, the 442nd FW will be receiving nine A-10s from the 926th Fighter Wing's fleet based at Naval Air Station Joint Reserve Base New Orleans.

Other noted units are the 1-135th Aviation Battalion of the Missouri Army National Guard flying the AH-64H Apache Attack Helicopter and the U.S. Naval Reserve's Mobile Inshore Undersea Warfare Unit 114 (MIUWU).

Whiteman Up Close

In addition to aeronautical operations, radio communications at Whiteman are over a Motorola UHF Type II Smartnet trunked radio system using digital voice,

Whiteman Air Force Base Assignments And Callsigns		
TENANT UNITS	AIRCRAFT	TAIL
509th Bomb Wing		
509th Bomb Operations Group	B-2	WM
13th Bomb Squadron		
393rd Expeditionary Bomb Squadron		
394th Combat Training Squadron	T-38A	WM
509th Operations Support Squadron		
442nd Fighter Wing (AFRC)	A-10	KC
303rd Fighter Squadron		
131st Bomb Wing (MO ANG)	B-2	WM
1-135th AVN (MO Army NG)	AH-64H	
UNIT CALLSIGNS		
509th BW	BATT, DEATH, FURY, HAMMER, SPIRIT CONTROL	
13th BS	REAPER	
394th CTS	FAST, POTSY	
442nd FW/303rd FS	BORG, CHISEL, CUB, DITTO, GONZO, KC HAWGS JUG, KAYCEE, PEPPY, SAUCER, SCOUT, SHOGUN, WODAN	
1-135th AVN	HAWK	

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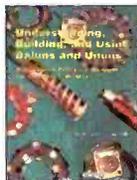
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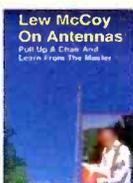
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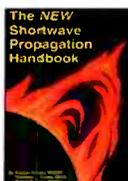
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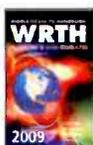
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so you'll need a digital scanner. See "Listening In" for information on monitoring Whiteman Air Force Base communications. As you'll note from that section, information on the trunked system

is rather sketchy, so if any of our readers can fill in some missing pieces, please drop us a note at the email listed at the beginning of the column.

Whiteman AFB hosts Spirit Tours to

members of the general public. These are held one Friday per month during the March through October tour season. They offer great insight into the history and missions at Whiteman. You can contact

Listening In

Whiteman Air Force Base (KSZL)

AERONAUTICAL OPERATIONS

34.600	303rd FS Interflight	239.025	ATIS
36.500	303rd FS	242.400	HAWK OPS
36.600	303rd FS	255.600	Whiteman Tower
41.000	HAWK OPS	260.250	303rd FS MOA Control
49.650	HAWK OPS	275.800	Whiteman Ground
49.850	303rd FS Interflight	284.000	Whiteman Approach
118.725	ATIS	285.600	KC Center
121.750	Clearance Delivery	305.100	303rd FS MOA Discrete
125.925	Whiteman Departure	311.000	ACC Command Post Primary
127.450	Whiteman Approach	321.000	ACC Command Post Secondary
128.275	Whiteman Ground	335.800	Whiteman Clearance
132.400	Whiteman Tower	343.650	Whiteman Departure
138.125	303rd FS GROUND HOG	344.600	METRO
138.400	303rd FS SOF	358.250	SFA
139.000	HAWK OPS	372.200	Pilot to Dispatcher
149.250	303rd FS Interflight		
149.525	303rd FS MOA Discrete		

WHITEMAN AFB TRS

SYSTEM: Whiteman Air Force Base
TYPE: Motorola Type II Smartnet
SYSID: B310
VOICE: APCO-25 Common Air Interface Exclusive

CUSTOM FREQUENCY TABLE:

BASE: 406.1125
SPACING: 12.5 KHz
OFFSET: 380

SYSTEM FREQUENCIES:

406.11250c 406.15000a 406.50000 407.55000 407.88750 407.95000 408.15000 408.76250 410.70000

Notes:

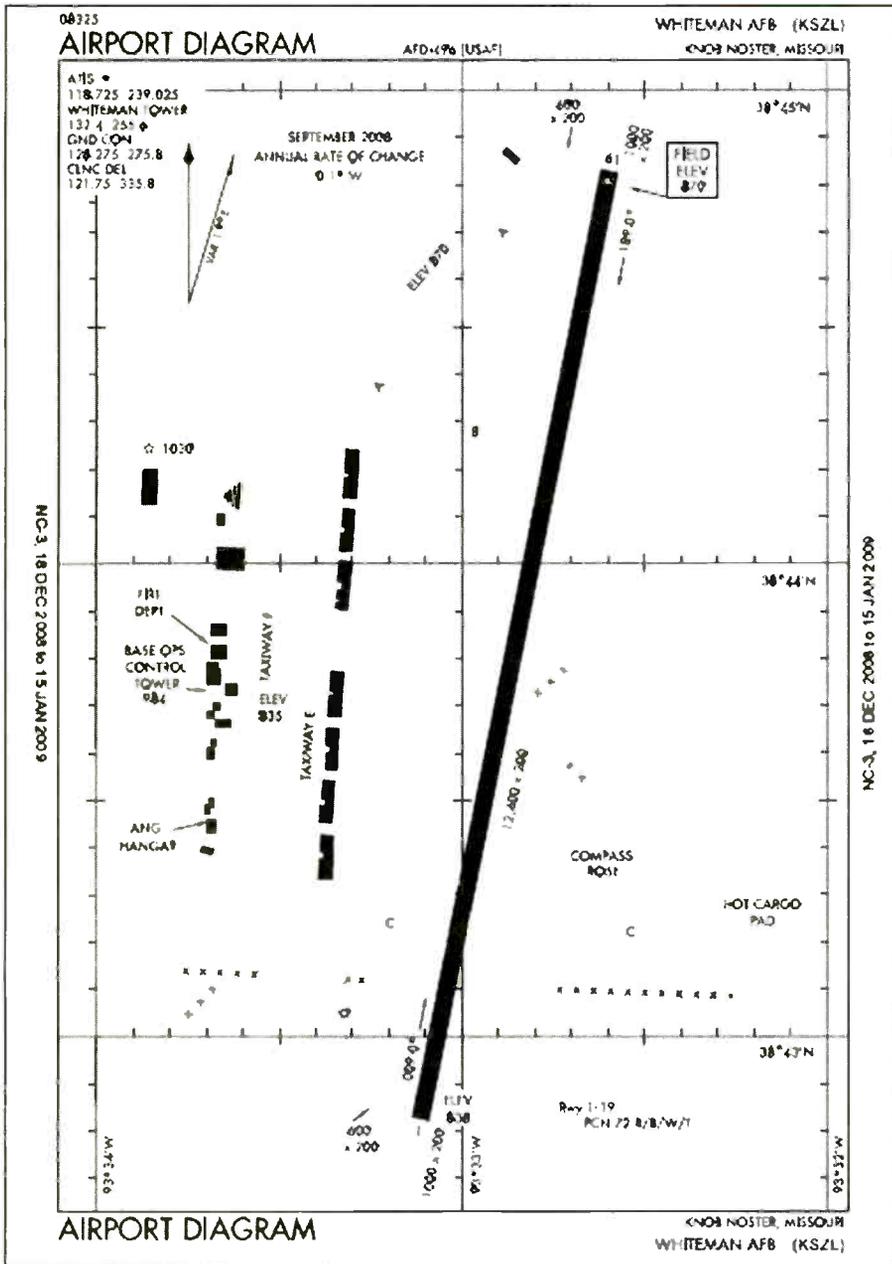
a - denotes alternate control channel

c - denotes control channel

TALKGROUPS	MODE	USE	304	E	Unknown Use
16	E	Base Operations	1328	D	Unknown Use
48	D	Spirit Control (509th CP)	1520	E	Unknown Use
80	E	Unknown Use	1616	E	Unknown Use
112	E	Unknown Use	1680	E	Unknown Use
144	E	Unknown Use	1936	D	Unknown Use
176	E	Unknown Use	2064	D	Unknown Use
240	D	Unknown Use	2096	D	Unknown Use
272	D	Unknown Use			

E = Encrypted

D = Digital



FAA Whiteman Airport Diagram. (Courtesy of the FAA)

the Public Affairs Office at 660-687-6123 for more information and/or reservations.

Military Loggings

Once again we hear from Doug Bell as he checks in with some great military intercepts from the wilds of Canada. We appreciate loggings from any of our readers who'd care to report in, whether it's on HF, VHF, or UHF. Again, you can send them to the email address listed in the column header. Please try to follow the format you see here and we'll include them in a future column.

5598: USB 0116Z REACH 249 (C-5B/60th AMW, MacDill AFB, FL) heard wkg

Santa Maria with a position of 44N 030W at fl 350. Position data relayed to HILDA (Scott AFB, IL).

5616: USB 2201Z CANFORCE 4119 (CC-150/8W, 437 SQN, CFB Trenton, Ontario) wkg Gander Radio with a request for higher.

8864: USB 1417Z ROCCO 11 (KC135R/150th ARS, 108th ARW, NJ ANG, McGuire AFB) wkg Gander Radio with a position report.

1545Z REACH 276 (C-17A/436th AW, Dover AFB, Delaware) heard wkg Gander Radio with a position of 48N 040W at fl 320.

1840Z YANKEE 99 (KC-130T/VMGR-452, NY-ANG) wkg Gander Radio with a position of 53N 030W at fl 200.

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USA



POP'COMM APRIL 2009 **29**

AFB) wkg Gander Radio with a position of 49N 040W at fl 330. Estimating 48N 050W at 1828 with a speed of .86 mach. AFI was instructed to contact Gander Center on 122.37 at 050W. [AFI did not report CPDLC as it has in the past, but it made a full position report and no SEL-CAL check] President Bush was returning from his "surprise" visit to the Middle East.

1450Z REACH 1196 (C-17A/437th AW, Charleston AFB, SC) wkg Gander Radio with a position of 52N 030W at fl 300.

1328Z TASTE 70 (EC-130J/193rd SOS, PA-ANG) wkg Gander Radio with a position of 50N 035W at fl 200.

1348Z TAKE 48 (RC-135/55th AW, Offutt AFB, Nebraska) heard wkg Gander Radio with a position of 63N 060W at fl 430. Flight instructed to contact Montreal Center on 132.8 VHF.

1643Z HANK 44 (E-4B #75-0125/1st ACCS, 55th AW, Offutt AFB, Nebraska) wkg Gander Radio with a position of 55N 030W at fl 330.

1810Z HUNT 61 (C-17A/305th AMW, 6th AS, McGuire AFB, NJ).

8879: USB 1520Z REACH 455 (KC-10A/305th AMW, McGuire AFB, NJ) wkg Gander Radio with a position of 48N 040W at fl 360.

8918: USB 2125Z RESCUE 2006 (USCG HC-130J/CGAS Elizabeth City) wkg New York Radio and requesting flight IFR to Bermuda.

8983: USB 2137Z CAMSLANT-Chesapeake wkg USCG 2006 (HC-130J/Elizabeth City) with an "operations normal." CAMSPAC-Point Reyes heard wkg USCG 1715 (HC-130H/CGAS Sacramento). Flight report "operations normal" and reported a position of 38.00N 122.18W.

8992: USB 1847Z REACH 169 (C-130/50th AS, Little Rock AFB, AR) heard wkg a HF-GCs Station with weather passed for St. John's, Newfoundland and Halifax, Nova Scotia.

1927Z CONVOY 3730 (C-130T #165349/"Nor'Easters," NAS Brunswick, Maine) heard wkg HF-GCS Station ANDREWS with a pp to Station SIGONEL-LA. Flight data and ETA passed.

9007: USB 2215Z KING 24 (C-130H/347th RQW, Deltona, FL) wkg TRENTON MILITARY with a phone patch and weather passed for North Island.

11175: USB 1500Z CROWN (White House Communications Agency) repeatedly calling HF-GCS Station DIEGO GARCIA for a HF radio check with no response.

1525Z ASCOT 7007 (Sentry AEW-1 AWACS/8-23 SQN, RAF Waddington, UK) wkg HF-GCS Station ANDREWS with weather passed for McGuire AFB and Dover AFB.

1648Z OTIS 17 (KC-130J/VMGR-252, MCAS, Cherry Point, NC) wkg HF-GCS Station LAJES with flight data passed.

1115Z TOGA 82 (KC-10A/79th ARS, Travis AFB, CA) wkg HF-GCS Station PUERTO RICO with flight data and refueling information passed.

1928Z NAVY JW 348 (C-130T/"Nor'easters," VR-62, NAS Brunswick, Maine) wkg HF-GCS Station LAJES with a HF radio check.

1626Z NAVY LA 053 (P-3C/"Mad Foxes," VP-5, NAS Jacksonville, FL) wkg HF-GCS Station OFFUTT with a phone patch and flight data passed.

1624Z TURBO 92 (KC-135R/22nd AW, McConnell AFB, CA) wkg a HF-GCS Station with a request for latest message traffic.

1731Z GASSER 31 (KC-135R/97th AMW, Altus AFB, OK) heard wkg HF-GCS Station MCCLELLAN with a request for message traffic.

1749Z TROUT 98 (KC-135R/412th FLTS, Edwards AFB, CA) repeatedly calling "MAINSAIL" with no joy.

1544Z HANK 44 (E-4B #75-0125/1st ACCS, 55th AW, Offutt AFB, Nebraska) repeatedly calling "MAINSAIL" with no response.

2144Z RICAN 79 (C-130E #65-0544/198th AS, PR-ANG) wkg HF-GCS Station LAJES with a failed pp.

11232: USB 1657Z CANFORCE 3688 (CC-130/8W, 436 SQN, CFB Trenton, Ontario) wkg TRENTON MILITARY with weather passed for Sydney, Nova Scotia, Ottawa and Trenton, Ontario.

1745Z PEACH 66 (E-8C JSTARS/16th ACCS, GA-ANG) wkg TRENTON MILITARY with a HF radio check.

1730Z PATHFINDER 45 (CP-140/14W, 405 SQN, CFB Greenwood, Nova Scotia) wkg TRENTON MILITARY with a phone patch to HALIFAX MILITARY. Flight and weather data passed.

1605Z SENTRY 60 (E-3B AWACS /552nd ACW, Tinker AFB, OK) wkg TRENTON MILITARY with weather passed for Tinker.

1530Z CANFORCE 4020 (CC-177/8W, 429 SQN, CFB Trenton, Ontario) wkg TRENTON MILITARY with a HF radio and a HQ-BC SELCAL check.

2055Z CANFORCE 3272 (CC-150/8W, 437 SQN, CFB Trenton, Ontario) wkg TRENTON MILITARY with weather passed for McChord AFB, and Vancouver, B.C.

1713Z TIGER 319 (CC-130/8W, 436 SQN, CFB Trenton, Ontario) wkg TRENTON MILITARY with flight data passed.

1710Z DEMON 21 (CP-140/19W, 407 SQN, CFB Comox, BC) wkg TRENTON MILITARY with flight and mission data passed. ■

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Listening On The Short Waves, 1945 To Today, and Broadcasting On The Short Waves, 1945 To Today, By Jerome S. Berg

reviewed by Gerry Dexter

In the interest of full disclosure—and by way of an explanation for the admittedly unusual format—the author of these books, Jerome “Jerry” Berg, is a friend of many years...well, decades, truth be told. As I was sitting down to pen my congratulations to him, I realized I was pretty much writing the review of these unusual, even extraordinary, books I’d been assigned by *Pop’Comm*. Now, sharing my thoughts with our readers this way just kind of feels right somehow, so here you have my musings on must-reads...

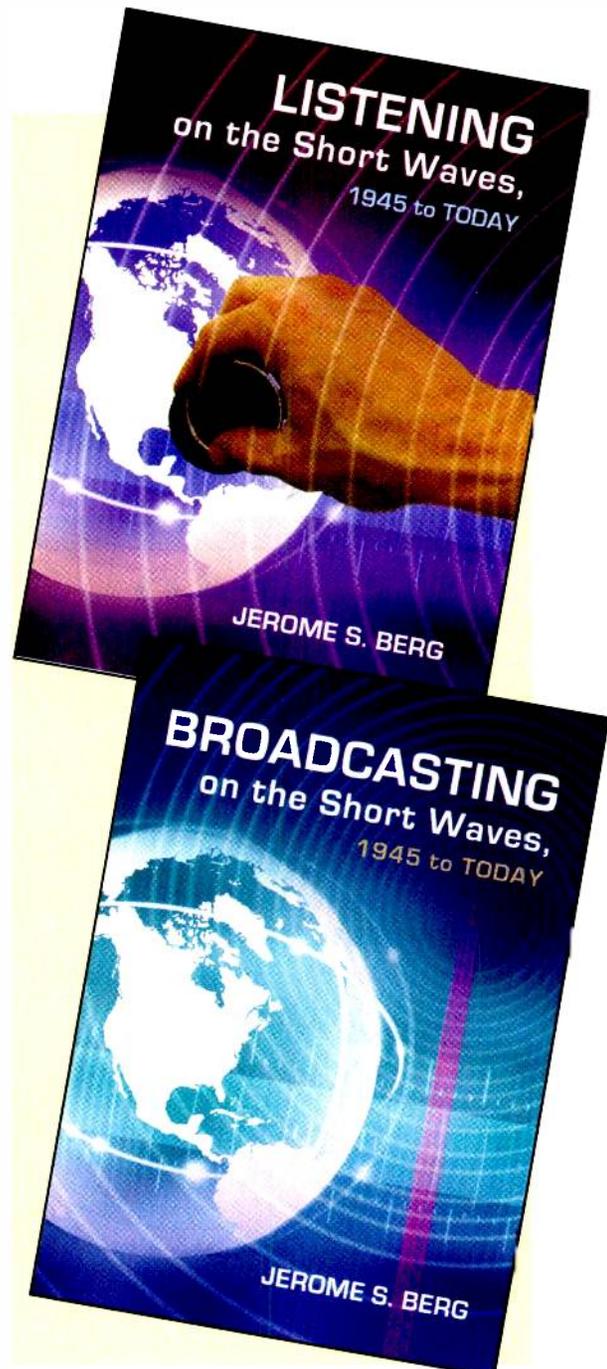
Dear Jerry,

As longtime friends I was eager to do a review of your two new books, so I was happy to get the go-ahead from Edith. I did not realize there would be problems attached, namely having to deal with one of my pet peeves: superlatives, such as “awesome,” “amazing,” “incredible,” “unbelievable.” These words have been overused, abused, and otherwise done to death. Words once used to describe the universe are now commonly applied to slam dunks, shoe sales, and everything in between. They’ve been made cheap and nearly meaningless and I refuse to use them, especially applied to your books. So I’m left with the problem of how to describe them when they are so deserving of the highest praise!

For all the history you put into the books, you must have been waist deep in musty old maga-

Gerry Dexter is *Pop’Comm*’s “Global Information Guide” columnist.

Listening On The Short Waves, 1945 To Today, and Broadcasting On The Short Waves, 1945 To Today, by Jerome S. Berg may carry a hefty price tag, but the wealth of information and nostalgia they contain make them invaluable.



Pop'Comm April 2009 Reader Survey Questions

This month we'd like to ask about organized activities you participate in that are related to your hobby. Please use the Reader Survey Card and circle all appropriate numbers (feel free to write additional comments where you can find room on the card!). 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.

Do you ever engage in hobby-related organized activities, such as contests or challenges?

- Yes, amateur radio contests 1
- Yes, SWL contests 2
- Yes, foxhunting/radio direction finding 3
- Yes, scanner monitoring 4
- Yes, geocaching 5
- Yes, building challenges 6
- Yes, hobby-related group outings 8
- Yes, other 9
- No, I don't participate in organized activities 10

How important an aspect are such activities to you?

- Very important, they really enhance my enjoyment 11
- Moderately important, I engage in them when I can 12
- Not very, I've dabbled, but not much 13
- Not at all, I have no interest 14

Are organized activities something you'd like to learn more about?

- Yes, I'd like to read more about this topic 15
- No, it really doesn't interest me 16

Again, we didn't run a Reader Survey in November or December, so we don't have highlights (or subscription winners) to share with you from those months. We'll be back with both soon.

WorldRadio is part of the CQ family!

Check out the March issue of *WorldRadio Online*!

Featured articles include:

- The Ham Radio Twilight Zone
- Contesting 101 (and 102)
- DX World: The DX Cluster "Epiphany"
- Krusty Kurt on Lightning Protection



WorldRadio Online is available online only, in PDF format. View or download the issue at <<http://www.cq-amateur-radio.com>> and sign up for our e-mail alert list at <<http://mailman.sunserver.com/mailman/listinfo/WorldRadio-L>>.

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"If the Listening book brought on waves of nostalgia the Broadcasting book created a tsunami!"

zines and club bulletins. I was astounded to find a mention of my old neighborhood club from the early 1950s in the "Clubs" chapter of the *Listening* book. (Good grief! We only had a dozen or so members!) And not just American-based clubs, but others from all over the planet!

The extensive chapter on clubs is just one of nine: you also focus on the shortwave audience, listener programs, shortwave literature, receivers, QSLing, computers, a conclusion and a Prelude to 1945. And they're all illustrated with pages from old bulletins, long-gone covers from long-gone magazines, QSLs, club membership certificates, receivers, award certificates, pen-nants, and still more "stuff." Probably everyone who had any active role in the shortwave hobby from 1945 onwards has his or her contribution(s) cited.

For us old timers it's going to shorten a lot of DX discussions about when the "Pinewood DX Club" folded or who edited this or that column back in 1962 (assuming we can remember the year!). For others it will put the history of this great hobby into perspective, give it some meaning beyond looking forward to the next log. (And I liked that you dedicated the *Listening* volume to Ken Boord, my shortwave hero then—and still.)

If the *Listening* book brought on waves of nostalgia the *Broadcasting* book created a tsunami! It starts with a thorough Overview and ends with comments on "The Changing Shortwave Environment," which considers shortwave's uncertain future and helps us face up to a reality none of us welcomes. You devote the rest of the book to the active broadcasters in pretty much 10-year segments, accompanied by half a zillion QSL and other illustrations (well, nearly 200 of them, anyway). The broadcasters are not only cited but the frequencies they used and sometimes even the hour(s) at which they were best heard. It was great fun to read about all the catches made—some that were easy, some that nearly siphoned off your spirit, and some (too many!) that remained achingly out of reach and were never bagged.

Out of a 496-page total for the *Broadcasting* book, I figured it's just over 400 pages of information about the active stations during those years! (The *Listening* book is "only" 423 pages.) I'm really tempted to use one of those abused superlatives here!

While I have that superlative problem going on, readers contemplating purchasing these books may have a problem as well. The barcode reader will give you sticker shock after it feeds the register: they cost \$65. Each! Potential readers may have to visit their local First National and negotiate a loan. But it would be worth it!

Highest congrats, OM! "Fantabulistic!" (There... I created my own superlative!)

73,
Gerry

Listening On The Short Waves, 1945 To Today, and
Broadcasting On The Short Waves, 1945 To Today, by Jerome S. Berg, McFarland & Company Publishers, Box 611, Jefferson, NC 28640.

Good Signs For Shortwave— Better Reception And New Stations

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

“Here’s a bit of an odd one for you that has recently shown up...ASO Radio, an FM station in the Nigerian capital (Abuja) now being relayed on 15180, from 1600 to 1700...”

As I sit here at the laptop there are no new reports of broadcasters leaving shortwave, or choosing to minimize their coverage by serving an audience on the Web. In addition, reception conditions have improved—at least for the moment—with stations in Southern Asia, Southern Africa, and the Horn of Africa doing especially well. So count your blessings, be thankful, burn some incense or something, whatever you can think of that might keep the positives coming!

Here’s a bit of an odd one for you that has recently shown up, and although the transmitter site being used is still somewhat in question, it’s probably in Russia. The broadcaster is ASO Radio, an FM station in the Nigerian capital (Abuja) now being relayed on 15180, from 1600 to 1700, apparently on a daily basis (actually it closes at 1657!).

Also new is Amhara Regional State Radio, Ethiopia, reported to be active on 6090 from 0300–0600, and again at 0900–1100 and 1400–1700. It’s also supposed to be on 7264

(that’s what they say) and 9740. Somehow, I’m not expecting this one to shake the speaker.

Alaska’s KNLS says it should be on the air soon from its new site in Madagascar. It expects to be on the air—and perhaps is by now—broadcasting in Arabic, Spanish, and Portuguese for up to 35 hours per week. It will be using three 100 kW transmitters, but no frequencies have been announced yet.

The Voice of Russia is now using the Montsinery, French Guiana, site. That probably explains the better signals we’re getting on some of the VOR channels lately.

Reader Logs

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

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

ALASKA—KNLS, 6150 at 1214 with an EE pgm and frequent IDs, //6915. (D’Angelo, PA)

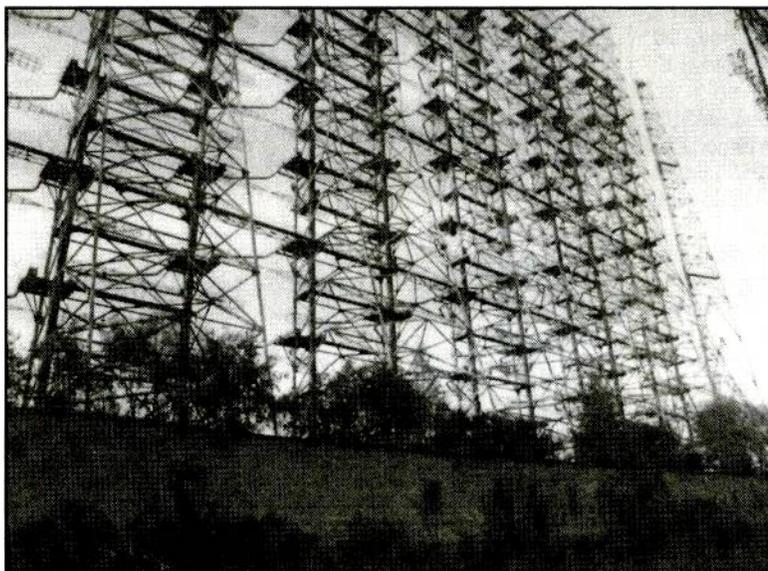
1502 in RR. (Ronda, OK) 7335 at 1208 on prostitution in the U.S. (Brossell, WI)

ALBANIA—Radio Tirana, 9345 at 2210 with anmt on their 70th anniversary. (Maxant, WV) 13640 at 1845 with ID, frequencies and a news bulletin. (Brossell, WI)

ANGOLA—Radio Nacional, 4950-Mulenvos in PP at 0326. (Brossell, WI) 2300. (Ronda, OK)

ANGUILLA—University Network, 11775 at 1330 with Mrs. Scott preaching. (Maxant, WV)

ANTARCTICA—Radio Nacional Arcangel San Gabriel, Base Esperanza, 15476 at 1958–2101 close with W hosting music, multiple IDs at 2001 through 2004 before returning to music. Closing ID and anmt at 2059 although weak, but a lack of noise made an ID possible. (D’Angelo/FCDX, PA) 2046 with pop ballad,



An innerspring? The uncut output of a Slinky toy factory? An antenna used in an attempt to communicate with Pluto? Nope! It’s the antenna used by the infamous Russian “Woodpecker” radar, which bedeviled SWLs throughout much of the 1980s.

Help Wanted

We believe the "Global Information Guide" offers more logs than any other monthly SW publication (430* 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.rn.com. (See the column text for formatting tips).

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

SS anmts 2054-2056. Closing anmts at 2259:45 to audio out at 2100:35 and TX off at 2101. (Strawman, IA)

ASCENSION—BBC South Atlantic Relay, English Bay, 7160 at 0315 with a report on the Russian-Georgian conflict. (Brossell, WI) 17830 heard at 2038 on sectarian violence in India. (Ronda, OK)

AUSTRALIA—Radio Australia, 5995 at 1420 with top 20 country songs, 6020 at 1335, 7240 with an interview at 1405, 11660 at 1555, 11880 at 2130 on assisting Pakistan and 15515 at 0215 on surviving in the Pacific. (Maxant, WV) 9710-Shepparton at 1617 and 12010-Darwin to SEA at 2240. (Strawman, IA) 11945-Shepparton at 1241 with news. (Brossell, WI) 15230 at 2340 with M/W weather for various islands. (Barton, AZ)

ABC Northern Territories Service: 2310-Alice Springs at 1315 with an apparent phone-in pgm, running //to 2325 and 2485. (Schieffelbein, MO) 2325-Tennant Creek, strongest of the three at 1110. Also 2485-Katherine at 1050 was the strongest on a different date. (Wilkner, FL) 2485 at 1236 with ABC News, W with weather for Alice Springs, f/by program from "105.7-ABC Darwin." (D'Angelo/FCDX, PA)

HCJB Australia, 15400 at 1039 with ID f/by CC pgm. Also 15540 with *DX Party Line* at 1315. (Ng, Malaysia)

AUSTRIA—Radio Austria Intl, 13675 with news at 1630 and 13730 in GG closing at 1400. (Maxant, WV) 13730 at 1310 in GG with pgm of classical music performed before live audience. (D'Angelo, PA)

BANGLADESH—Bangladesh Betar, 7250 at 1229 sign on with flute IS, opening anmts and news. Weak modulation. (Alexander, PA) *1228-1259* opening with IS, ID and news. Weak. (D'Angelo, PA) Time pips at 1230 and news. (Wilkner, FL)

BELARUS—Radio Belarus, 7135 at 2144, W in EE but muffled audio. (Ronda, OK) 2155 with M vocal, fanfare and into EE. (D'Angelo, PA)

BOLIVIA—Radio Santa Ana, Santa Ana del Yacuma, 4451.1 monitored at 2245 with M in SS. Noisy band conditions. (Wilkner, FL)

Radio San Miguel, Riberalta, 4699.4 heard at 0140 with W and SS talk, ID, TC, pgm of rustic vocals. (D'Angelo/FCDX, PA) 0845 with long SS discussion. (Wilkner, FL)

Radio Yura, Yura, 4716.6 heard at 0920 with W and exotic flutes, yipping. (Wilkner, FL)

Radio Pio XII, Siglo XX, 5952.3 at 1050 with W and SS news items. Severe co-channel splatter. (Wilkner, FL)

Radio Fides, La Paz, (p) 6155.3 at 1040 with SS talk, short breaks of Bolivian music. (Alexander, PA)

BRAZIL—Radio Educadora, Limeira, 2379.8, heard at 0900. Weak but steady. (Wilkner, FL)

Radio Difusora do Amazonas, Manaus, 4805 at 0950 with PP music and M with ID. (Wilkner, FL)

Radio Cancao Nova, Cachoeira Paulista, 4825 at 0423 with songs in PP, struggling through persistent CODAR QRM. (Ronda, OK)

Radio Difusora Acreana, Rio Branco, 4885 at 0317 fair with PP ad string, many mentions of Rio Branco, then more vocals and ads. (Ronda, OK) 0323 with M anc and news. (Wood, TN)

Radio Difusora, Macapa, 4915 with LA hip-hop heard at 0315. (Wood, TN)

Radio Educacao Rural, Tefe, 4925 at 0117 with PP DJ talk with echo effects. (Wood, TN)

Radio Brazil Central, Goiania, 4985 at 0002 with PP songs, //11815 was generally better this week. (Ronda, OK) 0455 with romantic PP vocals, M anc. (D'Angelo, PA)

Radio Bandeirantes, Sao Paulo, 6089.9 at 2205 with PP talk. Poor with QRM from a weak Nigeria. Was covered by Anguilla at 2214 sign on. Better on //9645.3, 11925.2. (Alexander, PA)

Radio Record, Sao Paulo, 9504 at 2300 in PP with mentions of Sao Paulo and tentative ID at TOH. (Wood, TN)

Radio Nacional da Amazonia, Brasilia, 11780 at 1234 with talks and live audience pgm in PP. (Brossell, WI)

BULGARIA—Radio Bulgaria, 7400 at 0335 discussing photography and the arts. (Wood, TN) 11800 at 1943 with Bulgarian folk songs. (Brossell, WI)

BURKINA FASO—Radio Burkina, 7230 at 0456 with M in African-accented FF and Afro-pops. (Wood, TN)

CANADA—Radio Canada Intl, 5840 at 0110 on Pacific rim tourism in Canada. (Maxant, WV) 7230 via Vatican in AA at 0341 and 17735 on doctors there at 1843. (Brossell, WI)

CKZN, St. John's (Newfoundland) 6130 with call-in pgm heard at 1310. (Maxant, WV)

CFRX, Toronto, 6070 heard at 1320 with the *Bill Carson Show*. (Maxant, WV) 1440 with weather and traffic report. (Ronda, OK)

CHU, Ottawa, 3330 at 1038 with usual time anmts and "Beginning January First time signal transmissions on 7335 will be moved to 7850." (D'Angelo, PA) 0045 with same anmts. (Maxant, WV)

CHAD—RN Tchadienne, 4905 with 2231 and 2233 sign offs. Also 6165 with 2231 sign off. (Alexander, PA) 6165 long FF talk heard at 2210 with pop vocals, marching band NA and off at 2231. (D'Angelo, PA)

CHILE—Voz Cristiana, 11665 heard at 0339 with pops and SS anmts. (Brossell, WI)

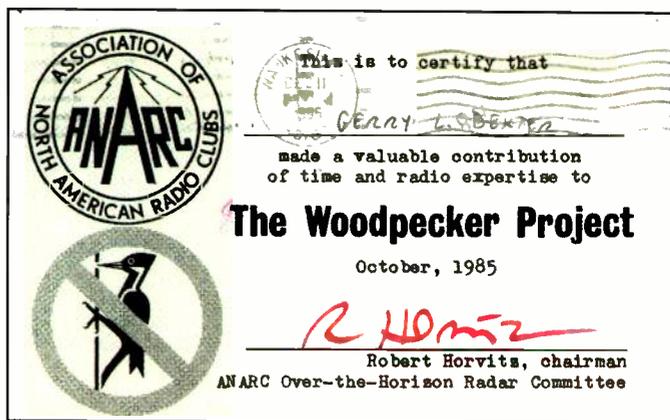
CHINA—China Radio Intl, 9570 at 0040 on Chinese auto production. (Maxant, WV) 9795-Urumqi at 1447 with EE news by M/W. (Strawman, IA) 11620-Xi'an in JJ at 1233, 11650-Urumqi in GG at 1805, 11980-Kunming in RR at 1251 and 13650 via Albania with EE news at 1212. (Brossell, WI) 11885-Xi'an in EE heard at 0022. (Ronda, OK) 17725-Kunming in CC with II pgm at 0830. (Ng, Malaysia)

China National Radio: Voice of Zhonghua/CNR-5, Beijing, 5925 in at 1128 Mandarin with M/W talks, short music bits. (D'Angelo/FCDX, PA) CNR-1-Geermu, 6080 at 1325 with W talk in Mandarin and CNR-2, 7245-Beijing at 2318 in Mandarin with short music bridges between items. (Ronda, OK)

Firedrake jammer, 7280 on Sound of Hope at 1155, 9680 on Radio Taiwan at 1225 and 11840 at 1246 against AIR. (Brossell, WI)

COLOMBIA—La Voz del Guaviare, San Jose de Guaviare, 6035 at 0110 with LA vocals, SS anc with IDs and slogans. (D'Angelo, PA)

CONGO (Dem Rep)—Radio Okapi, 11690 via Meyerton at 0441 with FF and vernacular talk, many mentions of "Okapi." (Alexander, PA)



The Association of North American Radio Clubs made a forlorn effort to track the Woodpecker but it ended without so much as ruffling a feather.

Radio & Television in Bhutan

Radio Broadcasting was started by a group of young volunteers, known as the National Youth Association of Bhutan (NYAB) in November 1973. The station was called Radio NYAB. In 1978, the Royal Government recognizing the importance of the radio for development communication embraced the station under the wings of the Ministry of Communications. In 1986 with the commissioning of a 10 KW short-wave transmitter and a small broadcast studio, Radio NYAB was renamed as Bhutan Broadcasting Service (BBS). Daily broadcasting was introduced with three hours of programming that reflected the national character. But it was only in March 1991 that BBS acquired a permanent seat and a professional look with the commissioning of a 50kw short-wave transmitter station and a studio complex-cum-office block. In June 2000, BBS also introduced FM radio service. Presently BBS has 22 FM transmitters, beside a 60 KW SW transmitter, ensuring 98 percent coverage. It also introduced internet radio in 2005. 2nd June 1999, was another historic date for BBS as the National Television Service was launched. BBS started its nation wide Television service via satellite since February 2006. On May 2007, another Short Wave transmitter, a Digital DRM 100 kW Type was put into operation, which further improves our radio reach. BBS is the National Radio and Television broadcaster of the kingdom of Bhutan.

Program Schedule in English Language
Time in BST = GMT +6

Radio	Television
11:00 - 12:00	08:00 - 09:00
15:00 - 16:00	10:00 - 11:00
20:00 - 21:00	20:00 - 21:00
	22:00 - 23:00

Post Box: 101, Thimphu, Bhutan, Tel + 975 (0)323071, 323072, 322886, 322533
Fax + 975 (0)323073, Web: www.bbs.com.bt

QSL VERIFICATION BHUTAN BROADCASTING SERVICE National Radio & Television

Dear Rich D'Angelo

Thank you for your Reception Report.

We are pleased to verify your reception of our Short wave Transmission.

I also verify here your 17 November 1993's reception report, which you listened on 5030 KHz. This transmission was available using our 50KW transmitter.

Here are our Technical details.

Transmitter Type: *TSW 2100 D*
Digital DRM 100 KW Short Wave Transmitter
Frequency: 6035 KHz

With Regards

D'Angelo
Rich D'Angelo
dangelo@pop.com

Rich D'Angelo verified the rarely heard Bhutan Broadcasting Service (6035). His 1993 report was for its old 5030 channel. (Thanks Rich D'Angelo, PA)

CROATIA—Voice of Croatia, 7375 via Germany heard at 2315 with *Croatia Today* pgm. //3985 which is direct. (Alexander, PA)

CUBA—Radio Havana Cuba, 13760 with SS talk at 0020. (Ng, Malaysia)

Radio Rebelde, 5025 in SS at 0340 with live sports event. (Wood, TN)

CZECH REPUBLIC—Radio Prague, 5930 at 2330 on winning CDs from Radio Prague. (Maxant, WV)

DIEGO GARCIA—AFN/AFRTS, 4319u at 2347 with Sunday morning political affairs pmg, ID at 2359 and news at 0000. (D'Angelo/FCDX, PA)

DJOBOUTI—Radio Djibouti, 4780 with sign offs at 2102 and 2107, sign ons at 0300 and 0316. AA talks and HOA music. (Alexander, PA) 0250 in AA with M and ME music, news at the bottom of the hour. (Wood, TN) 0258 with O/C, opening anmts, starting Koran recitation. (D'Angelo/FCDX, PA)

ECUADOR—HCJB, 3320 at 0500 with one of the great sign off sequences, complete with national song and anthem. (Ronda, OK) 1046 with W preaching in Quechua. (D'Angelo, PA)

EGYPT—Radio Cairo, 6850 at 0025. Good strength but had audio trouble. (Maxant, WV) 7270 at 0319 with news and music, also 15170 in AA at 1245. (Brossell, WI)

ENGLAND—BBC, 5975 Thailand Relay at 1317 on refugees in Africa, 6095 via South Korea in Mandarin at 1415 with what sounded like a radio drama. Also 6145 via South Africa on Sudhadan and Darfur at 0347 and 7135 Singapore Relay in II at 1420. (Ronda, OK) 7140 Cyprus Relay in AA at 0339. (Brossell, WI) 17780-Rampisham at 1344 with familiar three-note BBC IS, ID and into

Hausa. (Schieffelbein, MO) 17790 Oman Relay at 0700 with *The World Today*. (Ng, Malaysia)

CVC Africa, 15745-Julich at 1536 with contemporary Christian music, top 20 countdown of same, jingles, program promos, ID and call-in phone numbers. (D'Angelo, PA)

IBC Tamil, 6045 at 0050 with M talk, closing at 0100. Slight QRM from RTM-6050. (Ng, Malaysia)

EQUATORIAL GUINEA—Radio Nacional, Bata, 5005 at 2250 to 2300* with African chorals, SS talk, NA. 6250 not heard for several weeks now. (Alexander, PA) 0515 with non-stop tribal vocals. (D'Angelo, PA)

Radio Nacional, Malabo, 6250 at 0553 with Afro-pops, SS anmts, possible news at 0609. (Alexander, PA) 2201 in SS with high-life vocals. (D'Angelo/FCDX, PA)

Radio Africa, 15190 at 2235 with EE Tony Alamo religious pgm, ID at 2248 with email and address in California. (Alexander, PA)

ERITREA—Voice of the Broad Masses, 7175 with IS monitored at 0358 but covered by a noise jammer a minute later. (Alexander, PA) 7205 at 0356 continued after jammed on 7175 in AA and good by 0430. 7220, ex-7100 this day at least. Talk at 0400, some HOA music. Unid QRM at 0401. (Alexander, PA) 7220 at *0355 with IS, M with ID, open in Amharic before being swamped. (D'Angelo/FCDX, PA)

ETHIOPIA—5990.9 at 0410 with Amharic talk, HOA music. Poor. Also 7110 at 2020-3100* with HOA music, Amharic talk, off with NA at 2059. Also 9556 at 0703 slightly off from assigned 9560, drifting to 9556.3 by 0710. Vernacular talk, local tribal music. (Alexander, PA) 7110 at 0310 in pre-

sumed Amharic. (Brossell, WI) 0412 with flutes and Amharic talk. (Ronda, OK) 0419 with segments of talk and music. (Wood, TN) 2052 in Amharic, HOA vocals to ID and off 2100. (D'Angelo, PA)

Radio Fana, Addis Ababa, 6110 fair with choral music at 0415, (Ronda, OK) 6889v to 2059 close with local music, Amharic anmts, //6110. (Alexander, PA)

Voice of Tigray Revolution, 5980 at *0255 with IS, Amharic talk, HOA music, weak but readable under Okeechobee. (Alexander, PA)

Voice of Peace and Democracy, 7165 via Gedja at *0359 to 0430*. Sign on with HOA music, anmts in Trigrinya. Listed for M-W-F only. (Alexander, PA)

FRANCE—Radio France International, 7315 at 0414 with M in presumed EE and brief news items. ID and close at 0429, saying they'd return at 0600. //9805 was fair. (D'Angelo, PA) 11995 in FF at 1953. (Brossell, WI)

GERMANY—Deutsche Welle, 5905 via Wooferton at 0407 with *Newslink* and 6035 via Skelton at 0400 opening AA. (D'Angelo, PA) 9885 via Sri Lanka Relay in RR at 1828, 11835 Rwanda Relay in listed Hausa at 1811 and 12045 Portugal Relay at 1815. (Brossell, WI) 11690 Rwanda in EE at 2122. (Strawman, IA)

GREECE—Voice of Greece, 7475 in GG with Greek vocals at 0030. (Maxant, WV) 9420 at 2250 with Greek ballads and folk music. (Wood, TN)

GUATEMALA—Radio Buenas Nuevas, San Sebastian, 4800 at 1203 with SS talks. (Brossell, WI) 2345 with ID, frequency and location. Still suffering QRM from the co-channel Mexican. (Wilkner, FL)

GUINEA—Radio Conakry, (p) 7125 monitored at 0625 with Afro-pops, local tribal music, some FF talk. 0724 with FF talk and abrupt sign off at 0733. (Alexander, PA)

HAWAII—KWHR, 12130 monitored at 1257 with *Gospel Hour* broadcast. (Brossell, WI)

INDIA—All India Radio, 4840-Mumbai, HH vocals monitored at 0205. Weak but readable. (Alexander, PA) 9690-Bangaluru with EE mailbag show *Faithfully Yours* at 1430. (Ng, Malaysia) 9820-Panaji (Goa) in Sinhala at 1427 and 9870-Bangaluru in Hindi at 1420. (Ronda, OK) 9820-Panaji, listed Sinhala service at 1458. Gone after 1500. (Strawman, IA) 11985-Bangaluru monitored at 0240 with Indian music, news in listed Kannada. Off at 0300. (D'Angelo/FCDX, PA)

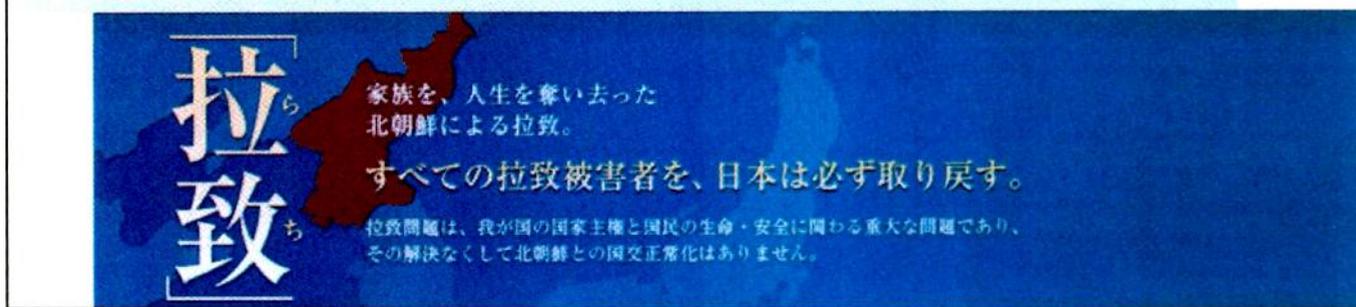
INDONESIA—Voice of Indonesia, 9595v at 1033 to 1100* with EE pgms, local pops. Theme music and off at 1100. Too weak to catch any pgm details. (Alexander, PA) 1258 ending Indonesian, EE ID and into EE pgm with news at 1304. (D'Angelo, PA)

Radio Republik Indonesia, 4750 Makassar (Sulawesi) at 1135 music show until SCI theme, RRI ID and Jakarta news at 1200. Poor with CODAR QRM. (D'Angelo/FCDX, PA) 1338 with M/W II talk. (Ronda, OK)

IRAN—VOIRI, 6120 at 0228 to 0231

Abductions of Japanese Citizens by North Korea

Abduction Issue, Government of Japan



Nippon no Kaze, sponsored by the Japanese government, is concerned with Japanese citizens abducted by North Korea. (Thanks Rich D'Angelo)

close of EE. (Wood, TN) 7160 at 0145. (Maxant, WV) 7325 at 0158 on American "colonialism." (Brossell, WI) 9855-Kalamabad, poor at 1930 opening EE broadcast. (Ronda, OK)

ISRAEL—Galei Zahal, 6973 at 0200 in HH with U.S. pops. (Patterson, PA) 0340 in HH with comments between pop songs. (Wood TN)

JAPAN—Radio Japan/NHK, 6145 at 0035 with *Mailbag Around the World*. Also 11705 via Canada with news at 1405. (Maxant, WV) 11910 in JJ at 2340 and 13650 in (p) listed Thai with schedule info at 2315. (Barton, AZ)

Radio Nikkei, 3925 at 1348 with extended JJ discussion. (Strawman, IA) 9760 at 2300 opening with their 2nd pgm, JJ ID and anmts, f/by continuous pops. (D'Angelo/FCDX, PA)

JORDAN—Radio Jordan, 9830 at 1927 with songs in AA, ID at 1930 and into AA talk. (Ronda, OK) 11690 at 1410 on Syria and Lebanon. (Maxant, WV) 11810 with Koran at 1945. (Brossell, WI)

KUWAIT—Radio Kuwait, 11990 at 1830 with ID, news and start of EE. (Ronda, OK) 15495 in AA at 1820. (Brossell, WI)

LAOS—Lao National Radio, 6130 monitored at 1147 with talk in Laotian, music, seven gongs at 1200 and news. (D'Angelo/FCDX, PA)

LIBERIA—ELWA, 6070 at 2250 with choral music, anmt at 2300, NA and off at 2301. Weak under a strong Romania. (Alexander, PA)

Star Radio, 11875nf via Ascension at 0700 open, improving to weak to readable by 0730 when Cotton Tree News took over. (Alexander, PA)

LIBYA—Voice of Africa, 17725 at 1400 opening EE with ID, drums, M/W with schedule, local vocals. (D'Angelo/FCDX, PA)

MADAGASCAR—RTV Malagasy, 5010 at 0253 with W ancr and various music selections. (Ronda, OK) 2030 with local and Afro-pops. (Alexander, PA) 2242 with seeming Afro-pops. Very weak. (Strawman, IA)

MALAYSIA—Voice of Malaysia, 6175-

Kajang with *Songs of the Past* pgm at 0705. (Ng, Malaysia)

MALI—RTV Malienne, 5995 at 0750 with FF talk, local string music, rustic tribal music. Off at 0800 with flute IS. Also 9635 at *0800 with flute IS, opening FF anmts and local music. (Alexander, PA)

MAURITANIA—Radio Mauritanie, 4845 in AA at 0207. (Brossell, WI) 7245 from *0830 with local chants and string music, AA talk. (Alexander, PA)

MOROCCO—Radio Medi Un, Nador, 9575 at 0341 with AA vocals, W ancr in AA. (D'Angelo, PA)

MEXICO—Radio Transcontinental, 4800 monitored at 0446 with long SS talk about Mexico. (D'Angelo, PA) 2315. (Maxant, WV)

XEXQ Radio Universidad, San Luis Potosi, 6045 (p) at 0805 with SS talk and music. (Wood, TN) 1307 weak with bits of light music through the noise. (Schiefelbein, MO)

6105 Candela FM, Merida, 6105 at 1219 with M taking phone-ins, mentions off Candela and Yucatan. At 1230 pgm called *En Contacto* news-style show with W host. (Schiefelbein, MO) 1230 much weaker than earlier logs. (Wilkner, FL)

MOLDOVA—Radio DMR, 7370 at 1620. (Maxant, WV)

NETHERLANDS—Radio Nederland, 5910 via Russia in DD at 1335. (Ng, Malaysia) 15280 in Indonesian at 2330. (Barton, AZ) 9345-via Tashkent with EE to SEA at 1416-1459*. (D'Angelo/FCDX, PA)

The Mighty KBC, 6055 at 2207 via Lithuania with rock and roll hosted by Wolfman Jack, ads for the Kaito worldband radio and the Bute Hotel in Scotland. (D'Angelo, PA) 2205 with *Gary Roth Show*. (Maxant, WV)

NEW ZEALAND—Radio New Zealand Intl, 6170 with world news at 1400. (Brossell, WI) 9765 with a call-in pgm at 1615. Also 11725 at 0505 in EE, then into Maori. Also 15720 at 0220. (Maxant, WV) 17675 with Pacific regional news at 2205. Gone at 2230 recheck. (Barton, AZ)

NIGER—La Voix du Sahel, 9705 at 2057 with Western pops hosted by M in FF. Koran recitation around 2150 until another M with ID, sign off anmts and choral anthem at 2300. (D'Angelo/FCDX, PA) 2250 in FF/vernacular talk, local string music, rustic vocals. Closed at 2333, later than usual. (Alexander, PA)

NIGERIA—Voice of Nigeria, 9690 at 1015 with EE talk on agriculture there and Afro-pops. (Alexander, PA) 1415. (Maxant, WV) 15120 at 1957 with clear ID, promo for *Evergreen* music hour and into *Africa Hour*. (Wood, TN)

ASO Radio Intl, 15180 (via unknown site) monitored at *1600 with local drums and flute, talk in (p) Hausa. Off at 1657* (Alexander, PA)

Radio Nigeria, Kaduna, 4770 at 2247 and M ancr closing the EE service. (D'Angelo/FCDX, PA) 6090 at 2020 with talk in listed Hausa, tribal chants, local music. QRM from Brazil and covered by Anguilla from their 2204 sign on. (Alexander, PA)

NORTH KOREA—Voice of Korea, 6285 at 1238 with two men in KK. (Ronda, OK) 9335 at 1502 with IS and EE ID and W with news. (Strawman, IA) 12015 in FF at 2045. (Brossell, WI)

Korean Central Broadcasting Station, 2850 heard at 1132 with mix of KK talk and music, //4450 was poor to fair. (D'Angelo/FCDX, PA)

NORTHERN MARIANAS—KFBS, Marpi, Saipan, 12090 heard at 2237 in listed VV service. Pop-style tunes and M ancr. (Strawman, IA)

OPPOSITION—Voice of Peace and Democracy (to Eritrea), 7165 at 0402 with M and news in Tigrinya, brief drums, long commentary. Off at 0431. (D'Angelo, PA)

Democratic Voice of Burma, 5955 via Germany in BB at 2330. (Ng, Malaysia)

Radio Voice of the People (to Zimbabwe), 11610 at 1700-1755 and 0401-0456 with African music, ID anmts in EE, f/by talk in vernacular, more EE later in the hour. (Alexander, PA)



One of the rotatable antennas at Vatican Radio. (Thanks Rich D'Angelo)

SW Radio Africa (to Zimbabwe), 11745 at *1700 opening with song called "Africa" and ID, f/by EE religious pgm. (D'Angelo, PA)

Radio Dabanga (to Sudan), 7315 via Germany at *0430 with several opening IDs mentioning Darfur. Mainly vocals with short anmts and IDs, almost a Farda-style format. (D'Angelo/FCDX, PA) 13800 via Madagascar at 0433 to 0527* local music, many IDs and anmts, short AA talks. (Alexander, PA)

Voice of the People (to North Korea), 3912 at 1245 with KK patriotic songs. (Ng, Malaysia) 1343 with long KK talk, song by W and chorus. (Ronda, OK)

Shiokaze, 5910 with news in JJ at 1400. (Ng, Malaysia)

Nippon no Kaze, 9690 via Darwin at 1508 with KK talks and some music. Partial ID at 1525, address in Tokyo and website, soft instl and off. (D'Angelo/FCDX, PA)

Radio Free Chosun, 11560 via Taiwan at 1243 with KK talks, music segment. (D'Angelo, /FCDX, PA)

PAKISTAN—Radio Pakistan, 9385 at 1610 talking about freedom in Pakistan. (Maxant, WV)

PAPUA NEW GUINEA—Radio East New Britain (New Britain), 3385 at 1145 with W hosting country and island songs, NBC news at 1300. (D'Angelo/FCDX, PA) 1319 in Tok Pisin with W DJ playing easy listening oldies, NBC IS at 1300. Off abruptly at 1338. (Schiefelbein, MO)

Radio New Ireland (New Ireland), 3905 monitored at 1125 with pgm of island music, ID and EE mention of NBC news but continued with music instead. (D'Angelo/FCDX, PA)

Radio East Sepik (New Guinea), 3335 monitored at 1218 with M talk on various activities in PNG. Music from 1230. (D'Angelo/FCDX, PA)

PERU—(All in SS) Ondas del Huallaga, Huanuco, 3329.5 at 1020 better than previous seasons, M/W ancrs. (Wilkner, FL)

Radio Huanta 2000, Huanta, 4747 heard at 2337 with M and instl, OA vocals. (Wilkner, FL)

Radio Tarma, Tarma, 4775 heard at 2302 with talk and instl music. (D'Angelo/FCDX, PA)

La Voz de la Selva, Iquitos, 4824.6 at 1100 with irregular sked, *flauto andina*. (Wilkner, FL)

Radio Sicuani, Sicuani, 4826.4 monitored at 1030 with IDs, Andean music. (Wilkner, FL)

Radio Cultural Amuata, Huanta, (t) 4955 at 2329 M with many mentions of Huanta, possible IDs at 2332 and 0003. (Wood, TN)

Radio Manantial, Huancayo, 4990.9 heard at 1040 in QRM. (Wilkner, FL)

Radio Libertad, Junin, 5039.3 good at 1016. (Wilkner, FL)

Radio Bolivar, Bolivar, 5460 fair at 1115. (Wilkner, FL)

Radio Reyna de la Selva, Chachapoyas, 5486.7 at 1016 with OA music. (Wilkner, FL)

Radio Santa Rosa, Lima, 6047.2 weak at 1105. (Wilkner, FL)

Radio Tawantinsuyo, Cusco, 6173.8 at 1015 with OA music. (Wilkner, FL)

PHILIPPINES—FEBC Intl, 9435 at *2225 with ID and saying next pgm would be in Bahasa Indonesian, ID and sign on at 2230, then an EE preacher being translated. (D'Angelo/FCDX) 9625-Bocau at 1326 with long M/W conversation, short music bridge. Listed in Hmong/Daw. (Ronda, OK)

PIRATES—Channel Z Radio, 6925am at 1505 to 1552*, *1626 to 1713* and 2136 to 2153* with obscure seasonal tunes. Address is channelzradio@ mail.com. Excellent level. (Zeller, OH)

MAC Shortwave, 6851am monitored at 1630, macshoertwave@ yahoo.com. (Patterson, PA)

Voice of Prozac, 6955am at 2049 with rap. Email address is prozac@yahoo.com

Captain Morgan, 6923.5 at 2028 with UTE QRM. (Patterson, PA)

WBNY-Radio Bunny, 6925u at 2012 with a post-election show. No address. (Patterson, PA)

WPON, 6925u monitored at 2209–2212* with the tail end of a rock number and W with ID. Also 1519–1534 with political speech. Slogan of "The Weapon." (Zeller, OH) 1526 with rock. Address is WPON6025@gmail.com. (Patterson, PA)

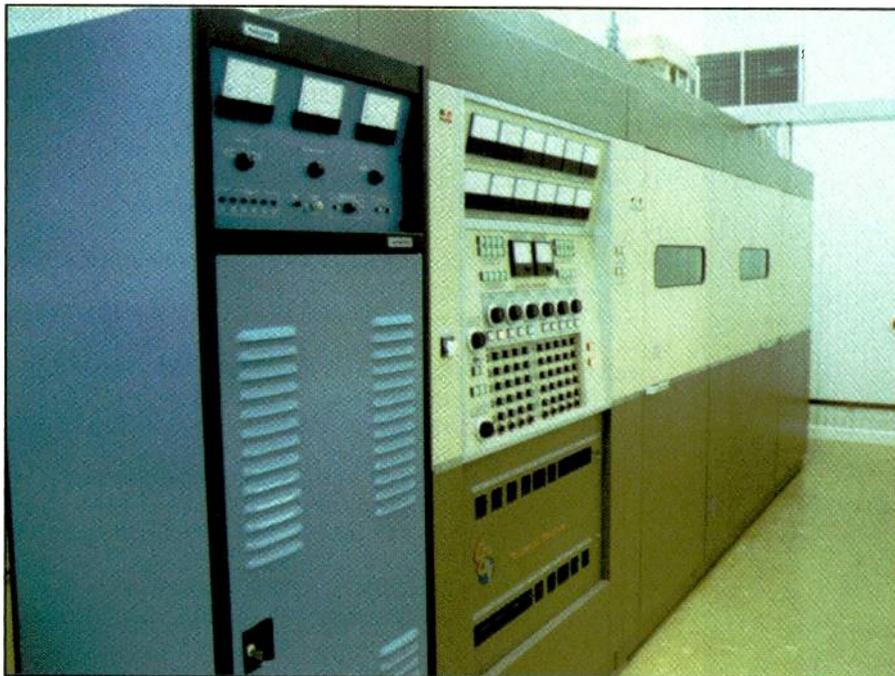
Wolverine Radio, 6925u at 0143 with 60s–70s stuff. (Patterson, PA) 0246 with ID, music from the 70s through the 90s. (Wood, TN)

Undercover Radio, 6925 at *2227–0043*. Appeared to be in two

This Month's Winner

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

This month's prize winner is **Jim Ronda of Tulsa, Oklahoma**, who has received a 2009 edition of the *World Radio TV Handbook*, courtesy of Watson-Guption Publications. *WRTH* is the standard directory of international broadcasting and you should not be without a current edition to help you find your way around the shortwave bands. (I've been buying the *WRTH* for over 50 years!) All major bookstores and radio dealers will have it in stock..



Many DXers are hearing Australia's Northern Territories Shortwave Service lately. This is the transmitter for VL8T-Tennant Creek (2325 and 4920).

segments, first with rock and no IDs. Then an ID at 2346 with slogan of ("don't let them know what they are doing") and into a more typical Dr. Benway pgm with a discussion of psychology. Write undercoverradio@mail.com with reports. (Zeller, OH) 6926 at 0640 with Dr. Benway and 6930u heard at 0236. (Patterson, PA)

Underwear Mineral Radio, 6925u at 2049 with Herb Alpert. (Patterson, PA) 2105 with instl pops from the 40s-60s. ID by computer vox with dozens of repeats. But no address from what is apparently a new station. (Zeller, OH)

Northwoods Radio, 6925u at *0113-0124* with novelty tune about a drinking bear, talk of moving "up north." No ID until they closed with their signature loon call. No address. Also at 1624 with clear ID and loon IS. (Zeller, OH)

Gospel for America, 6925. I am monitored at 1719-1743*. Largely rock but occasionally odd, inserted bits, such as a discussion by a W about going to jail. (Zeller, OH)

Gospel Bob, 6925am monitored at 1833 with Beatles, Stoneham address. (Patterson, PA)

Dit Dah Radio, 6925u at 1547. With a broadcast in Morse code and Morse code themes music. Address: ditdahradio@gmail.com. (Patterson, PA)

Todd Rundgren Radio, 6925u at 2007. (Patterson, PA)

PORTUGAL—RDP Intl, 11905 in PP at 1819. (Brossell, WI)

POLAND—Polish Radio, 9450 via Wertachtal fair in EE on Polish music festivals, ID monitored at 1320. (Ronda, OK) 1325. (Maxant, WV)

PRIDNESTROVIE (MOLDOVA)—Radio PMR, 6040 at 2330 with M in GG, nice IDs at 2344 closedown. (D'Angelo, PA) 7370 at 1430 with summary of local steps taken in response to global economic crisis. EE wrapped up at 1441 and FF underway at 1443. (Schiefelbein, MO)

ROMANIA—Radio Romania Intl, 6015 at 2343 on pay scale issues during their *Living Romania* pgm. Off at 2357. Also 11735 at 1721 in EE. (D'Angelo, PA) 6150 with domestic news at 0320. (Brossell, WI) 7145 at 2135 discussing elections. (Maxant, WV) 9610 at 2320 with Doo-Wop-style songs by Romanian singers. (Wood, TN)

RUSSIA—Voice of Russia, 6005-Komosomolsk na Amur, 1430 in RR with two M talk, lots of pops, several IDs. (Ronda, OK) 6240 via Moldova at *0400 with EE sign on. Also 7150-Armavir at 0438 with program of Rachmaninoff. (Wood, TN) 7250 via Moldova at 0215 with *Moscow Mailbag*. Also 7335 monitored at 0510. (Maxant, WV) 9435-Petropavlovsk in RR with hymns at 0349 also 12030-Irkutsk in RR at 1254 and 12065-Chita with RR songs at 1256. (Brossell, WI)

Radio Rossii, 7200-Yakutsk in RR at 2335. ID at 2353 with a sudden improvement in signal strength. //7320-Magadan at 0014. (Ronda, OK)

RWM time station, 9996 at 1348 with various segments of time pips, silence, continuous tones and warbling with a minute of "R-W-M" CW IDs. Still there at 1509 recheck, though weaker. (Schiefelbein, MO)

RWANDA—Radio Rwanda, 6055 at 2047 with FF pops hosted by M in FF. Sign off at 2100. (D'Angelo, PA) 2053 with Afro-pops, EE talk with messages from listeners.

In Times Past...

Here's your "blast from the past" for this month:

NICARAGUA—La Voz de Leon, Leon, 6937 in SS at 2345 on April 11, 1959, with 500 watts. (Dexter-IA)

Closed at 2100. EE is Thursday only, according to WRTH. (Alexander, PA)

SAO TOME—VOA Relay, 4960 at 0318 with Hello Darfur pgm in AA to end at 0329. (Ronda, OK) 9780 at 2025 with a jazz pgm. (Strawman, IA) EE sign off anmts and 2100 close. (D'Angelo, PA) 15730 in FF at 1832. (Brossell, WI)

SAUDI ARABIA—BSKSA, 11820 at 2040 with Koran recitations. Also 15205 with Koran at 1605. (Brossell, WI)

SERBIA—International Radio of Serbia, 6190 heard at 0105 on how banks there are trying to assist the poor and disadvantaged. (Maxant, WV)

SIERRA LEONE—Cotton Tree News, 11875 via Ascension, at 0730 with opening anmt at 0730, IDs as "C-T-N" and talk about local elections. (Alexander, PA)

SOUTH AFRICA—Channel Africa, 6120 at 0352 with pgm in Swahili, ID at 0349. Also 7390 at 0338 on economic development in West Africa. (Ronda, OK) 7230 with music at 0525. (Maxant, WV) 9745 at 0533 on health conditions there, hosted by M/W team. (D'Angelo, PA) 15235 in FF at 1605. (Brossell, WI) 1705. (Maxant, WV)

Radio Sondergrense, 3320 in Afrikaans at 0355 with ID and news at TOH. (Wood, TN)

SOUTH KOREA—KBS World Radio, 9570 in II at 1245 f/by language lesson. (Ng, Malaysia)

SPAIN—Radio Exterior de Espana, 3350 Costa Rica Relay in SS at 0304. (Wood, TN) 6055 at 0010 with mailbag and DX program. (Maxant, WV)

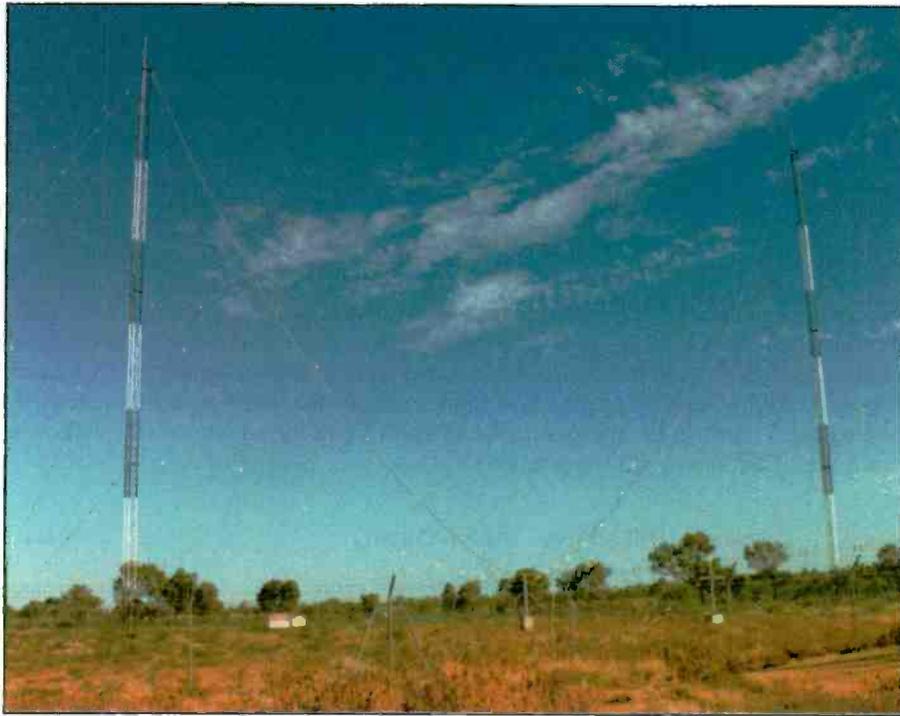
SWEDEN—Radio Sweden Intl, 5850 at 2240 on credit crunch there. Also 7395 on commercial media and 7465 at 1340 on the Swedish monarchy. (Maxant, WV)

SURINAME—Radio Apinte, 4990 at 0450 with M ancr and several romantic vocals. (D'Angelo, PA)

SWAZILAND—Trans World Radio, 3200 at 0305 with religious talk in listed Ndebele. Closed at 0326. Also 3240 in listed Shona at 0305. (D'Angelo/FCDX, PA) 4775 in listed Lomwe at 0346. (Ronda, OK)

TANZANIA—Radio Tanzania-Zanzibar, 11735 at 1800 with Spice FM EE news relay, local music and Swahili to 2100 close. (Alexander, PA) 1807 in Swahili. (Brossell, WI) 1931 with "Radio Zanzibar" ID at 1950. (Wood, TN)

THAILAND—Radio Thailand, 7365 at 1348 with W in TT and Euro-pop vocals. Off at 1400. (Ronda, OK) 9810 at 1234 to 1259 close. M/W with news in EE, promo from



Antennas at VL8K-Alice Springs on 2310 and 4835.

tourist bureau. Gave a TC for "14-minutes past the hour" at 1244 so I suspect this was a replay of a previously live pgm. (D'Angelo/FCDX, PA) 11870 with W in Malay at 1203. EE ID at 1214 at closedown. (D'Angelo, PA)

TAIWAN—Radio Taipei Intl, 6145 fair with lots of M/W chatter in Mandarin at 1402. (Ronda, OK)

TURKEY—Voice of Turkey, 7325 with Turkish vocals at 0435. (Maxant, WV) 15450 at 1234 with domestic news. (Brossell, WI)

UGANDA—Radio Uganda, 4976 at 2155 with tribal vocals, jingles M in local language. Running late for some reason. (D'Angelo/FCDX, PA)

UKRAINE—Radio Ukraine Intl, 7440 at 0115 with *Ukraine Diary* (Maxant, WV) Mailbox pgm at 0334. (Brossell, WI) 0335 in EE and Ukrainian with folk music. (Wood, TN)

UNITED STATES—Voice of America, 7430 Sri Lanka Relay in Burmese at 0005. (Ng, Malaysia) 9490 Philippines Relay at 2159 into EE news, mixing with Beijing. Also 9705 Northern Marianas Relay at 1451 in fast-paced Cantonese and 12080 via Madagascar in listed Ndebele at 1741. (Strawman, IA) 9780 Thailand Relay in (p) Pashto at 1600, 11825 Philippines in CC at 1227 with some Firedrake jamming and 12010 Philippines closing at 1230. (Brossell, WI) 11810 Philippines in II at 2300. Also 15440 Northern Marianas at 2230. (Barton, AZ)

Family Radio/WYFR, 6230 via Taiwan in CC at 2300. (Ng, Malaysia) 7165 via Petropavlovsk-Kamchatsky in EE but declining by 1455. (Strawman, IA) 9280 via Taiwan in CC at 1207, 11895 via Irkutsk in CC at 1248 and 12060 via Armavir in FF at 2045. (Brossell, WI)

Radio Free Asia, 9670 in Burmese at 1335. (Ng, Malaysia) 12075 via Northern Marianas in KK at 2132 and 13745 via Tinian in CC at 2128, //11945. (Strawman, IA)

AFRTS/AFN, 7811u-Key West at 2255 pgm on musical and comedy acts of the 1940s. (Wood, TN)

Adventist World Radio, 5970 via Austria at 0215 in Urdu, EE ID 0229 and into Punjabi. (D'Angelo, PA)

WRNO, Metairie, 7505 with news and religious music at 0200. (Maxant, WV)

WEWN, 9455 at 0400. (Maxant, WV)
VATICAN—Vatican Radio, 7305 at 0310, 7395 in FF at 2235, 9660 at 0315 and 13765 in CC at 1545. (Maxant, WV) 13785 in CC at 0000. (Ng, Malaysia) 15595 in FF at 1610. (Brossell, WI)

VIETNAM—Voice of Vietnam, 7220 at 1250 with VV instls and EE feature. Off at 1258. (D'Angelo/FCDX, PA)

ZAMBIA—Radio Zambia, 5915 at 0345 with M hosting tribal vocals. ID and news at 0400. (D'Angelo, PA)

Christian Voice, 7160 at 0404 with *Brad in the Morning* pgm hosting hip-hop, promo anmts, contest info, jingles, "CVC Africa" IDs. (D'Angelo, PA) 0505 "One Africa" and "CVC" IDs, rooster crows, pops, EE talk. (Alexander, PA)

ZIMBABWE—Radio Zimbabwe, 3396 at 0336 with M in local language hosting pop and local music. W ancr at 0400. (D'Angelo, PA)

That's the story! And here are the folks we need to thank: Joe Wood, Greenback, TN; Brian Alexander, Mechanicsburg, PA; Rich D'Angelo, Wyomissing and the FCDXpedition, PA; Robert Wilkner, Pompano Beach, FL; Jerry Strawman, Des Moines, IA; Jim Ronda, Tulsa, OK; Charles Maxant, Hinton, WV; Robert Brossell, Pewaukee, WI; Rick Barton, Phoenix, AZ; Peter Ng, Jahor, Malaysia; George Zeller, Cleveland, OH; Mark Schiefelbein, Springfield, MO; and Bob Patterson, Gibsonia, PA. Many thanks to you all.

See you again next month. Until then, good listening!

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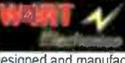


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This listing is designed to help you hear more shortwave broadcasting stations. The list covers a variety of stations, including international broadcasters beaming programs to North America, others to other parts of the world, as well as local and 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	UTC	Freq.	Station/Country	Notes
0000	4985	Radio Brazil Central	PP	0330	7140	BBC Relay, Cyprus	
0000	13760	Radio Havana Cuba	SS	0330	6145	BBC via South Africa	
0000	7320	"Radio Rossii, Russia	RR	0330	9575	Radio Medi Un, Morocco	AA
0000	6055	Radio Exterior de Espana, Spain		0330	9435	Voice of Russia	
0000	9785	Radio Republica, to Cuba, via Canada	SS	0330	6120	Channel Africa, South Africa	Swahili
0030	7475	Voice of Greece	Greek	0330	4775	Trans World Radio, Swaziland	vernaculars
0030	6145	Radio Japan, via Canada		0330	3396	Zimbabwe Broadcasting Corp.	
0030	4815	Radio Diffusora Londrina, Brazil	PP	0400	7175	Voice of the Broad Masses, Eritrea	Amharic
0100	11780	Radio Nacional Amazonia, Brazil	PP	0400	7165	Voice of Peace and Democracy, via Ethiopia	Tigrinya
0100	4700	Radio San Miguel, Bolivia	SS	0400	5905	Deutsche Welle, Germany, via England	
0100	5840	Radio Canada International		0400	7315	Radio France International	
0100	7850	CHU, Canada	time anmts	0400	6105	Candela FM, Mexico	SS
0100	4780	Radio Cultural Coatan, Guatemala	SS	0400	4800	Radio Transcontinental, Mexico	SS
0100	6190	International Radio Serbia		0400	7160	CVC-Africa, Zambia	
0100	7440	Radio Ukraine International		0400	5865	RT Algerienne, Algeria, via France	AA
0100	9440	Radio Slovakia International		0400	7240	Voice of Turkey	
0100	11710	Radio Argentina al Exterior		0430	4905	RN Tchadienne, Chad	FF
0130	4885	Radio Clube do Para, Brazil	PP	0430	4990	Radio Apinte, Suriname	DD
0130	6973	Galei Zahal, Israel	HH	0500	11690	Radio Okapi, Congo, via South Africa	FF/vern
0200	4800	Radio Buenas Nuevas, Guatemala	SS	0500	6250	Radio Nacional, Malabo, Equatorial Guinea	SS
0200	7235	Voice of Islamic Republic of Iran		0500	5005	Radio Nacional, Bata, Equatorial Guinea	SS
0200	15720	Radio New Zealand International		0500	9705	La Voix du Sahel, Niger	FF
0200	7250	Voice of Russia, via Moldova		0500	11725	Radio New Zealand International	
0200	5970	Adventist World Radio, via Austria	Punjab	0500	4770	Radio Nigeria, Kaduna	
0200	7505	WRNO, Louisiana		0500	13800	Radio Dabanga, to Sudan, via Madagascar	AA
0200	7535	Radio Cairo, Egypt		0500	7335	Voice of Russia	
0230	9535	Radio Exterior de Espana, Spain	SS	0500	6185	Radio Educacion, Mexico	SS
0230	6200	Radio Prague, Czech Republic		0530	7230	Channel Africa, South Africa	
0300	4950	Radio Nacional, Angola	PP	0600	7250	Vatican Radio	
0300	11665	Voz Christiana, Chile	SS	0600	11640	Trans World Radio, via South Africa	
0300	7230	Radio Canada International, via Vatican	AA	0630	7125	Radio Conakry, Guinea	FF
0300	7110	Radio Ethiopia	Amharic	0630	7180	Radio Romania International	
0300	7270	Radio Cairo, Egypt		0630	7190	RT Tunisienne, Tunisia	AA/FF
0300	3340	Radio Misiones Internacionales, Honduras	SS	0700	11875	Star Radio, Liberia, via Ascension	
0300	5010	Radio Madagascara, Madagascar	vern	0700	7200	Radio Bulgaria	SS
0300	6150	Radio Romania International		0730	11875	Cotton Tree News, Sierra Leone, via Ascension	EE/vernacular
0300	3240	Trans World Radio, Swaziland	vernaculars	0800	9635	RTV du Malienne, Mali	FF
0300	4960	Voice of America Relay, Sao Tome		0800	6135	Radio Aparecida, Brazil	PP
0300	4976	Radio Uganda		0800	9820	Radio 9 de Julho, Brazil	PP
0300	9660	Vatican Radio		0900	4717	Radio Yura, Bolivia	SS
0300	5915	Radio Zambia	vernaculars				
0300	4930	Voice of America Relay, Botswana					
0330	4780	Radio Djibouti	AA				

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
1000	15400	HCJB, Australia	CC	1600	15300	Radio France International	FF
1030	3220	HCJB, Ecuador	Quechua	1700	11610	Radio Voice of the People (to Zimbabwe)	
1100	3250	Radio Luz y Vida, Honduras	SS	1730	12080	Voice of America, via Madagascar	Ndebele
1100	2850	Korean Central Broadcasting Station, North Korea	KK	1800	17735	Radio Canada International	
1100	4825v	La Voz de la Selva, Peru	SS	1800	11650	China Radio International	GG
1100	6045	Radio Santa Rosa, Peru	SS	1800	11835	Deutsche Welle Relay, Rwanda	AA
1130	3905	Radio New Ireland, Papua New Guinea	Pidgin	1800	12045	Deutsche Welle Relay, Portugal	AA
1200	6150	KNLS, Alaska		1800	15495	Radio Kuwait	AA
1200	2310	ABC No. Terr. Service, Alice Springs, Australia		1800	11905	RDP Portugal	PP
1200	13650	China Radio International, via Albania		1830	9885	Deutsche Welle Relay, Sri Lanka	RR
1200	11980	China Radio International	RR	1830	11990	Radio Kuwait	
1200	6130	Lao National Radio	Laotian	1900	11800	Radio Bulgaria	
1200	3912	Voice of the People, to North Korea	KK	1900	9330	Radio Damascus, Syria	varies
1200	3335	Radio East Sepik, Papua New Guinea	Pidgin	1900	17860	Voz Christiana, Chile	PP
1200	3385	Radio East New Britain, Papua New Guinea	Pidgin	1900	11860	Voice of Africa, Libya	Hausa
1200	4940	Voice of the Strait, China	EE/CC	1930	11995	Radio France International	FF
1200	9975	Trans World Radio, Guam	varies	1930	9855	Voice of Islamic Republic of Iran	
1230	7250	Bangladesh Betar		1930	9830	Radio Jordan	AA
1230	12130	KWHR, Hawaii		1930	11810	Radio Jordan	AA
1230	9525v	Voice of Indonesia	II, EE, others	2000	11735	Radio Tanzania, Zanzibar	Swahili
1230	6285	Voice of Korea, North Korea	KK	2030	17830	BBC Relay, Ascension	
1230	12030	Voice of Russia	RR	2030	12015	Voice of Korea, North Korea	FF
1230	9570	KBS World Radio, South Korea	II	2030	9780	Voice of America Relay, Sao Tome	
1230	9810	Radio Thailand		2030	11820	BSKSA, Saudi Arabia	AA
1230	15450	Voice of Turkey		2100	11690	Deutsche Welle Relay, Rwanda	
1230	5745	Radio Marti, USA to Cuba	SS	2100	6090	Radio Nigeria, Kaduna	
1300	15540	HCJB, Ecuador		2100	9780	Republic of Yemen Radio	AA
1300	6070	CFRX, relay CFRB, Canada		2130	7360	Radio Belarus, Belarus	
1300	5975	BBC Relay, Thailand		2130	7395	Radio Sweden International	
1300	4750	Radio Republik Indonesia, Makassar	II	2130	9490	Voice of America Relay, Philippines	
1300	9450	Polish Radio, via Germany		2200	9345	Radio Tirana, Albania	
1330	13730	Radio Austria International	GG	2200	6165	RN Tchadienne, Chad	FF
1330	17780	BBC	AA	2200	9420	Voice of Greece	Greek
1330	3925	Radio Nikkei, Japan	JJ	2200	17675	Radio New Zealand International	
1330	5910	Radio Nederland, via Russia	DD	2200	7811u	AFN/AFRTS, Florida	
1330	9625	FEBC, Philippines	Hmong	2230	4845	Radio Mauritanie, Mauritania	AA
1330	7465	Radio Sweden International		2230	12090	KFBS, Northern Marianas	VV
1330	11870	Radio Veritas Asia, Philippines	Hindi	2230	9435	FEBC, Philippines	Indonesian
1400	7135	BBC Relay, Singapore	Indonesian	2230	5850	Radio Sweden International	
1400	9870	All India Radio	Hindi	2230	7395	Vatican Radio	
1400	17725	Voice of Africa, Libya		2230	7105	Nei Menggu PBS, China	Mandarin
1400	9345	Radio Nederland, via Uzbekistan		2300	15230	Radio Australia	
1400	9690	Voice of Nigeria		2300	13650	Radio Japan	unid
1400	6145	Radio Taiwan International		2300	5995	RTV du Malienne, Mali	FF
1400	5910	Shiokaze, Japan, to North Korea	KK/JJ	2300	6240	Radio PMR, Pridnestrovie (Moldova)	
1430	9690	All India Radio		2300	9610	Radio Romania International	
1430	9820	All India Radio (Goa)	Sinhala	2300	6230	WYFR, Florida, via Taiwan	CC
1430	9705	Voice of America Relay, Northern Marianas	CC	2300	6300	Radio Nacional de la RASD, Algeria, to Morocco	SS/AA
1500	9335	Voice of Korea, North Korea		2300	9465	BBC Relay, Thailand	CC
1500	9690	Nippon no Kaze, to North Korea, via Australia	KK	2330	4930	Radio Prague, Czech Republic	
1500	9875	Radio Solh, to Afghanistan, via England		2330	7375	Voice of Croatia, via Germany	SS
1530	15745	Christian Voice, England, via Germany		2330	4319u	AFN/AFRTS, USA via Diego Garcia	
1530	15190	Radio Africa, Equatorial Guinea	EE	2330	11910	Radio Japan	JJ
1600	9710	Radio Australia		2330	15280	Radio Nederland, via Northern Marianas	Indonesian
1600	9385	Radio Pakistan		2330	6015	Radio Romania International	
1600	15235	Channel Africa, South Africa	FF	2330	4747	Radio Huanta 2000, Peru	SS
1600	15595	Vatican Radio	FF	2330	6180	Radio Nacional Amazonia, Brazil	PP
				2330	11975	China Radio International, via Mali	CC

New, Interesting, And Useful Communications Products

by Staff

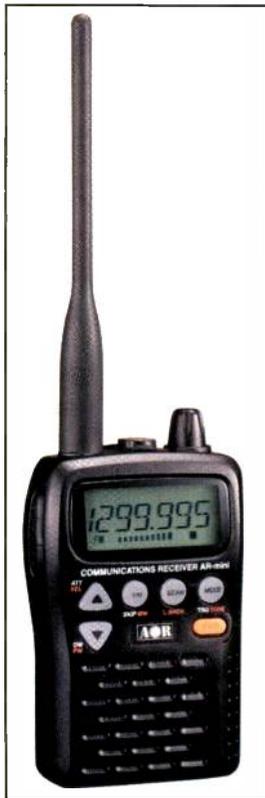
AOR's AR-Mini Handheld Wide-Range Communications Receiver

AOR USA announced a new addition to its line of receivers, the AR-Mini, a compact handheld radio capable of receiving signals ranging from 100 kHz to 1.3 GHz in the AM, FM, and wide FM modes (cellular frequencies blocked on U.S. consumer version). Measuring 3.7 inches high by 2.4 inches wide, and less than an inch deep and weighing less than 8 ounces, the rugged receiver sports a large display, 1,000 computer-programmable memory channels, up to 22 hours of projected battery life, a rugged water-resistant case, two VFOs and excellent sensitivity, according to the manufacturer.

AM and FM mode reception is through a triple-conversion front end; wide FM signals are processed through dual-conversion IF stages. Included in the AR-Mini is a built-in ferrite bar antenna for AM reception between 100 kHz and

5 MHz. A standard SMA connector may be used with the provided "rubber duck" antenna or with an outdoor, desktop, or mobile antenna. The receiver is powered by two provided Ni-MH rechargeable cells, but standard AA alkaline cells may also be used. Other features include a high-stability TCXO accurate to +/- 2.5 ppm; CTCSS and DCS squelch operation, and a pre-programmed "bug" detector. AR-Mini receivers can "clone" their memories to one another

AOR's AR-Mini handheld wide-range receiver offers 100 kHz to 1.3 GHz coverage in a small, rugged package that lets users listen to broadcast channels, public safety, weather, aircraft reception, sporting events, ham radio communications, and shortwave.



or they may be programmed from a PC. AOR provides free downloadable memory management software at its website, www.AORJA.com. In addition to the antenna port, there are also connections for the provided 6 VDC power supply, headphone/external speaker, and programming/cloning port.

The suggested retail price for the AR-Mini is \$299, but "street price" may differ. For more information, visit www.aorusa.com or call AOR USA at 310-787-8615.



The Grace ITC-IR1000B wireless Internet radio is an attractive unit with a glossy black finish and a black speaker grille. It houses a single four-inch speaker.

New Wi-Fi Radios From Grace Digital Audio

Grace Digital Audio recently unveiled five new Wi-Fi radios, ranging from a second-generation version of the company's moderately priced Internet radio, the ITC-IR1000B, to new products like the portable GDI-IRP600.

Main features of the Grace GDI-IR1000B (MSRP \$180) include capability of tuning thousands of free Internet radio stations; ability to manage stations with the Reciva Radio Portal; 802.11g wireless standard; support for WPA and WPA2; no PC required; alarm functionality; supports Pandora, Sirius, and MP3tunes; streams MP3s, WMA, AAC and WAV files from a PC.

Step up features of the Grace GDI-IR2000 (MSRP \$200) Wi-Fi radio include remote control and auxiliary audio input. The company's GDI-IR3000 (MSRP \$200) adds an alarm clock-style form factor, and the Grace GDI-IR3020 (MSRP \$250) offers an iPod dock. The Grace GDI-IRP600 (MSRP \$200) portable Wi-Fi radio provides an FM tuner and 14 hours of battery life on six AA batteries.

For more information, visit www.gracedigitalaudio.com.



HMDX Audio has released the C-20 Alarm Clock Radio Dock for iPod. It comes with attachments that allow just about any iPod to fit.

HMDX Audio C-20 Alarm Clock Radio Dock For iPod

HMDX Audio has released the C-20 Alarm Clock Radio Dock for iPod. It comes with attachments that allow just about any iPod to fit. The dual speakers provide quality audio. In addition to its customized iPod dock for charging and playing, the C-20 offers six soothing nature sounds; AM/FM radio with digital tuning; nap feature (15, 30, 45, 60); auto-off timer (15, 30, 45, 60); dual alarm set; large easy-to-read backlit display; auxiliary line-in ("head phone jack") that allows for other MP3 players and other devices; black-chrome desktop/tabletop design.



PosiMotion's G-Fi GPS Wi-Fi network router adds GPS functionality to any Wi-Fi enabled device. Its package is about the same size as some smartphones.

HMDX Audio's C-20 Alarm Clock Radio Dock for iPod has an MSRP of \$70. For more information, visit www.hmdx-audio.com.

On The Web Heathkit Manuals

With hamfest season ramping up, radio treasure hunters will be pleased to know that manuals for Heathkit equipment just got a little easier to find. Data Professionals of Pleasanton, California, has purchased the copyrights and existing inventory of all legacy Heathkit product documentation from Heath Company of Benton Harbor, Michigan. The new company will make copies of the original manuals available via its website, www.d8apro.com.

PosiMotion's G-Fi GPS Wi-Fi Network Router

PosiMotion's G-Fi mobile GPS Wi-Fi network router adds GPS functionality to any Wi-Fi enabled device, handheld, laptop, or desktop. Because G-Fi utilizes standard Wi-Fi protocols, it can deliver GPS location data with military precision to iPhone (pre-3G and 3G), iPod Touch, Mac, PC, and Windows mobile devices. And because it's also a router, it can deliver this data to more than one device at a time. G-Fi packs full-size GPS and Wi-Fi networking capabilities into a portable package not much bigger than some smartphones (3.08 x 2.91 x 0.69 inches, LWH) and weighs about 2.5 ounces. The device supports 802.11b/g connectivity over a range of 100 feet. It's powered by an internal Li-ion battery and charged via a mini-USB port; battery life is five hours.

G-Fi is available online at the product's website and will be available in select stores. MSRP is \$179. For more information, visit www.g-fi.com.

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Exploring Broadcasting's Place In Society At The Paley Center For Media

Great Listening And Learning Opportunities In New York And Los Angeles

by Dan Moseson, KC2OOM

Like most of you in RadioLand, I love the smell of RF in the morning. When I'm just up and trying to find the QRM squelch control on my brain, nothing helps my mind tune itself out of the synaptic static better than the sound of my clock radio pulling another signal out of the air. In New York and Los Angeles, which still have more Starbucks than gas stations, the radio connoisseur will find two places where the good stuff is always on tap. The two locations of the Paley Center for Media (formerly The Museum of Television & Radio) offer a great selection of live programs and rotating audio and video exhibits on broadcast media.

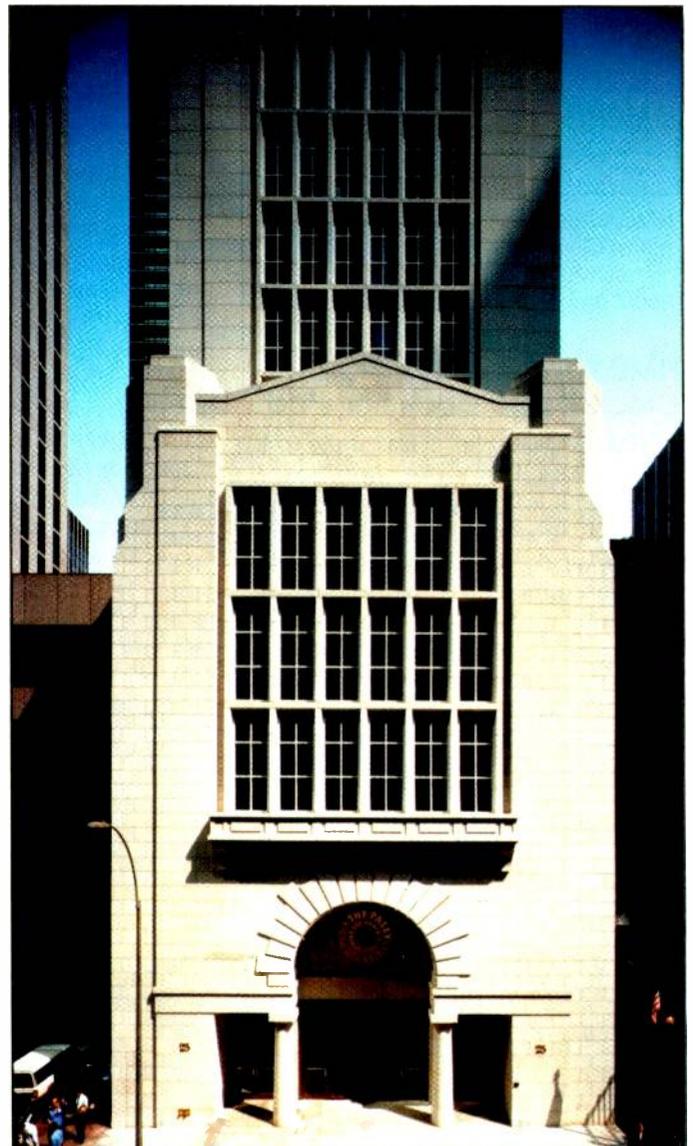
A Visit To The Center

I visited the New York branch of the Center and started off by listening to pre-programmed selections from the radio collection in the Ralph Guild Listening Room. First on the pre-programmed selection of audio exhibits was "A Toast to Dean Martin," which featured some of his work with Jerry Lewis and guests Vincent Price (1949), Bing Crosby (1951) and Marilyn Monroe (1953) and a 1996 tribute show with Ted Brown, Al Martino, and Patti Page.

Next up was "Old Blue Eyes On The Air," a selection documenting Frank Sinatra's radio career, which featured a surprising excerpt from "Rocky Fortune: Psychological Murderer," a 1954 radio drama featuring Sinatra in the spoken-word role of a private investigator. Also included is some of Sinatra's 1940 work with the Tommy Dorsey Orchestra, which provided him his first big break, CBS Radio's "Old Gold Cigarettes Presents: Songs By Frank Sinatra" (1946), a 1954 recording of "To Be Perfectly Frank," a show on which Sinatra DJed and sang live, an excerpt from a 1978 William B. Williams Sinatra showcase on New York's WNEW-AM, and Sinatra's first known radio appearance in 1935.

Next on the dial was "Black Radio: Telling It Like It Was," a 13-part documentary from 1996, narrated by Lou Rawls. It

Dan Moseson, KC2OOM, is a college DJ at 90.3 WMSC and a student at Montclair State University in New Jersey where he majors in political science and religion.



The Paley Center's New York branch on West 52 Street in Manhattan.



The Paley Center's Los Angeles location.

began with "In The Beginning," which documented the early radio performances of African-Americans, from stereotypical roles to more positive ones, such as that played by Duke Ellington. "Pride and Enlightenment" chronicled 1940s black interest/issues radio, including Jack Cooper and Al Benson, and WDIA, which in 1949 had the first all-black staff of any radio station and counted B.B. King and Rufus Thomas among its early DJs. "Rappers and Rhymers" covered DJs who rhymed in between songs. "Sounding Black" discussed 1950s and '60s white DJs, like Wolfman Jack, who spoke in African-American accents. "A Woman's Touch" talked about legendary black women radio hosts like Martha Jean "The Queen" Steinberg and Vy Higgenson. The "Civil Rights" section chronicled some of the first reporters of the civil rights movement. "Let's Have Church" provided clips of radio gospel announcers, and a music section reviewed the many musicians whose careers were started by, or as, black DJs. One famous musician who started as a DJ was B.B. King.

Other documentary clips were also available for listening. One, documenting Lucille Ball's radio career, featured excerpts from "My Favorite Husband" (1951), and a 1982 edition of "American Focus." An excerpt from "I'm Sorry, I'll Read That Again," which aired on BBC radio from 1965-1974 and was formed by members of the Cambridge University Footlights Dramatic Club, features the humorous stylings of future *Monty Python* cast members, such as John Cleese, Eric Idle and Graham Chapman.

"The Radio Interview" features a wide range of interview excerpts from activists, sportscasters and athletes, musicians, comedians, and historical figures. It included clips of WOR's Martha Dean interviewing Muhammad Ali in 1966 and Coretta Scott King in 1969, as well as a young Bob Dylan taking questions (and criticism) at a fundraiser at New York's WBAI. One caller tells Dylan that "it would really be great if you could kind of sing a little bit better." Also included are interviews with composers Leopold Stokowski and Aaron Copeland.

More programs available in the Ralph Guild Listening Room included "Salute to Sondheim" and "Threepennies and a Touch of Venus: The World of Kurt Weill." Next to the listening room is the Ralph Guild Radio Studio, which is still an active broadcast studio and also has programs allowing museum visitors to act out classic radio broadcasts.

After I was done in the listening room, I went downstairs to the McLaughlin Library to choose more programs to listen to. First up was a November 17, 1973, clip of Wolfman Jack on WNBC, which included Fats Domino's "I'm Walkin.'" Eddie

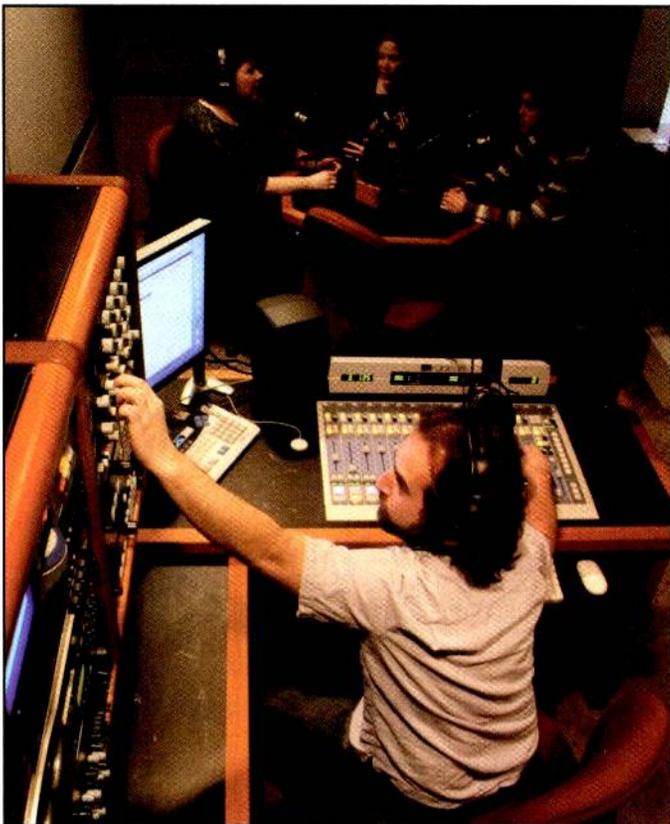
Kendricks' "Keep On Truckin,'" and a comedy sketch about a mock spiritualist named Maharishi Yogi of Berra.

Next up was a September 28, 1974, WNEW-AM interview with John Lennon ("mucking about on a Saturday, rainy afternoon"), who showed up by surprise ("and he didn't come out of a cake or anything like that") and introduced himself as a doctor, "at your service." He talked about recording his new album at the Record Plant in New York, working with Elton John on "Whatever Gets You Through The Night," and the cover art for the new album, which was to be taken from something he painted after taking a critical school exam at age 11. "Somebody said the air was unacceptable today," Lennon said, "but I accept it."

The last clip I listened to in the McLaughlin Library was an hysterically funny recording of the folk singer Arlo Guthrie (Woody Guthrie's son, of "Alice's Restaurant" fame). Guthrie, who was helping with a May 2, 1967, charity benefit on "Radio Unnamable" at New York's WBAI, improvised a song around the digits "0-7-2-8-8," singing "Oxford-seven-two-two-eight" over a guitar vamp, and warned that "all kindsa mean things will happen" if listeners don't call in and donate. "If you don't know the number by now," he said after several times through the song, "there's really something wrong with you."

"The reason the North and the South [of Vietnam] don't get along," Guthrie continues, "is because they don't have groovy radio stations like we do. That's why we're in Vietnam." Guthrie made a further threat that "unless he gets some money to tally," the station accountant totaling up the donations would "start writing poetry, and that will be a corruption of a good accountant." He sang a song for his home town of Howard Beach "and all kindsa Long Island."

It was amazing to listen to intimate interviews with both of these artists and to hear how much radio, at least music-focused radio, has changed since the 1960s. The demeanor of the DJs and the pacing, tone and structure of the programs was totally different. From where I stand, the repetitive nature and advertising focus of much modern commercial radio can make "entertainment" into annoyance. For someone who's often switched off the car radio in frustration with grating commercials and the maudlin "classic rock" playlist, the authenticity of the both the DJs and the artists in these recordings was a much-needed breath of fresh RF. A few of the many other recordings on file include a recording of the 1936 boxing match between Joe Louis and Jack Sharkey, Franklin Delano Roosevelt's first "Fireside Chat," parts 1 and 2 of "Edward R. Murrow: A Reporter Remembers," a 1988 re-broadcast of the National Lampoon Radio Hour, a recording of Louis



The Ralph Guild Radio Studio is an active broadcast studio and also offers programs that let museum visitors act out classic radio broadcasts.

Armstrong on Ed Beach's "Just Jazz" show, and "The Pepsodent Show Starring Bob Hope," and "The Shadow: Caverns of Death," with Orson Welles.

A Worthy Mission

Ron Simon, Curator of Radio and Television at the Paley Center, gave *Popular Communications* an overview of the center's mission, its programming, and the content of its archives. In archiving broadcast material, the Center hopes to outline the evolving eras of American media and show the impact they've had on American life. "There's a constant change and permutation," he said. The radio collection, which makes up 24 percent of the total material on file, focuses on American broadcasts from the late 1910s to the present day, although "dominant trends abroad" are reflected and several grants have allowed the center to keep BBC and other foreign broadcasts on file.

Many of the Center's rarest radio items are from the late teens and early '20s, such as recordings of "Amos and Andy." The oldest recording is a speech made by Franklin Roosevelt when he was Undersecretary of the Navy in the late teens. Much of this material is received when a collector contacts the Center and offers it. Simon said that there had been few recent finds of old radio broadcasts, and expressed interest in any available material from the pre-network era, that is, roughly anything dating before 1926.

When the Paley Center first opened, the core of its collection came from commercial network archives. One of the first major donations it received was from the NBC radio network—it received and shared with the Library of Congress the entire NBC archive. CBS and ABC also made contributions. Now,

many of its donations come from other sources, such as local stations. Many of the rock and roll recordings came from private collections. The Center just added all of NPR's "This American Life" to its collection, and also recently received recordings of 1950s baseball round-tables from NBC, in which the commentators discussed the state of baseball and its place in American society.

Much of the archived material from the 1920s through the 1950s was originally preserved on discs, such as those made of glass and shellac, and had to be very carefully transferred to audio tape or digital formats. Starting in the 1950s, networks archived their broadcasts on audio tape. When the center receives these tapes, they sometimes take many hours of work to restore. The center is now receiving digital archive files from stations such as New York's famous WFAN sports station, and is in discussion with Bob Dylan's office and Sirius about archiving Dylan's show on the satellite radio network. The collection is currently in the process of being digitized, which will make it easier to access. Several thousand hours of material have already been converted to a digital format.

Simon talked about how both radio and television are being re-defined by the Internet, and how the Paley Center's seminars bring together "creative business people, technological people," and the general public to talk about these issues. The aim is to address the question "what is the state of the art?" and the rapid change in the broadcasting industry, including ownership and press freedom issues. A March 2008 seminar featured Keith Olbermann, host of MSNBC's *Countdown*, Bob Elliot of "Bob and Ray," and his son Chris Elliot. They discussed Bob and Ray's career, particularly their work during the McCarthy era. According to Simon, having Olbermann and both Elliots in the house made for a very interesting seminar, which showed how "Chris Elliot's humor is more a continuation of his father's." Olbermann has a large collection of "Bob and Ray" recordings and lists the show as a major influence that helped shape his style and his take on the world.

The New York location of the Paley Center has hosted many seminars with a wide range of participants from television, radio, and the world of performing arts. Video excerpts of many recent programs are available at the Center's website (www.paleycenter.org), including "A Fortieth Anniversary Tribute to *One Life To Live*," "Beyond The Anchor Desk: The Rise of Citizen Journalism," "A Salute To David Gerber," "Click Critics: The Power of Fan Websites," "George Gershwin and Kay Swift: An Evening of Song and Television," "An Evening With George Carlin," a seminar with the cast of "The Sarah Silverman Program," "Rediscovering Glenn Gould," "A Night With WNYC," a fascinating clip from "An Evening With Bill Moyers: Journalism Under The Lens," "*Scrubs*: The Farewell Tour," and "Women, The Media and the Middle East." Don Imus, *A Prairie Home Companion* host Garrison Keillor, and radio writer and broadcaster Norman Corwin have also done seminars at the Paley Center, and a seminar on the history of radio including the satellite/HD movements of the present day was being planned.

Visit If You Can

The Paley Center's listening room and radio archive have something to satisfy almost any interest, from music, to humor, to the history of broadcasting, to world history. Check their website for more information, events schedules, subscription information and directions to the New York and Los Angeles locations. ■

Lessons Learned—And Applied— From Emergencies

by Mitch Gill, NA7US,
NA7US@yahoo.com

“To help us learn from our experience of each emergency or disaster, we conduct what’s called an After Action Review (AAR), just like the state and counties and each public service department that responds.”

Learning lessons from experience does not end with childhood; wise adults continue to learn from it every day. In this column you’ll see how the lessons gleaned from responses to a natural disaster can be put to use in the event of a terrorist attack. We’ll also provide a set of frequencies with some interesting characteristics that I believe you’ll enjoy exploring, if you haven’t already done so.

Experience Is Invaluable

Disasters, by definition, are devastating. It doesn’t matter whether they’re caused by natural forces or terrorist attacks. The only benefit, if

you’ll allow me to call it that, is the experience and lessons that are learned. With that in mind, I’m going to walk you through the latest natural emergency (it thankfully didn’t quite rise to the level of disaster) in my area, the response to that emergency, what we learned, and what you can take from that experience. Let me again remind you that this reaction to a natural disaster closely parallels what would be required in any type of emergency. I believe you will agree as you read on.

This past December we experienced record snow. We rarely have a white Christmas, but this year was different and what started out as a beautiful white blanket of about three inches turned



Graders from the 141st Air Refueling Wing of the Washington Air National Guard were used as snow removal vehicles to clear record snow in Spokane County. (Photo courtesy of the Washington National Guard)



This raging river was just a small creek until the rain came and the snow melted. The creek overflowed into the streets of Issaquah, Washington. (Photo by my lovely wife Jan Gill)

into over a foot at my house and several feet in the mountains. That much snow created its own problems as many people lost decks or storage areas due to the weight of the snow, but a bigger problem loomed as an unexpected warm front moved in and temperatures rose from the 20s to the 50s, accompanied by heavy rain. The rivers rose higher than ever before and the state emergency operations center moved to respond. On January 9 the major problems began, and established procedures kicked in...

Agencies In Action

Rather than going into detail about the flooding itself, it will be more helpful to examine how Washington State's Emergency Management Division (EMD), National Guard, local police, fire, EMTs, transportation agencies, and volunteers responded, and how important means of communications were utilized, and in some cases under-utilized. You'll find this is pretty much the same from state to state.

When disaster strikes or an emergency is looming, a state's EMD opens up an Emergency Operations Center (EOC). A county will open its own EOC as well if the disaster falls within it. The state EOC and the National Guard Operations Center, where I'm stationed, have small crews that work 24 hours a day, seven days a week, until they're activated to respond to an emergency. Once the state EOC goes to "full manning," its staff begins monitoring the disaster and its effect on the cities and the state. It's at this time that the National Guard is requested to have a representative at the EOC. This person's job is to keep the National Guard informed and to give us a heads-up in the event that we might have to call up soldiers to assist in the disaster area.

While all this is occurring, the counties begin to work with their own services. City police, county police, fire departments, hospitals, Red Cross, MARS, ARES, and transportation agencies, etc. begin to respond. As the situation progresses, the cities affected request assistance from their counties.

When a county can no longer respond to the requests due to resource limitations, it asks for assistance from the state. When the state no longer can respond, the governor can call up the National Guard. You would think that this would be a bureaucratic nightmare, but it isn't. Everyone knows what to do and the response is very quick.

Since we have someone at the EOC monitoring the situation, we know when the National Guard may be called up to assist, and that's when we begin our procedures. First, we identify one of several rapid response forces that we have in place and may be needed. Next, what's known as a WARNO is sent, which is a warning that those forces "may" be needed. The commander of the response force then calls his or her soldiers at home or at work (remember that the vast majority of the National Guard have jobs just like you) and tells them to prepare for the possibility of being called up.

Once the state Emergency Operations Center (EOC) officially requests the National Guard, the Adjutant General

(TAG) is advised and determines whether the request can be supported.

The next step is sending a FRAGO—an order to call up and respond to the request—to the rapid response force. The request could be to pull people off rooftops, to use high water vehicles in order to reach people in their homes and evacuate them, for medical support, chemical response support, or any other area where we can assist.

If the staff in the Operations Center believes more people are needed, officers, soldiers, airmen, sailors and coast guard are called to go to State Active Duty (SAD) and the Operations Center swells from about 15 people to close to a hundred within a few hours. All have tasks they are trained to do, such as obtaining and delivering supplies, tracking personnel, monitoring the situation, and reporting to the governor and TAG what the situation is. In the Operations Center we basically receive, analyze, and disseminate information.

Again, while the above describes what we do in the National Guard, these actions are similar throughout the county and state EOCs. I'm proud to say, from experience, that I'm amazed at how quick the response is. It should give everyone reading this comfort to know that this is how your state and local government responds to any emergency.

Communications

I know this is what you've been waiting for. How do communications play into all this (besides the obvious)? To help us learn from our experience of each emergency or disaster, we conduct what's called an After Action Review (AAR), just like the state and counties and each public service department that responds. Its purpose is to review what we did right and what areas we can improve on.

Two areas that I've noted could use improvement are communications and manning. During this recent flooding emergency, things moved quickly and my 12-hour shift was over before I realized it. Once I didn't even have a chance to eat until I got home late that evening. Also, while we each had our responsibilities, no one was designated to monitor the radios or even the news. This is not as serious an issue as you might imagine, but it was still an issue worth noting. Although in the midst of the emergency, we were able to respond to the request from the state, but it would have been helpful to have information on problems as they were developing, rather than just reacting to the state's request.

In a sign of the times—a disturbing one—no one has monitored communications for several years now, not since the Internet and cell phones appeared. We've learned only too well that both of those systems are subject to complete failure, and we now have a plan to equip our rapid response forces with more radios.

While planning something "on paper" is great, actually seeing the effects of the lack of communications helped the command realize that we needed someone to monitor radios to keep everyone more informed. One of the things that would have helped, for instance, is monitoring the police and fire departments.

I'll soon be getting a new system that uses Voice over IP (VOIP), and I'll be able to monitor any service I choose, anywhere in the state. That system is in use at the State EOC, and I believe it will be of great benefit to the National Guard. But there's still nothing better for a backup than to be able to communicate over standard radio frequencies rather than relying

Salute!

This month's "Pop'Comm Salute" goes out to all the men and women who monitor the frequencies day in and day out for that one possible transmission that could save lives. They are intrepid riders of the ionosphere who laboriously listen to mostly the quiet hush or the mind numbing static of the airwaves. We salute you all.

solely on an Internet-based radio system.

The future may be the Internet, but a solid backup should include radio. We are learning and changing as we continue to try to improve how we all respond.

Magic In The Air

I'm going to switch gears now to tell you about one of the most interesting, and sometimes frustrating, frequency ranges to monitor: 40 to 50 MHz. On these frequencies you'll find many different organizations and services, including the National Guard and some EOCs. What makes it so interesting is that one minute you can be monitoring a state EOC and the next you can be hearing someone a thousand miles away.

Amateur radio operators can use the 50 to 54 MHz area and fondly refer to it as the "Magic Band"—with good reason. This band of frequencies lies between HF and VHF and it has some characteristics of each. That's where it can be frustrating. You may hear that station a thousand miles away for a few hours, a few minutes, or a few seconds and no one is exactly sure when those openings will occur and when they will shut down. On the HF bands we do have a pretty good idea, as we can look at the sunspots and solar weather, but the magic band does not follow any particular rules.

Amateur radio operators will listen to one frequency for days and weeks and hear nothing, and then one day for a brief period they can talk to Japan or Australia. At other times, especially in the summer, the band opens up more and for longer periods, and you'll hear many stations from all over. And 40 to 50 MHz falls partly within that zone of mystery.

For interesting listening, I recommend closely monitoring the 43 to 45 MHz area. Find a station and stay there. If the station one day becomes louder or quieter, start scanning the rest of the band and see what you come up with. You will be amazed and mystified. That's magic!

As Always, Remain Vigilant

One of the biggest problems we have as a nation is our tendency to forget and become apathetic. I'm not talking about those who monitor the frequencies or serve in the military or any other public service. I'm talking about those who believe nothing like 9/11 will ever happen again. While we hope and pray for that, experts believe it can and *will* happen again. As time goes by without incident, there's a danger we'll be lulled into a false sense of security.

You and I must continue to be vigilant servants and not worry about what others think. Keep monitoring, and if you're able, volunteer. There are many opportunities to get involved during any disaster. Check on the Web for your state's emergency management organizations; they're likely to be looking for people who can help at a moment's notice.

Until we meet again, keep listening. ■

Hilltopping: A No-Cost 1,000-Foot Tower For VHF+ DX Mania

by Kirk Kleinschmidt, NTØZ
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“...even without exotic propagation modes, a 10-watt signal that used to be good to 30 miles may now cover 300 to 400 miles! Welcome to hilltopping!”

I have a young friend who's crazy about RF, digital modes, and DX. He has a rack full of computer-controller receivers backed by an 18 TB (yes, terabyte) enterprise-grade PC server. He has a 48-foot Rohn tower topped with three high-gain Yagis next to his family's house (**Photo A**). I've been helping him understand the ins and outs of RF, propagation, and feed lines, etc., for a few months now, setting him straight on a few crazy notions and pointing him toward helpful information sources. Despite his overflowing enthusiasm, he's not a ham! Well, not yet anyway! He's a Digital TV Weenie!

As hams yearn for DX contacts on VHF via whatever standard or exotic propagation modes we can muster, he lusts for long-distance TV reception at VHF/UHF, mostly digital (and after February 2009—unless that changes—all digital), employing the *same* propagation modes. VHF+ is VHF+, after all.

Without needing to resort to a book or an online database, he can recite the call letters, station location, network affiliation, tower location, output power, and tower height of every digital TV station in a 200-mile radius! He knows the beamwidth and forward gain of every deep-



Photo A. My buddy's house with tower and high-gain beams—all for TV DXing! These antennas and the switch to all-digital TV prompted the DX hilltopping discussed this month. I'm hoping that ham antennas will accompany (or even displace) those TV Yagis one day soon!



Photo B. This two-bay Gray-Hoverman array with screen reflector may get your neighbors talking, but its 15- to 18-dB gain for UHF TV—with tremendous front-to-back and beamwidth performance—will make you a TV DX champion. These antennas, generously released to the public under the GPL open-source license, can be designed for single frequencies. I wonder if anyone's used them for ham or scanner applications? For more info see www.digitalhome.ca.

fringe antenna and the loss per 100 feet of a variety of coaxial cables and feed lines.

He's "ham crazy" about this stuff, which I find interesting and amusing. As a cable or satellite TV watcher, I can't imagine wanting to watch *any* of the programming on any local TV stations in Minnesota, Wisconsin, Iowa, or the Dakotas, save for an occasional PBS documentary or the local news (which I can receive at my QTH with a coat hanger and a clip-lead).

It took me a while to understand that, although he does watch the programming (and record it for his family's consumption via

a dozen PC-based digital tuners/recorders and a giant video server), his driving motivation is to *receive stations from as far away as possible*. He's a true DXer! Don't worry—I'll make a ham out of him yet.

His first attempt at receiving TV DX consisted of a huge VHF/UHF Yagi spun by a rotator mounted at a meager height of about 20 feet above ground. Because downtown Rochester, Minnesota, is in a big bowl, he received local stations, but not much DX. The situation improved when the big Yagi was moved to a mast mounted higher on the house, and then went into high gear after the Rohn tower popped up and the big VHF+ Yagi was replaced with dedicated VHF/UHF Yagis designed for VHF high and UHF, dropping coverage for VHF low frequencies, which won't see much action after the digital TV switch.

With the tower and a mast-mounted preamp, my buddy receives TV from Minneapolis, to LaCrosse (Wisconsin), to Austin (Minnesota), to Northern Iowa, including all Rochester stations, of course. Some DX TV stations in his 100-mile reception radius aren't always watchable, though, so the quest for ever-higher towers and ever more gain continues.

At our usual geek's-night-out dinner the other day he was daydreaming about 150-foot freestanding towers—all for TV DX, remember! I cautioned about zoning and FCC "you-live-too-close-to-the-airport" restrictions, but that didn't phase him. Neither did the tale of woe about my own condo-bound QTH. He has the fever!

As a segue way into ham radio and a demonstration of line-of-sight, VHF+ propagation, Fresnel zones and the like, we loaded the minivan and set out on a "TV hilltopping" expedition with a power inverter, a 13-inch CRT TV receiver, a digital TV tuner/converter box, a 26-dB digital TV preamp and several TV antennas, including a huge, home-brew Gray-Hoverman stacked array. The GH array (shown in the **Photo B**) looks like a bedspring the size of a pool table and filled the bottom of a large utility trailer. We drove to the top of a tall parking ramp on the north side of town, to the top of a large hill on the north side of town (the convent's massive chapel spire would make a *truly inspiring* skyhook), and to my condo's back parking lot, which happens to be at the top of a large hill on the south side of town.

At every location we discovered the RF truth hidden in the old real estate adage, "location, location, location!" Each "hilltop" was 50 to 300 feet higher than the top of my friend's tower, and on a calm, cold winter evening, the strength of the faraway signals was proof positive that HAAT (height above average terrain) is a VHF DXer's best friend.

The most amusing moment took place at ground level in my condo parking lot, where we "deployed" the huge GH by tipping it upright and propping it against the edge of my garage. GH arrays have humongous gain and ridiculous beamwidths and, even at ground level without a preamp, there were all of the LaCrosse digital TV stations (VHF high and UHF) in stunning clarity from some 65 miles away! Because it's very gradual, I didn't even realize that my QTH was a "hilltop destination" of sorts. Maybe that's why my attic HF antennas perform so well. I guess I'm gonna have to get a rig for 6 and 2 meters, which I haven't had since my move three years ago.

The moral of the story is this: If you live in a Rochester-like bowl, you're surrounded by steep canyon walls, you live in a basement apartment, or your QTH is plagued by deed restrictions and dastardly covenants, amazing VHF+ contacts can be yours if you simply take a picnic lunch, a teeny VHF/UHF all-

mode transceiver, and a smallish beam antenna or two to the nearest hilltop. Essentially, the height of your scenic RF overlook will determine how far your signal carries.

How far? Well, even without exotic propagation modes, a 10-watt signal that used to be good to 30 miles may now cover 300 to 400 miles! Welcome to hilltopping! (Remember: because TV signals are wideband and serve customers with generally crappy antennas and even worse receivers, their output power is between 50 kW and 1 MW! Even garden-variety ham rigs have much better performance, so your low-power, narrow-band signal will really get out.)

Where To Go

The basic concept is simple. If your station performance is compromised on VHF/UHF—or even HF, for that matter—take a portable version of your station to a nearby location that's accessible and that towers above the average terrain! We call it hilltopping, but mountaintopping is even better. If there aren't any convenient hills nearby, what about tall buildings or tall parking ramps? Any lofty location that you can get to safely, and with permission, could produce amazing propagation. If your home station antenna is 20 feet above average terrain, a site that's 200 feet above average terrain will make a *huge* difference.

If you have a friend who lives on the 114th floor, his balcony may very well be the equivalent of a 1,000-foot tower! You bring the beer and pizza and he brings the balcony. It's not the top of a skyscraper, and you probably won't have a clear shot in all directions, but it might be the next best thing. Besides, skyscraper tops are usually festooned with dozens of high-power TV, radio, telephone, and microwave antennas, which make operating a real challenge.

Is your cousin the director of your town's water system? The top of a water tower—the kind with the internal ladder/elevator and a safety railing surrounding the top—would make an awesome Field Day site! Just remember what I said about safety and permission!

Do you have a buddy who can get you to the top of a fire lookout station? Most have great views—both optical and RF—and comfortable surroundings, leak-proof roofs, etc.

Hilltops or mountaintops with scenic overlooks or commercial parking lots can make for excellent portable operating

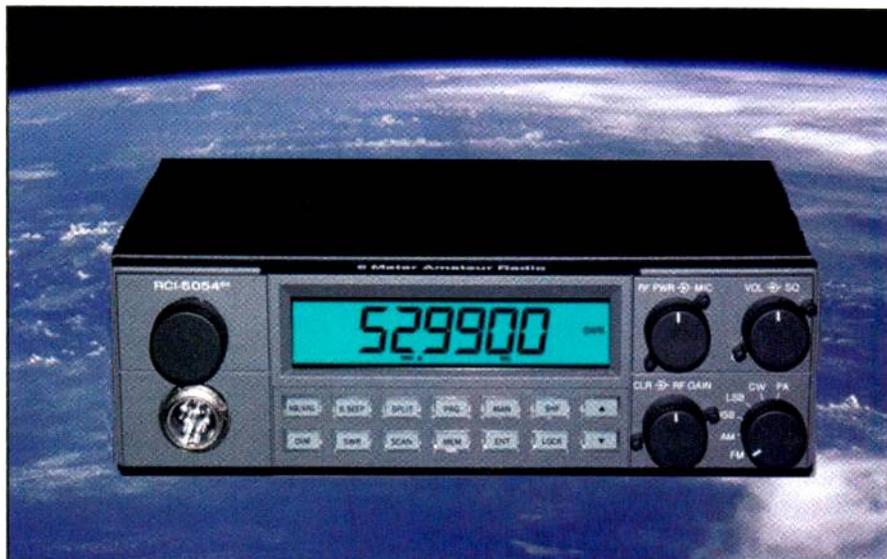


Photo C. Ranger's RCI-5054DX-100 won't outperform its high-end competition down to the nitty-gritty, but it does a decent all-around job on 6-meter SSB, CW AM, and FM with two huge advantages: a very nice retail price of \$350 and a beefy 100 watt PEP output, mobile or base. Check out the details at www.rangerusa.com/rci-5054dx.html.

sites. Make sure you're not trespassing or breaking some other laws, and make sure you're not obnoxiously getting in the way of other people or visitors. Don't let DX Fever turn you into a "bad ambassador" for the hobby! Some popular hilltops get mighty crowded during VHF contests, so be prepared to be courteous to other hams who might have the same idea!

Hilltops or mountaintops that aren't accessible by car may be accessible by other means such as hiking, bicycling, horses, etc. Although they're often more difficult to reach, you're rewarded with excellent RF performance *and* scenic beauty, no or little RF interference, etc. You'll probably have to use battery power and make a few other trade-offs, but that may not matter in the end. It's all up to you!

Use Google Maps and the Internet to ferret out some high spots near you.

What To Bring

As we discussed last month, probably the easiest way to get started in hilltopping is by using one of today's DC-to-daylight mini rigs that cover the traditional HF bands and add coverage of 50, 144, and 432 MHz. Candidates include Yaesu's FT-817, FT-857, and FT-897; ICOM's IC-7000, IC-706, IC-703, and so on. Other possibilities include Alinco's DX-70T (the TH model puts out 100 watts on 6 meters!), Ranger's RCI-5054DX-100 (a 100-W, 6-meter multimode rig for only \$350; see **Photo C**), and Ten-Tec's Model

526 (6 and 2 meters). They're battery powered and work on CW, SSB and FM—perfect for hilltopping. Plus, they're quite affordable.

As far as antennas go (no pun intended), small beam antennas are the most popular. Two or three elements on 6 meters and a half-dozen elements on 2 meters will work wonders. Make sure you bring along a mast that can be conveniently mounted at your operating position, even if it's just tall enough to get the antennas 10 to 20 feet above the ground. And unless you're aiming at one specific target, such as a distant city, make the mast rotatable to you can aim it to and fro. "Armstrong" rotation is typical, but as you get more involved with hilltopping, adding an inexpensive TV rotator to your gear is helpful.

One important note about antennas: Be sure to use the correct antenna polarization when switching from FM to SSB/CW, or you'll suffer a whopping 20- to 30-dB signal loss! Your hilltop will be a giant dummy load! On FM, signals are almost always vertically polarized. Your beam/Yagi will have to be oriented so that the antenna elements are parallel to the mast (up and down). If you don't want to cripple your beam's gain while working FM, make sure your mast is wood or fiberglass, and not aluminum. On SSB and CW signals are almost always horizontally polarized. Your Yagi/beam will have to be oriented so that its elements are perpendicular to the mast (side to side).

Table. 2009 VHF+ Contests

May 9	50-MHz Spring Sprints
June 13	ARRL June VHF QSO Party
June 27	ARRL Field Day
July 18	CQ WW VHF Contest
August 1	ARRL VHF Contest
September 12	ARRL September VHF QSO Party

That also means that it's not practical to try to work SSB and CW with your vehicle-mounted whip antenna. The polarization losses are likely to be severe.

For low-power rigs, your vehicle battery can provide plenty of power. But don't get carried away and drain your car battery to the point where it won't start the engine! If necessary, bring another battery or another source of power.

What To Do

You don't need an excuse to head to the hills, so feel free to explore as the mood strikes you. You'll still be amazed at the newfound range of your VHF+ radio, and you can still work stations, hunt for grid squares, etc. It's all good. But if you want to work and hear dozens or even hundreds of stations over a weekend afternoon, or if you want to be the DX for a change, set up your hilltop shack during one of the large VHF+ contests held throughout the spring, summer, and fall.

If you can hear a dozen stations from your hilltop perch during an average weekend, you'll hear hundreds on a contest weekend, and everyone you hear be trying hard to work you—bonus gain! Remember: 10 watts from a mountaintop will probably work much better than 1 kW from your home QTH!

You can officially participate in the contest or simply work stations casually, hunting for prefixes, grids, states, etc. If you've never worked a contest before, don't be intimidated. Read the contest rules, listen to a few QSOs before you jump in to learn the required "contest exchange," and get in there! Most VHF+ contests simply require call signs, a signal report, and a location, usually a grid square—simple. Check out the **Table** for a list of some contests; you can also find out more details about this year's VHF+ contests by pointing your Web browser to www.arrl.org/contests#corral.

Some parts of the country are blessed with closely packed cities in every direction, filled with hams who work VHF

and up. Translation: New England! Other parts are less populated with VHFers, but a mountaintop is a great propagation equalizer.

Before you literally head for the hills, set *everything* up in your driveway. You

may not have a smorgasbord of stations to work, but you will figure out how to set everything up and discover whether anything's missing before the big day.

I'll Be Listening For You

As modern urban and suburban planning practices wreak havoc on traditional hamming, hilltopping and other portable RF pursuits are gaining in popularity. I encourage you to explore this "free for the taking" aspect of amateur radio, whether you have a big tower and a bunch of beams or not. Your tower isn't likely to be taller than the largest nearby hill or mountain! See you in the upper atmosphere! ■



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Shhhh! (We're Tracking Sunspots...)

by Tomas Hood,
NW7US, nw7us@arrl.net

“Using only 100 watts SSB, I successfully exchanged call-sign, name, and location with an amateur operator in South Africa. This on 80 meters, ‘barefoot!’”

One year ago, in this column, the official first sunspot of Solar Cycle 24 was reported. Since that time, we've seen very little activity. Is the new sunspot cycle really starting? There are mixed reports and a lot of speculation.

Take a look at the graph plotting the monthly sunspot counts (Figure 1) and notice the predicted (red) lines showing the forecasted high and low monthly numbers. Notice, too, how the actual monthly numbers are falling lower than what was forecasted. However, notice how the 10.7-cm flux monthly plot appears to be following the forecasted monthly progression (Figure 2).

What's interesting in this comparison between the sunspot counts and the flux numbers is that we are not seeing the predicted steady rise in sunspot activity, yet are still noticing the slow but steady rise in the flux numbers in the new cycle's progression. Does this translate into any improvement of propagation on the high frequencies?

The mixed reports indicate that there is some life now on the amateur radio 10 meter band, especially on paths that run northward and southward, across the equator. This is to be expected with the slow rise in the 10.7-cm flux levels. We'll

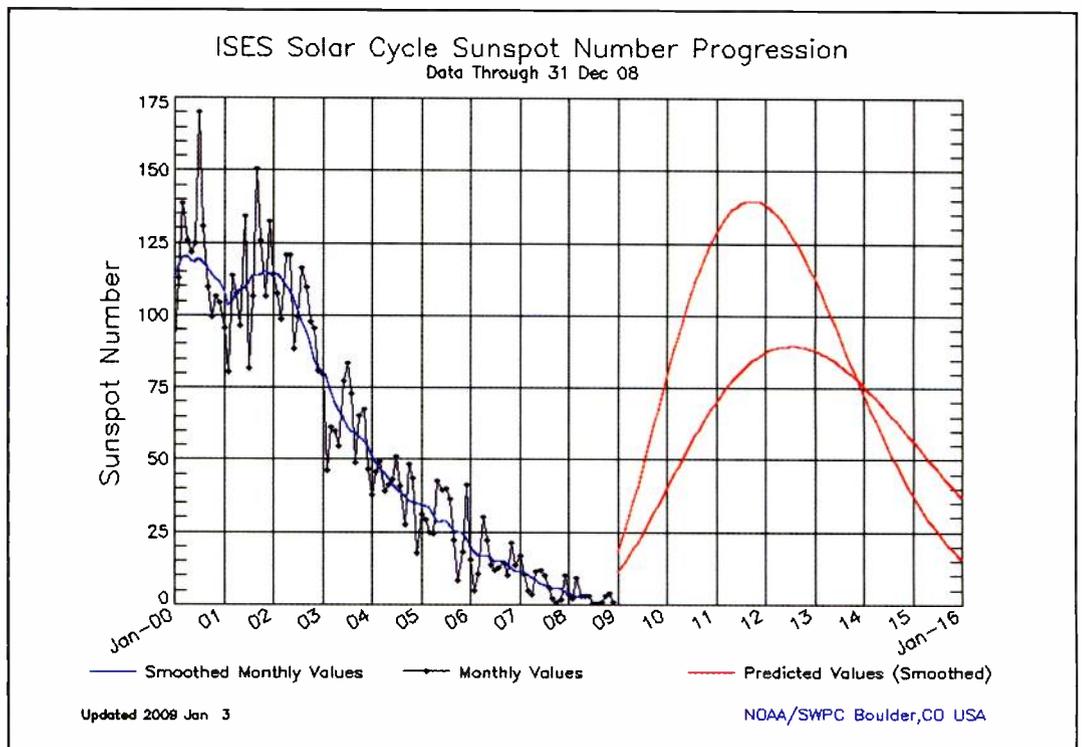


Figure 1. Current progression of monthly sunspot counts. Notice how the actual numbers appear to be much lower than the implied forecasted numbers, as indicated by the red plots (high and low forecasted monthly counts). (Source: NOAA/Space Weather Prediction Center, Boulder, CO)

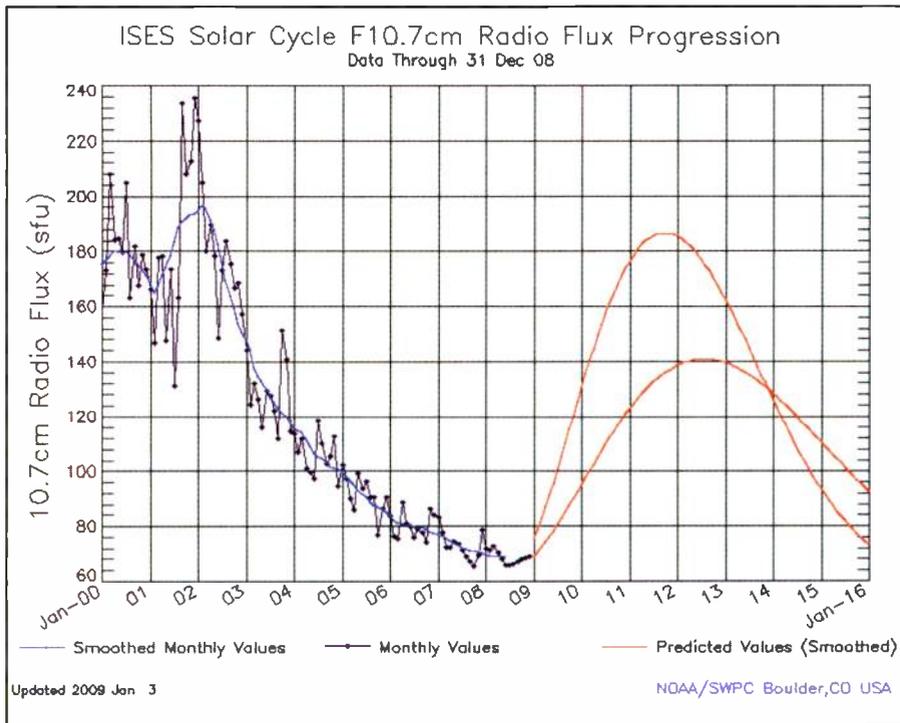


Figure 2. Current progression of monthly solar 10.7-cm flux numbers. Notice how the actual numbers appear to track well with the forecasted red plots (high and low forecasted monthly counts). This indicates that the new cycle (24) is on track, even if the sunspot counts are not increasing as quickly as expected. (Source: NOAA/Space Weather Prediction Center, Boulder, CO)

continue to see a slow change in the higher HF bands, as there is more solar energy influencing the energy level of the ionosphere. While we're not seeing a steady increase in sunspot activity, there appears to be an overall increase in the solar energy responsible for nudging the ionospheric energy levels up a bit.

The graph plotting the planetary A_p index shown in **Figure 3** is very interesting. The A_p index corresponds to the overall geomagnetic activity level. The geomagnetic field activity impacts propagation because the more active it becomes, the more the geomagnetic field causes a loss of ionospheric energy. When that occurs, propagation suffers. Compare the period of solar cycle minimum of Cycles 22/23 (shown at the start of the plot in this graph) with the minimum of Cycles 23/24 (shown at the end of the plot). Notice how much lower the numbers are during this current cycle minimum. This very quiet period has created a unique and unusual propagation condition on the lower HF bands.

During January, 2009, my son and I raised an 80 meter dipole. That evening, I tested this new wire antenna and was amazed, because I was able to bust a pile-up after the third try. Using only 100 watts

SSB, I successfully exchanged callsign, name, and location with an amateur operator in South Africa. This on 80 meters, "barefoot"! That's highly unusual. Sure, the other station had quite an antenna system, but I've never reached that far with a barefoot signal and a simple dipole antenna on 80 meters. It's a testimony to how quiet the geomagnetic field is, and how stable the ionosphere is as a result. With such stability, the fragile energy levels of the ionosphere allow weaker signals to propagate on these paths without the typical losses experienced during other times in the solar cycle progress.

Many amateurs speculate on where we are in the development of the new cycle. A colorful—and hopeful—observation was made by some Ten-Ten organization members. The first sunspot of 2009 is numbered 11010 (**Figure 4**), but it's typical to drop the first digit, making this first sunspot "1010." This was seen as a good omen for the Ten-Ten enthusiasts. Will 2009 be a great year for 10 meters?

HF Propagation

As we move into spring in the Northern Hemisphere we experience better DX openings from around the world on HF.

This is because the sun is mostly overhead over the equator, creating equal day and night periods in both hemispheres. The Vernal Equinox at the end of March marks the day when the hours of daylight and darkness are about equal around the world. This creates an ionosphere of similar characteristics throughout more of the world than is possible during other times, when it's summer in one hemisphere and winter in the other, and there are extreme differences in the ionosphere.

This equalization of the ionosphere that takes place during the equinoctial periods (autumn and spring) is responsible for optimum DX conditions, and starts late in February and lasts through late April. The improvement in propagation is most noticeable on long circuits between the Northern and Southern Hemispheres. During this season conditions are optimal for long-path as well as short-path openings, and during gray-line twilight periods associated with sunrise and sunset.

April is one of the hottest months for DX. The seasonal change plays out on HF with activity moving up from 41 meters and down from 11 meters. Propagation on the higher HF frequencies (19 through 11 meters) begins to suffer late in April and into the summer months due to lower maximum usable frequencies (MUFs) in the Northern Hemisphere. MUFs peak very late in the day during summer. Summertime MUFs are lower due to solar heating, which causes the ionosphere to expand, and an expanded ionosphere produces lower ion density, which results in lower MUFs. Short-path propagation between countries in the Northern Hemisphere will drop out entirely.

Higher frequency propagation peaks in the fall. April and May are fall months in the Southern Hemisphere making long-path DX possible. Short-path propagation from South America, South Pacific, and other areas south of the equator will be strong and reliable when open. However, these do not happen every day on the higher frequencies.

From April to June, excellent propagation occurs on both daytime and nighttime paths. The strongest propagation occurs on paths that span areas of both day and night, following the MUF. During April, peaking in May and still in June, 16 meters may offer 24-hour DX to all parts of the world, with both short- and long-path openings occurring, sometimes at the same time! If you hear a lot of echo on a signal, you might be beaming in the wrong direction. Try the opposite

Optimum Working Frequencies (MHz) - For April 2009- Flux = 79, 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	22	22	21	20	18	17	15	14	13	12	11	11	11	13	16	17	19	20	21	21	22	22	22	22	
NORTHERN SOUTH AMERICA	28	28	27	25	23	21	19	18	17	16	15	14	14	15	19	21	23	24	25	26	27	28	28	28	
CENTRAL SOUTH AMERICA	28	26	23	21	20	18	17	16	15	14	14	15	14	17	21	23	25	27	28	29	29	29	29	29	
SOUTHERN SOUTH AMERICA	27	24	21	20	18	17	16	15	14	14	13	13	14	14	17	20	23	25	26	28	29	29	30	28	
WESTERN EUROPE	14	12	10	9	12	14	11	10	9	9	11	14	16	17	18	19	19	19	19	18	18	17	17	16	
EASTERN EUROPE	9	9	9	8	12	14	15	13	10	9	13	14	16	17	18	18	17	18	17	17	16	15	13	10	9
EASTERN NORTH AMERICA	25	24	23	22	20	18	16	15	14	13	13	12	13	18	20	22	23	24	25	25	26	26	26	25	
CENTRAL NORTH AMERICA	14	14	13	13	12	10	10	9	8	8	7	7	6	8	10	12	12	13	14	14	14	14	14	14	
WESTERN NORTH AMERICA	7	7	7	7	6	6	5	5	4	4	3	3	3	5	6	6	7	7	7	7	7	7	8	8	
SOUTHERN NORTH AMERICA	23	23	22	22	20	19	17	16	14	13	13	12	11	12	15	17	19	21	22	22	23	23	23	23	
HAWAII	20	20	20	20	19	19	18	17	15	14	13	12	11	10	10	9	11	13	15	16	17	18	19	19	
NORTHERN AFRICA	13	12	11	11	10	10	10	10	9	9	9	14	16	17	18	19	19	20	20	20	19	17	16	14	
CENTRAL AFRICA	16	15	14	13	12	13	10	10	9	9	10	14	16	17	18	19	19	20	20	20	20	20	19	17	
SOUTH AFRICA	18	17	16	15	14	14	14	13	13	12	11	11	17	19	21	22	23	24	24	25	25	23	21	19	
MIDDLE EAST	11	10	10	10	14	16	14	11	10	9	12	14	16	17	17	18	18	19	18	16	14	13	12	11	
JAPAN	20	21	20	20	19	18	17	16	13	12	11	10	10	9	9	11	10	10	10	13	16	17	19	20	
CENTRAL ASIA	21	20	20	20	19	18	17	16	12	12	11	10	10	9	9	14	16	15	14	13	12	13	17	19	
INDIA	16	16	17	17	17	16	15	15	13	10	9	12	12	9	9	9	8	8	8	10	13	14	15	16	
THAILAND	17	19	20	19	19	18	17	16	13	11	10	10	9	9	12	15	17	17	15	14	13	13	12	14	
AUSTRALIA	27	28	29	30	29	27	25	23	21	19	18	17	16	15	14	16	15	14	14	15	20	23	25	28	
CHINA	19	20	20	19	19	18	17	15	13	10	10	9	9	9	13	12	11	11	10	10	9	14	17	18	
SOUTH PACIFIC	30	30	30	30	29	28	27	24	21	19	18	17	16	15	14	14	13	13	13	21	24	27	28	30	

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	25	25	24	22	20	18	17	16	15	14	13	12	13	16	19	20	22	23	24	24	25	25	25	25
NORTHERN SOUTH AMERICA	26	26	25	23	21	19	17	16	15	14	13	13	12	15	18	20	21	22	23	24	25	25	26	26
CENTRAL SOUTH AMERICA	28	25	23	21	20	18	17	16	15	14	14	16	19	22	24	26	27	28	29	29	29	29	29	29
SOUTHERN SOUTH AMERICA	27	24	21	20	18	17	16	15	14	14	13	13	14	17	20	22	24	26	27	28	29	29	30	28
WESTERN EUROPE	13	10	9	9	11	10	10	9	9	13	16	17	18	19	19	20	19	19	19	18	18	17	15	
EASTERN EUROPE	10	9	9	9	11	10	10	9	9	9	14	16	17	18	19	19	18	18	18	17	16	15	14	10
EASTERN NORTH AMERICA	18	17	17	15	14	13	12	11	10	10	9	9	11	13	15	16	17	18	18	18	19	19	19	18
CENTRAL NORTH AMERICA	8	8	8	7	7	6	5	5	5	4	4	4	4	6	7	7	8	8	8	8	9	9	9	8
WESTERN NORTH AMERICA	14	14	13	13	12	11	10	9	8	7	7	7	8	10	12	12	13	14	14	14	14	15	14	14
SOUTHERN NORTH AMERICA	16	16	16	15	14	13	12	11	10	9	9	8	8	10	11	13	14	15	15	16	16	16	17	17
HAWAII	23	23	23	23	22	21	19	17	16	15	14	13	12	11	12	11	13	16	18	19	20	21	22	23
NORTHERN AFRICA	17	16	15	13	12	12	11	10	10	9	12	15	17	18	19	20	20	21	21	21	21	21	20	19
CENTRAL AFRICA	16	15	14	13	12	11	11	10	10	9	13	16	17	19	19	20	20	21	21	21	21	20	19	18
SOUTH AFRICA	18	17	16	15	14	13	14	17	16	15	14	17	21	24	26	27	29	30	29	27	25	23	21	19
MIDDLE EAST	11	11	10	10	11	11	10	10	9	9	14	16	17	18	19	20	20	19	17	15	14	13	12	12
JAPAN	20	20	19	19	17	16	13	12	11	10	10	9	9	12	12	11	10	10	9	13	16	18	19	20
CENTRAL ASIA	20	20	19	18	17	16	13	11	11	10	10	9	10	15	17	17	16	15	14	13	12	13	17	19
INDIA	11	13	14	15	15	14	10	10	9	9	12	15	16	15	15	14	13	11	9	9	9	8	8	8
THAILAND	17	19	19	18	17	15	13	10	10	9	9	9	14	16	17	18	18	17	16	15	14	13	12	14
AUSTRALIA	27	29	30	29	28	27	24	22	20	19	17	16	15	15	16	16	15	15	14	13	16	20	23	26
CHINA	19	19	19	18	17	15	13	10	10	9	9	9	14	15	13	12	11	10	10	9	9	14	16	18
SOUTH PACIFIC	30	30	30	29	28	27	24	22	19	18	17	16	15	14	14	13	13	12	16	22	26	28	29	30

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	20	20	19	17	15	14	13	12	11	11	10	10	12	14	16	17	18	19	19	20	20	20	20	20
NORTHERN SOUTH AMERICA	23	23	21	19	18	16	15	14	13	12	12	11	13	15	17	18	19	20	21	22	22	23	23	23
CENTRAL SOUTH AMERICA	27	25	22	21	19	18	16	15	15	14	13	15	18	21	22	24	25	27	27	28	29	29	29	28
SOUTHERN SOUTH AMERICA	26	23	21	19	18	17	16	15	14	14	13	13	16	19	21	23	25	26	27	28	28	29	29	28
WESTERN EUROPE	11	11	10	9	9	9	10	9	9	12	15	16	17	18	19	19	19	19	19	18	18	17	16	14
EASTERN EUROPE	12	9	9	10	11	10	10	9	9	13	16	17	18	19	19	19	19	18	18	18	17	16	16	14
EASTERN NORTH AMERICA	9	8	8	7	6	6	5	5	5	4	4	4	6	7	7	8	8	9	9	9	9	9	9	9
CENTRAL NORTH AMERICA	19	18	17	16	15	13	12	11	11	10	9	9	12	14	16	17	18	19	19	20	20	20	20	19
WESTERN NORTH AMERICA	25	24	23	22	20	18	17	15	14	13	13	12	13	17	20	22	23	24	25	26	26	26	26	26
SOUTHERN NORTH AMERICA	20	20	19	18	16	15	14	13	12	11	10	10	11	13	15	17	18	19	19	20	20	20	20	20
HAWAII	25	25	24	23	21	19	18	16	15	14	13	13	12	13	13	12	14	17	19	21	22	23	24	25
NORTHERN AFRICA	18	17	15	14	13	13	12	13	12	13	17	20	22	23	24	25	26	26	26	25	24	23	21	20
CENTRAL AFRICA	17	15	14	14	13	12	14	13	12	13	17	20	22	23	24	25	25	25	25	25	24	22	20	18
SOUTH AFRICA	18	16	16	15	14	13	13	16	15	14	15	19	22	24	25	27	28	29	29	27	25	23	21	19
MIDDLE EAST	15	14	13	12	12	11	11	10	10	12	15	17	18	19	20	21	21	21	21	21	21	19	17	16
JAPAN	19	18	17	16	13	12	11	10	10	10	9	13	13	12	11	11	10	9	13	16	18	19	19	19
CENTRAL ASIA	19	18	17	15	12	11	11	10	10	9	11	15	17	18	19	17	16	15	14	13	12	12	16	19
INDIA	9	9	8	8	11	10	10	9	9	11	15	17	17	17	17	17	16	15	15	13	11	9	9	9
THAILAND	16	17	16	13	11	11	10	10	9	10	15	16	18	19	19	20	19	18	16	15	14	13	13	12
AUSTRALIA	28	29	29	28	26	23	21	20	18	17	16	15	14	18	17	16	15	14	14	13	17	21	24	26
CHINA	18	18	16	14	12	11	10	10	9	9	14	16	17	16										

azimuth. Thirty-one through 19 meters are more stable as nighttime bands, with propagation following the gray-line and nighttime paths.

Low-band propagation is still hot on 41 meters, with Europe in the evening and Asia in the mornings. Occasional DX openings will occur on 90 and 75 meters around sunrise.

VHF Ionospheric Openings

On VHF, many different types of propagation modes can appear once or twice in April. Combination propagation modes may be possible on VHF this month as well, making for some exciting openings. An increase in Transequatorial (TE) propagation is typical during April. Sporadic E (E_s) will become more common as we move into late spring and summer. There are times when E_s , TE, and F_2 -layer propagation modes will link, providing strong DX openings on VHF between North America and New Zealand, Australia, or other areas. The best time to catch a TE opening across the geomagnetic equator is between 8 and 11 p.m. local daylight time. These TE openings will be north-south paths that cross the geomagnetic equator at an approximate right angle.

Widespread auroral displays can occur during April, bringing with them unusual ionospheric short-skip openings on the VHF bands. The best times for these to occur are during periods of space weather storminess.

Aurora is a direct result of solar plasma interacting with gasses in the upper atmosphere. It's common to see aurora during active to severe geomagnetic storms. The magnetosphere is filled with electrons and protons that are normally trapped by lines of magnetic force that prevent them from escaping into space or descending to the planet below. The influence of solar wind that's been enhanced by coronal holes can cause some of those trapped particles to break loose, causing them to rain down on the atmosphere. Gasses in the atmosphere start to glow under the impact of these particles, with different gasses showing as various colors (think of a neon sign and how the plasma inside the glass tube, when excited, glows with a bright color).

These precipitating particles mostly follow the magnetic field lines that run from Earth's magnetic poles, and are concentrated in circular regions around the magnetic poles called "auroral ovals." These bands expand away from the poles

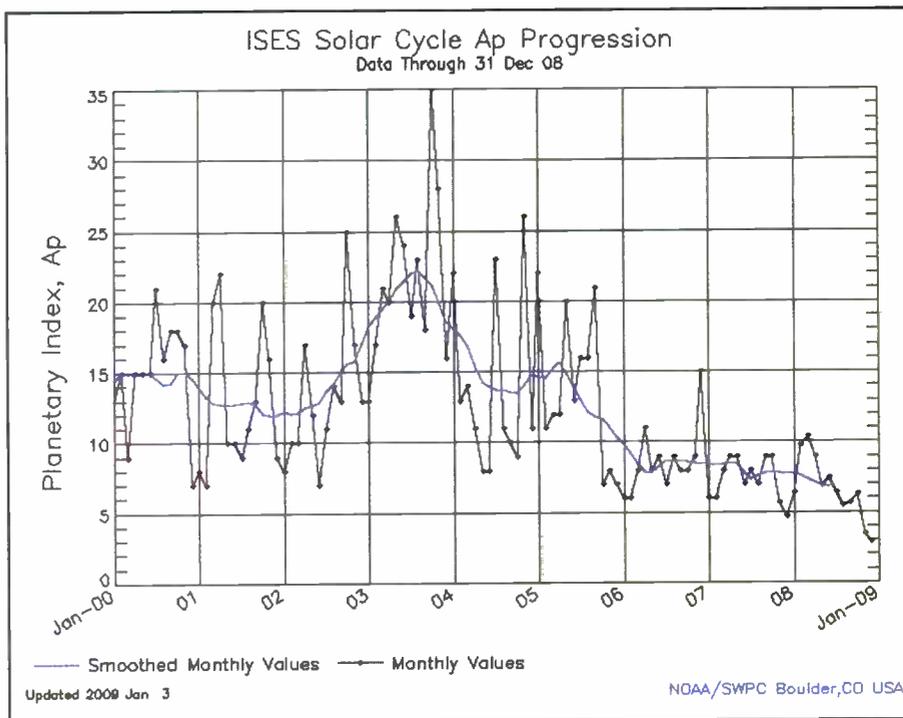


Figure 3. Current progression of monthly geomagnetic activity levels, known as the planetary A index. Notice how much lower the monthly activity levels are as compared to the last solar cycle minimum (shown at the start of this graph). With such quiet geomagnetic conditions, the ionosphere remains very stable, and weak-signal DX is much more reliable. (Source: NOAA/Space Weather Prediction Center, Boulder, CO)

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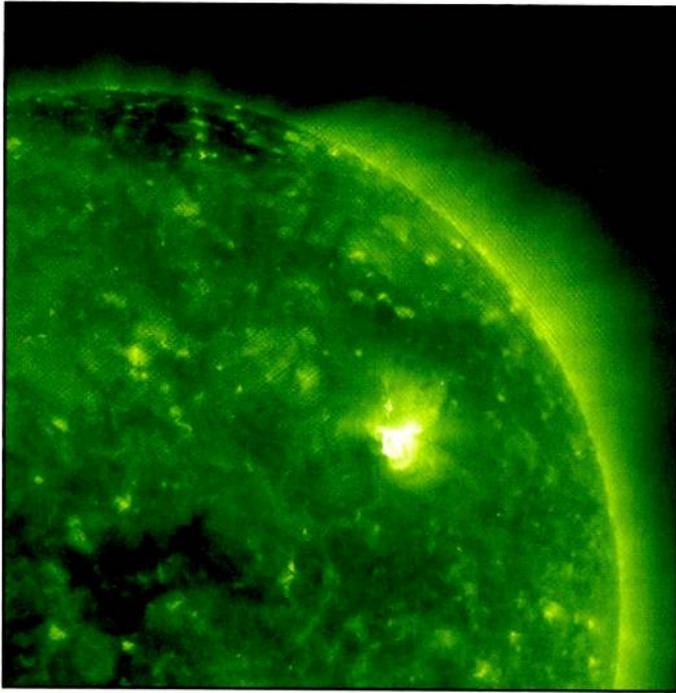


Figure 4. The first sunspot of 2009, numbered 11010. This active region lasted from January 8 through January 11. This spot had the magnetic orientation of a new solar cycle sunspot. As seen by STEREO (Solar TERrestrial RELations Observatory) from behind Earth's orbit, in extreme UV light, the spot displayed many magnetic loops and a good bit of flashing, frenetic activity as it rotated around with the sun. It generated some hope and discussion among the 10-meter amateur radio crowd (see text). (Source: Solar & Heliospheric Observatory)

during magnetic storms; the stronger the storm, the greater these ovals will expand. Sometimes they grow so large that even people at middle latitudes, like California, can see these "Northern Lights."

When you see the solar wind speed increase to over 500 km per second, and the B_z index (which measures the orientation of the Interplanetary Magnetic Field, or IMF) remains mostly negative, indicating a southerly orientation, expect an increase in geomagnetic activity, as revealed by the planetary K (K_p) index.

When the K_p rises above 4, look for aurora-mode (Au) propagation. The higher the K_p index, and the longer the geomagnetic storminess lasts, the more likely we'll see strong Au openings. You don't have to see them to hear their influence on propagation, though. Listen for stations from over the poles that sound raspy or fluttery.

Also look for VHF DX. Sometimes it will enhance a path at certain frequencies; other times it will degrade the signals. Sometimes signals will fade quickly, and then come back with great strength. The reason for this is that the radio signal is being refracted off the more highly ionized areas that are lit up. These ionized areas ebb and flow, so the ability to refract changes, sometimes quickly. I've observed the effect of aurora and associated geomagnetic storminess even on lower HF frequencies.

Meteor showers provide opportunity for observing VHF/UHF meteor-scatter propagation DX. Most meteor showers are at their best after midnight. After midnight, you're on the leading edge of the Earth and you're meeting the meteors head-on. Before midnight, you're on the trailing edge of the Earth and the mete-

ors have to catch up to you. As a result not only are more meteors seen in the pre-dawn hours, but their impact speeds encountering the Earth's atmosphere are much higher and the meteors are generally faster and brighter. This causes greater ionization, which is what you use to refract a radio signal. Look for TV and FM broadcast "pings" (short bursts of reception) during these events. If you're an amateur radio operator, look for 6 and 2 meter openings off the ionized meteor trails.

The Lyrids, a major meteor shower, should take place from mid to late April. The unpredictability of the shower in any given year always makes the Lyrids worth watching, since we can't say when the next unusual return may occur. If this year's event is average or better (30 to 60 good-sized meteors entering the atmosphere every hour), meteor-scatter openings could occur on the VHF bands.

I have a wealth of links at <http://prop.hfradio.org/> that provide up-to-the-minute aurora information and data. Also, check out *CQ VHF* magazine for details regarding VHF propagation through the spring and summer.

Current Solar Cycle Progress

The Dominion Radio Astrophysical Observatory at Penticton, BC, Canada, reports a 10.7-cm observed monthly mean solar flux of 69.2 for December 2008, continuing a slow but steady monthly rise since July. The 12-month smoothed 10.7-cm flux centered on June 2008 is 69.2. The predicted smoothed 10.7-cm solar flux for April 2009 is about 79, give or take about 7 points.

The Royal Observatory of Belgium reports that the mean monthly observed sunspot number for December 2008 is 0.8, a real dip from November, but not as low as July and August (0.5, each). The lowest daily sunspot value during December 2008 was zero, occurring on December 1–9, and 13–31. The highest daily sunspot count for the month was 9 on both December 10 and 12. The 12-month running smoothed sunspot number centered on June 2008 is 3.2. A smoothed sunspot count of 24 is expected for April 2009, give or take about 5 points.

The observed monthly mean planetary A_p for December 2008 is 2. The 12-month smoothed A_p index centered on June 2008 is 6.8. Expect the overall geomagnetic activity to be quiet to unsettled during most days in March, but with possible periods of moderate geomagnetic storms. 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 April.

I'd Like To Hear From You

You can join in with others in discussing space weather, propagation, and shortwave or VHF listening, at <http://hfradio.org/forums/>. Be sure to check out the latest conditions, as well as the educational resources about propagation, which I have put together for you at <http://prop.hfradio.org/>. I also provide a WAP/WML resource for wireless devices. If you want the latest propagation information like the solar flux, A_p reading, and so forth, check out <http://wap.hfradio.org/>, the wireless version of my propagation site.

Please don't hesitate to write and let me know about any interesting propagation that you have noticed. Do you have any questions about propagation? I look forward to hearing from you. Happy signal hunting!

—73 de NW7US, Tomas Hood

A Sentimental So Long To Analog TV

by Shannon Huniwell
melodyfm@yahoo.com

“‘Why don’t TVs have a Channel 1?’ Paul wondered as he pointed to the portable’s manual click VHF tuning dial. ‘They used to,’ I responded...”

It seemed like it would go on forever, but the times I’m thinking of probably only lasted for a few months. On Friday nights during early 1985, I enjoyed a teenage ritual of going to a friend’s home for pizza, girl talk, and TV. My “BF” Valerie and I were big fans of *The Dukes of Hazzard*, *Dallas*, and *Falcon Crest*. This CBS lineup provided a perfect backdrop for our conversations about everything on the minds of 16-year-old females. One topic—cool guys—eventually led us to defect from the CBS 10 p.m. prime-time soaps to NBC’s hot new *Miami Vice*.

Sometime in April, Val got strangely quiet and then finally confided in me that she was pregnant. Valerie married her boyfriend, Paul, as soon as sophomore year ended. Valerie’s mother and father offered little support other than convening a tense meeting with Paul’s parents, where it was decided that the young couple would move halfway across the country to the Omaha area immediately after the wedding. There, Paul would have a job in a machine shop owned by his uncle and the couple would live in a garage apartment owned by this same relative, whom he hardly knew and she’d never met.



A small image representing the tiny car that my friends drove. Crosley station wagons, like this 1952 model, sold new for about \$1,000. Its maker is best known for the manufacture of radios and refrigerators. And, on the broadcasting front, the Crosley Corporation operated Cincinnati’s WLW, a legendary AM that was once FCC-authorized to transmit with a half-million watts!

If you’re wondering what this drama has to do with broadcast history, please stand by. And speaking of “stand by,” that was the status of my bargain fare ticket to Omaha during winter vacation 1986 when I flew out to visit the newlyweds and their new baby. Admittedly, I was mighty surprised that my mom and dad allowed me to make the trip, and several years later my mother revealed that they were actually quite apprehensive about sending a 17-year-old all the way from Connecticut to Nebraska to stay with a teenaged couple and their infant living over a garage. It turns out that their ulterior motive was to scare me into waiting until I was at least 25 and a college graduate with a good job before marrying and having kids. They figured that I’d quickly see what a thorny patch Val and Paul had sown. Score one for the folks...

After worrying for over an hour that I’d been forgotten at the Omaha airport, my hosts finally picked me up in a rusty little station wagon with taped-up cracked windows and no heat. I seem to recall Paul trying to describe it as a “classic” made in 1949 by some interesting company called Crosley. The car’s sound system—barely audible above the engine and road noise—consisted of a Realistic AM/FM pocket radio affixed to the dashboard with Velcro. On the way back to their three-room residence, the baby got sick. Valerie apologized for the mess and then did her best to keep her child from splitting our ear drums with his 50,000-watt crying.

Before I’d left Connecticut, my Dad tucked five \$20 bills into my purse with instructions to buy some groceries for Valerie, Paul, and the youngster. “Fill their cupboards,” he winked. When Paul pulled the wheezing, freezing Crosley into a pizza take-out place’s parking lot, I announced my intention to do a bit of shopping for them, as a housewarming gift. They politely protested, but almost immediately the clattering car headed for the nearest supermarket. As Val and I were filling a cart with things she identified as “real treats,” it became obvious to me that my father’s insight was right on. Paul must have thanked me a dozen times for the Pop Tarts and Pepperidge Farm cake, items he said he hadn’t tasted “since being on a tight budget.” Their apartment was cute but Spartan,

kind of a thrift shop version of Fonzie's place on the old *Happy Days* show.

And Now For The Real Subject Of Our Story...

Paul did the cooking, supper dishes, and then coaxed the baby to sleep while Val and I caught up, then the three of us watched a bit of TV. Their black & white portable seemed like the only item there that wasn't a hand-me-down. Paul explained that a few days after arriving in Omaha, they'd received a wedding card and serendipitous \$50 check from one of Val's relatives. Though the money could have been quickly eaten up for necessities, the newlyweds thought it best to spend it on something longer lasting than disposable diapers. They walked to Sears (the Crosley hadn't yet been donated to them), and bought the cheapest television in the store, a nine-inch set that cost just under \$47, including tax. They laughed that the TV came with its own table, as it was placed on the most convenient stand available—its cardboard packing carton.

We watched from a trio of lawn chairs that provided the apartment's main seating arrangements. During commercials Val would ask Paul to turn down the sound for some small talk. Val remembered the Huniwells' father/daughter interest in broadcasting, prompting her to remark that the stations out her way all began with a "K."

I launched into an explanation of the FCC rules regarding "K" designations west of the Mississippi River and "W" for stations located east of that big waterway, with noted exceptions such as KYW 1060 Philadelphia, Pennsylvania, and the former WACO 1460 in Waco, Texas. Val and Paul seemed genuinely impressed with my mini-lecture, which encouraged me to offer more broadcast "fun facts" than either probably desired. But they remained polite hosts. Val was happy to oblige with a pen and paper when I told them I'd promised Dad that I'd jot down what the Omaha television band looked like.

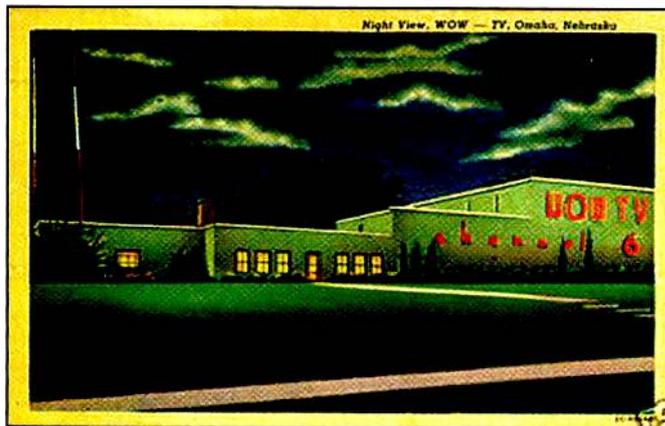
Omaha's Video Scene

During that February 1986 visit, this is what I saw on that Sears bargain, listed alphabetically:

There was KETV-TV, an ABC affiliate licensed to Omaha. This Channel 7 debuted on September 17, 1957. Omaha's KMTV-TV was the region's second oldest video facility, having taken to the air on September 1, 1949. An NBC outlet when I observed it, KMTV-TV operated on Channel 3. We should have missed KPTM-TV altogether, as the new UHF outfit from Omaha didn't officially open until April 1986, but one of my dial spins netted a test pattern for the then-fledgling 5-million watt independent on Channel 42. Over on Channel 26, the market's educational programming had been generated by KYNE-TV since October 1965. Neither Valerie nor Paul had previously tried their small set's ultra high frequency feature, though Val said she'd figured on searching for a PBS station that offered children's shows. In fact, the UHF rectangle antenna was still in the box before I installed for the dial scan. Back down to VHF, I easily logged Omaha's oldest television station, WOW-TV. It originally appeared on August 29, 1949, bearing the call sign WOW-TV. I couldn't help sharing a bit of history...

Woodmen Of The World

That heading is the name of the fraternal group responsible for pioneering WOW radio and television. Founded in Omaha



From a photo probably snapped during the early 1950s, here's a retouched linen postcard night scene of WOW-TV, Omaha's Channel 6.

in 1890, and since 1912 consecutively headquartered in two remarkable skyscrapers they built there, the Woodmen organization is essentially a private insurer/financial services provider for its 800,000 members of some 2,000 local Woodmen of the World lodges. One might compare the Woodmen to the Elks or Masons.

In 1922, Woodmen of the World officials entered the wireless realm with the establishment of 500 watt WOAW 570 Omaha. When a ship that held the call WOW for its radio shack was decommissioned in 1926, the Woodmen fast sought and obtained governmental permission to use those more descriptive letters. WOW's ownership had little trouble convincing the Federal Radio Commission (and subsequent Federal Communications Commission) to increase the station's power to 1 kilowatt and then to 5000 watts on 590 kilohertz.

The benevolent Woodmen did run into problems, though, when regulators began questioning whether a non-profit outfit should be licensed to run a for-profit broadcast operation. To try appeasing Washington, the Woodmen leased WOW to a for-profit company in 1943. This hoped-for fix was nixed by the Supreme Court, which voided the rental agreement, but let the Woodmen hold onto WOW's license until further notice.

Heeere's...Somebody Who Will Be Famous!

By the late 1940s, WOW branched into TV via WOW-TV. Among this facility's best-known personalities was Johnny Carson. He got an announcing job with WOW right around the time that the television division was begun and, thanks to his boyish looks, friendly voice, and ability to think on his feet, was tapped to help fill some time there. The 24-year-old came up with a low-budget Monday to Friday daytime talk show called *The Squirrel's Nest*, in which he conducted off-beat interviews, did skits, and delivered jokes—the foundation of his subsequent 30-year success as NBC's *Tonight Show* host.

Some sources say that one of the many Omaha politicians Carson joked about on his quirky program wanted the young comic gone. Reportedly, the guy's brother-in-law was a bigwig in Los Angeles broadcasting circles. The politico told his relative about Carson and strongly suggested that the ever-popular WOW-TV personality be hired by someone far away from Nebraska.

The in-law took a look and liked what he saw, and by 1951 Carson accepted an offer from the CBS-owned KNXT-TV in

Los Angeles, a huge step in his eventual rise to network TV. Also in 1951, the Woodmen ended their connection with broadcasting and sold their AM/TV stations to the Meredith Corporation. These folks added WOW-FM, 92.3 MHz, a decade later.

When, on that winter 1986 evening, Valerie, Paul, and I gathered around the Sears TV to relive old times, the *Dukes of Hazzard* had already been off the air for a year. We did catch CBS' *Dallas* on WQW-TV and then flipped to KMTV-TV for an episode of NBC's *Miami Vice*. Omaha viewers probably needed a score card to track the affiliation swapping that went on there over the years. WOW-TV had been the market's original NBC-TV arm until it dumped the peacock for the CBS eye in 1956, but it rejoined NBC not long after my visit. Additionally, WOW-TV ran some ABC shows during 1949 to 1953 and again from 1954 until fall 1957.

More Amazing Pioneer Television Facts

Looking back, I realize that my oral report to my hosts on TV's days-gone-by must have been pretty boring. Val kept smiling and saying it was interesting, though, and Paul asked me several questions that really got me going. I didn't know him too well and only later realized that he was probably just being nice for Valerie's sake.

"Why don't TVs have a Channel 1?" Paul wondered as he pointed to the portable's manual click VHF tuning dial. "They used to," I responded, trying to remember the details of a March 1982 *Radio Electronics* magazine article about television's old first channel. I'd used the information to write a science paper, so was able to chronicle the mysterious frequency's story, give or take an exact fact or two. Anyway, I figured neither Paul nor Val would catch any of my mistakes. Be assured that for this column I again consulted the piece to ensure accuracy.

The Saga Of Mechanics And Channel 1

Our recent analog TV sunset wasn't the first television system to be dumped for something clearer. During the 1920s and early 30s, mechanically scanned TV ruled the waves, but not very many folks, except for some enthusiastic radio hobbyists, saw them. In America, clever individuals, like motion picture camera pioneer Francis Jenkins, and big companies like General



Even this Sears TV shipping box is printed in black & white—an authentic representation of what was packed inside. *Pop'Comm* readers inspecting this picture with a magnifying glass might notice that the image on the box shows the Space Shuttle—technology that's a far cry from a nine-inch TV with no color, no provision for cable, and no remote!

Electric had this whirling disc technology on the air. Admittedly, the picture quality was pretty fuzzy. Some systems transmitted more of a glowing silhouette rather than a recognizable image.

Britain may have had the most aggressive mechanical TV development program, as the mighty British Broadcasting Corporation funded the broadcasts from John L. Baird's mechanical television equipment. By 1936, however, BBC bigwigs had witnessed electronically scanned video and informed Baird that its pictures were sufficiently clearer than his to warrant shutting Baird Television down and then opening a regular scheduled TV service in the all-electronic format.

All serious pioneering television work in the U.S. also tossed mechanical TV into history's trash can. Actually, outfits like Radio Corporation of America had been dabbling in electronic TV circa 1933. Back then, U.S. radio regulators didn't much care about regulating anything above 30 MHz—spectrum space they deemed so high that it'd be pretty much useless—and let anyone experiment up there. RCA used some of this "attic" for television trials using 240 lines of picture and AM modulation for picture and sound.

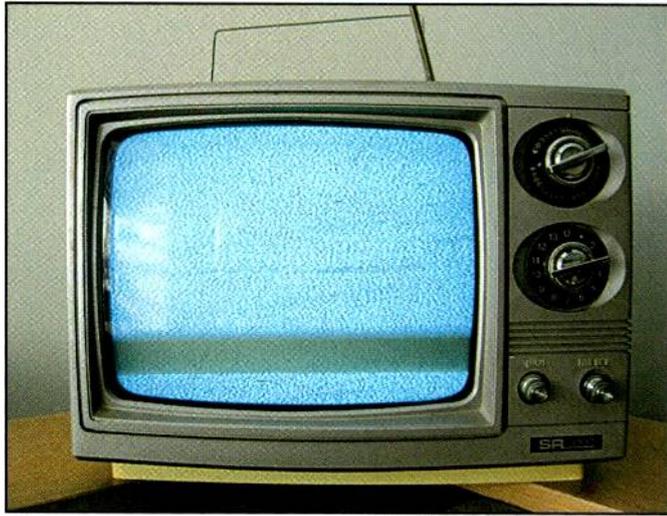
In 1934, the then-new Federal Communications Commission gave TV experimenters, like RCA, space between

42 and 46 MHz and 60 and 86 MHz. Anywhere up there was fine with the Commission. No channel numbers were designated. RCA's New York TV outlet was a work in progress in the 1930s.

To compete with the Brits, in 1936, W2XBS sent out AM modulated video/audio with 343 lines and a 5.75 MHz bandwidth per station. A majority of this station's audience was comprised of RCA engineers (and some curious CBS techs planning a similar venture for their employer) who fired up their sets after dinner and made notes on the picture quality.

Also in 1936, the Radio Manufacturer's Association sent a delegation to the FCC in order to help establish standards for what promised to be the next big thing in consumer electronics: television. RMA people recommended 441 lines of picture, video/audio in AM mode, and 6 MHz of bandwidth for each station. Two years later, the Commission issued its first real television specs, which included 19 VHF channels from 1 in the 44 to 50 MHz pocket, up to 19 at 288 to 294 MHz.

A group dubbed the National Television Systems Committee provided input for the FCC's 1939 TV considerations, resulting in a standard of AM picture, but FM audio, and 525 lines of image. Incidentally, active television pio-



Sears called this model 57-5006 nine-inch set a Kenmore Electronics "Go Anywhere Portable." Of course, "anywhere" had to be a place with a 120 VAC outlet. The big retailer touted the set's "Quick-heat picture tube" and "Compact white plastic cabinet with brushed gold color trim." When we woke the little TV from a decade-long hibernation, the plastic had turned yellow and the gold devalued to a silvery hue. It was a flashback to see that this unit was made in Korea, not China.

neer, Philco, sought 605 lines, while competitor DuMont was ready to run 625 lines. No matter, the FCC went with RCA's highest video definition "bid" of 525 lines, a denomination used up until early this year. RCA attorneys argued that 525 was good enough, that RCA equipment was already set up to handle 525 lines, and then urged the Commission to let the company get on with the business of bringing television to the American people. RCA was also successful in nixing others' suggestions to shift all TV from VHF to the ultra high frequencies where there would be ample room for at least three to five stations in each media market.

RCA's thorn in the side, Edwin H. Armstrong, won a small battle in his fight to get his invention, frequency modulation radio, on the air nationwide. But the next round of FCC television hearings (circa 1941) favored the corporation and awarded FM the 42 to 50 MHz section of TV's original (44 to 50 MHz) Channel 1, and bumped a newly crafted Channel 1 up to 50 to 56 MHz. To make room for FM radio, TV's electronic real estate was shrunk from 19 to 18 channels, with the new ceiling, Channel 18 residing in 288 to 294 MHz territory. (Ill and despondent after losing his legal battles, Armstrong tragically committed suicide in 1954.)

Effective between 1941 and 1946, this 18 VHF channels allocation was almost a phantom spectrum grant, as there was virtually no consumer TV during these war years. Not only that, but most of the few sets in circulation at that time had continuous—as opposed to specific click channel—tuners. Plus, there weren't even 18 television stations regularly on the air in the entire country at that point!

After the war, FCC officials pared down the VHF-TV spectrum, clipping off VHF channels 14 through 18. Channel 13 became the top of the dial at 210 to 216 MHz. Interestingly, Channel 1 survived this 1946–1948 allocation and was allowed back down to its first home of 44 to 50 MHz. RCA's success in having Armstrong's FM "kicked upstairs" to 88 to 106 (and then 88 to 108) MHz created the room.

Who had been on Channel 1? RCA's New York station lived there through the war era, and then moved to Channel 4. The broadcasting giant never fussed about the shift. Some critics believe it was simply glad to have dealt a blow to Armstrong's FM, a system that it—and all other TV broadcasters—would use to transmit audio. Stations authorized for channel residence during the 1946–48 period were to be considered local community outlets with no more than 1 kW of power. Though a construction permit or two got issued, none of these odd television facilities made it to air.

In the middle of 1948, the Commission deleted TV's Channel 1 and re-allocated its 44 to 50 MHz to two-way land/mobile FM communication use. Channels 2 through 13 remained as broadcasting's prime real estate until the recent analog TV demise.

Why did the FCC leave a mystery on television dials that started with Channel 2? Legend has it the commissioners had subjected FM and TV broadcasting to so much change that they worried about making every television station move down a notch. Such relocation would necessitate new letterhead, revamped station identification slides, channel number change publicity, and replacement dials for existing TV sets. Reportedly, regulators in Washington thought about the political static that such gerrymandering might generate, and said, "The heck with renumbering all those @#!% TV channels!"

One Way To Say Good-Bye To Analog Television

Around this last holiday season, my old friend Valerie called to say, "Hi," and invite me to visit her and Paul near Omaha. Unlike the typical couple married in their teens, they're still happily together. Both studied for a high school equivalency diploma and then went on to graduate from community college. It was a long road. Each worked several jobs at once, but eventually Val and Paul bought his uncle's machine shop, added an electrical contracting division, and grew it into a reasonably successful enterprise. Their son recently finished an electrical engineering program at the state university and has joined the family operation.

This February, when I stayed in their lovely home in suburban Omaha, Val got out a photo album and we laughed about our 1985 hairdos, the rickety Crosley, car and their shrimpy garage apartment. Paul joined in with the kind of sudden smile that announced he'd just remembered something important and disappeared down the basement stairs. Minutes later he returned with a big grin and an old box containing that little Sears TV.

They'd replaced it with a sizeable color set in the early 1990s, but on the night of their 10th anniversary, Paul had brought it to the fancy hotel room in which they were celebrating. There, just for sentimental fun, they watched a movie on its small black & white screen. That was the last time it had been fired up until my visit. Paul slid the unit out of the carton and its Styrofoam packing. I volunteered to attach the UHF antenna and the little wire lug leading to a single rabbit ear. Val dusted off the tube glass, and Paul plugged in the AC line cord.

"Nothing is smoking, anyway," Paul said as he twisted the on/off/volume knob. It made the speaker crackle a bit, but I suggested he could clear it with some rotation exercise. At first, the click tuning was pretty scratchy, too. I did a couple 360-degree twists on the VHF dial and heard something on Channel 6. After fooling with the brightness adjustment, a matching picture appeared, resulting in three genuine cheers and Val's pro-

Likely from April or very early May 1945, a flyer for RCA's New York television station WNBT-TV invites people to gather around a TV as soon as the war in Europe ends. Then, most of the televisions were owned by bar proprietors who figured that the presence of a set in their establishment would draw lots of curious patrons. Note that the video station's logo is an NBC radio microphone. The most interesting aspect of this literature, however, is the mention of WNBT-TV's dial position—Channel 1.

nouncement that even though the good old days are remembered fondly, today's digital TV images are a lot clearer. "Many more lines now or something like that, right?" she asked, apparently recalling my long ago television technical history presentation.

The planned transition deadline was still up in the air as my stay came to an end. But Val told me she had plans for the big event, whenever it occurred. On the broadcast system's last night, she'd make some popcorn, Paul would mate the Sears set with a mothballed VHS player, and while watching a poorly tracked *Dukes of Hazzard* tape, they'd feel like teens again. They'd time the show to end just as the last hour of analog-transmitted program-

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ming was getting underway. With tall glasses of sparkling apple juice, my old friends would toast the times we once thought would go on forever.

I only wish I could be there when the little Sears TV turned into sparkly static.

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Commercial Radiotelephone Licenses—A Door To Job Opportunities?

by Gordon West,
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After 24 years of the same exam questions, commercial radio license tests get a big upgrade. In these difficult times, having such a license just may provide a ticket to new or better employment. So, the question is, test now, or later?

“Looking for a job? If you live near a marina, you may be able to put your license to work.”

License Test Requirements

Before 1984, broadcast service radio and TV engineers needed the FCC First Class Commercial License. Land mobile radio techs could get by with a Second Class Commercial Radio License, while the Third Class ticket afforded “on air” opportunities, but allowed no equipment adjustments.

On June 15, 1984, the FCC discontinued the First and Second Class Radiotelephone Operator Licenses and replaced them with a lifetime General Radiotelephone Operator License (GROL). At the same time, the FCC eliminated the license requirement to install, maintain, and repair transmitting equipment in the domestic

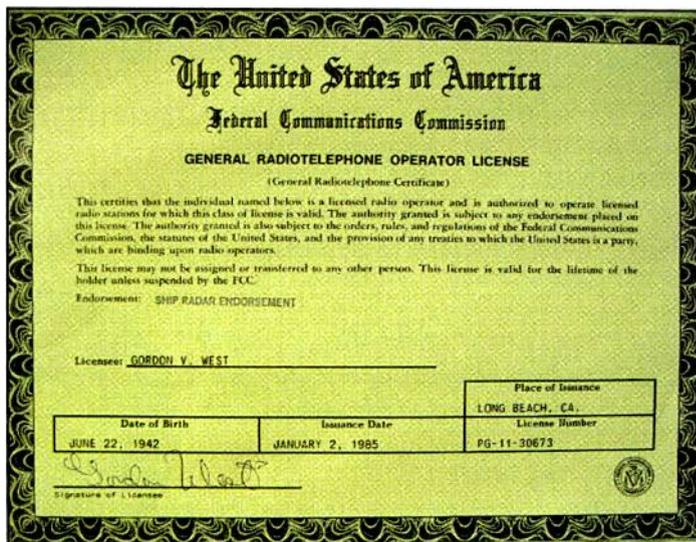
two-way land mobile radio service. Ten years later, it also eliminated a commercial license requirement to tune and adjust AM, FM, and TV broadcasts stations.

However, the FCC still requires the commercial GROL, by international law, for working on transmitters in the aviation service, the marine radio service, and international shortwave broadcast stations. The FCC also created a new license, a bit like the old Third Class license, called the Marine Radio Operator Permit (MROP). This non-technical license is required if you skipper a vessel with more than six passengers for hire, including running a simple water taxi service out on a lake or down at the local harbor.

To pass the MROP examination, you had to study about 150 total questions in the Rules and Regulations question pool, and take a written exam containing 24 questions on the test, scoring 74 percent or better. Updates to the test are currently in the works, as follows.

The Element 1 question pool is soon to be revised to bring it up to date with recent changes of FCC rules. The pool of possible questions has been dropped to 144, divided into four sub elements. There will be 24 key topics, six questions per topic, and one question from each key topic for 24 questions all together on your actual test.

The Commercial Element 3 is currently a 76-question test, and is soon to be expanded to a 100-question test. The proposed Element 3 pool has also been updated and streamlined, making the original 916 total possible questions a more manageable 600 in the proposed pool, many of them brand new. These new questions reflect changes in technology and technique that have occurred since the current pools were released nearly 13 years ago. A 74-percent grade gets you the license.



The General Radiotelephone Operator License (GROL) requires passing a 74-question test on technical subjects.

FCC Commercial Element 8 is the Ship Radar Endorsement. Currently, there are 321 total questions, of which 50 will be taken at random for your test. As proposed, the Radar pool will shrink to 300 total questions, subdivided into six sub-elements, with questions grouped into a total of 50 key topics. Each key topic contains six questions, with one exam question taken from each key topic. This is a 50-question test with a 74-percent passing grade.

The restructured Commercial Radio question pools were developed by active radio instructors. The logical layout of the new question pool also makes for smart teaching of these key topic areas. The Element 1 pools and regulations take about a week to learn in preparation for the test. Element 1 applicants should know the following:

- Marine Part 80 Rules and Regulations
- Communications procedures
- Equipment operations
- EPIRB equipment
- Search and Rescue transponders
- Survival craft radios
- NAVTEX

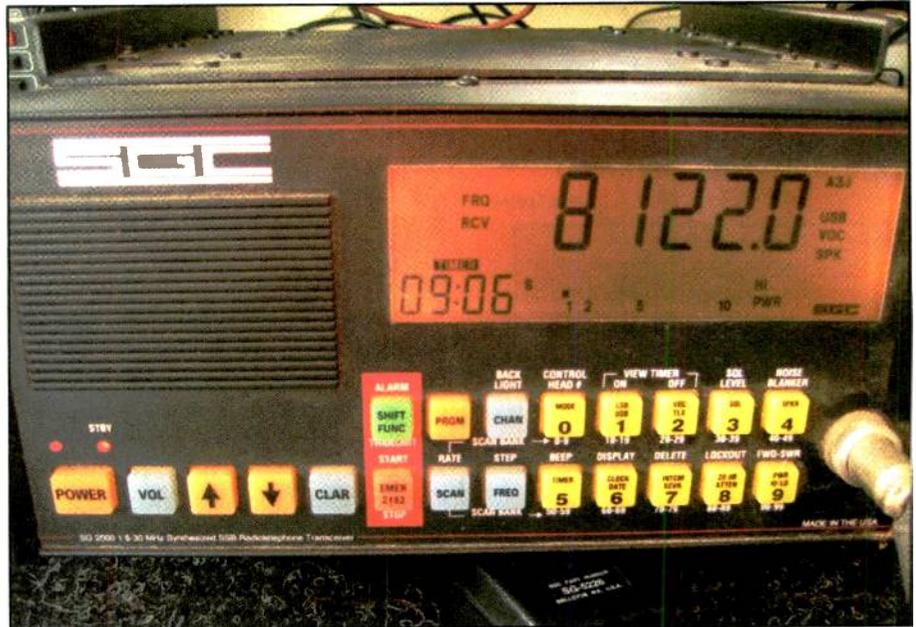
Preparing for the Element 3 GROL exam requires in-depth knowledge of radio electronics and covers the following:

- Principles of electrical circuits
- Electrical math
- Components
- Circuits and digital logic
- Receivers and transmitters
- Modulation
- Power supplies
- Aircraft radios
- Maintenance and repair of equipment
- Marine radios and Radar
- Satellite and Safety equipment

Making A License Work For You

If you plan to work in the marine electronics industry, both Elements 1 and 3 are your targets for GROL. College classes in electronics are always recommended. Of course, you could likely pass after a couple of months of exam question memorizing. If all you need is the license to get you into employment, the GROL is indeed a door opener.

Element 8 is the Radar endorsement. Many of the questions and theory come out of Navy Marine Radar training courses. Again, while memorization of the



It takes a minimum of a GROL-level license to adjust internal transmitter circuits on this marine SSB radio.

question pool can get you through the test, it will take years of experience to fully appreciate the importance of the new question pool. The Radar endorsement is added to your GROL.

If you just want to skipper a small water taxi, all you need is the Marine Radio Operator Permit, passing Element 1.

The MROP Element 1 exam pass is also required for GROL, as well as for becoming a Global Marine Distress Safety System (GMDSS) maintainer and operator aboard big ships. Both the GMDSS operator and GMDSS maintainer must also pass additional examinations. Elements 1 and 3 are required for your GROL, and are also to become a big ship radio equipment maintainer.

Holding the lifetime GROL license shows an employer your interest in working with electronics. But because the

question pools are public, holding the license does not necessarily guarantee you know a crystal from a klystron, and there are thousands of employers who still require the commercial license. Many city and county two-way radio shops also require the commercial license, even though there is no license requirement to work on land mobile or police radios.

If you plan to enter the field of marine electronics, the license is an FCC requirement to work on transmitters. If you plan to work on radars aboard boats or aircraft, you'll also need the Element 8 Radar endorsement.

Looking for a job? If you live near a marina, you may be able to put your license to work. Small passenger vessels that stay within the local harbor area may require an every-five-year radiotelephone inspection aboard the boat. You could

Commercial Operator License Exam Managers Contact Info

National Radio Examiners
Elkins International
BFT Training
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conduct an inspection of small passenger vessels (less than 100 gross tons) if you hold a GROL, subject to 47 CFR, Part 80, Subpart r or s. If you're an avid ham radio operator, you likely already own the modest amount of equipment necessary to certify that the VHF radio equipment on board is working properly.

Study Materials

Examinations are offered by teams of certified Commercial Operator license holders. There is no longer any FCC regulatory fee. Each element test is about \$35 per element

There are currently 10 national Commercial Operator License Exam Managers (COLEMs) with National Radio Examiners (NRE), one of the most active groups in the country (www.nationalradioexaminers.com). Amateur radio operators who have passed the Advanced and/or the Extra class exams, or who hold a current Extra class license, have seen something familiar in the recast Commercial Element 3 test: some of the exact same test questions! That is, if they take the exam before the new test questions hit town around this fall.

The older existing Element 3 exam was rapidly pulled together using many ham radio Advanced and Extra class test questions. In fact, a typical commercial examination taken today for Element 3 may contain as many as 50 ham-type questions, out of 74 multiple-choice questions. This may be a compelling reason to test now, rather than later.

The most popular GROL training book and software, covering Elements 1, 3, and 8, is available from NRE (see also www.w5yi.org). This 491-page book includes explanations after each multiple-choice question and answer. The book also contains over 100 pages of information about all of the FCC Commercial Radio examinations, the GMDSS Part 80 Rules and Regulations, pages of formulas needed to pass the Element 3 exam, and plenty of graphs and charts for technical and mathematical problem solving. All three examinations are multiple-choice, and the COLEMs are not permitted to change anything from the information already in public domain.

Test now or later? I would probably test now, based on the availability of current training materials and classes. ■

2 CQ calendar 2

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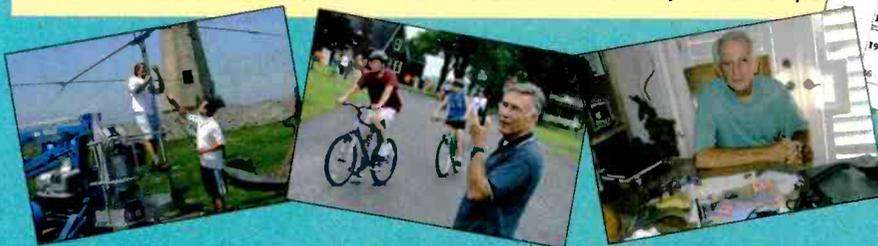
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Trivia And Toon

by R.B. Sturtevant, AD7IL

Q. How big was the Army MARS organization in Vietnam?

A. In 1965 the Army opened up six MARS (Military Affiliated Radio Service) stations carrying traffic to and from troops in the field and the folks at home. One of the smallest Army Communications Operations, MARS was also one of the most important to the troops who used it.

Phone patch service began in 1966, allowing service members to call the stateside receiving station of an amateur radio operator, who would phone their families. The only cost involved were the phone charges from the radio station to the families' homes, and then only if the charges were long distance. By 1969 there were 47 stations working in "The Nam," keeping our troops in touch with "The World." The all-time high point in MARS usage was in 1970 when 42,000 MARSgrams and phone patches were sent and received per month.

MARS is still active in the Army, Air Force, and Navy-Marine Corps. If you'd like to pitch in, you should know that the basis of a MARS station, both then and now, is a regular off-the-shelf amateur radio from your favorite ham radio store. The only adjustment you'd need to make is to modify your set to work on the special frequencies set aside for MARS and other military uses.

Q. I've heard that anybody can learn Morse code, but I'm not sure that I believe it. Aren't there just some people who can't do it?

A. Perhaps so, but I'll go along with the CIA on the subject. Around 1958, a CIA trainer was assigned to work with six men who were scheduled to return to their native Tibet to report on condi-

tions there, as well engage in some cloak-and-dagger stuff against the local Communists. Four were Buddhist monks and two were traders. All six were illiterate. The trainer moved into their quarters, working with them through a translator for long hours. He taught the Tibetans what they needed to know to send CW at 12 wpm or more. All six were parachuted back into Tibet and later all were heard on the radio. Apparently it's primarily a matter of determination and regular daily practice.

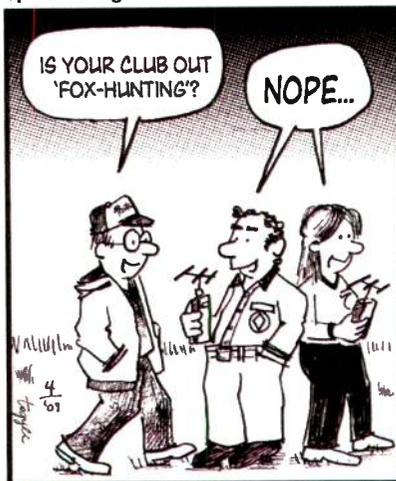
Q. You said in a recent column that the Army's Signal Corps was involved in frequency hopping exercises as early as 1916. I thought actress Hedy Lamarr got a patent for what we now call frequency hopping during World War II. Which is right?

A. Both are right. Changing frequency often during a message was first discussed in open literature in 1908. The German author of *Wireless Telegraphy*, radio pioneer Johannes Zenneck, suggested the possibility. His book was translated into English in 1915. In 1916 successful tests were completed at Fort Leavenworth by the Signal Corps using two operators for sending on two sets, switching sending duties back and forth, and two assistants for changing frequencies on the prearranged plan. Another team of four men received at a remote location with a similar arrangement.

A Polish Army officer also earned a patent in 1928 with related ideas, and several more were issued during the 1930s. Hedy Lamarr's patent was for giving directions to torpedoes after they had been fired from ships or submarines. It was described as the child of a player piano married to a torpedo. She planned to use 88 separate frequencies and the player roll of a player piano to change the frequencies. Her patent for a "Secret Communications System," No. 2,292,387 held jointly with musician George Antheil, was awarded in 1942, but it was thought to be impractical for actual development and expired. Nevertheless, Lamarr considered this one of the most important things she had done in her life. She reportedly said "Films have a certain place in a certain time period. Technology is forever."

During World War II, however, the Signal Corps developed and used the SIGSALY communications system involving frequency hopping. It remained classified until 1980. The principle is now an important part of spread spectrum transmissions and its use continues in many forms today.

Spurious Signals



By Jason Togyer KB3CNM



Concluding The Hickok Traceometer Saga

by Peter J. Bertini
radioconnection@juno.com

“A short antenna wire on the Traceometer RF-IF makes a nifty and surprisingly sensitive TRF radio receiver...”

This will be the concluding episode for the Hickok Indicating Traceometer. We'll wrap up the loose ends by covering the restoration of the input attenuators for the AF volts, DC volts, RF-IF and oscillator channels. I'll also give some brief notes on the test leads and some tips on calibrating the Traceometer.

The Hickok channels use four switched attenuators. The DC and AF (audio frequency, or AC voltages) channels both use attenuators comprised of switched resistive voltage dividers, while the oscillator and the RF-IF channels use stepped capacitive voltage dividers. The attenuators are located along the lower bottom of the front panel and can be seen in **Photo A**. Traceometer owners will need to have a copy of the original manual on hand to follow these discussions (see <http://bama.sbc.edu/hickok.htm>).

DC Voltmeter Channel

The DC volts channel has ranges of 2.5, 5.0, 20, 50, 250, and 500 volts full scale. In operation, the meter is set to mid scale, and the meter has

calibrated scales for reading either positive or negative voltages either side of center. This also means the meter scale resolution is somewhat limited, but it was adequate for the needs of early radio shops. The meter is also a VTVM (vacuum tube voltmeter) with a very high input impedance and unlikely to load circuits when taking readings.

Six resistors are used in the DC voltmeter attenuator. Unfortunately, none of the original factory resistors were found to be anywhere near tolerance! For best accuracy, I suggest using at least 2% tolerance 1/2 to 1 watt metal-oxide replacement resistors; these are available in the NTE Electronics (www.nteinc.com) line of replacement metal oxide resistors. There will be a few instances where you will need to use two (or three) resistors in series to create the odder, nonstandard values. For example, I suggest using two 300k ohm resistors in series to replace the 600k-ohm resistor; and a 2.7M ohm and a 3.3M ohm in series to create a replacement for the original 6.0M ohm resistor. Heat shrink tubing can neaten up the appearance of the paralleled resistors, as can be seen in **Photo B**. Although this is a photo of the AF channel attenuator, it is also physically representative of the DC attenuator. If you wish, NTE also offers 1% tolerance resistors, but these will cost more and might be harder to find.

The DC volts channel requires a test lead with a fixed 3M ohm resistor in the probe body, as close to the tip as possible. The resistor provides decoupling, and this allows making DC voltage measurements in circuits that have RF signals that could be affected by stray lead lengths, such as local oscillators and in RF and IF amplifier stages; for example, when checking oscillator grid bias voltage in a radio's local oscillator stage. Note that the 3M ohm resistor is also part of the input attenuator and must be used for measuring voltages or when calibrating the DC meter. An internal chassis-mounted pot sets calibration. The 150-volt voltage regulator (VR-150), and the 5-volt IC supply (used to replace the original battery pack) are both good reference voltage sources for checking meter calibration.

AF Volts Channel

The input attenuator for the AF volts channel is very similar to the circuit used for the DC volt-

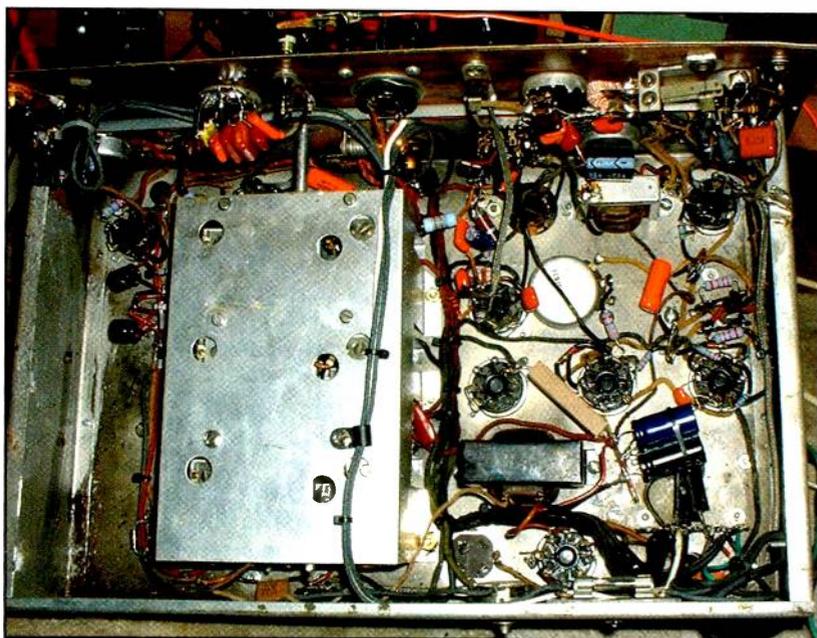


Photo A. This is an under-chassis view of the restored Traceometer. The channel attenuators are along the bottom of the front panel (towards the top in the photo). The nine access holes (three for each range) for aligning the RF-IF channel band-switch trimmer capacitors are visible on the top of the band-switch shield cover.



Photo B. A view of the replacement resistors used to rebuild the AF volts channel attenuator. Black heat shrink tubing kept things neat whenever two or more resistors were used to replace a single odd value. The attenuators for the AF and DC channels both use resistors and are very similar in appearance.

meter channel. This channel provides a wide range AC voltmeter for voltages from 0.1 to 500 VAC full-scale. It's useful for measuring both AC supply voltages and for audio (AF, or audio frequency) levels. As with the DC attenuator, you may need to use two or more 2% NTE metal oxide resistor values in series to come up with values equal to some of the odder original values. Refer again to **Photo B** to see the restored AC attenuator assembly. Once more, black shrink tubing was used as needed. The original Hickok probe for the AC channel used no internal parts and connected the measured point directly to the input of the Hickok AC channel jack.

The Oscillator And The RF-IF Channel Attenuators

To keep things moving along, I'm going to combine these two channels into a single discussion. Unlike the voltmeter channels, both the oscillator and RF-IF channels use stepped capacitors in the input attenuators as voltage dividers. While the voltmeter attenuator resistor tolerances merited some concern, the capacitor tolerances in these two channels are a bit less demanding. First, the overall accuracy of the instrument assumes that the original, calibrated test leads and probes that were supplied with the instrument are still in existence. Alas, in most

instances they've become long separated from each other and are not to be found. I'll provide some data later so you can make your own replacements, however.

The test lead lengths and stray capacitances, as well as the values of the two small decoupling capacitors in the probe tips, greatly influence the accuracy of both of these channels. Furthermore, the

wax-paper capacitors used in the attenuators probably had very wide tolerances to begin with. The nearest available modern capacitor values will probably work as well as the parts specified in the original design. For example, where a 0.25 μF capacitor was used originally, a modern 0.22 would probably suffice.

I was pickier, and to ensure better accuracy, I tried using parallel values as needed to approximate the specified values. For example, for the original 0.25 μF capacitor I used 0.22 μF and .033 μF capacitors in parallel; getting as near to the 0.25 μF value as reasonably possible. I would guess the original wax-capacitors had a 20% tolerance to begin with, so be governed accordingly.

The smaller value capacitors are probably more critical, but silver mica or good-quality Mylar capacitors will do. I suggest using capacitors with at least a 500-volt rating. **Photo C** is a close up view of the replacement capacitors used for the oscillator channel attenuator. This attenuator is physically representative of the one used for the RF-IF attenuator and will serve as a model for that channel's attenuator reconstruction.

The original RF test lead probe had a 0.85 pF capacitor in the tip; the closest near modern value would be 0.82 pF. The RF-IF test lead probe used a 1.2 pF capacitor at the tip. I'd suggest making a "gimmick capacitor" (two short lengths of insulated wire twisted together) to permit trimming the values to calibrate those



Photo C. This is a close-up of the capacitors used in rebuilding the oscillator channel attenuator.

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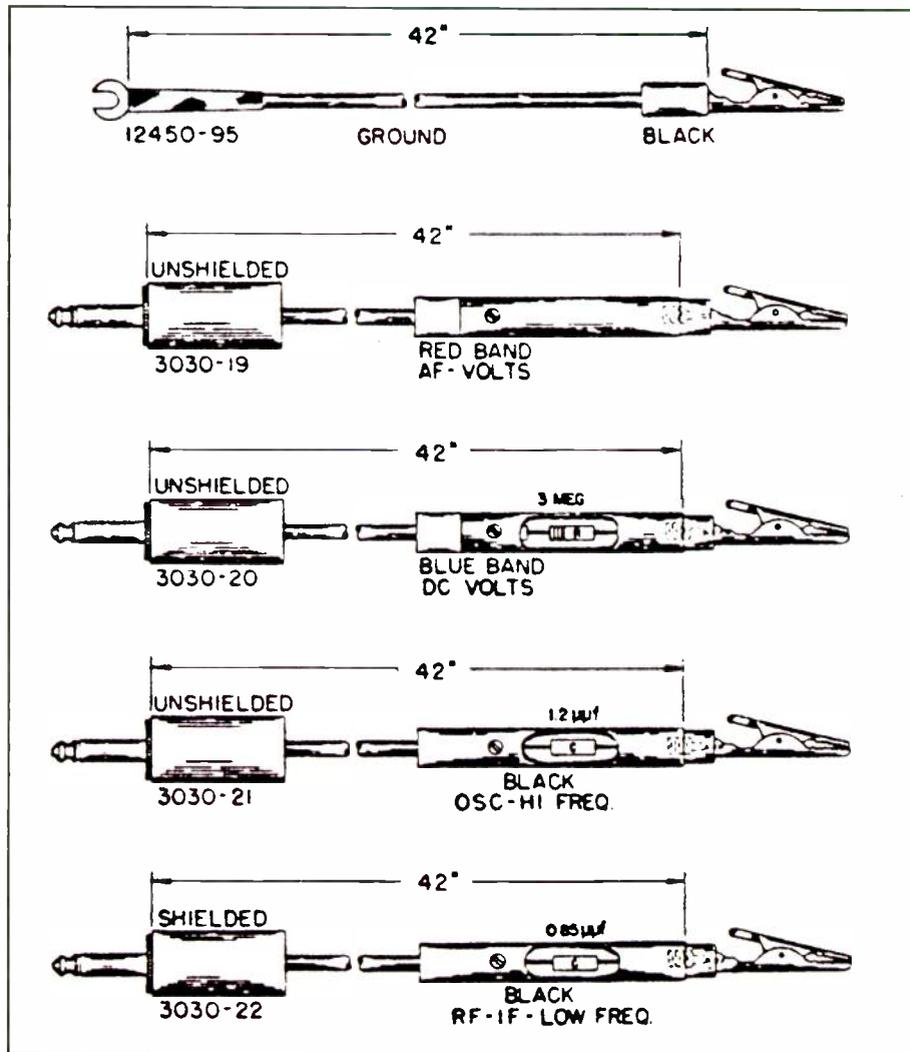


Figure 1. Unfortunately, the original factory Hickok Traceometer test leads and probes are often missing. Perhaps they were inadvertently separated from their companions and lost over the eons, or simply worn out and discarded by the original owner. Here's a copy of the test lead drawing from the Hickok manual. Suitable replacements can be made based on this information.

channels to a known RF reference level. The oscillator channel provides a means to verify oscillator activity and a rough indicator of the oscillator frequency, injection level to the mixer stage, etc. The RF-IF channel is much more sensitive and allows measuring stage gain and losses as the signal progresses from the antenna to the detector.

The **Figure** is a copy of the pictorial drawing for the channel probes as shown in the Hickok manual. Note that the RF-IF test lead cable is the only one that needs to be shielded. The length and type of cable (internal capacitance) will affect the calibration of that channel; but the value of the 1.2 pF capacitor could be changed to compensate for this. I'd like to do a future column showing how to make inex-

pensive replacement test leads and probes for various types of test equipment. Is this something you'd be interested in? Drop me a line and let me know.

Alignment

The Traceometer's RF-IF channel will probably need to be aligned after years of storage. First, ensure that the mechanical dial calibration is correct. Both the oscillator and RF-IF scribed reticules on the clear plastic pointers should align (when turned fully counter-clockwise) with the *adjustment line* on both dial scales, as seen in **Photo D**. Each range (100 to 250 kHz, 250 to 650 kHz, and 650 to 1800 kHz) has three compression mica capacitors for aligning range on the upper end



Photo D. Before aligning the RF-IF or oscillator channels, check that the reticules scribed in the clear plastic pointers correspond to the *adjustment line* markings on the dial scales at maximum counter-clockwise rotation. Mechanical alignment sets the lower frequency calibration, while the high-end calibration is done electrically via mica compression trimmer capacitors.

of each tuning range. These are accessed through tuning holes on the shield cover over the bandswitched coil assembly.

The 650 to 1800 kHz trimmers are in a row towards the closest edge of the chas-

sis side apron. The middle set is for 250 to 650 kHz and the set nearest the center of the chassis is for the 100 to 250 kHz range. (See **Photo A** and refer to the factory manual.) The trimmers are tuned for

maximum response to a signal at the high end of each scale. A convenient, strong AM broadcast station can be used.

The oscillator alignment is far easier. Each of the three tuning ranges (600 to 1700 kHz, 1.7 to 5.0 MHz, and 5 to 15 MHz) is set by a single trimmer for the high end of each range. The trimmers are located in the shielded coil assembly, located just behind the wattmeter. The oscillator channel is much less sensitive than the RF-IF channel. A short antenna wire on the Traceometer RF-IF makes a nifty and surprisingly sensitive TRF radio receiver (the audio can be fed through the AF channel and to the speaker).

Now, Putting It To Work

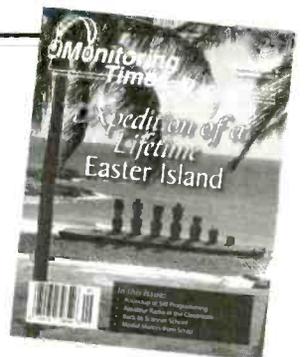
Well, that's all I have for the Hickox Traceometer restoration. It's been a long road, and I hope you found it interesting. I'm anxious for a chance to put the Traceometer through its paces while doing one of my future restorations. It'll be fun following in the footsteps of the original owner and seeing whether these devices were as useful as their manufacturers claimed.

Until we meet again in our next column, keep those old tubes glowing and those soldering irons warm! ■



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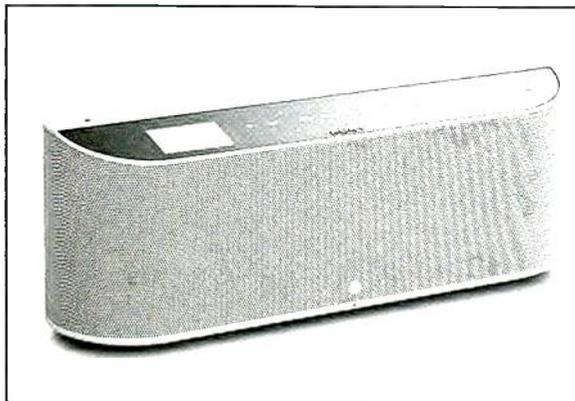
Radio In Recession: Corporations Counter With Cutbacks

by Bruce A. Conti
BAConti@aol.com

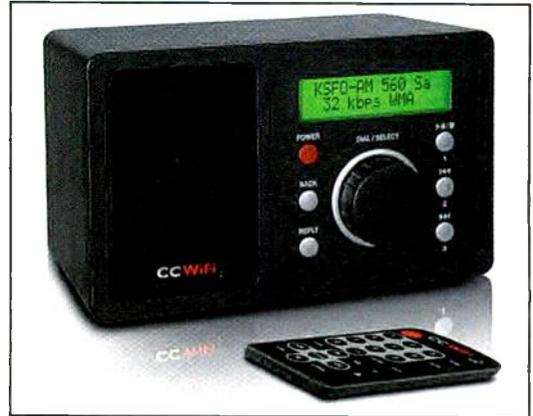
"CBS Radio announced that significant reductions were being implemented in the operation of its AM and FM radio stations," reported Paul Graveline, K1YUB, on the Boston Area DXers email reflector. He continued,

As has been noted in the press, personnel and program changes have already taken place. An across the board reduction of 10 percent has been mandated as a matter of policy. This 10% reduction will require WBZ Newsradio 1030 to shift frequency to 920 to comply with corporate policy as all CBS owned AM and FM stations will be required to cut both power and frequency by 10%. It is anticipated that other broadcasting organizations will follow. As a result a complete realignment of the North American AM band is anticipated.

Of course the conservation of cycles per second by reducing frequency is only the April foolery of a good imagination, but the current economic recession is having a very real impact on radio. Advertising revenue is down and the big conglomerates are reacting with massive cost cuts. AM radio has taken the brunt of the cutbacks because of declining ratings and the perception that nobody listens to AM. CBS-owned 660 WFAN, 880 WCBS, and 1010 WINS in New York City have restructured into a single radio "cluster" to consolidate sales and eliminate top management positions. Budgetary cuts at 980 KFWB and 1070 KNX Los Angeles forced the layoff of air staff and the closing of local news bureaus. 1080 WTIC Hartford lost two of its most popular daytime anchors despite public outcry.



The Sony Vaio WA1 Internet radio.



The C. Crane wi-fi Internet radio with remote control.

The most devastating loss among CBS radio stations, however, was felt at WBZ Newsradio 1030 in Boston where local nighttime talk personalities Lovell Dyett and Steve LeVeille were abruptly replaced by nationally syndicated talk programs, leaving the region without relevant local talk overnight.

CBS Radio isn't the only one stung by the recession. Cuts in the past year at ABC/Citadel and Clear Channel radio stations have hurt 630 WMAL Washington, D.C., 770 WABC New York, 790 KABC Los Angeles, 850 KOA Denver, 1150 KTLK Los Angeles, 1290 KCUB Tucson, 1500 KSTP St. Paul-Minneapolis, and the list goes on. National Public Radio isn't immune to the economic downturn either, cutting staff for the first time in 25 years due to a double-digit decline

"...Radio 2020 is promoting 'Radio Heard Here' at www.radioheardhere.com as 'your place to come and listen to thousands of streaming stations nationwide, learn about the latest innovations in radio products, and explore radio's future.'"



in funding. Chicago Public Radio WBEZ was hit especially hard with several staffers pink-slipped. Maine Public Broadcasting shut down two FM radio stations, 89.7 WMED Calais and 106.5 WMEF Fort Kent.

The local radio cutbacks weren't necessarily bad news for everyone, though. The layoffs of local talent mean more time slots to be filled by nationally syndicated programs and infomercials, much to the chagrin of local radio fans.

Radio Heard Here

According to the National Association of Broadcasters (NAB), an estimated 235 million people listen to radio every week, the average American spends 126 minutes a day listening to the radio, and talk radio has surpassed country music as the most popular radio format. In cooperation with the Radio Advertising Bureau and the HD Digital Radio Alliance, the NAB has launched the Radio 2020 campaign in anticipation of the centennial anniversary of commercial radio broadcasting and to promote the future of radio. It was the broadcast on November 2, 1920, of the Harding-Cox presidential election returns on KDKA Pittsburgh that is considered the birth of radio broadcasting.

Now broadcasters want to ensure that radio will continue to excite listeners to the airwaves through the next century. In that effort Radio 2020 is promoting "Radio Heard Here" at www.radioheard-here.com as "your place to come and listen to thousands of streaming stations nationwide, learn about the latest innovations in radio products, and explore radio's future." The website features a virtual AM/FM/HD tuning dial that can be preset by postal zip code to receive streaming audio from any location, the latest Top 40, Urban, and Country music national airplay lists, and press releases about new products. Do you have ideas about how to improve radio? Radio Heard Here wants to hear from you by email to support@radioheardhere.com.

Internet Radio Is Hot

At this year's Consumer Electronics Show (CES) in Las Vegas, Blaupunkt

This Month In Broadcast History



75 Years Ago (1934): Crosley radio station WLW was granted permission to broadcast with 500 kW of power under experimental license W8XO. Long before there was an *American Idol*, the *Major Bowes Original Amateur Hour* talent show premiered on 1010 WHN radio (now 1050 WEPN) in New York City, moving to CBS radio the following year and then to television in 1948 where it remained on the air until 1970.

50 Years Ago (1959): The first issue of *Broadcast Engineering* magazine was published. "Venus" by Frankie Avalon reached number one on the Top 40 charts with "Come Softly to Me" by the Fleetwoods on the rise.

25 Years Ago (1984): The Association of North American Radio Clubs celebrated 20 years of service with a commemorative QSL card issued for reception of special SWL Digest programs marking the anniversary on Radio Canada. A bill to amend the Communications Act of 1934 to create pre-sunrise and post-sunset authorizations for daytime-only AM radio broadcasters was referred to the House Subcommittee on Telecommunications for debate. The local news and analysis program *Chicago Tonight with John Callaway* debuted on WTTW Channel 11 where it's still going strong.

(www.blaupunkt.com) announced the first-ever Internet car radio. Internet streaming audio is received via a Bluetooth connection to the 3G Network. The Internet car radio is expected to be available this summer. This entry into the automotive market clearly indicates the growing popularity of Internet radio, possibly the most exciting new technology for home audio since surround sound.

Also at CES, VTech (www.vtech-phones.com) introduced the IS9181 Internet radio, which connects to streaming audio via the standard 802.11 home wireless network. The IS9181 is self-contained like a boom box, powered by batteries or an AC adapter, and has speakers that provide 2.1 stereo sound. Like the innovative Blaupunkt Internet car radio, this represents a bold move for VTech and is its first entry into the home audio market.

C. Crane, Sangean, Sony, and Tivoli Audio are familiar manufacturers already offering Internet/Wi-Fi receivers. They all connect to the Internet via an 802.11 broadband wireless or wi-fi network and use online services like DeliCast.com, Live365.com, and Reciva.com to customize tuning preferences. A wi-fi Yagi antenna like the MFJ-1800 16-element beam antenna can extend the reception range of a home wireless signal, or pick up nearby free wi-fi signals.

The Internet could very well be the future of radio. In fact, it already is "the future" of radio in Austria for the Österreichischer Rundfunk (ORF) network station on 1476 AM. The station recently signed off permanently in favor of

Internet streaming audio exclusively. ORF was the last AM radio broadcaster in Austria, leaving the nation without an AM radio station. In Switzerland, the historic radio station at 531 kHz from Beromünster has also gone dark. The sole remaining AM radio station in Switzerland is the RSR French-language outlet at 765 kHz. So it appears, at least in parts of Europe, that the future of radio is already here.

Broadcast Loggings

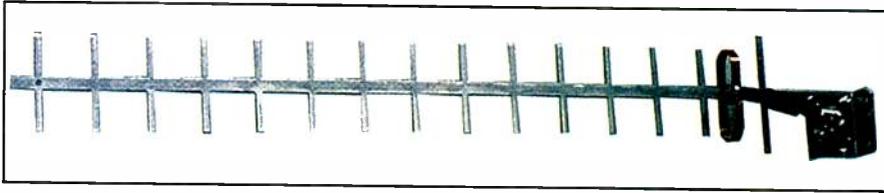
Old-fashioned AM DX is right heard here. All times are UTC.

189 Rikisútvarpid, Gufuskálar, Iceland, at 1107 good at this late hour with a man and woman in Icelandic and a couple of tunes in Icelandic. Heard most mornings, I call it "Breakfast with Iceland." Signal lost to Iceland sunrise at 1130 UTC. (DeLorenzo-MA)

234 RTL Junglinster, Luxembourg, at 0146 partially readable sandwiched between two beacons. Rotating the PK Loop antenna I could either amplify a 232 kHz beacon, RTL, or a 237 kHz beacon. Using the Sangean CST-818 barefoot, this one was threshold and the beacons slightly weaker. 0341 good tuned right in the center of the wanted frequency to somewhat attenuate 232 and 237; "Musique" by France Gall from 1975, then RTL ID and time-check, "4 heures quarante-et-une." (Chiochiu-QC)

590 KSUB Cedar City, Utah, at 0300 with close of Michael Savage, into news, ID, "590 KSUB Cedar City," to Laura Ingraham at 0307. (Barton-AZ)

612 4QR Brisbane, Australia, at 1707 a remix of Peter Gabriel's "Games Without Frontiers," then a liner and phone calls. Poor to very poor; barely audible by 1715. (Park-HI)



The MFJ-1800 Wi-Fi Yagi beam antenna.

670 KMZQ Las Vegas, Nevada, friendly verification letter, bumper sticker, and business card from Bill Gardner, Market Personality of the Year, received in seven days after follow-up. Address: 3999 Las Vegas Blvd #K, Las Vegas NV 89119. Nevada QSL #40 and MW QSL #3002. (Martin-OR)

720 KNR Simiutaq, Greenland, at 2207 a man in Danish with mention of "some political agreements." There has been news of late concerning Greenland severing some ties with Denmark. Poor to fair in Latin American interference. Language verified Henrik Klemetz via RealDX. (Black-MA)

730 KQPN West Memphis, Arkansas, at 2328 sports talk, ID, "...730, foxsports.com" and an ad for a local athletics store. Good signal with slight fading. (New-GA)

750 YVKS Caracas, Venezuela, at 0035 a woman in Spanish way under WSB Atlanta. The only South American noted the past evening. Conditions on mediumwave for both Latin American and transatlantic reception

seemed short-skip dominated. On 760, WJR Detroit was almost un-nullable with not even the faintest trace of the Colombian RCN powerhouse. (Chiochiu-QC)

810 ZNS3 Nassau, Bahamas, at 0007 a man in Island English reading obituary reports, then "Radio Bahamas news time seven minutes past the hour of seven." Fair to good with co-channel WGY phase nulled. (Black-MA)

810 HJCY Bogotá, Colombia, at 0013 an interview with founder of the FARC guerrilla movement, Manuel Marulanda Vélez, aka Tirofijo, who died last year. Then discussion about the ELN guerrilla group and one of its most prominent members, father Camilo Torres Restrepo, killed in action in 1966. Fair with WGY phased. Thanks to Henrik Klemetz and Sylvain Naud via RealDX for translation. (Black-MA)

927 VRT Radio Een, Wolveterm, Belgium, heard at 2110 fair with pop and rock music, and a man and woman in Dutch. Parallel to webstream via delicast.com. First time heard in years. (DeLorenzo-MA)

950 KXJK Forrest City, Arkansas, monitored at 2350 talk of happenings in east Arkansas, ad for a business located in east Arkansas, "You're listening to KXJK." Good signal with slight fading. (New-GA)

990 KWAM Memphis, Tennessee, at 0506 an ad for a BYOB party at the VIP Lounge, ID, The new voice of Memphis, KWAM." Decent signal fading into the mix. (New-GA)

1044 SER Radio San Sebastián, Monte Igueldo, Spain, at 2158 good; network talk with synchro echo. 2159 local break with Radio San Sebastián ID; well on top of the other SER station. 2200 synchro echoed time marker into news. (Conti-NH)

1070 HIBI San Francisco de Macorís, Dominican Republic, at 0000 fair, but briefly dominant over nulled CHOK; announcements for "Una hora" with San Francisco de Macorís address and phone number. New log. Thanks to Jean Burnell, Rocco Cotroneo, and Mauricio Molano Sánchez of RealDX for help with identification. (Conti-NH)

1080 WHOO Kissimmee, Florida, at 2345 under co-channel WTIC Hartford with an ad for Orlando Hair Replacement during local break. (Conti-NH)

1089 TalkSport, United Kingdom, at 2158 good with several IDs just as I tuned in followed by sports headlines and the *George Galloway Show* discussing Iraq, Deep Throat, Caroline Kennedy, etc. (DeLorenzo-MA) At 2200 good; "From the Sky News Center,

TalkSport News at Ten," lead story about rail service disruption. Weak 1 kHz het on the low side likely from 1088 Angola. (Conti-NH)

1134 Glas Hrvatske, Zadar, Croatia, at 2210 loud and clear with an interview in an East European language and folk music. Minimal splatter from 1130 WBBR. Best signal ever from this station. (DeLorenzo-MA)

1140 CMIP Radio Surco, Ciego de Avila, Cuba, at 0003 full ID, "Esta es Radio Cuba..." and then "Radio Surco." Good signal. (Black-MA)

1206 France Info, Bordeaux, France, at 0000 an excellent signal; "Un heure France Info," and fanfare into *Le journal* news. Audio uploaded to Loco the DX Cat page of dxclipjoint.com. (Conti-NH)

1215 Absolute Radio, United Kingdom, at 0201 excellent; "Here's a scary thought. You're only six degrees of separation away from Gary Glicker. Here's a scarier thought. You're only two degrees of separation away from someone who doesn't know we're called Absolute Radio." Audio uploaded to Loco the DX Cat page of dxclipjoint.com. (Conti-NH)

1215 Voice of Russia, Bolshakovo, Kalinigrad, at 2100 fair, over Absolute Radio; "Vy efire Golos Rossii, Novosti" into news in Russian, the same intro as often heard on 999 Moldova. (Conti-NH)

1270 WTJZ Newport News, Virginia, at 2302 gospel music and ID, "...the light from the Lighthouse, WTJZ." Weak signal all but buried in the mix. (New-GA)

1431 Radio Kultura, Kopani, Ukraine, at 2300 sign-off with announcement by a woman including Radio Kultura mention, music or chimes—possibly an interval signal or theme music—then carrier was cut, sign-off coinciding with *WRTH* listed program schedule. A couple nights later at 2200 heard apparent scripted top of the hour ID with the same woman and theme music, then a program featuring pipe organ and flute instrumentals. New country. (Conti-NH)

1566 TWR Parakou, Benin, at 2200 fair; repeating interval signal, "This is the international voice of TransWorld Radio, Benin," and announcement in an African language. The interval signal was an African instrument, not the usual TWR signal. Audio uploaded to Loco the DX Cat page of dxclipjoint.com. (Conti-NH)

1700 XEPE Tecate, Mexico, at 1115 good and atop jumble briefly with block of ads that included one local ad for "Conscious Sedation Dentistry. Call Doctors Decker and McClanahan at 619-543-1588 or visit www.sdsedationdentist.com and start healing." Internet search shows this dental office is on El Cajon Blvd in San Diego. First new one from Baja California in 30 years! (DeLorenzo-MA)

Thanks to Rick Barton; Chris Black, N1CP; Bogdan Chiochiu; Marc DeLorenzo; Patrick Martin; Bert New; and Dale Park.

Until next time, 73 and Good DX! ■

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Retune Your Shortwave Dials— CHU Moves To 7850.0

by John Kasupski,
KC2HMZ,
kc2hmz@verizon.net

“[CHU’s] 7850 kHz transmitter seems to be going strong and putting out a solid signal, which as I write this, has already been logged by utility DXers as far away as Italy.”

Some time ago, this column featured an in-depth discussion of an old friend, Canadian time station CHU, and its struggle to remain licensed for operation on its 7335 kHz frequency. Located 15 km southwest of Ottawa, Ontario, Canada at 45° 17' 47" North, 75° 45' 22" West, CHU has disseminated official Canadian government time signals since 1929. Originally known as VE9OB, it switched to the CHU call letters when these were assigned to the station in 1938.

Those who recall that column will remember that changes to the international frequency allocations threatened the existence of the station. The station ultimately remained on the air, as was also duly reported in this space. However, CHU’s operation on 7335 kHz was, in many reception locations, subject to interference from various sources, including a relatively strong new signal from a shortwave broadcast station in the southeastern U.S. The latter, unfortunately, often turned 7335 kHz into the home of an irritating heterodyne whine here at my listening location in western New York State, and I can well imagine that other listeners experienced similar, less than encouraging results.

Since I love bringing you good news, I’ll now come to the point: As of January 1, this situation

has been rectified. The station continues to transmit 3000 watt signals on 3330 and 14670 kHz, but as of January 1, CHU’s former 7335 kHz operation has moved. The station now transmits a 10,000 watt signal on 7850 kHz. The mode is the usual USB with carrier reinserted—the same as what’s transmitted on the other two frequencies. The station uses individual vertical antennas for each frequency. The electronic systems feeding CHU’s transmitters have both battery and generator backup power (the generator can also power the transmitters), and there are redundant backup electronic systems for reliability.

The 7850 kHz transmitter seems to be going strong and putting out a solid signal, which as I write this, has already been logged by utility DXers as far away as Italy. The station actually began transmitting on the new frequency a couple of hours before revelers ushered in the new year, and my sources indicate that these test transmissions were logged by numerous listeners in the U.S. and in Europe.

Since this represents an opportunity for listeners to QSL an old station on a new frequency, we’ll save you some legwork. You can QSL CHU by sending a reception report to Radio Station CHU, National Research Council of Canada, 1200 Montreal Road, Bldg M-36, Ottawa, Ontario, Canada K1A 0R6. Alternatively, you can send your report by email to radio.chu@nrc-cnrc.gc.ca. Unlike many utility stations out there, CHU does acknowledge listeners’ reception reports (**Photo A**).

While I’m on the subject, remember our New Year’s Resolution for SWLs? Digital monitoring enthusiasts may already be aware that it’s possible to decode the time frame transmitted by CHU (and several other time signal transmissions as well) with the software clock (**Photo B**) that comes bundled with Patrick Lindecker, F6CTE’s MultiPSK package, available from its author’s website at <http://f6cte.free.fr/>.

The free version of MultiPSK allows users to decode the time frame transmitted by FRANCE-INTER, DCF 77, HBG, RUGBY, WWVB, WWV/WWVH (in AM or in SSB), CHU, and JYJ. The program can also provide date and time from a GPS device, or from an RFC868 Internet time server.

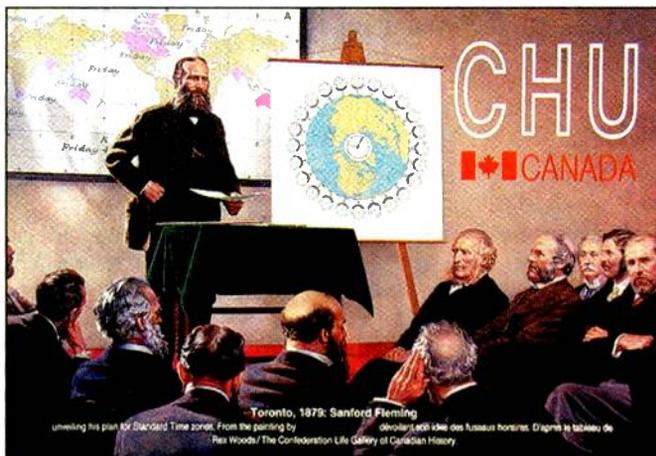


Photo A. Canadian time station CHU acknowledges listeners’ reception reports with colorful QSLs cards—and you can now get one by logging CHU on a new frequency.

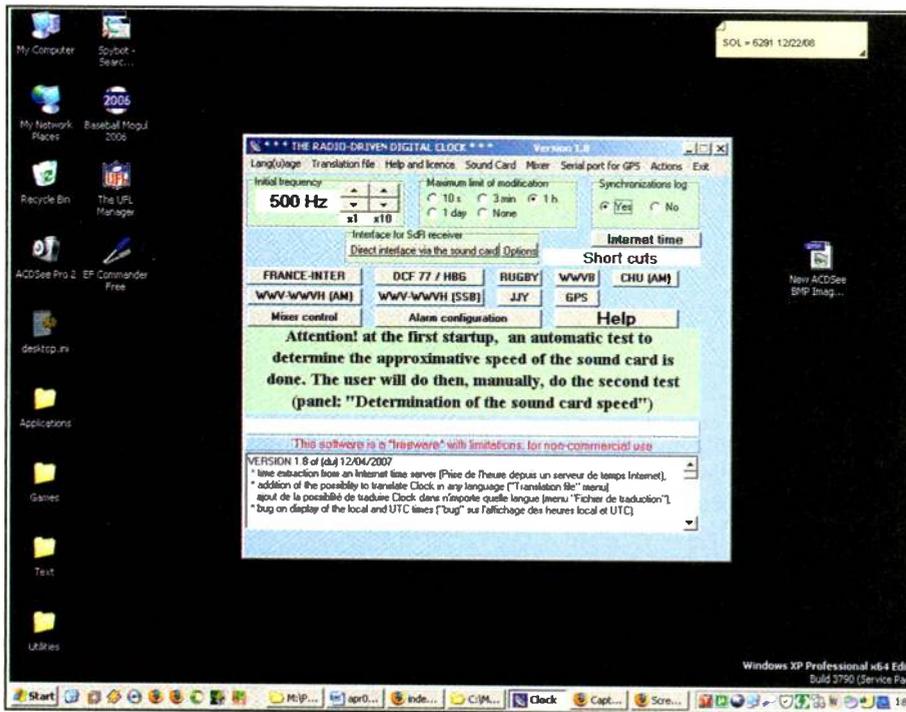


Photo B. The software clock bundled with MultiPSK can grab the time from time stations such as CHU; see column text. (KC2HMZ photo)

Now, I'll allow myself to briefly get off on a tangent here, for the benefit of those who aren't Internet-savvy enough to understand that last reference. RFC868 is a standard whose purpose is to provide a site-independent, machine-readable source of the current date and time. Its use has largely been superseded by Network Time Protocol (NTP). It may therefore seem odd to have a Windows program (which MultiPSK is) using a protocol that Windows itself does not incorporate. However, the RFC868 standard is still supported by many popular UNIX-like operating systems (OpenBSD, FreeBSD, Red Hat Linux, etc.) and thus is still recognized by many time servers on the Internet where the system administrators have enabled the function. These are the servers from which you would obtain the time, so it doesn't matter that Windows uses NTP, as long as your application and the time server are both using the RFC868 protocol.

Now, to get back to our discussion. The commercial (paid) version of MultiPSK further allows you to synchronize the local and UTC time of your PC with the received time (accurate to within about one second of the received time). The commercial version also includes a function that begins an action (such as startup of a program) at a user-defined time. This function makes the clock similar to a digital alarm clock, but somewhat more ver-

satile: it can even be used to toggle the status of pins on a serial port! The software clock program also includes provisions for an interface to a software-defined radio (SDR), so if you're fortunate enough to have an SDR at your disposal, you can use it to get the time frames from CHU and the other stations listed above.

The Canadian government assures us that despite the change to 7850 kHz, the frequency of the carrier is still synchronized to an atomic frequency standard. Therefore, the hobby now has not only a new target for "wallpaper" collectors; we also have a new reference frequency! Thus, the whole affair turns out to be a blessing in disguise. And who doesn't love a happy ending?

Reader Logs

And now, we proudly present another fine collection of logs, submitted this month by Al Stern, Satellite Beach, FL (ALS); Mark Cleary, Charleston, South Carolina (MC/SC); Steven Jones, Lexington, KY (SJ/KY); Chris Gay, Lexington, KY (CG/KY); and Glenn Valenta, Lakewood, CO (GV/CO).

While I don't often enough find the time to say it, I'd have a pretty sorry show here without the many contributions of *Pop Comm* readers. Therefore, I'd like to express my gratitude to the guys who sub-

mit these logs and also encourage those of you who don't do so to start! Of course, if sending in loggings isn't your speed, we also have a special affinity for shack photos here, such as the nifty shot of Chris Gay, KU4A, a frequent contributor whose well-equipped station (with KU4A himself at the controls) is shown in **Photo C**. Consider that a hint!

And now let's go to the loggings...

2311.0: Arklow Shipping, Ireland, in QSO with various ships (including *Arklow Rainbow*) receiving posreps in USB at 2022Z. (CG/KY)

3455.0: New York Radio wkg Transat 498 for position report; confirms routing; handed off to Miami Ctr's 132.2, in USB at 2340Z; New York wkg Jet Blue 893; passed primary as 5520 kHz, backup 6586 kHz, in USB at 2338Z. (ALS)

3485.0: New York VOLMET reciting aviation WX for Orlando, Bermuda, Miami etc. in USB at 2348Z; Heard again a few days later reciting WX for Chicago, Philadelphia, etc. in USB at 0237Z. (ALS)

4032.9: AAA3VA and others in USA MARS Region 3 net in LSB at 1224Z. (MC/SC)

4097.4: Hobby temperature beacon KX with ID and TMPOUT/TMPIN in CW at 0748Z. (GV/CO)

4721.0: 277171 (C-17A, 436 AW) sounding in ALE USB at 2358Z. (MC/SC)

5290.0: Unid numbers station, OM/EE with 5-figure groups, each twice. Callup was "813" many times then "927 14." Ended with "927 14" and "00000." In USB at 2104Z. (CG/KY)

5550.0: New York Radio wkg Transat 498 for position report; confirms routing; handed off to Miami Ctr's 132.2, in USB at 2340Z; New York wkg Air Canada 967 for position report; handed off to New York's 126.02, in USB at 2341Z; NY also heard here again a few days later wkg various airliners, in USB at 0422Z. (ALS)

5598.0: New York Radio, Santa Maria Radio wkg various airliners in USB at 0514Z. (ALS)

5708.0: 470123 (KC-10A, 305 AMW) c/g OFF (Offutt HF-GCS) in ALE USB at 0519Z. (MC/SC)

5732.0: SHARK 01 (USCGC *BEAR* WMEC 901), radio check with PANTHER, in USB at 1541Z. (MC/SC)

6230.0: VNW, Wiluna Meteo, West Australia, with maritime WX. Also heard fishermen during VNW's breaks. In USB at 1356Z. (CG/KY)

6317.0: WLO, Mobile AL with beacon, in SITOR w/CW marker at 1430Z. (CG/KY)

6318.0: KLB, Seattle with beacon in SITOR w/CW marker at 1458Z. (CG/KY)

6586.0: New York Radio wkg Caribbean Airlines 611 for position report and SELCAL check in USB at 2320Z; NY wkg Jet Blue 703 for position report; handoff to San Juan Ctr's

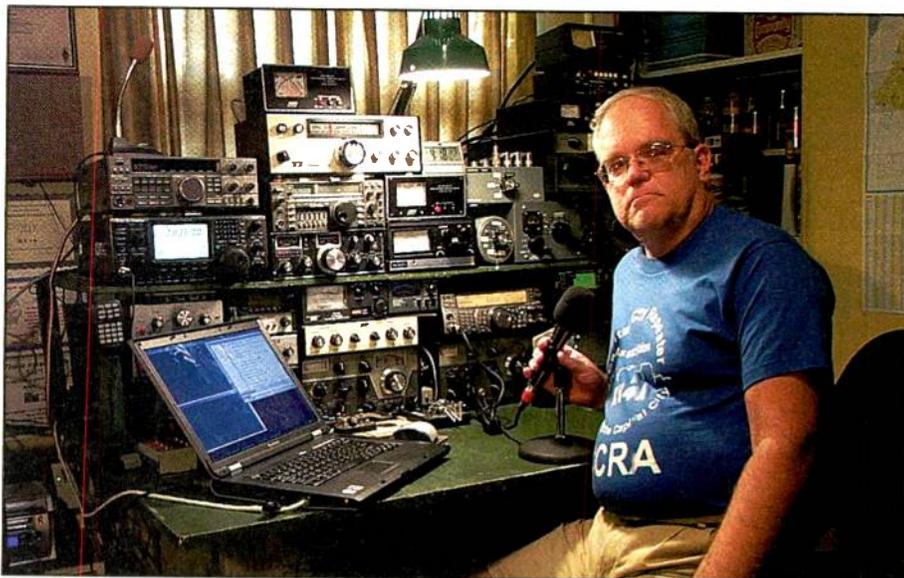


Photo C. This well-appointed station belongs to Chris Gay, KU4A, of Lexington, KY. (KU4A photo)

134.3, in USB at 2321Z; NY wkg “___ 042” for clearance, routing to Gatwick, UK in USB at 2323Z. (ALS)

6628.0: Santa Maria Radio wkg Condor 169 (34N 40W, SELCAL AEJS) in USB at 0345Z; Santa Maria wkg Iberia 2707 for position report; cleared from FL270 to FL300, in USB at 0350Z; Santa Maria wkg Air France 095 for position report in USB at 0400Z; Santa Maria wkg Springbok 207 for position report and clearance, routing to KIAD, in USB at 0417Z. (ALS)

6640.0: New York Radio wkg an Air Transat flight for SELCAL check before QSY to 3494 kHz, in USB at 0341Z. (ALS)

6721.0: JNR (Puerto Rico HF-GCS) clg 280266 (C-17A, 437 AW) in ALE USB at 2330Z. (MC/SC)

6854.0: Unid numbers station with 5-letter groups in CW at 2217Z. (CG/KY)

7527.0: CWX (Inland construction tender USCGC HUDSON WLIC 801) clg FFS (USCGC CHANDELEUR WPB 1319) in ALE USB at 2328Z. (MC/SC)

7630.5: AFA1WB, AFA1FZ, AFF1NO in USAF MARS Region 1 net in USB at 1545Z. (MC/SC)

8086.0: WLO, Mobile AL, synth YL/EE with maritime WX in USB at 2120Z. (CG/KY)

8156.0: C6SH (Royal Bahamas DF patrol boat) with message to CORAL HARBOUR BASE regarding vibration in starboard engine in USB at 1448Z. (MC/SC)

8379.0: WBJJ, HORIZON PRODUCER, 25,651-ton U.S.-registered container ship w/MMSI and ID as “PRODUCER” in SITOR-A at 1710Z; V7D16, TYCO DEPENDABLE, 7,800-ton Marshall Islands-registered cable-layer w/MMSI and abbreviated ID “DEPE” in SITOR-A at 1848Z; C6CL6, FOAM SPIRIT (former NOBEL FOAM), 78,532-ton Bahamas-registered bulk carrier w/MMSI and TEST request in SITOR-A at 1945Z; KFDL,

BARBARA KESSEL, U.S.-registered pusher tug, repeating MMSI, trying to raise WLO, Shipcom R., Mobile, AL without success at 2109Z. (SJ/KY)

8379.5: Unid. vessel w/repeated attempts to contact SAB, Goeteborg R., Sweden w/SELCAL QSPV (2950), station not listed for this frequency or mode, good signal here but no contact, in SITOR-A at 0408Z. (SJ/KY)

8381.0: 3FRL9, MATRAH, brand-new 51,069-ton Panama-registered chemical tanker en route to the Southwest Passage near New Orleans, LA, arrive in 6 days, w/garbled AMVER/PR, included INMARSAT ID and abbreviated ID “MATR,” in SITOR-A at 0335Z. (SJ/KY)

8385.5: 9VHC6, UNITED CHALLENGER, brand-new 82,641-ton bulk carrier w/callsign and traffic “REQUEST TEST,” switched modes and into SELCAL QVXV (2010) for XSG, Shanghai R., China, started in SITOR-B at 0725Z, then into SITOR-A at 0736 and tried SITOR-B again at 0809Z, no contact. (SJ/KY)

8386.0: Unid. vessel attempting to raise NMC, USCG CAMSPAC, Point Reyes, CA w/SELCAL XVSC (1096) 46 days after SITOR operations ceased there, in SITOR-A at 1340Z. (SJ/KY)

8394.0: Unid. vessel w/SELCAL MKCV (4360) for TAH, Istanbul R., Turkey, also OPR and TST commands, in SITOR-A at 0423Z, tried again at 0514Z, no contact. (SJ/KY)

8395.0: VRZN4, IVS LAVENDER, 29,727-ton Hong Kong-registered bulk carrier w/MMSI twice, test message signed by CAPT. LIN, in SITOR-A at 1359Z. (SJ/KY)

8588.0: Unid XSL Japanese “slot-machine,” in QPSK at 0705Z. (GV/CO)

8677.0: CBV, time station in Valparaiso, Chile, w/RTTY QRM, in USB at 0055Z. (GV/CO)

8689.7: Unid short CW QSO, one side

heard, suspect Georgetown Radio, in CW at 0702Z. (GV/CO)

8864.0: Gander Radio wkg REACH 8050 for handoff to VHF frequency, in USB at 1913Z. (ALS)

8983.0: USCG CAMSLANT Chesapeake wkg CG 2112 (HU-25C+ Falcon Jet, CGAS Cape Cod) for position report in USB at 1915Z. (ALS)

8992.0: RICAN 78 (C-130) p/p via Offutt HF-GCS to Millington, TN, to get PPR for fuel in USB at 2108Z. (MC/SC)

8992.0: OFFUTT wkg EXCITE 01 for phone patch to commercial number at Homestead ARB, they QSY to 8992 kHz; passes departure time 1951Z from MZBZ (Belize), ETA 2220Z at KHST (Homestead); they QSY back to 11175 kHz, in USB at 2048Z. (ALS)

9007.0: CANFORCE 2601 (CC-130) wkg TRENTON MILITARY for WX at Little Rock, Miami, and Tampa in USB at 1832Z. (MC/SC)

10714.0: M8A numbers station, 5-letter groups following “GARAN” callup, in CW at 1324Z. (CG/KY)

10780.0: Cape Radio (Cape Canaveral AFS) with repeated test counts in USB at 2126Z; KING 24 (HC-130N, Patrick AFB 920RQW) calls Cape Radio with no joy, in USB at 2217Z. (ALS)

11175.0: HF-GCS Station OFFUTT wkg REACH 245 for radio checks on two radios, in USB at 1645Z. (ALS)

11175.0: HF-GCS Station ANDREWS wkg REACH 618 for phone patch to Pope AFB Command Post via DSN, IDs as Pope-based acft; reports inbound 2120Z; needs Customs & Agriculture, in USB at 1745Z; HF-GCS Station PUERTO RICO wkg S4JG (USN P-3 aircraft) for phone patch to FID-DLE (NAS Jacksonville TSC); passes short msg. in USB at 1755Z. (ALS)

11175.0: HF-GCS Station ANDREWS calling SAM 3965 (Andrews AFB 89AW aircraft) in USB at 2305Z. (ALS)

11175.0: HF-GCS Station OFFUTT wkg BRAVO 195 for multiple radio checks; instead of “loud and clear,” he says “clear and distinguishable”; IDs as both “Bravo 195” and “Boeing Acft 195”; in USB at 1905Z. (ALS)

11175.0: HF-GCS Station OFFUTT wkg REACH 104 for phone patch to commercial number in Newfoundland, confirms other acft has already arrived; reports inbound; ETA 2205Z with 41 SOB, in USB at 2036Z; OFFUTT wkg PAT 713 (US Army Priority Air Transport) for phone patch to Operations via DSN in USB at 2059Z. (ALS)

11175.0: CORRUGATE (U.S. Mil) recites EAM; previously CORRUGATE requested several radio checks on freq., in USB at 2204Z. (ALS)

11175.0: OFFUTT wkg EXCITE 01 for phone patch to commercial number at Homestead ARB, they QSY to 8992 kHz, in USB at 2047Z; OFFUTT wkg EXCITE 01 to continue previous phone patch, discuss PPR for inbound flight, in USB at 2056Z. (ALS)

11175.0: OFFUTT wkg REACH 104 for phone patch to commercial number in Newfoundland, passes ETA of 2205Z and reports ETA for REACH 613 as 2215Z, in USB at 2112Z. (ALS)

11175.0: OFFUTT wkg RAIDER 46 in USB at 2034Z; ANDREWS wkg RANGE 51 who asks for current traffic; Andrews reports no current traffic, in USB at 2214Z; PUERTO RICO wkg LL73 (P-3C, NAS Jacksonville VP-30) for phone patch to DSN number for MCAS Kaneohe Bay Ops, in USB at 0153Z. (ALS)

11175.0: ANDREWS with 28-char EAM in USB at 1445Z; ANDREWS with SKYKING foxtrot message TJ3, time 56, auth code NL, in USB at 1456Z; BROWN RAT (U.S. Mil) with 28-char. EAM in USB at 2105Z. (CG/KY)

11175.0: KING 31, p/p via Andrews for WX info on winds aloft for the route Dallas to Tucson, in USB at 2130Z; NAVY 991 (C-130 en route to Alexandria, VA), p/p via HF-GCS station McClellan to a party in Virginia Beach, discussed ground transportation for pax, in USB at 2140Z. (CG/KY)

11214.0: Patrick AFB "King Ops" wkg "King 24" (HC-130N, Patrick AFB 920RQW) for radio check, then short chat, in USB at 2219Z. (ALS)

11232.0: GOLIATH ALPHA (E-3 AWACS) p/p via TRENTON MILITARY to NORTHERN LIGHTS in USB at 2000Z. (MC/SC)

11232.0: TRENTON MILITARY calling CANFORCE 4065 with no joy in USB at 2132Z. (ALS)

11232.0: TRENTON MILITARY wkg PEACH 32 (E-8C JSTARS, Robins AFB) for phone patch to Robins PEACHTREE OPS in USB at 1755Z. (ALS)

11232.0: TRENTON MILITARY wkg SENTRY 60 (E-3B AWACS, Tinker AFB) for phone patch to Tinker Radar Maintenance via DSN, comms concern SS-6 unit; they try some fixes, recycling some gear, circuit breakers. In USB at 1827Z. (ALS)

11232.0: TRENTON MILITARY wkg GOLIATH ALPHA (E-3B AWACS, Tinker AFB) for phone patch to NORAD WADS "DEER HUNTER" via DSN, passes formatted report, DEER HUNTER confirms they are able to do training; passes freq 282.6; also passes freq "Copper 9" and DLRP "Dorset"; in USB at 1910Z. (ALS)

12482.0: 3ETC2, APOLLON LEADER, newly built 60.175-ton Panama-registered NYK Lines vehicles carrier repeating MMSI and abbreviated ID "APLX" in SITOR-A at 2040Z. (SJ/KY)

12492.5: XCKO5, TAMPICO, 50,462-ton Mexico-registered new PEMEX oil products tanker w/extensive traffic in Spanish regarding vessel security documentation and authorizations, arrival in Pacific coast port of Manzanillo, MX, in SITOR-A at 1800Z. (SJ/KY)

12993.0: KSM (Maritime Radio Historical Society maritime coastal station, Pt. Reyes, CA) with canned message VVV VVV CQ DE KSM KIM KSM QSX in CW at 0018Z. (GV/CO)

13173.0: Unid Russian YL in duplex phone patch, suspect UGE (Arkhangelsk), in USB at 2319Z. (GV/CO)

13270.0: Gander VOLMET with aviation WX in USB at 1325Z. (CG/KY)

13927.0: USAFMARS Operator AFA6PF (Los Angeles) wkg acft UHAUL 99 (Kelly Field 433AW C-5) for phone patch to DSN number for HILL COUNTRY (Kelly Field, TX); asks them to call Altus AFB and see if they can hook up with a tanker; gets DSN number for Altus CP, in USB at 1925Z. (ALS)

13927.0: USAFMARS Operator AFA6PF wkg JESSE 97 (MO-ANG 139AW C-130 #86-1397, Rosecrans MAP) for M&W phone patch in USB at 1735Z; USAF MARS Operator wkg KING 15 for M&W phone patch to a Palm Beach County area code in USB at 1607Z. (ALS)

13927.0: USAF MARS Operator wkg TIGER 61 (B-1B, Ellsworth AFB, 28BW, off frequency, tuned to 13927.5) for phone patch to DSN number for Ellsworth AFB Metro; is one hour out of Ellsworth; requests WX at Ellsworth AFB for 2120Z, in USB at 2020Z. (ALS)

13927.0: USAF MARS Operator AFA1QW (Greenwood IN) wkg REACH 561 for M&W phone patch in USB at 1600Z; USAF MARS Operator AFA6PF (Los Angeles) wkg REACH 8113 (KC-135R #58-0113, MacDill AFB 6AMW, over the North Atlantic) for M&W phone patch to Tampa, FL area in USB at 1815Z. (ALS)

13927.0: kHz USB 1745Z: USAF MARS Operator wkg GASSER 44 for radio check in USB at 1745Z; USAF MARS Operator AFA6DD (TX) wkg VENOM 511 (SH-60B, Mayport NAF, HSL-48) for radio check in USB at 2155Z. (ALS)

13927.0: USAFMARS operator AFA9PF wkg SENTRY 07 (E-3 AWACS, Tinker AFB, OK) for phone patch to OK area code, strong sigs from both in USB at 1745Z; AFA9PF wkg HAWK 41 (B-1B, Dyess AFB, over TX) for phone patch to DSN number for Dyess AFB "Hawk Ops" regarding status of aircraft GASSER 66 and GASSER 67, in USB at 1822Z. (ALS)

13927.0: USAF MARS Operators AFA9PF then AFA5RS (Shelbyville IN) wkg REACH 561 for phone patch in USB at 1935Z; USAF MARS Operator AFA6DD wkg a REACH flight over Arizona before QSY to 14606 kHz, in USB at 2023Z. (ALS)

13940.0: Two unid OM in French in QSO, very strong sigs, in USB at 2205Z. (ALS) ■

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"If you've got the right story, together we can make you famous (or keep you anonymous, if necessary...so don't be shy about sharing your escapades."

I have the best job in the world. No, not my HPJIE*, which isn't bad. In fact, I have a good boss, about whom I can write freely because he only reads this column if I *give* him a copy. Truth be told, he's a great guy. I'll give him a copy of this when I retire. *This* is the great job. Writing this column.

How many of you get something in writing several times a month saying that you've done a good job? When I was in my first rock & roll band back in ninth grade (no electric guitars yet—mine was gas-fired), I dreamed of having herds of adoring fans. Well, today my fans are not in herds, and I doubt there's any adoration, but getting a handful of fan mail each month from readers is better than money.

Sometimes it's tough remembering (and embellishing) some of the absolutely crazy things that have happened to me since the first day I saw and heard a radio. It's tougher yet since Norm and I don't work under the same roof any more. Or in the same *state!* And it sometimes gets tougher still when I find my little grey cells fail to recall the events that have made my life around radios a memorable one. But, without question, most of the great times in my life have involved a radio of some sort.

Once in a while, someone will ask how I got to write this column. Well, like Topsy, this column just grew. I had been writing some service articles for *Pop'Comm* annuals starting around 1990, and no matter how serious they were supposed to be, I couldn't keep the humor out of them. Of course, with my entire education (that would be three credits in "Introduction to Composition" and a ham license) carefully chosen to take me to a career in communication journalism, the folks at headquarters couldn't get rid of me, so they gave me this column if I promised to behave and not ask the advertisers for free samples.

If it hadn't been for a great friendship with now-silent key K3IBN (who also went by the callsign WITF-FM and TV), I'd have never known there were recordings of Jean Shepherd from his days at WOR in New York. John gave me my first MP3 CD-ROM of Shep the last time I saw him. If you've never heard the Shep, you have something to look forward to.

Each night before I head for la-la land, I listen to at least one of my more than 600 hours of Shepherd's old WOR radio shows. He did so many of the same things that I've done, I'm often reminded of one of

my own adventures while I'm listening to one of his shows. More than one "Loose Connection" has come about because my own memory was jogged by one of Shep's stories.

There are also some things I'd love to write about but just can't. A person just can't admit to having done certain things, even though many of you have probably done the same—or *worse!* I'm not sure what the statute of limitations might be with regard to a certain neighbor (yeah, the one who hid in the trunk and scared the whatchacallit out of me), and even though Norm has been an awfully good sport about having his life put forth here for all to see, some of the people involved in my shenanigans might not want to have *their* escapades laid bare in print. I'm sure at least *one* of them has run for public office by now. Norm and I also worked for a well-known manufacturer in the amateur radio field, and oh, the stories we could tell—but we can't.

It's also time for me to once again ask you readers to confide in me about some of the things you've done within arm's length of a radio. (Not *THAT!* I'm talking about things *involving* radios!) I know I'm not the only one who has enjoyed the smell of dust burning off hot tubes and the great sounds from speakers or phones, whether it was five-wpm code, or great old broadcasts that light a spark in your memory. If you've got the right story, together we can make you famous (or keep you anonymous, if necessary). Norm and I have freely admitted falling off roofs, dangling from ropes and towers, and just about every embarrassing thing that can be done in the name of Marconi, so don't be shy about sharing your escapades.

And I'd love to hear from you vets. There are so many great stories involving military communications that I just *know* are just waiting to be told. I've admitted to plugging my electric guitar into an AN/FRT-23 transmitter and playing "Semper Paratus"—that's the Coast Guard's march—on 2670 kHz on the CG AM voice frequency while moored at Staten Island. I'm sure some of you have done things that would make that look like a kindergarten prank (many of the things I did in the service looked like kindergarten pranks, come to think of it), so let me hear what *you've* been up to.

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