

**POPULAR**

**NOVEMBER 2010**

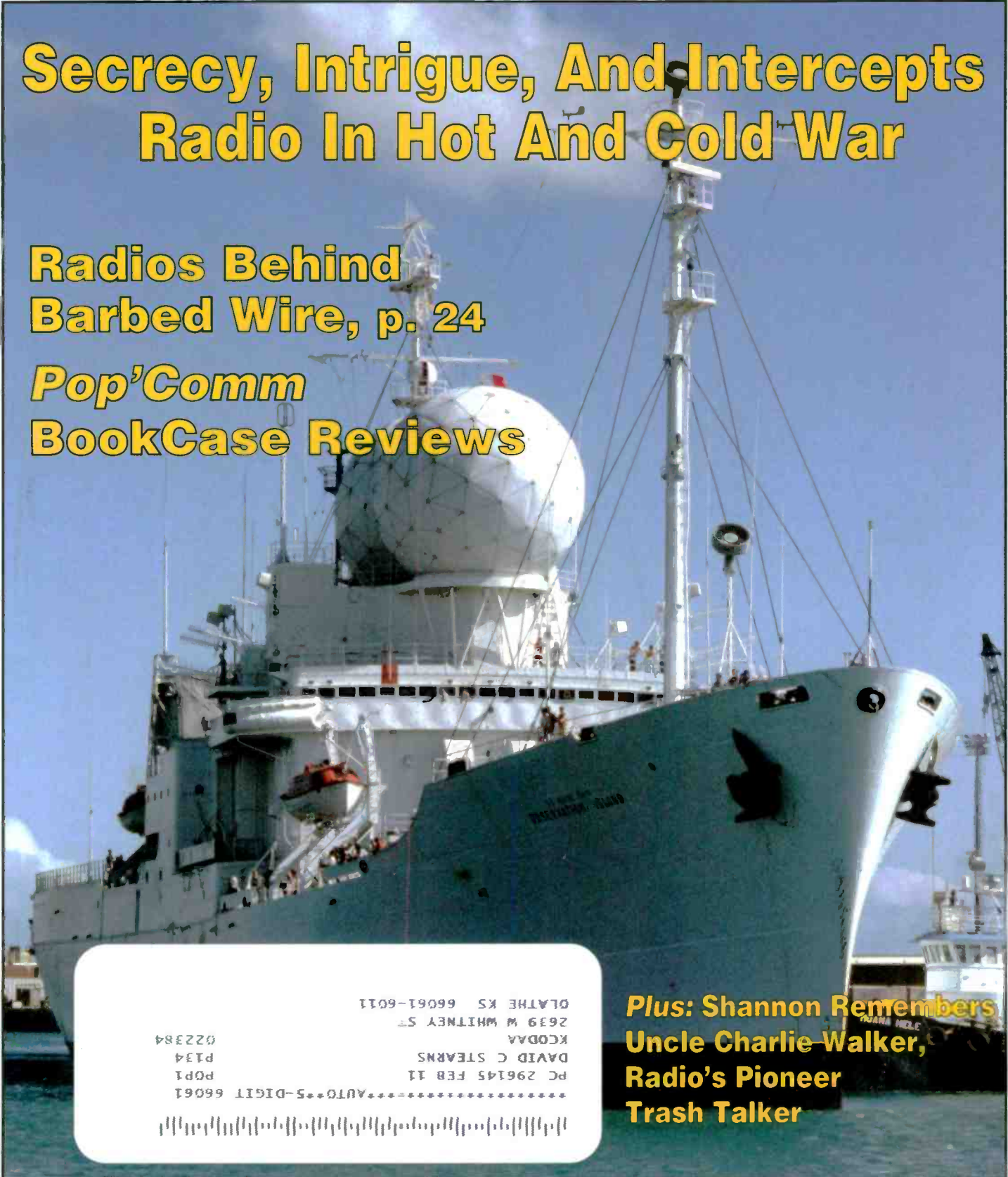
# **COMMUNICATIONS**

Shortwave Listening • Scanning • AM & FM • Radio History

## **Secrecy, Intrigue, And Intercepts Radio In Hot And Cold War**

**Radios Behind  
Barbed Wire, p. 24**

**Pop'Comm  
BookCase Reviews**



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## GRUNDIG

### Satellit 750

✓ Receive a **FREE Grundig G6** with your Satellit 750 purchase. A \$99.95 value!

G6



The Grundig Satellit 750 is an exciting portable that brings you the world of long wave, AM and shortwave reception as well as FM and the VHF aeronautical band. Your complete shortwave coverage includes the S.S.B. mode allowing the reception of ham radio operators, maritime and shortwave aeronautical stations. Tune your favorite stations by the conventional tuning knob, quick keypad entry or via the 1000 memories. Enjoy the fidelity you have come to expect from Grundig enhanced by separate bass and treble controls. Other features include: backlit LCD, wide/narrow selectivity, signal strength meter, rotatable AM ferrite antenna, earphone jack, external antenna jack, line output jack plus a 24 hour clock with dual alarm and sleep feature. 14.65 x 7.24 x 5.75".

The Grundig G6 Buzz Aldrin Edition provides great listening options. Tune in to longwave, AM, FM, the VHF aircraft band or continuous coverage shortwave. This advanced dual conversion circuit features Single Side Band reception. This radio has keypad entry, manual tuning knob, 700 alphanumeric memories, backlit display with signal strength indicator, clock-timer, and mega-bass switch. There are jacks for earphones and external antenna. Operates from two regular or NiCad AA cells (not supplied). With AC adapter and earbuds. 5 x 3 x 1.2" 9 oz. The Grundig G6 will be included **FREE** with your Satellit 750 purchase through 12/31/10. This radio will also be purchased separately for \$99.95.

Grundig Satellit 750

Order #0750

List Price \$400.00

\$299.95

G3

✓ Receive a **FREE Grundig M400** with your Grundig G3 purchase. A \$29.95 value!

M400



The Grundig G3 Globe Traveler is an innovative portable radio covering long wave, AM, FM (stereo to earphone jack), continuous shortwave plus the VHF aircraft band. It features dual conversion AM/SW circuitry for exceptional sensitivity and image rejection. It offers S.S.B. - Single sideband reception. It has a large 700 channel alpha memory system with memory scan and auto tuning storage. Unlike other portables in its class, the *Globe Traveler* offers Synchronous Detection. This special feature addresses the issue of selective fading and adjacent channel interference on shortwave. Other enhancements include: Wide/Narrow selectivity, auto search, RDS, signal indicator, Local/DX switch, direct frequency entry and 24 hour clock with four alarm timers. It has an external antenna jack and a Line In/Out jack. Requires four AA cells (not supplied). If four NiMH AAs are inserted, they may be recharged inside the radio. Supplied with manual, protective pouch and AC adapter/charger. 6.62 x 4.13 x 1.1". 13 oz.

G3 Globe Traveler Order #4033 \$149.95

The Grundig M400 is an ultra compact portable radio that covers the AM, FM and shortwave in two bands: 5.9-10 and 11.65-18 MHz. The frequency display is to the nearest 1 kHz on AM and to 5 kHz on shortwave. There is a built-in clock-alarm. The left side of the radio has the tuning knob, an earphone jack and a lock button to prevent accidental frequency changes. An amazingly thin radio - under 1/2 inch! This radio operates from two AAA cells (not supplied). Supplied with a soft case that permits the radio to be played even while inserted. 2.75 x 4.33 x 0.472" 3.2 ounces. The Grundig M400 will be included **FREE** with your G3 purchase through 12/31/10.

This radio may also be purchased separately for \$29.95

S450DLX

NEW!



The Grundig S450DLX Field Radio receives AM, FM and shortwave continuous from 1.7 to 30 MHz. A wide/narrow bandwidth switch reduces adjacent channel interference. The main tuning knob may be set to fast tuning, slow tuning or lock. Features include: Bass and Treble tone controls, RF Gain, 50 memories, 12/24 hour dual alarm clock, Quick-Tune button, sleep timer, 9/10 kHz MW step, battery level icon, DX/Local switch, FM mono or stereo (to earphone jack only) switch, F type antenna jack for external SW/FM antenna and terminals for MW antenna and Ground. There is an AM IF Output jack (F type) for future accessory devices such as DRM or SSB decoders. Jacks also for line level output and line level input, plus an earphone jack. The display is backlit and there is a switch to even illuminate the push button keys on the front panel. Includes 9VDC AC adapter or operates from six D cells (not supplied). 12.2 x 8.5 x 3.8". The S450DLX offers outstanding features *plus* that "great audio" you expect from Grundig!

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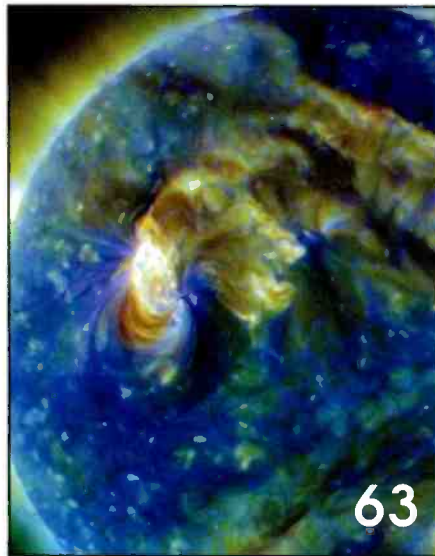
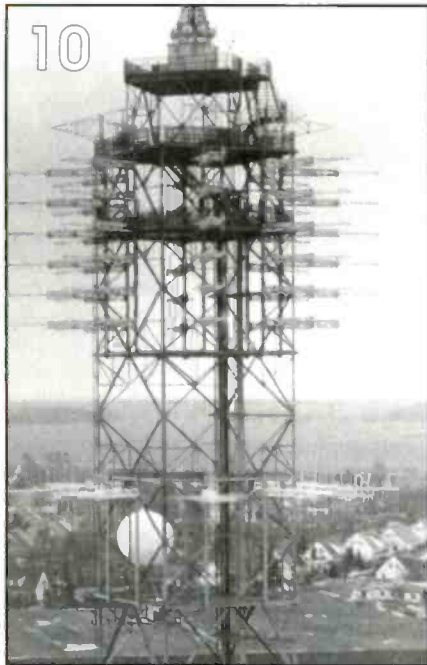
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NOVEMBER 2010  
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## ON THE COVER

Since its development, radio has played a pivotal role in international conflicts, of both the hot and cold varieties. As we celebrate Veteran's Day this month, *Pop'Comm* also pays homage to some of the rigs of war, starting with "Hot Radios In The Cold War" by Terry O'Laughlin, beginning on page 10. (Cover photo: the *USNS Observation Island*, one of two Missile Range Instrumentation Ships within the Military Sealift Command's Special Mission Ships Program)

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# Tap into secret Shortwave Signals

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



MFJ-462B  
\$199<sup>95</sup>

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, Tanjung 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 54" whip, 50 feet coax. 3x2x4 inches. 12 VDC or 110 VAC with MFJ-1312, \$15.95.



MFJ-1024  
\$159<sup>95</sup>

## 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.



MFJ-1020C  
\$99<sup>95</sup>

## Compact Active Antenna

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\$69<sup>95</sup>

## Eliminate power line noise!

MFJ-1026  
\$199<sup>95</sup>

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

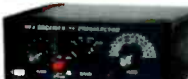
Matches your antenna to your receiver so you get maximum signal and minimum loss. MFJ-959C Preamp with gain control boosts weak stations 10 times. 20 dB attenuator prevents overload. Select 2 antennas and 2 receivers. 1.6-30 MHz. 9x2x6 in. Use 9-18 VDC or 110 VAC with MFJ-1312, \$15.95.



MFJ-959C  
\$119<sup>95</sup>

## High-Gain Preselector

High-gain, 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.



MFJ-1045C  
\$89<sup>95</sup>

## Dual Tunable Audio Filter

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



MFJ-752C  
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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 PhaseLock™ 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 1/2x5 1/4 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 3/4 Hx1 1/4 D 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.

## MFJ Shortwave Headphones



MFJ-392B  
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Perfect for shortwave radio listening for all modes -- SSB, FM, AM, data and CW. Superb padded headband and ear cushioned design makes listening extremely comfortable as you listen to stations all over the world! High-performance driver unit reproduces enhanced communication sound. Weighs 8 ounces, 9 ft. cord. Handles 450 mW. Frequency response is 100-24,000 Hz.

## High-Q Passive Preselector

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



MFJ-956  
\$69<sup>95</sup>

## 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.



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## MFJ All Band Doublet

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\$59<sup>95</sup>

## MFJ Antenna Switches

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\$79<sup>95</sup>



MFJ-1702C  
\$39<sup>95</sup>

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

## Morse Code Reader

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

MFJ-461  
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## MFJ 24/12 Hour Station Clock

Dual 24/12 hour clock. Read UTC/local time at-a-glance. High-contrast 5/8" LCD, brushed aluminum frame. Batteries included. 4 1/2 Wx1 D x2 H inches.



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## EDITORIAL

Tuning In

# Take This Radio And Shove It (Congress)

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

Steely Dan had it wrong: There's a lot of static on FM. At least on the topic of FM. Following close on the heels of the still-ongoing dustup over royalty fees, the issue *du jour* in broadcasting is whether Congress should mandate that FM radio receivers be built into cell phones, PDAs, and other portable electronics devices. The major muscles behind the push are the National Association of Broadcasters and the Recording Industry Association of America. It's refreshing to see them joining forces for a change! Apparently, too few people are buying radios these days, and the masses are now listening to mp3 files and streaming media on their portable audio devices, in their cars, and through their home computers and "Web radios."

With a plummeting market share of ears (but a fine ear for public relations), NAB is calling its proposal "sound public policy." As Dennis Wharton, executive vice president of communications for NAB, said on the Association's Policy Blog:

Cell phone subscribers deserve access to radio's free service. In a society where cell phones and other mobile devices are increasingly ubiquitous, it makes perfect sense to have radio-enabled chips in these devices, particularly from a public safety perspective.

See? It's altruism. But can/should altruism be *required*? Because that's just what they want.

The RIAA and NAB are lobbying hard to get Congress to enact a law that will mandate the inclusion of an FM broadcast receiver in every new cell phone, etc. If Congress gives the nod, radio broadcasters would theoretically gain a much larger audience—and be able to charge more for advertising. The Consumer Electronics Association would be responsible for the oversight of this transition.

NAB and RIAA's argument for foisting its members' content onto mobile phones is a backdoor one with a hint of justification: FM broadcast radio *does* support the Emergency Alert System, which could be

used to simultaneously alert all mobile phone users about local and national emergencies. Because mobile phone networks aren't robust enough to support (actively) text-messaging everyone simultaneously, the technical/public safety argument for having (passive) FM broadcast receivers in all mobile phones has some merit. But for that public safety scheme to work, the embedded FM receivers would have to be turned on at all times, which would greatly add to the battery drain of their host devices, would require a "real" antenna, and, well, more mandating. The goal of reliable EAS signal reception via FM radio remains distant at best.

Of course, adding a mandatory FM radio to would significantly increase the cost to manufacture these devices, and that would be passed on to consumers, who would not be happy. So now it's CEA's turn to unleash its PR campaign.

CEA president Gary Shapiro, had this to say:

The backroom scheme of the [National Association of Broadcasters] and RIAA to have Congress mandate broadcast radios in portable devices, including mobile phones, is the height of absurdity. Rather than adapt to the digital marketplace, NAB and RIAA act like buggy-whip industries that refuse to innovate and seek to impose penalties on those that do.

I love a good, snarky debate—it's a boxing match I can really get behind. And as I toss popcorn at the contenders, I get to shout out my 2 cents. Yeah, gimme FM on my latest gizmo—it's a radio anyway, for Pete's sake (and then Rich Moseson, W2VU, guest editorialist from August can have his "transistor" and iPhone, too!). But don't mandate it. I can do that myself, with my wallet. (Besides, I like to *think* the government is busy.)

Oh, and my wallet wants me to add, it'll be more inclined to open when the content shows some innovation. Maybe one day what's at issue will be the quality of programming. Think we could mandate that?

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# The Weirder Side Of Wireless

by Staff

## From Top Secret To Top Shelf

A group of Vietnam War-era Army signals intelligence officers who once worked in the shadows with the 265th Radio Research Company recently stepped into the sunlight to donate one of their favorite radios, a Rockwell Collins R-390A HF receiver, back to its manufacturer, according to the Gazette-McClatchy-Tribune Information Services. The famed spy radio will now take a place of honor in the company's museum. The receiver was so capable that it was once considered top secret, but today it's a favorite of ham radio operators. Lawrence Robinson, who oversees Rockwell Collins' corporate museum, thanked the group for the 1952-vintage radio, one of the earlier models produced by Collins Radio, now Rockwell Collins. About 20,000 of the 55,000-plus R-390A HF receivers made came from Collins. "The stories about this radio are legendary," Robinson said. "There are still urban legends circulating that there are old-timers deep in the bowels of these three-letter agencies still using them." Robinson said the U.S. government shredded "literally thousands" of the radios to keep them out of the wrong hands when they were no longer needed. Now that's a fact that should have stayed secret.

## Baby Babble Radio Jam

The BBC recently reported that taxi and truck drivers in Japan were being affected by an unusual disruption from U.S. military bases: baby babble that jams their radios. Officials in Tokyo said that U.S.-bought baby monitors used by parents on bases were emitting signals that interfered with other nearby transmissions. Problems had been reported near bases across Japan, the Kyodo news agency said, though a U.S. official said the military discouraged the use of U.S.-bought baby monitors by its personnel in Japan. According to Japan's Internal Affairs and Communications Ministry, the monitors, which broadcast in the 900-MHz range, can break into frequencies reserved in Japan for cellular phones, along with emergency, taxi, and trucking communications, which is against the law. The devices disrupted communications near bases in Okinawa, Tokyo, Kanagawa, and other areas. "Our ministry is asking the US military for permission to visit the families who are illegally emitting these frequencies and personally ask them to avoid using the baby

monitors," a ministry official told AFP news agency, according to the BBC. We wonder how many taxis were inadvertently dispatched for more diapers.

## New Ducts Opening For RF Signals?

A study published in *Proceedings of the IEEE* found a way to implement wireless monitoring technology in buildings. With implications ranging from climate control to health and safety, the study involved tapping into heating, ventilating, and air-conditioning (HVAC) ducts, according to a report in TechNewsDaily on msnbc.com. Rather than running wires all through an office or factory to hook up devices like thermometers the study shows how radio waves could be sent through ductwork to power tiny wireless sensors for building-wide sensing systems. Applications could include smoke detectors, carbon-monoxide monitors, or sensors that can detect chemical, biological, or radiological agents. The approach relies on radio-frequency identification (RFID) tags equipped with sensors and antennas that can transmit information about the inside of a building back to a "reader." The researchers focused on UHF RFID systems. When placed in open spaces, UHF RFID tags typically need to be within about 16 to 32 feet of the reader in order to respond to a transmission, but the researchers found that, by employing a building's HVAC system, UHF RFID tags can operate when located 100 feet or more from a reader.

## Eye On iCrime

Using an iPhone application a Dallas man visiting relatives hundreds of miles away in suburban Hartford, Connecticut, watched as two burglars broke into his home, the Associated Press reported. "We could see it unfolding," said Vincent Hunter of the distant crime. Hunter said that an iCam app, which he bought for less than \$5, sent him a text message alerting him that motion detectors sensed movement in his supposedly empty residence. He called 911 at the same time his home security system also contacted authorities. Hunter, who has webcams in his home, watched as two men are seen trying to break in, eventually throwing a brick through a glass door. The webcams, minutes later, show two police officers entering the house. At the time of the AP report, both suspects remained at large.



## News, Trends, And Short Takes

by D. Prabakaran

### Radio/TV Martí Boss Resigns

Radio/TV Martí director Pedro Roig resigned recently after more than seven years at the head of the U.S. government stations that broadcast to Cuba. The twin stations have spent an estimated \$500 million over the years broadcasting news and entertainment to Cuba, but have been dogged by complaints of meager audiences, biased politics and journalism, and cronyism. There was no immediate word on who would replace him. The stations have been highly controversial since their founding—the radio in 1983 and television in 1990—as a way of getting information past the Cuban government’s monopoly on news. Cuba effectively jams TV Martí’s over-the-air broadcasts, but the station also broadcasts by satellite, and the radio transmits on AM as well as shortwave frequencies. Some leading Cuban dissidents sent Washington a letter early last year criticizing the stations’ programming and complaining they were not covering opposition activities on the island well enough. U.S. Congress members critical of the broadcasts have long tried to cut back the station’s budget, and a congressional report published in early 2009 said less than 1 percent of Cubans heard or watched the transmission. Several congressional reports have also complained that the stations did not adhere to U.S. or VOA standards of journalism and their broadcasts were too blatantly political.

(Source: *Miami Herald*)

### Sudan Suspends BBC Broadcasts On FM

Sudan halted BBC broadcasts in Arabic on FM radio frequencies after suspending its agreement with the British public broadcaster for reasons it said had nothing to do with its newscasts. In a statement carried by the official Suna news agency, the information ministry alleged that the BBC had imported technical equipment via British diplomatic courier. The information ministry also took the BBC to task for training schemes in the absence of a “final agreement” with Khartoum, and for broadcasting in the southern Sudanese capital Juba without central gov-

ernment approval. With four broadcasting locations inside Sudan, plus shortwave services, the BBC is a major source of news in Sudan, the biggest country in Africa whose population of 40 million mostly speak Arabic.

(Source: AFP)

### Record Number Of Iranians Logged On To Radio Farda Website

More than a million people inside Iran circumvented aggressive censorship and logged on to RFE/RL’s Persian-language website in July through a proxy server, a system ensuring the anonymity of its users. It was the first time Radio Farda’s proxy server recorded a million visits since it was put in place in April 2009. In addition, the site received 40,000 visits on August 15, a record high for a day without breaking news. Since the post-election protests, Radio Farda has added two new live shows: the popular *Pas Farda* (*The Day After Tomorrow*), which pushes the limits on critical satire, and a call-in program called *The Sixth Hour* that takes on hot-button topics like capital punishment and the student protest movement. In total (the proxy server plus regular Web traffic), Radio Farda’s website drew more than 4.3 million visits in July. Users viewed nearly 13 million webpages and downloaded more than a million hours of audio programming.

(Source: RFE/RL)

### Toshiba To Launch First 3D TV Without Glasses

Japanese electronics giant Toshiba announced plans to market the world’s first 3D television that does not need special glasses. It said it would unveil three models, which will cost several thousand dollars, before Christmas. The company has developed a new system that emits a number of rays of light with various angles from the screen so that viewers can see stereoscopic images without glasses. Japan’s major electronics makers launched 3D television this year, but sales have not been as strong as expected, and many customers complained of being irritated by the glasses.

(Source: AFP)



# Capitol Hill And FCC Actions Affecting Communications

by Richard Fisher,  
K16SN

## Public Safety Alliance Hails Senator's Block D Support

Sen. Jay Rockefeller (D-WV) was applauded by the Public Safety Alliance (PSA) for introducing S. 3756, The Public Safety Spectrum and Wireless Innovation Act, which "directs the Federal Communications Commission (FCC) to allocate the D Block to public safety and identifies funding to build and maintain a nationwide interoperable public safety broadband network," the Association of Public-Safety Communications Officials International reported. Rockefeller is chairman of the Senate Commerce, Science and Transportation Committee.

"For more than a year, the PSA has been asking the Obama Administration, Congress, the FCC, the Department of Homeland Security, the Department of Commerce, and the Department of Justice to work together to develop the appropriate spectrum and funding policy that will enable local, State and Tribal governments to build out their next generation of interoperable public safety wireless broadband networks," APCO said.

## Complaints To FCC Jumped Significantly In First Quarter Of 2010

There was a 230-percent increase in the number of complaints to the FCC in the first quarter of 2010, compared to the fourth quarter of 2009, according to an agency report. General inquiries increased seven percent, a story posted on BroadbandBreakfast.com also noted. The FCC's Consumer and Governmental Affairs Bureau processed the data giving a snapshot of top subject areas for complaints and general inquiries.

"Wireless telecommunications complaints increased 3 percent from 16,145 in the fourth quarter of 2009 to 16,753 in this year's first quarter," BroadbandBreakfast.com said. Telephone

Consumer Protection Act issues "comprised nearly 67 percent of the complaints in this category. General wireless inquiries increased more than 25 percent from 4,087 in the fourth quarter of 2009 to 5,130 in the first quarter of 2010. Meanwhile, "84 percent of wireline complaints addressed issues in [the TCPA] like the 'do not call' list. Wireline inquiries increased more than 10 percent from 10,979 in the fourth quarter of 2009 to 12,107 in the first quarter of 2010," the online report noted. Radio and television broadcasting inquiries fell about six percent from 5,449 in the fourth quarter of 2009 to 5,135 in the first quarter of this year. "Most of the complaints in the first quarter dealt with broadcast programming issues." Cable and satellite services complaints increased nine percent from 1,851 in the fourth quarter of 2009 to 2,029 in the first quarter of 2010, BroadbandBreakfast.com said. The number of cable and satellite services inquiries decreased nearly 3 percent.

## Commission Office To Focus On Native Affairs

As part of an initiative to bring modern communications infrastructure to Native communities across the United States—including American Indian tribes, Alaska Native villages, Native Hawaiian organizations, and other Native and tribal entities—the FCC in August announced establishment of the Office of Native Affairs and Policy, according to a report on ExecutiveGov.com.

"Tribal lands and Native communities suffer unacceptably low levels of communications services, especially broadband," FCC Chairman Julius Genachowski said. "Increasing connectivity in Native America is one of the FCC's top priorities. With this new office, the Commission will work closely with Native leaders to develop and implement policies that ensure their communities enjoy the benefits of 21st Century communications infrastructure."



## Interacting With Communications Devices

by Rob de Santos  
commhorizons@gmail.com  
Twitter: @shuttleman58

*“Have you ever rented a car of an unfamiliar make? Hit the wrong button and the rear wiper goes crazy, and try as you might, you can’t find the turn signal. That’s the UI run amuck.”*



Those of us of a certain age or older will remember struggling through the manuals of virtually any electronics device we brought that was made in Asia in the 1970s or '80s. If we were lucky, it had pictures so we could figure it out—we certainly couldn't from the written contents, stymied by bad translations of Japanese or Chinese.

Those not of “a certain age” may wonder why we needed the manuals anyway. It was because the user interface, or simply UI, was too hard to understand without one. The UI can be thought of as the portion of the technology the user of the device has to interact with to make something useful take place. If there is any aspect of the technological revolution that has proven more troublesome or attracted more complaints, it's the UI.

To make matters worse, there is no consensus on “how to do it.” Have you ever rented a car of an unfamiliar make? Hit the wrong button and the rear wiper goes crazy, and try as you might, you can't find the turn signal. That's the UI run amuck. You might think that after more than a century, some consistency in basic automotive functions would have appeared, but it hasn't. Computers, radios, and cameras are no different. Our hobby is replete with scanners and radios that defy useful operation without extensive study of a manual or good “coaching” from a fellow enthusiast.

When I first worked as a computer systems analyst, I bought a copy of a standard book of the time on how to design computer UIs (this was pre-PC and the first color *terminals* were just appearing). I learned a great deal from that book, including that colors matter, screen position matters, and more. Alas, when I first sat down at a PC, I spent a fair amount of time scratching my head. Off to the bookstore again.

Decades on, we interact with more and more devices every day. We're inundated by mobile phones, smartphones, televisions, cameras, computers, cars, and more—not to mention the auxiliary devices for each of those. Very few have any consistency. I know many people whose test before purchasing a new “toy” is to try to turn it on and use it. If they can't do something useful

with it in the first few minutes without reading any instructions, they don't buy it. This may be why some companies move millions of their latest gadgets but others can't.

Is the future likely to be better, UI speaking? Yes, in some ways, and no in others. As long as humans create devices, humans will find new and different ways to create UIs. Sure, we can mandate some consistency by consumer demand or, in the case of safety, by law. Fundamentally, at the speed at which technology is moving, we're going to struggle to keep up as we formulate regulations or laws to offer meaningful guidance to inventors, programmers, and manufacturers. Regulation itself may also stifle innovation (sometimes there *is* a better way to do things).

Cultural differences matter, too. If you look at a switch and it's in the up position, do you assume that it means On or Off? Your answer is probably culturally dependent. Japanese car designers use different design assumptions than U.S. designers do. Boeing uses different assumptions in its aircraft designs than Airbus does.

The good news is that designers learn and adapt. We learn what works and what doesn't. Over time, we have evolved some informal standards and enough consistency that we can make good use of a device (though not perhaps optimal use). That rental car with the crazy wipers did start for us, and we quickly determined how to make the accelerator and brakes function. The odd devices that don't work well usually wind up in the dustbin of history, or end up as niche products. Usually a “transformative product,” like the iPhone with its touch UI, is quickly copied. Website designers have learned that some users will make at most three clicks and stay only seconds if they can't immediately find what they want.

We'll have more on UI next month. In the interim, why not share your worst UI nightmare? Would you want some standards to apply to your hobby equipment? Drop me a note through the UI of your favorite communications hardware and let me know. I'll be looking for your feedback, as soon as I figure out how to turn this new radio on...





USAF Security Service SIGINT post at Marienfelde, Germany, in the early 1960s.

# Hot Radios In The Cold War

## *The Race For The First Microprocessor-Controlled, Digitally Synthesized VHF-UHF Radio*

by Terry O'Laughlin

**T**hirty years ago, before the Berlin Wall fell, German women spun the dials on hundreds of Watkins-Johnson (WJ) receivers deep in a windowless, secure US Air Force surveillance site, searching for signals from the Communist Eastern Block. The women wore parkas and gloves to ward off the cold, their eyes glued to the spectrum monitor searching for signals, their ears clamped in headsets listening for targeted communications.

Twenty-five years ago, a US Navy ship studded with antennas trawled in tight loops at undisclosed Western Pacific locations. Below deck, amid racks of signals intercept (SIGINT) equipment covering almost DC to daylight, the same WJ receivers ferreted out communication intercepts (COMINT).

On the other side of the world, modified light armored vehicles (LAV) rumbled across the desert with US Marines scanning the spectrum on two of the same WJ receivers, one coupled to WJ direction-finding (DF) gear searching for suspicious transmitters.

These are just three applications out of the thousands where WJ radios were used in the Cold War. Official histories of SIGINT activity rarely mention WJ or any other specific radio man-

ufacturer. Even DRS Technologies, which owns the former WJ Gaithersburg, Maryland facility that produced these radios, maintains a distance from this glorious past. No story has ever been printed about this particular radio and its applications. Until now...

### **Starting From The Rubble**

On June 28, 1962, the US Air Force established a monitoring post using mobile platforms on a hill in Marienfelde, Germany, near Berlin. Records are sketchy, but the electronic intercept (ELINT) mission apparently used Collins AN/MLQ-24 panoramic microwave receivers. The site grew quickly with construction of permanent buildings beginning in October, 1965.

The hill at Marienfelde was artificial, created by women right after World War II. The first years after the war were brutal in Berlin. Most able-bodied men were dead or prisoners, heavy machinery was non-existent, even trucks and horses were rarities. Corpses, both human and animal, rotted under the unmovable debris. Clean water was scarce and sanitation non-existent. Starving women and children gathered dandelions, acorns, and chickweed trying to survive in the unspeakable conditions. Aid under the Marshall Plan did not arrive for several years, first reaching France in May, 1948.

Terry O'Laughlin is the director of the Electrical Engineering and Electronics Technology Dept. at Madison College in Wisconsin.

Eventually, the occupying forces put 60,000 women to work clearing the streets and dismantling unsafe buildings. Known as Trümmerfrauen (rubble women), they cleared the rubble by hand, pushing carts and pulling down walls with hand winches. Bricks and stones that could be salvaged were cleaned for reuse. They moved the rest, often by handcart, to several locations outside town, one of which was Marienfelde. They were unpaid. Their only reward was extra food rations.

Marienfelde was on Diedersdorfer Weg, near where the street once dead-ended at the Death Strip of the Berlin Wall. It was directly visible from the East German guard towers. WJ staff visiting in those days, recall looking out with binoculars from the antenna tower and seeing a Communist soldier staring back at them. This close proximity made Marienfelde ideal for Cold War SIGINT reception.

### Mission Needs Drive Innovation

Marienfelde was continuously modified as SIGINT missions evolved, and the number of missions expanded dramatically during the Cold War. Matthew M. Aid, writing in *Secrets of Signals Intelligence during the Cold War and Beyond*, found that the United States built 70 SIGINT stations by the early 1960s. In *Body of Secrets*, reporter James Bamford notes the U.S. eventually had “over 2,000 intercept positions around the world.”

“SIGINT had achieved a preeminent status within the intelligence community” according to Aid. It supplanted what NSA director William O. Studeman derisively called “historically less productive intelligence means.”

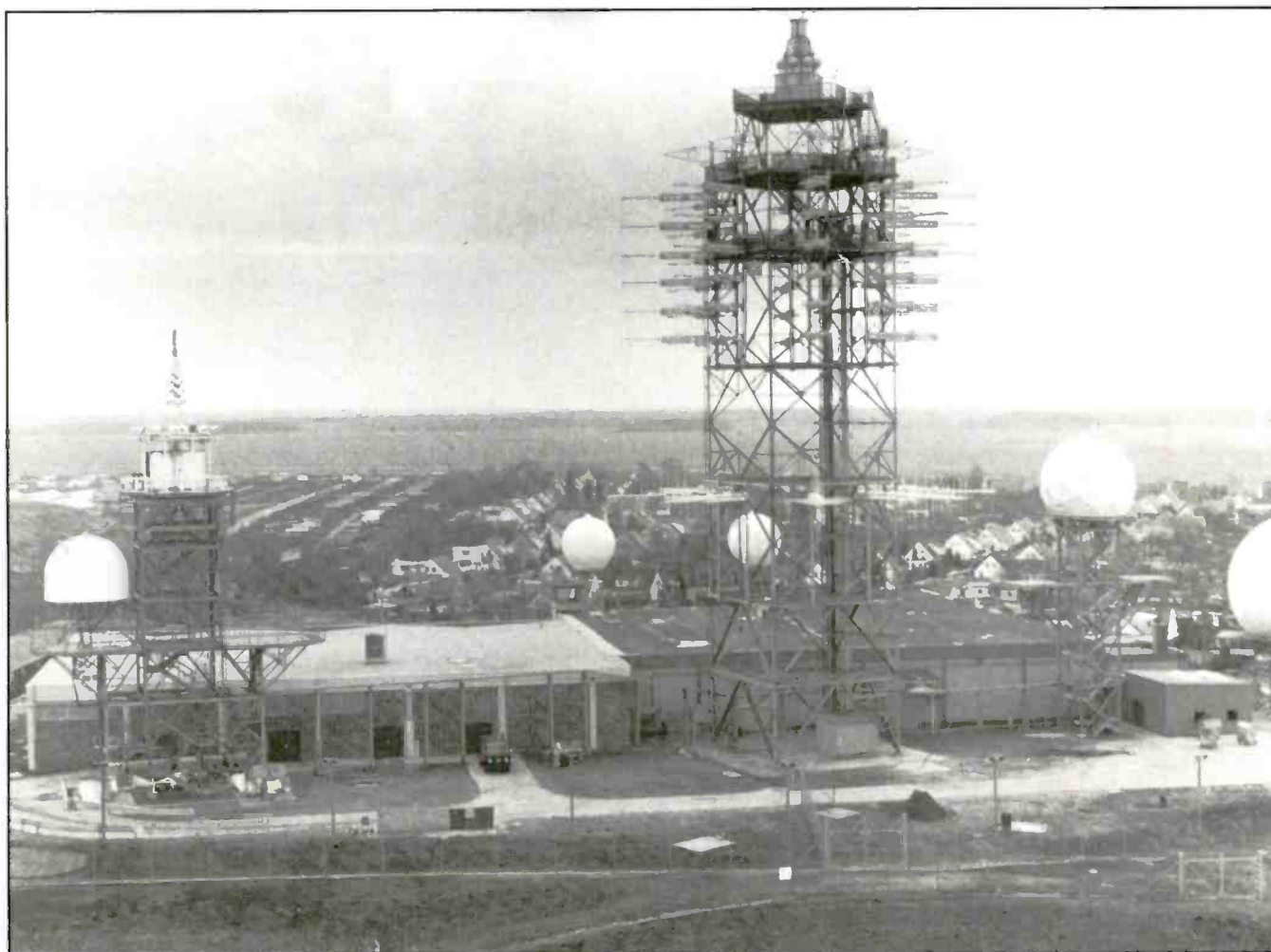
The voracious appetite for SIGINT created a perfect environment for development of increasingly sophisticated VHF, UHF, and microwave receivers. To expand the amount of incoming intelligence, Congress regularly provided millions of dollars to various agencies for improved SIGINT equipment.

### On The Technological Frontier

From its introduction in 1964, the Communication Electronics, Inc. (CEI) RS-111 was very popular for SIGINT work (see *Pop'Comm*, June 2008). Thousands of these manually tuned receivers were sold and used at sites all over the world.

In early 1969, CEI introduced the revolutionary RS-160 Pan Man scanning system. Its ability to display large swaths of spectrum enabled quick visual scans for interesting activity. Their varactor tuners opened the door for scans and sweeps controlled by the Digital Equipment Corporation PDP-11 computer.

The expanded SIGINT opportunities presented by computer-controlled receivers whetted the Department of Defense's (DoD) appetite for digital VHF-UHF receivers with internal microprocessor control and frequency synthesizers. In 1975, they requested proposals for a receiver with scan, step, and mem-



Marienfelde SIGINT listening post in 1978.



# TRAVEL THE WORLD



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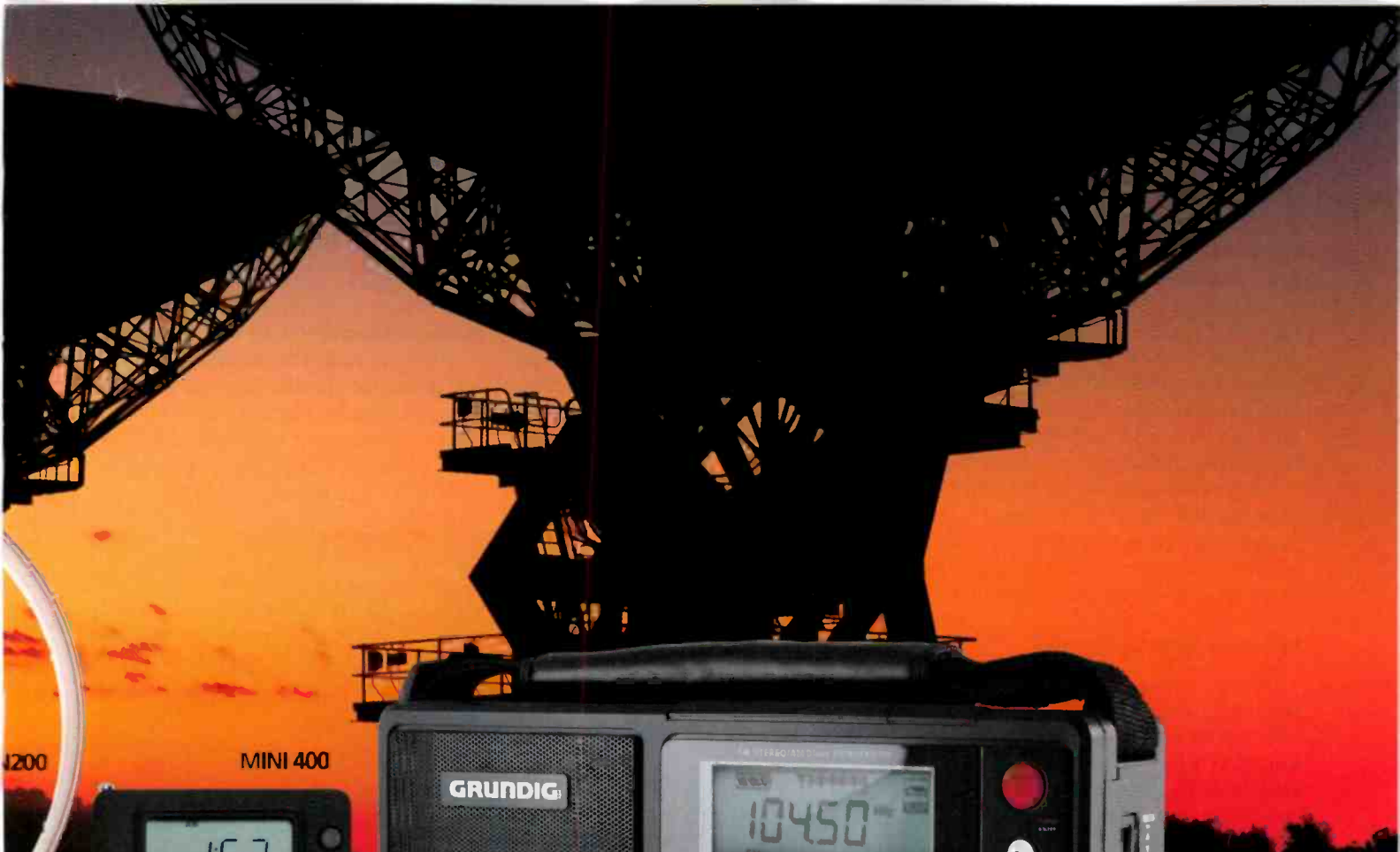
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ory capabilities as well as the same basic feature set of the RS-111, which had 30 to 1000 MHz coverage, a spectrum monitor and fit in 5-1/2 inches of rack space.

Successful applicants would be given \$60,000 to develop a prototype. WJ managers estimated development costs of \$1 to 2 million. The prototypes would be submitted for examination, and the best prototype would then receive additional funding for a small production run. If the first production run was acceptable, the next order would be for 500 receivers and the real paycheck.

Only two companies, the WJ CEI division and the Ralph E. Grimm Co. (or Regco) were seen as viable candidates, and they were given one year to develop prototypes. It was an epic competition.

## Let The Battle Begin

Ralph Grimm had created CEI and personally mentored many of the staff with whom he was competing. Grimm had sold CEI to the California-based WJ early in 1967, staying in charge as manager. When development costs swamped profits in 1974, WJ reorganized and reduced his role to Vice President of Engineering.

Unhappy in a secondary role within the facility he created, Grimm left the CEI division effective May 30, 1975. He started Regco as an engineering design firm, much like Allen Clarke, his mentor, had started Clarke Instruments (see *Pop'Comm*, June 2009).

Grimm successfully recruited a few CEI division employees and leased space from Racal Communications in their Rockville, Maryland, plant where they were building RA-6217 and RA-6772 receivers. Grimm's first products were accessories like speakers and spectrum displays that Racal fabricated for Regco.

Regco and WJ battled for business right from the start. In Regco's favor, Grimm had a sterling reputation and scores of carefully nurtured contacts. But at this point, his skills as a teacher, mentor, and manager worked against him. At WJ's CEI division he had left behind a healthy facility with many excellent engineers. The competition reached the point where, in May 1976, WJ took Grimm to court over a sole source receiver contract he had won. The judge sided with Regco.

## A Mission Orientation

At CEI, one of the engineers sequestered for this project had logged

many hours developing custom versions of the RS-111 receiver. He was well aware the DoD bought radios to complete intercept missions. To accommodate the mission-driven intelligence consumers, he argued for a flexible platform, a receiver reconfigurable without resoldering or chassis modifications.

The new receiver was developed with a compartmented warren of card cages, each with extra slots. The main chassis was studded with wire wrap sockets whose long spikes allowed connectors to be plugged in anywhere. The front panel used switches with snap on buttons so

labels could be changed as needed. The rear panel was saturated with pre-punched connector openings and reconfigurable BNC connectors.

## Bumps In The Road

Developing the first microprocessor-controlled, synthesized VHF-UHF receiver turned out to be an extraordinarily difficult task. Circuit demands easily exceeded the specifications of available components. Neither WJ nor Regco had a workable receiver at the end of the contract period. Both companies were granted 30-day extensions.

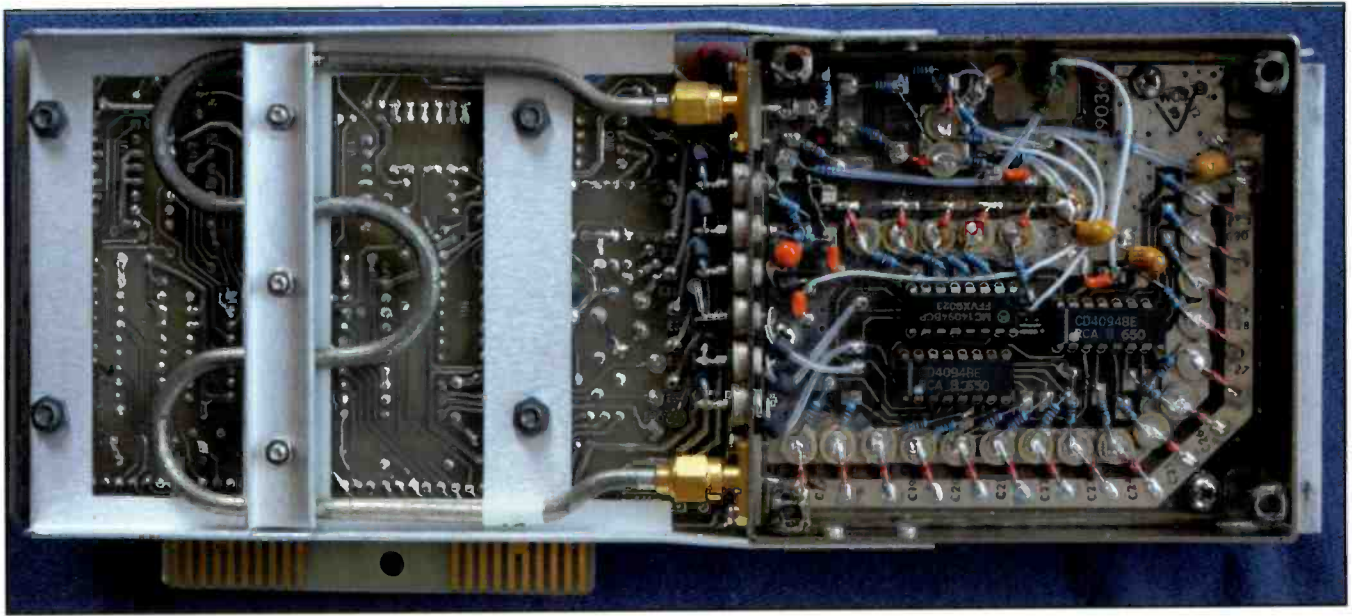


USNS Observation Island bristling with antennas and loaded with receivers.



Watkins-Johnson's original WJ-8617 prototype. It was the world's first microprocessor-controlled, synthesized VHF/UHF radio. (Photo courtesy DRS Technologies)





The first LO synthesizer from the WJ-8617B. The length of the unusual tuned coaxial transmission line on the left was changed by the switching diodes on the right.

Near the end of the extension, WJ still did not have a functional radio. The engineering director told the staff to focus on completing the front panel and fill the rest of the card slots with untested prototype boards. In this way they could demonstrate the radio's look and feel while saying they just had to iron out a few bugs.

This facade, christened "WJ-8617," was presented to the contracting officer's technical representative (COTR). He was able to spin the tuning knob and see the frequency display change and click switches to change indicators on the otherwise nonfunctional radio. The gamble paid off as the COTR had no antennas or headphones. He was impressed enough to contract with WJ for the initial run of 50 receivers.

## Into Uncharted Waters

Winning the contract pushed WJ out of the frying pan and into the fire. They had six months to deliver 50 radios and they didn't have a working prototype. Close to one third of the circuit boards had to be discarded and redesigned. In addition, the prototype was designed for 500 MHz to be extended later by a plug-in module. The agency wanted 1000-MHz coverage right away.

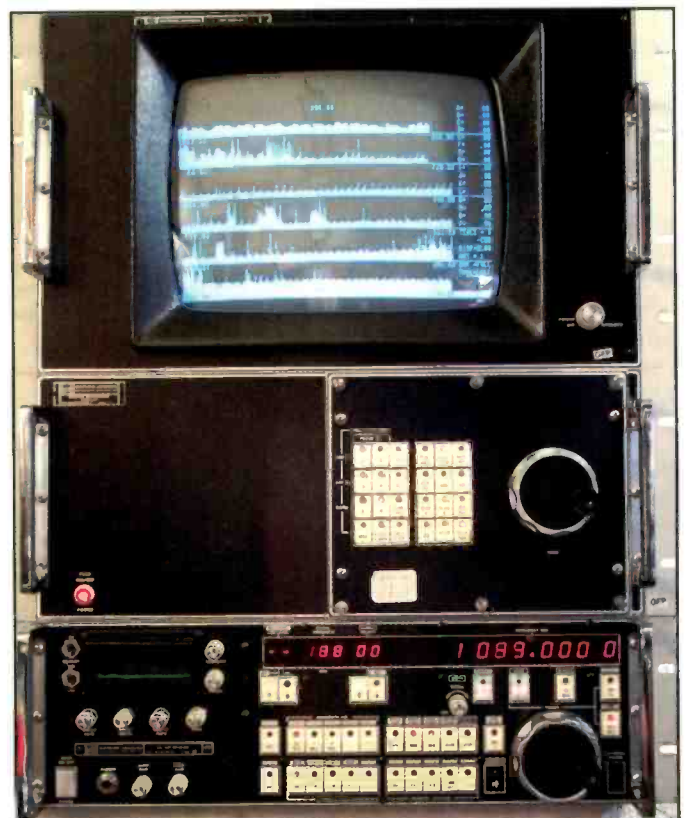
Designing a frequency synthesizer to generate 572 to 1052 MHz was extraordinarily tricky. At these frequencies, the only divide by 4 logic chips on the market ran extremely hot (much like an overclocked CPU in a modern PC). By delicately juggling finicky components and design constraints, the synthesizer engineer completed a working prototype.

With the deadline fast approaching, the project manager decided to rush the prototype into production before it was adequately tested. An initial run of 25 was delivered to the government in 1977. Almost immediately, WJ received complaints about a defective FM detector. The FM quieting was only -20 dB for the special FM signal targeted in the government's current mission.

The project engineer knew the FM circuit was good. It had been developed, ironically, by Ralph Grimm, years earlier and successfully used in many receivers. Working through the radio,

the synthesizer engineer concluded the 1st LO was noisy. Its sensitive 100 MHz/volt voltage controlled oscillator (VCO) didn't need much provocation to produce noise.

WJ had backed itself into a corner. In most respects the radio functioned well, but it was not suitable for the mission. There was too much internal noise to catch the elusive signal. All 25



A WJ-9195 Rapid Acquisition Spectrum Processor using a WJ-8618B-2 (assembled and restored by the author).





A WJ-8617B and its modern descendants (left to right), a Miniceptor, Microceptor, and WJ-8615P receiver. (Photo courtesy DRS Technologies)

units were returned, but not before the DoD sent one to Dr. Ulrich Rohde, of the German electronics firm, Rohde & Schwarz, for testing. Rohde reported it was the worst design he had ever seen. Bill Kunz, who replaced Grimm as CEI division manager, ordered production halted.

## Regco Nips At The Heels

Meanwhile, Regco continued developing its own design, the RG-5500, in the hope of securing future contracts. Grimm was a gifted engineer, but was reluctant to incorporate unproven components into his designs. For the digital circuits, he simply hired young engineers. Regco engineers ably designed functional circuits, but controlling the radiated noise from jagged square waves was not an art taught in engineering schools. WJ's experience in this area helped them prevail.

In the heat of the battle, Grimm had a heart attack and died on September 12, 1978, at the age of 54. Regco completed development and contracted with Racal to produce the RG-5500, but it never sold well. After Grimm's death, Regco limped along, becoming a subsidiary of Racal and developing the now rare RG-5540 and RG-5545A receivers before disappearing.

## Producing A Hit: The WJ-8617B

WJ was in the hot seat. It had invested an enormous sum in the WJ-8617 and had only \$60,000 to show for it. The company wouldn't receive another dime if it didn't deliver a product satisfying the customer.

The synthesizer engineer started out by requesting a spectrum analyzer. Amazingly, CEI designed dozens of commercially successful receivers, some well into the microwave region, without spectrum analyzers. With synthesizers, this was no longer possible. WJ purchased a Hewlett-Packard 141T with the hot, new HP-8554B plug-in, one of the first to be reliable over 1 GHz.

After many long nights away from his family, the engineer realized he had to design a completely new synthesizer. Phase lock loop (PLL) components were crude in the mid-'70s. Phase detectors were fidgety, op amps were noisy, and VCO chips hadn't been invented. The options for creating low noise PLL

circuits were limited. The solution he developed, adding a digitally switched transmission line is, to my knowledge, unique in the history of communication receivers.

By itself, a transmission line did not have the requisite Q, meaning the bandwidth was wide relative to the frequency. But if the transmission line is tuned to harmonic multiples, the bandwidth stays the same as the frequency increases, narrowing the effective selectivity. Adding a transmission line to the VCO dramatically quieted the oscillator phase noise and reduced its voltage sensitivity to 12 MHz/volt. The new circuit improved the FM quieting to -55 dB, more than enough to satisfy the customer.

## Monkeys On The Production Line

There was one hitch. Tuning a transmission line to exact multiples of a 1/4 wavelength between 572 and 1052 MHz required incredibly precise construction. The digital circuit controlled the length by switching 16 PIN diodes spaced 3/8 of an inch apart. Tiny dimensional variations in construction required a unique switching pattern for each radio.

Initially, it took eight hours to find the switching pattern for each radio by hooking it to a PDP-11 that switched the 16 diodes as though controlled by monkeys let loose on a keyboard. When the correct sequence was discovered, it was burned on an EPROM and the radio could ship. As production continued, patterns emerged that cut the search time to five hours.

Quality control on the production line revealed that the handwork of assembler Anna Lowe, a post World War II German immigrant, was so precise, only three sets of EPROMs were needed to properly tune her synthesizer circuits. Thereafter, she was the only assembler entrusted to construct this circuit.

## Radios Out The Door

The prototype WJ-8617 was repackaged and sold as an "A" model. Contracts for a dozen variants were underway in 1980. They worked well, except on the mysterious FM signal once avidly sought by the government. After introduction of the "B" model, sales skyrocketed. By 1985, over 30 variants had been ordered. Total sales eventually reached into the thousands.

Released in four models, WJ-8616, WJ-8617, WJ-8618 and WJ-8619, only the WJ-8617 and WJ-8618 are common. The WJ-8616 is somewhat rare, and less than a dozen remote-control WJ-8619 units were manufactured.

The WJ-8618 is a Tempest version of the WJ-8617. They were sold only to the U.S. government. Everyone else received the non-Tempest version. The main difference is better shielding and bypassing on the input and output connectors in the Tempest version. Much greater variations exist within each model. For example, the WJ-8617B(S1) has a different processor and control architecture with more flexibility than the WJ-8617B.

In all, there are 59 variants of the WJ-8617 and 35 variants of the WJ-8618:

and within these variants, there were additional special orders. Many cards and circuits are identical across all versions, but many are unique and work only in specific radios. Distinguishing one variant from another can be challenging. Repair and configuration of these radios can elude even experienced radio technicians.

A full discussion of the variations found in these radios is beyond the space available in this magazine. A few additional details can be found on the author's website, <http://waktins-johnson.terryo.org>.

### Cold Warriors

The WJ-8618B receivers at Marienfelde ran 24/7 every day of the year. The

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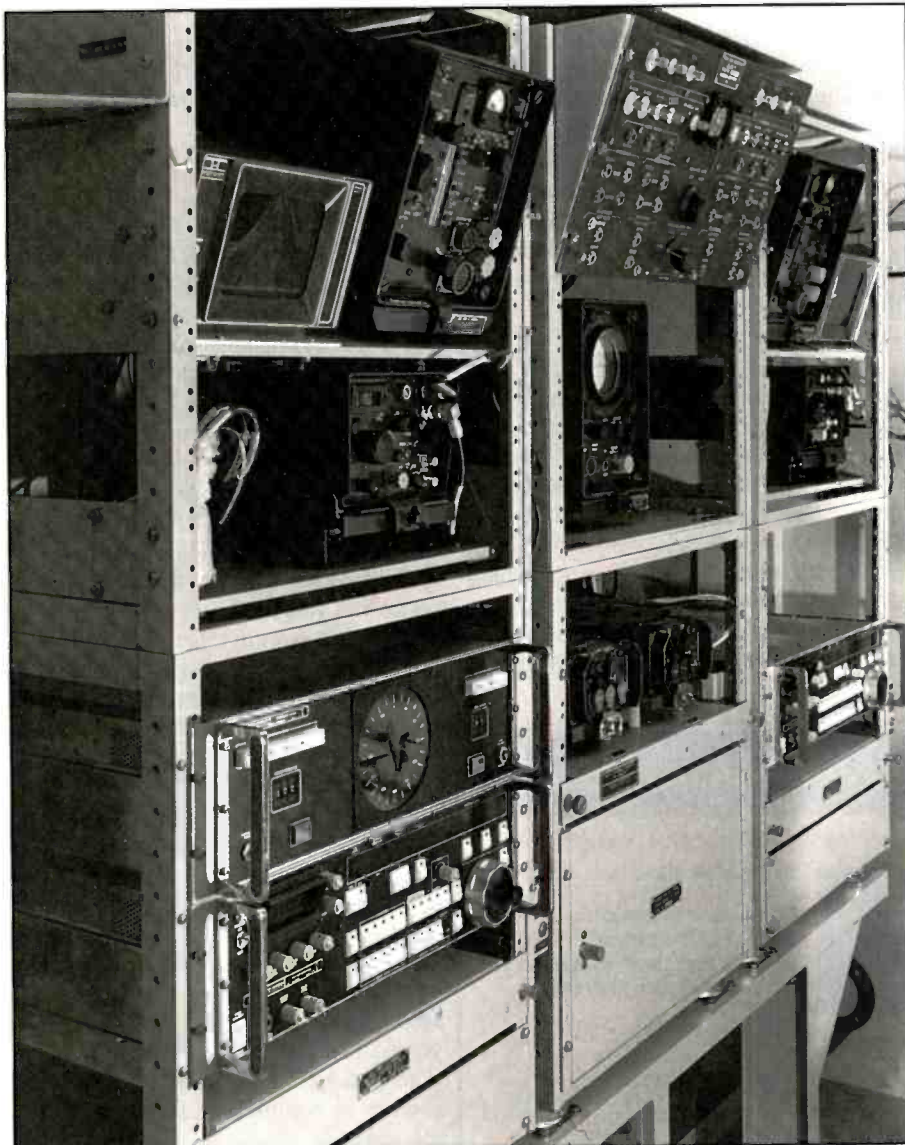
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An AN/TRQ-32 Teammate with two WJ-8616A receivers, WJ-8971 DF unit, PD-602-6 panoramic displays and pairs of R-1444 and R-1518 receivers. (Photo courtesy DRS Technologies)

**TERRORISM FORCES  
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The Watkins-Johnson WJ-8617B, widely used throughout the Cold War.

room was kept at 55°F to enhance the reliability of the radios. Between transmissions, the cold aluminum tuning knobs were in constant use, leading the German women to ask visiting WJ engineers for a heated tuning knob.

Pictures of Marienfelde are rare as any passerby with a camera was likely to be stopped and their film confiscated. Surprisingly a photo appeared in a WJ catalog from the 1980s. The equipment was removed in 1991 and the base was closed in 1992. All 14 buildings were razed in 1996. Most of the activity there remains unknown.

The missions of the *USNS Observation Island*, one of the two Missile Range Instrumentation Ships that are part of the 26 ships in Military Sealift Command's Special Mission Ships Program ([www.msc.navy.mil/inventory/ships.asp?ship=133](http://www.msc.navy.mil/inventory/ships.asp?ship=133)), are as closely

guarded as those at Marienfelde. The ship is well known for its role in development of the Polaris missile and as a platform for the Cobra Judy radar. Very little official information is available on its activities from the mid-'70s through the '90s. By the time WJ engineers boarded her in the 1980s to work on the WJ-8618B receivers, she was based in the Pacific Ocean. Not much else is known from this period.

Near the end of WJ-8618B(S1) production, the radio was installed in a modified LAV christened the Mobile Electronic Warfare Support System (MEWSS). The Marine Corps accepted delivery of 12 of these in 1989. *Jane's Military Communications* says "MEWSS provides targeting information to the battlefield commanders." Various configurations of this vehicle were still in use within the last 10 years. A MEWSS Facebook

group shows one with a WJ DF antenna onboard a Landing Craft Air Cushion off the coast of Somalia in 2001. Other information is scarce.

## In Perspective

The first WJ-8617B sold for approximately \$20,000 without options. Fully tricked-out versions from the late '90s cost over \$50,000. Records are classified, but WJ engineers believe around 7,000 were made. If you do the math, this is clearly a successful product. The DoD may occasionally buy overpriced toilet seats, but as we have seen, they will not pay for mass production of inadequate radios.

In the late '70s, Dr. Rohde scorned the WJ-8617A. Even with this inside peek at the competition, Rohde & Schwarz needed several years to introduce a radio with comparable circuitry. Despite ample evidence to the contrary, their website still claims the ESM-500, introduced in 1980, was "the world's first radio surveillance receiver that had fully microprocessor-controlled functionality."

If you are contemplating a used radio in this series, *caveat emptor*. Like a used Ferrari, very few people can handle the setup, operation, and maintenance of these complex radios. If you can't fix it yourself, there are few repair options in the United States and almost none overseas. But if you get your hands on one, you will be operating a vital part of Cold War history. These radios served their country in countless obscure corners of the world.

The author wishes to thank DRS Technologies for access to its Watkins-Johnson archives.

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# Cold War Radio, The Dangerous History of American Broadcasting in Europe, 1950–1989

By Richard H. Cummings

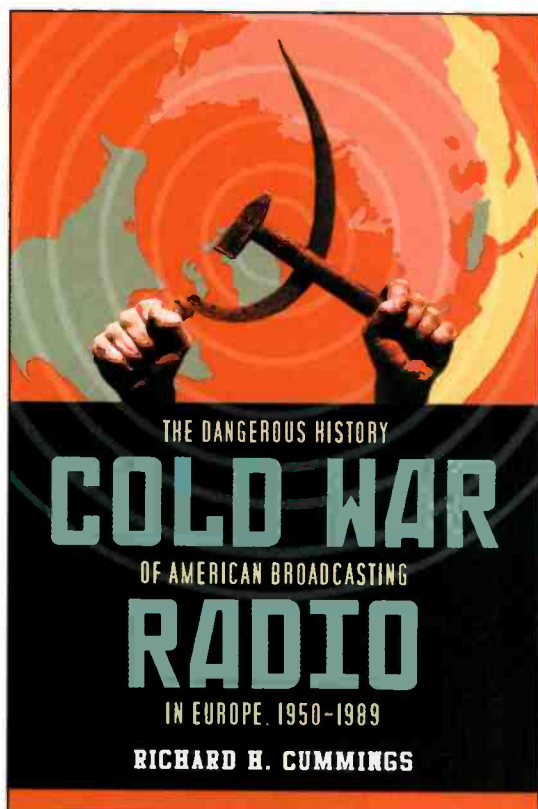
reviewed by Gerry Dexter

**M**ost DXers and SWLs are at least somewhat familiar with the fate of Georgi Markov, the Bulgarian defector who was killed by a poisoned umbrella tip while working for Radio Free Europe and the BBC. His story is told again—and with fascinating detail—in *Cold War Radio, The Dangerous History of American Broadcasting in Europe, 1950–1989*, by Richard H. Cummings. The intrigue runs deep. Was Markov a double agent? Or perhaps even a double agent gone wrong? Did then KGB chairman Yuri Andropov personally issue the orders to have him killed?

Cummings served as director of security for Radio Free Europe/Radio Liberty for 15 years, and before that served in Berlin as a Russian linguist in the U.S. Air Force, a background that seems to have given him entrée to a wealth of valuable sources. The Markov story is just one episode Cummings covers in this book, which reads as though it were one part John le Carré spy thriller and one part extra credit study assignment for a college or graduate course in International Relations or Foreign Broadcasting 201.

Cummings details the history of RFE/RL from its earliest times, when it existed only as an idea born in the cubicle depths of the U.S. State Department, through its birth canals in the murky areas of U.S. intelligence, to the days when it solicited support from the American public through its “Crusade For Freedom” touted by President Eisenhower and its television appeals by Ronald Reagan and frequent print advertising. It wasn’t until 1960 that the fiction began to develop fissures and the Radio Free Europe Fund took over operation of the cash register. By 1975 some 50 million dollars had been collected—a fraction of what the CIA’s cost had been to fund the broadcasts up until then.

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



*Cold War Radio, The Dangerous History of American Broadcasting in Europe, 1950–1989* by Richard H. Cummings is a fascinating read of the darker side of broadcast radio during perilous times.

The first RFE broadcast was made on Independence Day, 1950. It was a half-hour broadcast beamed to Czechoslovakia from a low-powered (7.5-kW) transmitter at Lampertheim, Germany, a site still in use today. Just a few days later service was added for Romania, followed by Hungary, Poland, and Albania.

Radio Liberty—the “RL” half of RFE/RL—had its beginnings in early 1961 as another CIA-funded operation. The public was again hit up for donations through the ungainly named “The American Committee for Freedom of the Peoples of the USSR.” The station, first operating under the name “Radio Liberation from Bolshevism” went

*“Georgi Markov was not the only RFE/RL employee to meet an unhappy end. Radio Liberation’s “chief editor” was found murdered in his small Munich apartment.”*

on the air from Lampertheim a mere four days before the death of Joseph Stalin. Due to its 10-kW power limits the station was originally targeted just to Soviet forces in Germany and Austria. The station was renamed Radio Liberation in 1956 and “re-renamed” Radio Liberty in 1959, about which time it began broadcasting from the Playa de Pals site on the Spanish coast.

Georgi Markov was not the only RFE/RL employee to meet an unhappy end. Radio Liberation’s “chief editor” was found murdered in his small Munich apartment. In 1951 a Czech émigré, Stefan Kiripolsky, who was working for RFE in Vienna was kidnapped. Intelligence operatives, particularly the Czech, tried their damndest to penetrate RFE/RL and on occasion they succeeded. One Hungarian émigré was kidnapped in Vienna, drugged, put in an automobile trunk and pulled across the border back into Hungary where he languished in prison for several years before he was eventually executed.

RFE/RL was also the target of a bomb attack by the terrorist Ilyich Ramirez-Sanchez (otherwise known as Carlos the Jackal) in early 1981, which seriously injured three Czech staff members. It was the only American target he undertook in his murderous career and. Ramirez-Sanchez was also given the task of targeting specific RFE/RL Romanian émigré employees as well as the RFE/RL monitoring station near Munich, in the hopes of obtaining secret documents in the process.

There were many twists and turns involving Romania and the brutal Ceausescu dictatorship versus the RFE/RL Romanian service. Vlad Georgescu who then directed Radio Liberty’s Romanian service, died in July, 1988, “officially” of cancer, but there had been numerous threats against him from Romanian intelligence, which had recently been equipped with KGB-supplied radioactive substances that would cause deadly forms of cancer. There are several other stories of murder, attempted murder, and kidnappings of RFE/RL

employees or others associated with the broadcaster, particularly Romanians.

The KGB, the Romanian, Hungarian, and Czechoslovak intelligence agencies were all especially active in trying to penetrate RFE/RL and do harm to their former citizens who had escaped and were now broadcasting on behalf of “the enemy.” An unending, unrelenting parade of unpronounceable names and unmemorable acronyms confront the reader. This is not a book to get through in one sitting, or one for an afternoon at the beach. It is fascinating stuff, certainly, but best taken in medium doses if you hope to keep the players straight.

At the end of some 215 pages of stories, quotes, excerpts from trial testimo-

ny, officials and intelligence agencies plus various letters and statements, comes some 13 appendices with content ranging from an East German intelligence report on Carlos the Jackal to the details of a plan to bomb RFE/RL. Cummings closes with chapter notes and a bibliography.

I heartily recommend this book to clandestine radio fans and anyone who’s fascinated with the secret side of international broadcasting.

*Cold War Radio, The Dangerous History of American Broadcasting in Europe, 1950–1989*, by Richard H. Cummings. McFarland, 2009; \$45 paper; ISBN: 978-0-7864-4138-9. Contact the publisher at [www.mcfarlandpub.com](http://www.mcfarlandpub.com) or 800-253-2187.

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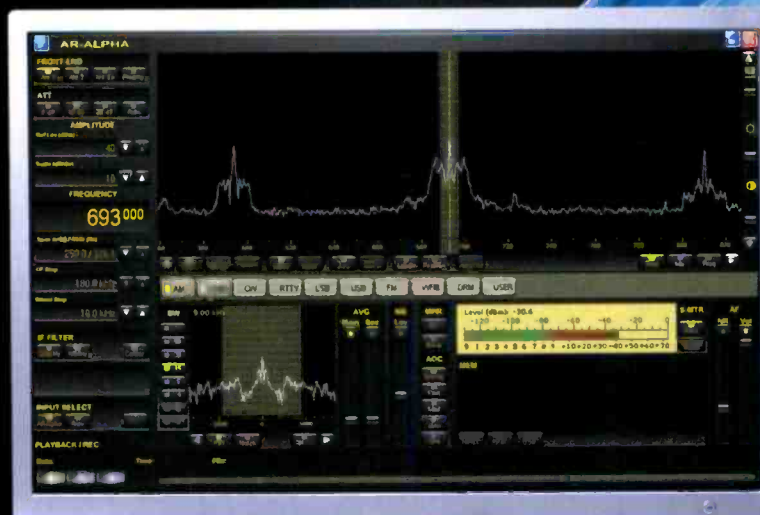


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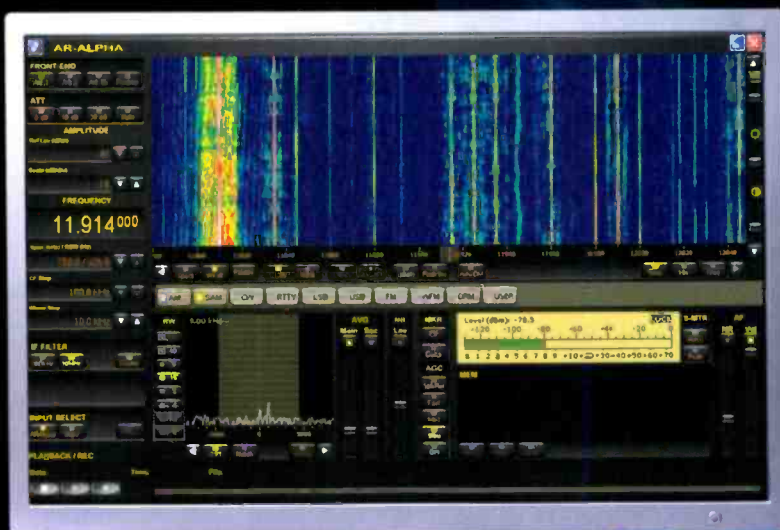
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- Easy to use. No training required.

can even listen repeatedly to a loop in time to decode a transmission received in difficult conditions.

AR-IQ software can be uploaded to multiple PCs so that you can transfer data from a PC connected to the AR-ALPHA over to another PC for playback and review.

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\*\*\*AR-IQ software can be used with any dual core class PC operating Windows® XP or Vista with 2.GHz CPU and 1GB RAM.



# Radios Behind Barbed Wire

## *In World War II, POWs Showed Remarkable Imagination, Creativity, And Bravery To Tune News Of The War From Captivity*

by R.B. Sturtevant, AD7IL

*"In Stalag 17B near Krems, Austria, the news was received with a rejoicing that could hardly be contained. U.S. Air Force enlisted men had picked up the electrifying announcement on tiny handmade crystal sets, some of them built to fit in toothbrush holders, others camouflaged to look like lead pencils..."*

This quote from *The Longest Day* by Cornelius Ryan refers to the landings in France on D Day, June 6th, 1944, and movingly illustrates how some Allied POWs were better informed than the average German (or Japanese) soldiers guarding them.

How was that possible? It was simply because some of the Allied personnel built radios for themselves inside prisoner of war camps. This was not an isolated or unusual occurrence. It was an act of defiance.

The men who fought World War II, for the most part, grew up in the '20s and '30s. For many young boys in those inter-war years it was a rite of passage to wrap wire around those familiar round oatmeal containers and send in a hard-earned quarter, with appropriate box tops, for a piece of genuine Galena crystal. Headphones cost the exorbitant sum of \$1.50 but, if everything went well, they could tune in on *The Shadow*, *Superman*, *Hopalong Cassidy*, and *The Green Hornet*. After the kids built, redesigned, and rebuilt their crystal sets a few times they were experts.

In time, for most of them, the crystal sets were put away in for girls, cars, jobs...and the war. While answering their county's call to arms, some of these young men became prisoners of war.

### **Captives, But Still Duty-Bound**

According to the Department of Veteran Affairs, over 130,000 U.S. troops

R.B. Sturtevant, AD7IL, writes frequently about radio history topics and is *Pop Comm's* "Trivia" columnist.



A Signal Corps photo of the capture of the American garrison on Corregidor Island. This was the last large group of POWs to be taken prisoner by the Japanese.

were captured and interned during World War II. Some of these POW servicemen would have had specialized radio training, most did not, others still likely remembered their days of building oatmeal box radios.

Soldiers, sailors, airmen, and Marines are sworn to resist all enemy activities in every way possible, even after capture. Healthy, intelligent, patriotic, and motivated young men found many ways to offer resistance after the enemy has said, "For you the war is over"?

In one example of such continued resistance involved a group of newly captured British POWs being transported on a train. The floor of their cattle car was covered by a couple of inches of straw. Still armed with their cigarette lighters and matches, the Brits threw flaming straw bundles into a train that passed them going the opposite direction. As the other train continued on its way, the Brits were gratified to find that the passing freight was loaded with artillery shells heading for the front. The explosions took out the whole train, its cargo, several miles of railway, and a good deal of German countryside.

But, of course, moments of empowerment were extremely rare and fleeting,

and the existence of a POW is a brutal one, nothing like its portrayal in the old *Hogan's Heroes* television comedy. The predominant feeling among POWs is depression. For an active, focused young man determined to personally win the war becoming a POW can be humiliating and horrifically frustrating. Throw in fear of being completely at the mercy of an enemy and the feeling of helplessness is unimaginable. Some otherwise healthy men simply pulled a blanket over their heads and died, sometimes within a few hours.

One POW whose words came down to us, described his feelings as follows: This is depressing and it stinks, and I am a miserable human being and I am going to die. But I am trying to live."

Nor did conditions improve as time went on. At the end of the war in the European Theater of Operations, the Nazis started to move the Allied POWs toward Berlin and the centers of German population for possible use as hostages. A prisoner who later became a psychiatrist recalled that period this way: "We left a trail of slime and blood across Germany, so horrible that conditions cannot be evaluated by customary medical criteria."

Luckily, for their own sanity, after the initial shock of capture was over, most POWs remembered their duty and took up some form of active resistance against the enemy. How did they do this in captivity, far from home and in a foreign land where most did not speak the local language? Intelligent people with a lot of time on their hands can accomplish near miracles, and they found a thousand ways. Some tunneled, some forged paperwork, some bribed or otherwise corrupted guards, some stole food, blankets, and other precious items—like radios—from the enemy. And some renewed that half-forgotten skill of building crystal sets to obtain what a prisoner most wants: information about how the war is going from someone besides the enemy.

### A Most Secret Operation

Of course building a crystal set in a prison camp isn't like waiting for your galena crystal to come in the mail. Being caught with a radio was a shooting offense for captives. The only way to overcome the danger was to share it.

*“The radios were hidden in walls, specially made furniture, cesspools, brooms, and anywhere else the fertile mind of a POW could come up with.”*

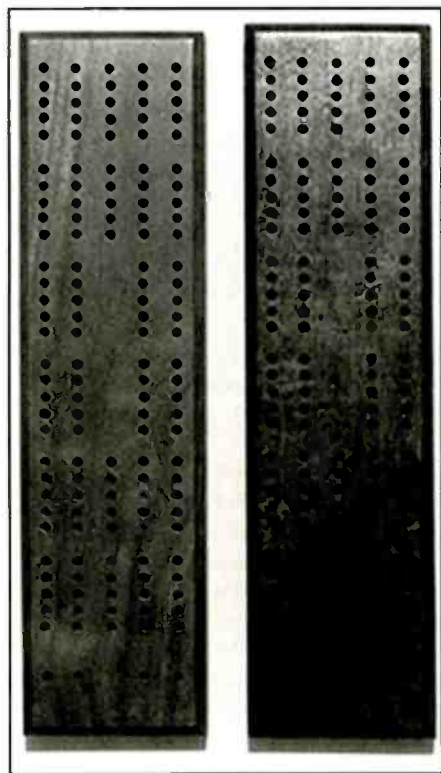
For instance, without explanation, one man would be told to engage a guard in conversation for 10 minutes at a certain point on the guard's rounds. A question about the guard's family, clarification about some facet of language, or a comment about the weather would delay a guard long enough for two or three other prisoners to steal enough wire for fabrication of the sets.

Another prisoner might be tasked with watching a repairman fix a projector in the camp's movie theater. When the repairman threw away some burnt-out tubes from the projector's sound system, the observant prisoner retrieved them. A month or so later the same prisoner would replace the new tubes with the burnt-out ones he'd held onto. Guards were left to believe it was simply another burn out, while the working tubes went into a clandestine radio. There's even a story about

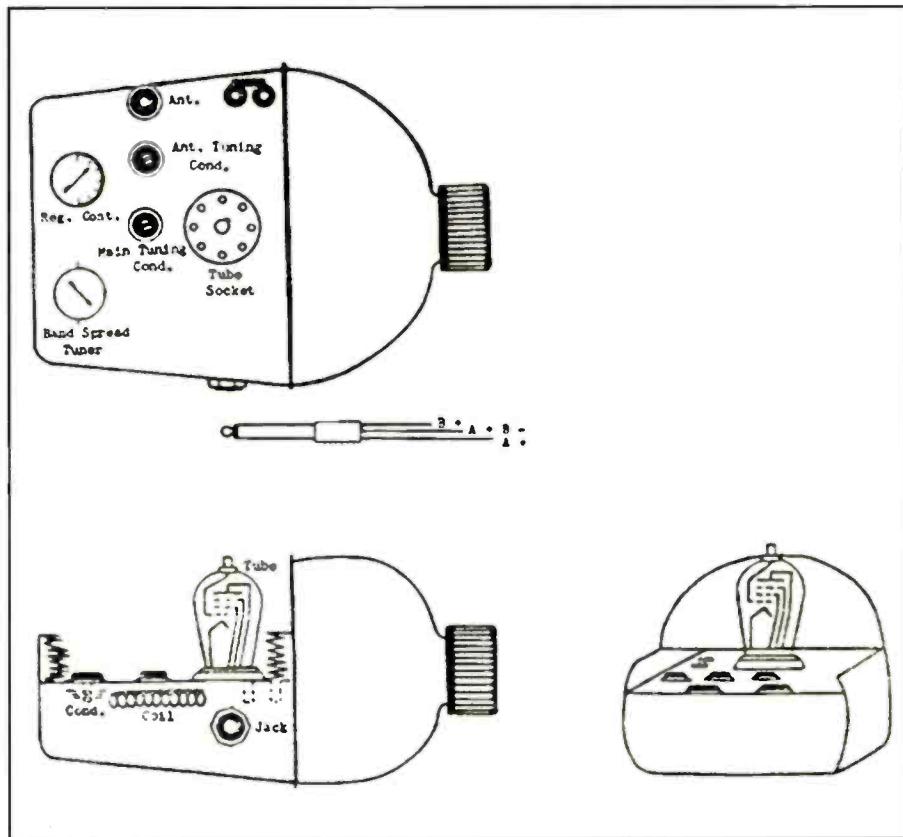
a prisoner who sacrificed a healthy appendix in order to go to a hospital where he could pick up a few critical tubes and other parts stolen by a prisoner working as a medical orderly.

Cigarette packages supplied foil to make capacitors, while solder came from cans containing cookies and crackers. Pine pitch served as the resin for soldering. And some genius found that lumps of coke, used to heat barracks, would work as well as galena for crystals. The materials were collected and passed on through a super secret network, and usually only a very few knew who was actually building the sets.

Even after building or otherwise acquiring a radio, imagination and improvisation were needed. A radio had to be well-hidden and that took creativity. From the Axis side, a group of German sailors held in Scotland bribed a guard for a radio



MIS-X was a secret agency of the U.S. assigned to supply “escape aids” to American POWs in Europe during World War II. It designed and built radio receivers into cribbage boards, which were then smuggled into German POW camps. (National Parks Service photo)



This radio was probably built before the fall of Corregidor by Capt. Russell J. Hutchinson of the Engineer Corps, who constructed it from scrap inside a GI canteen. (Drawings from *United States Army in WWII, The Technical Services, The Signal Corps: The Outcome*, U.S. Government Printing Office, 1966)



then hid it inside a model of the *Bismarck*. The receiver was tuned by turning the model's gun turrets.

Not many Axis prisoners had to get into the secret radio business, however. They were usually allowed to buy their own sets openly. Things were much harder for Allied prisoners. The guards knew the prisoners had radios and would periodically search the entire camp for them, so prisoners became expert at hiding things. Once an SS search team thought a radio was hidden inside a wall and began to tear it apart with crowbars. The hiding spot was so well constructed, however, that although the radio was there, the searchers gave up before they found it.

In fact, comparatively few radios were ever found, and those who operated them or were otherwise responsible usually could not be identified. The radios were hidden in walls, specially made furniture, cesspools, brooms, and anywhere else the fertile mind of a POW could come up with. In the Pacific, a radio built into a GI canteen went through countless searches and was never found.

There were, of course, some discoveries and some reprisals—sometimes very serious ones—but before long a camp would most likely be equipped with another receiver.

Building radios or listening to them always took place under the strictest security. In the Nazi super prison of Colditz Castle, in what is now the Czech Republic, two men were assigned to listen to the BBC news every evening. They would be hunkered down in the area where the radio was kept and others would sprinkle dust and debris on the entrance to make it look unused. One was a Signals man who would tune the radio and try to accommodate for the night time drift. The other, a Journalist, would take down and condense the news. The only things not abbreviated were the sports scores. After the broadcast assisted out of their hideout and the information received was circulated throughout the camp.

## Help From The Home Front

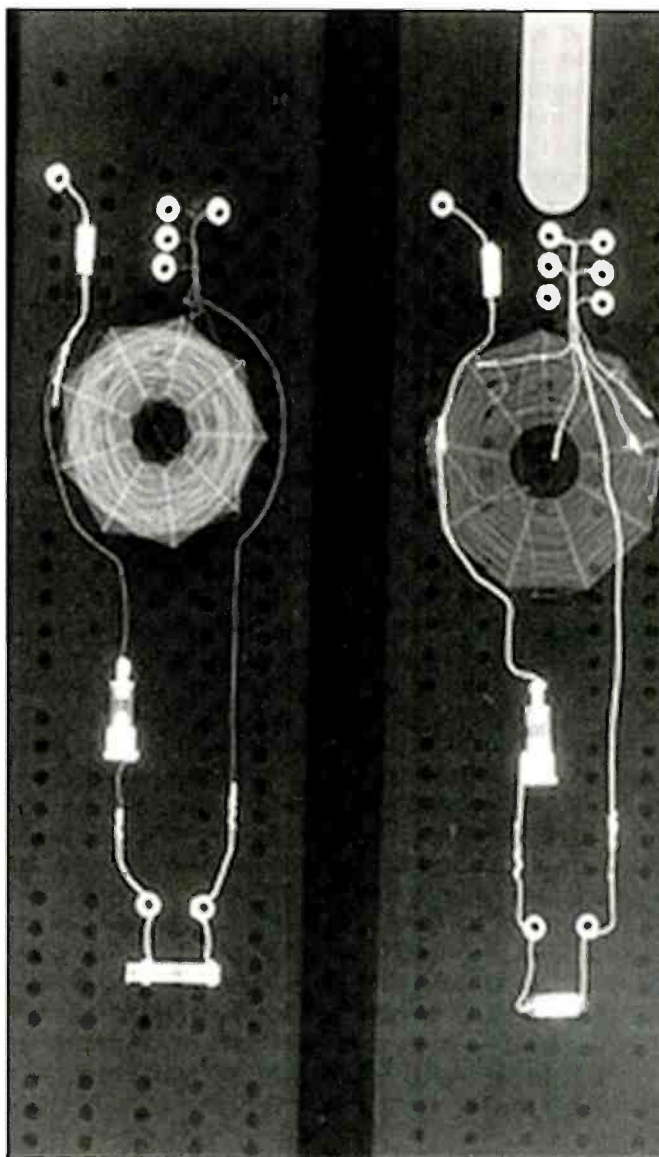
The POW's did not always work completely alone in their attempts to get radio access. The British MI-9, the Escape and Evasion Agency, and the American MIS-X (referred to only as PO Box 1142) organizations were tasked with supplying POW's of their respective countries with equipment and supplies to aid in escape. Included in these supplies, which were smuggled into camps, were parts and instructions for the production of radio receivers.

MIS-X, located at Fort Hunt near Mount Vernon, designed crystal sets into hollowed out cribbage boards sawed in half lengthwise. The boards were then they were glued back together. To hide the fact that the boards had been modified, the agency sawed them with the same blade surgeons used to open a skull. The saw cut away only .006 of an inch from the wood, so the finished cribbage boards were just as thick as the ones that came from the manufacturers and passed inspection with ease.

Whether working completely alone or with outside help, POWs equipped themselves with working receivers to keep informed as the war progressed.

## The Greatest News

In February 1944, the Nazi's started moving all their POWs back toward Germany with the plan of protecting German pop-



An x-ray of the MIS-X cribbage board unveils its true purpose as a radio receiver. The crystal set was tuned according to which holes the metal pins were placed in on the board. (National Parks Service photo)

ulation centers from Allied bombing and of using the POWs as hostages. One of the largest centers of POW concentration was Moosberg in southern Bavaria, where there were 70,000 prisoners representing 27 different nationalities.

As the war neared its end, an announcement was made over the BBC that Germany and Switzerland (the "protecting power" for POWs and responsible for prisoner safety) had agreed that no more prisoners were to be removed. They were to be held in place until Allied forces arrived to take charge of them.

The next morning when the prisoners at one camp were ordered to line up for a march they refused to do so. Their refusal was based on their knowledge of the new situation, which they had heard about on their homebuilt radios. This was only one of the many instances that showed POWs were aware of what was happening around them, and that they were still following orders from their respective high commands, issued via radio.



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## World War II Radio Heroes, Letters Of Compassion

By Lisa L. Spahr, with Austin Comacho

reviewed by Gerry Dexter

*“World War II Radio Heroes, Letters of Compassion [is] a tribute to those who cared enough about strangers in distress to make time in their busy schedules to listen to German radio...then sit down to write the families [of POWs] and let them know their loved ones were alive.”*

**N**o one needs point out that we live in a world vastly different from the years of worry, hard work, shortages, hardship, rationing, and other trials that Americans went through during World War II. I still remember the sticker on our family car, indicating which days of the week we were allowed to buy gas (try getting something like that to work these days!). Our “issues” today—jobs, the economy, taxes, healthcare, government spending, whatever floats your boat—are relatively insignificant compared with what our parents and grandparents had to deal with shortly after they had just begun to recover from the Great Depression.

Author Lisa Spahr never knew her father, so her uncle and grandfather “filled the masculine roles” in her life. She truly and dearly loved her grandfather, named Robert but whom she called “Pappy.” She remembers their many fishing trips and the fun of riding with him in the VW “beetle”—and being allowed to talk on his CB radio. She was just 11 and devastated when he passed away after a slow decline in his health.

Decades later, in 2006, Lisa collected her resolve and finally opened her grandfather’s “war trunk,” which her aunt and uncle had kept in their attic since his death. In it, he had kept mementos and other items from that period. Among his uniform, German phrase book, a copy of Hymns and Prayers for Men in Camp (provided by the YMCA), the Red Cross POW bulletins, his immunization records and such, she found a stack of nearly 70 letters and postcards that Robert’s mother had received from total strangers letting her know that they had heard about her son via short-wave radio, and that he had been captured by the Germans and was a prisoner of war. The first such letter she received telling her of Robert’s situation arrived on the same day as the official notification telegram from the War Department!

Robert’s granddaughter Lisa was so moved by the letters that she set out to try to locate the let-

ter writers some 60-plus years later. Despite the decades that had passed, and thanks largely to Internet searches, she was able to find a few of the authors, some of whom had sent literally hundreds of such letters to relatives letting them know that their serviceman was a POW.

The result of her discovery in her grandfather’s trunk and her subsequent search for the kind-hearted radio listeners from so long ago is Lisa’s book, *World War II Radio Heroes, Letters of Compassion*. It’s a tribute to those who cared



*World War II Radio Heroes, Letters of Compassion* is a moving account of the author’s discovery of, and subsequent search for, the SWLs behind the letters about her grandfather’s POW status.

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

enough about strangers in distress to make time in their busy schedules to listen to German radio, at a particular hour every day, copy down the information they were able to get, and then sit down to write the families and let them know their loved ones were alive.

World War II Radio Heroes describes Lisa's search for these people (or in some cases a close relative still living) and also recalls her grandparents and her early memories of them. Probably the most touching part of the book are the reprints of many of the letters and postcards she found in her grandfather's trunk, many of them providing a taste of what life was like during those years, now so far behind us.

## Messages Of Hope Over Shortwave

Germany's Berlin Radio regularly broadcast the names of recently captured Allied servicemen in a program "Calling Back Home," which was occasionally hosted by the woman who was to become known as "Axis Sally," sometimes also going by the moniker "Midge at the Mike." William Joyce ("Lord Haw Haw") is thought to have conducted some of the live POW interviews, which would give the monitor a little more information to pass along to relatives. Although amateur radio communications were not allowed during the war, there was nothing disallowing shortwave listening, and it seemed that quite a few people made it a practice to listen to German radio—enough to make the FBI take notice and sometimes even create suspicion that the monitors might be spies!

Spahr does not indicate that any of the letter writers were "just" SWLs, but one hopes it wasn't only hams that got all the kudos. We listeners would like to know that our part of the hobby got to share at least some of the credit for that good work, even though we were not personally involved.

## Kind Hearts Responded

The programs were broadcast each evening and seemed to have been aired more than once per day. A surprising number of the monitors were women, likely because the majority of males were at war. It required a sharp ear and a quick pencil to copy down a soldier's name, address, and the message content, not to mention an outlay of time and the money in writing the letters. Even at three cents a stamp, postage costs could add up and

during those years when dollars were hardly plentiful. Occasionally a letter recipient would send a few dollars to pay for more stamps to keep letters going out to others.

One woman eventually organized about 50 monitors into the "Short Wave Amateur Monitors" group. "SWAM" members were issued a listening schedule which assigned each monitor a certain day of the week to listen to Berlin Radio and copy down whatever POW information was broadcast. Spahr isn't specific as to how many servicemen had their information monitored (possibly no one really knows), but it must have been considerable—at least several per day, every day for two or three years. Certainly, it added up to a lot of time spent under headphones, the writing of many, many letters, and the licking of a whole lot of stamps!

The group's organizer issued a newsletter which at least one member complained was difficult to read. The nameless lady who headed the group didn't bother with such niceties as paragraphs. Beginning a new paragraph wasted an extra line, which used up the mimeograph stencils faster. Neatness took second place to the need for space!

## For Their Compassion, A Granddaughter's Thanks

The late Arthur Cushen of New Zealand was widely known for his POW monitoring efforts focusing on the Pacific Theater and was honored with a Member of the British Empire award for his efforts. Although decades later, many DXers are well aware of his story and his memory lives on. Now, through her book, Lisa Spahr has brought to our attention a handful of American "radio heroes" who gave peace of mind to the families of American servicemen—those of "the Greatest Generation." World War II Radio Heroes, Letters of Compassion is one woman's tribute to those who listened and then took action to benefit some of their fellow countrymen in a time of national trials. Their memories, too, are now revived and can live on, with our thanks, so many decades later.

*World War II Radio Heroes, Letters of Compassion* by Lisa L. Spahr, with Austin Camacho, 76p, \$15.95 + \$4 s/h from Spahr Consulting, 7731 Abbott St., Pittsburgh PA 15221. Website ([www.powletters.com](http://www.powletters.com)) through which orders may also be placed.

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# Saluting The Silver Anniversary Of The Sheigra DXpeditions

by Bruce A. Conti  
contiba@gmail.com

Autumn is the time of year when boundless broadcast DXers are most likely to be bunkered in remote locations as far and wide as the Pacific Northwest, the Canadian Maritimes, and the fjords of Scandinavia. AM broadcast DX conditions peak in the northern hemisphere at this time of year, and the best way to catch all the action is to go on a DXpedition—a radio expedition to a quiet secluded location, free of electrical noise and interference—to receive exotic signals that can't be heard at home. November is DXpedition month at "Broadcast Technology," and this November we celebrate 25 years of DXpeditions to Sheigra, Scotland.

## Where In The World?

Sheigra, Scotland, is located at the far north-western tip of the United Kingdom, coordinates 58°30'N 05°07'W. It's a place many broadcast DXers have dreamed of visiting from the time when the first groundbreaking DXpedition was held there 25 years ago. Since then, over 50 DXpeditions have taken place at Sheigra. In October 1985, four intrepid DXers, John



This is a 1985 photo of the rustic cottage where the historic first Sheigra DXpedition took place.

*"In Australia venomous tiger snakes have kept extremist DXpeditioners on their toes while erecting Beverages, and when nature calls they're on alert for deadly redback spiders in the toilet."*

Faulkner, Mark Hattam, David Hyams, and Ian Kelly, made the first long journey to the beautiful Highland region of Scotland near Cape Wrath. John Faulkner remembers how it all got started:

The first visit to Sheigra represented a milestone in high-latitude DXing in the UK. It opened the door to a new world of DX possibilities which UK DXers had thought could never be achieved. For years, DXers across the UK had read about the exotic medium wave DX which was possible at higher latitudes in Europe, particularly in Scandinavia and had accepted that it was probably impossible to hear the same kind of transpolar DX because of signal absorption across the North Pole. DXers at higher latitudes had less of the problems associated with absorption. Not only could they hear exotic mediumwave stations from the west coast of the USA and Canada, but also from Japan, Australia, New Zealand and even the Pacific Islands! Until 1985, such reception had never graced the mediumwave band in the UK, though a few of the higher powered west coast stations had made it through in previous solar minima, including 640 KFI Los Angeles, 1000 KOMO Seattle, 1070 KNX Los Angeles, 1090 KING Seattle, and 1410 CFUN Vancouver.

DXers in Scandinavia made use of Beverage antennas stretched out many hundreds of meters. Such large antennas had never really been tried in earnest in the UK, other than at places like the BBC Monitoring Service in Reading. The more we thought about it, the more we wanted to find suitable locations and run out such antennas to see if we could come close to hearing what the Scandinavians were hearing. If we were to attempt this in the UK, where should we go? The general consensus was as far north as possible, and for good reason. The "scientists" among us had always stated that transpolar reception on the mediumwave band



One of the Beverage antennas extends across the sheep grazing fields of Sheigra.

would never be possible in the UK due to the polar absorption. So what if we were to travel as far north as possible in the UK? How about the north of Scotland? Surely this would be sufficiently northerly to minimize the absorption and achieve our goals.

Mark had found a holiday cottage in the crofting [small-scale farming, largely for subsistence] village of Sheigra, population 12, just a few miles from the Cape. There was sufficient room to erect Beverage antennas in several directions. Other locations were also considered, but this one seemed to fit as many of the criteria as possible for our purposes, i.e. sufficient farmland in the required directions, no nearby roads, etc. However, it was impossible to tell for certain just how suitable this location was until we had seen it for ourselves as this was our first visit to the area.

## Hardships

Traveling to a remote site can be half the battle, or half the fun, of a DXpedition. Explaining the unusual radio equipment to customs officials, weather and flight delays, and getting lost in unfamiliar territory only add to the adventure. Faulkner continues his account, describing the team's arrival in Sheigra for the first time:

The journey seemed to take forever as the roads above Inverness were mostly single track in those days and not at all straight. Some 120 miles of these roads had to be negotiated in order to reach our destination. It was after midnight when we arrived. It was cold, dark, and seemingly unwelcoming as we entered the damp holiday cottage in the middle of nowhere. It was like going back in time 50 years. The cottage was very old and the walls were half a meter thick to provide insulation from the extreme weather which can often be experienced up there. The wood-paneled walls and linoleum covered floors were also something of a shock. Bits of carpet attempted to cover the floor and

the heating was coal-fired. All the furniture and kitchen equipment seemed to be as old as the hills outside! There were no modern facilities such as a microwave or dishwasher. The water supply was brown due to the peat hills and it had a strange odor. We decided to boil it first before drinking it but we discovered it made an excellent cup of tea! What were we letting ourselves in for?

Daybreak soon arrived and we caught our first glimpse of the terrain around us. It was a near-mountainous landscape. Dramatic cliffs fell away into the sea and we were concerned that it was wholly inappropriate for our purposes. Indeed we had to negotiate some very uneven terrain in order to erect the antennas. We were well away from city life, slightly surprised to learn that there were no local amenities in the village. There was a post office in the neighboring village of Balchrick and a small general store four miles away in Kinlochbervie, population 200, which only opened for a few hours each day. The name Sheigra is Gaelic for "peaceful valley" and that's exactly what it was, at least when the sun was out! At other times we found the power would occasionally trip out when the weather became windy or when a storm was close by. We were well and truly out in the wilds, exposed to all the elements. The climate in this part of the UK is such that you can literally experience four seasons of weather in just a few hours, but it was great fun and that little holiday cottage proved to be a very pleasant, homely kind of place and the record-breaking DX which followed proved to be more spectacular than we could have wished!

Throughout the history of the Sheigra DXpeditions, the accounts have been the same. Hardships endured by DXers include high winds, driving rains, snow, rustic accommodations, and daily antenna work to repair damage caused by pesky deer and sheep. Similar stories are shared from DXpeditions in remote locations worldwide. DXpeditioners in Newfoundland, Canada, have had to deal with brown water, extreme weather, and antennas damaged by moose. In Australia venomous tiger snakes have kept extremist DXpeditioners on their toes while erecting Beverages, and when nature calls they're on alert for deadly redback spiders in the toilet. DXpeditioning can be risky, but the results are well worth the effort.

## Sheigra Broadcast DX Logs

In 25 years of Sheigra DXpeditions, numerous distant signals have been logged for the first time in the United Kingdom, but there's nothing like the excitement of the very first experience. Initially, the first Sheigra DXpedition appeared to be a wasted effort. Faulkner tells the rest of the story, as it unfolded from what seemed the edge of defeat:

By 2200 hours UTC we were receiving what can only be described as powerhouse signals from Brazil and a solitary North American sig-



Sheigra Beach on the Atlantic coast of northwest Scotland.



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View of the tiny village of Sheigra with stormy weather on the horizon.

nal. Conditions were very unsettled and signals began to take a dive after an hour or more. But while this was very disappointing we realized that reception was somehow very different to home. Our excellent reception of Brazilian stations, some of which were at near local strength, was rather unusual. We realized there was potential for something impressive if only the conditions would improve. Thankfully, we did not have to wait much longer. The time was approaching 0400 and once again we were scratching our heads with disbelief that the band had died once more. Transatlantic DX was virtually non-existent and we were all very close to pulling the plugs at this point, but we suddenly noticed that there was another station on 930 kHz. Minutes earlier we could only hear CFBC in St. John, New Brunswick, but this was far more interesting. The station appeared to be North American and was discussing matters in Alberta. We dismissed this as just CJYQ Newfoundland, but seconds later were amazed to hear the signal quickly lift from being weak to s9+50 dB on the Trio 9R59D receiver display! Next came a weather report giving out -4 degrees and a time check for six hours behind UTC which ruled out CJYQ. At

0400 we were speechless as we were treated to an ID. "This is 930 CJCA Edmonton." A UK first! Scarcely able to believe our ears we tuned around and discovered that the whole of the mediumwave band had suddenly become alive with strong signals from the Canadian Prairies! Such reception was unheard of in the UK. Never before had UK DXers been treated to such a barrage of "first time" signals. But the best was yet to come.

Almost an hour later an unusual signal was detected on 680 kHz. It was buried in heavy European splatter from adjacent channels and therefore not particularly easy to hear, but the language sounded like Eskimo. Baffled, we scratched our heads some more and wondered who could be carrying a broadcast in the Eskimo language on 680. Surely not Alaska? It couldn't be. But who else? The time was approaching the top of the hour and the signal had peaked up a little. With only a few seconds to go for a possible identification it had started to dip down as is often the case when the top of the hour approaches. We were counting the seconds, hoping this would not fade out completely. At last, the top of the hour was upon us, the language changed from Eskimo to English, and a male voice

### This Month In Broadcast History

**75 Years Ago (1935)**—Edwin Armstrong presented "A Method of Reducing Disturbances in Radio Signaling by a System of Frequency Modulation" to the New York section of the Institute of Radio Engineers, and demonstrated FM transmissions from amateur radio station W2AG.

**50 Years Ago (1960)**—Communications were disrupted worldwide by one of the largest solar flares ever recorded, and the northern lights of the aurora borealis were visible throughout much of the hemisphere. "Are You Lonesome Tonight" by Elvis Presley topped the Swingin' 60 music survey on 1260 KYA San Francisco.

**25 Years Ago (1985)**—The FCC made AM, FM, and TV engineering databases for stations in the U.S., Canada, and Mexico available on the Internet.



Sheigra is located at the far northwest tip of Scotland in the United Kingdom.

announced something which sounded like "Radio... K... Barrow." Scarcely able to believe our ears that this was a K call and not being entirely sure of what we had heard, we played the tape back and heard the words which were to mark a milestone in British DX history, "Top of the world radio, KBRW Barrow." We had done it! The first recorded Alaskan reception in the UK! Those scientists among us had said it could not be done and we had shown that it was indeed possible! From that moment we knew we were in for a real DX treat. Transatlantic channels were opening up everywhere and North American stations dominated, but nothing we heard sounded familiar to us. To this day, I have never experienced a more surprising and stunning opening across mediumwave than that night in Sheigra. We were literally rewriting DX history!

680 KBRW Barrow has been heard regularly in Sheigra since that moment in time. Here are a few more recent Sheigra firsts for this month's selected broadcast loggings. All times are UTC.

**620 CKCK Regina, Saskatchewan**, at 1015 with oldies music, "62 Cool." (Kenny, Powell, Rogers)

**621 AIR Patna, India**, monitored at 1715 weak under Belgium with Indian music parallel 4810 kHz. (Kenny, Pennington, Rogers)

**657 Henan PBS, Zheagzhou, China**, at 1655 heard with Chinese talk, music, and ID. (Kenny, Pennington, Rogers)

**666 JOBK Osaka, Japan**, at 1610 an ID in Japanese, many mentions of NHK and FM. (Kenny, Pennington, Rogers)

**690 HCJBI Quito, Ecuador**, at 0600, special DX test with sound effects and Morse code. (Rooms, Whitt)

**710 KIRO Seattle, Washington**, at 0821 "ESPN Seattle" and "The mighty 97-3 FM." (Kenny, Pennington, Rogers)

**730 CHMJ Vancouver, British Columbia**, at 0845 "AM 730, all traffic all the time, Vancouver's only radio station dedicated to traffic." (Kenny, Pennington, Rogers)

**774 DWWW Quezon City, Philippines**, at 1558, ID as "Premier Station." (Kenny, Pennington, Rogers)

**828 Beijing News Radio, China**, at 1655 with ID in English, "AM 828, 100.6 FM, Beijing News Radio." (Kenny, Pennington, Rogers)

**900 AIR Kadapa, India**, heard at 1716 with Indian music and news in English parallel 5010 kHz. (Kenny, Pennington, Rogers)

**980 KKMS Richfield, Minnesota**, monitored at 0730 "For more on how you can pray, visit kkms.com." (Kenny, Pennington, Rogers)

**1062 DZEC Manila, Philippines**, at 2100 ID, "EBC Eagle Broadcasting, DZEC." (Kenny, Pennington, Rogers)

**1130 CKWX Vancouver, British Columbia**, at 0922 weather, "News 1130 Insider Club" promo. (Kenny, Pennington, Rogers)

**1188 CRI Xuanwei, Yunnan, China**, at 1556 closing announcements and ID in English, mentioned 88 FM in Xuanwei. (Kenny, Pennington, Rogers)

**1200 KFNW West Fargo, North Dakota**, at 0900 ID, "1200 KFNW West Fargo, Fargo, Moorhead." (Kenny, Pennington, Rogers)

**1420 KTOE Mankato, Minnesota**, heard at 0933 "Information Radio...1420 KTOE" and Coast-to-Coast AM. (Kenny, Pennington, Rogers)

**1470 KBSN Moses Lake, Washington**, at 0830 ID, "News and information AM 1470 KBSN Moses Lake." (Kenny, Pennington, Rogers)

**1510 KGA Spokane, Washington**, monitored at 1033 "Sports Radio 1510 KGA, everything sports." (Kenny, Pennington, Rogers)

**1600 KLEB Golden Meadow, Louisiana**, monitored at 0827 "100.3 KLRZ...and 1600 KLEB." (Kenny, Pennington, Rogers)

Many thanks to John Faulkner for sharing his memories and photos from the first Sheigra DXpedition, and to Dave Kenny, Alan Pennington, Graham Powell, Tony Rogers, Clive Rooms, Steve Whitt, and all the DXers who have reported their exploits and loggings over the years. The Medium Wave Circle DX club ([www.mwcircle.org](http://www.mwcircle.org)) organizes at least one DXpedition to Sheigra per year, usually for two to four weeks around the autumn or spring equinoxes. The British DX Club (BDXC) also has dedicated groups of DXers who visit Sheigra on a regular basis. Their reports are available on the BDXC website at <http://homepage.nlworld.com/bdxcuk/home.html>. Only one question remains. How long will it be until North American DXers dare to vacation in Sheigra?

Until next time, 73 and Good DX!

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## Radio Free Asia Goes Permanent, Papua New Guinea Buzzes With Radio Fly, And More

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

*“...RFA was only authorized to broadcast until September, but the new bill gives it permanent status, which means you can go on hunting all those RFA broadcast sites you still need to log.”*

The politicians and the bureaucrats have been busy again, now having turned their attention to things radio and things shortwave. Congress has approved a bill that would extend the license of Radio Free Asia. Originally, RFA was only authorized to broadcast until September, but the new bill gives it permanent status, which means you can go on hunting all those RFA broadcast sites you still need to log. (See my article on RFA in the March, 2010 *Pop'Comm*.)

In an opinion column by former VOA employee Kim Andrew Elliott, published in *The New York Times*, he notes that the new board approved for the Broadcasting Board of Governors (BBG) was finally confirmed in late June, and suggests that the new, refreshed BBG should re-tune the entire U.S. foreign broadcasting lineup.

Elliott would prefer that the VOA produce all U.S. overseas programs and services rather than spreading them among Radio Free Asia, Radio Free Europe/Radio Liberty, Radio Farda, Radio Sawa, Radio Free Afghanistan, Radio Marti, etc. He thinks that would save much needed money when another round of budget tightening lurks just down the next block. Noting that Britain spends only about half as much money to run the BBC as we do on our multiple broadcast efforts, Elliott makes some good points, but my money is on the status quo. We'll see, of course, but I don't think such changes will occur any time soon. Once started, it's darn near impossible to close down a government-run department, agency, or broadcaster.



An aerial view of Cruzeiro de Baltar graces this QSL from RDP International in Portugal. (Thanks Paul Gager, Austria)

There is a new shortwave station operating in Papua New Guinea. All the buzz is about Radio Fly, a local FM station being relayed on 3915 and 5960. This low-power service is on the air from 0800 to 1200. The station is operated by Ok Tedi Mining Ltd. The mine is located on Mt. Fubilan, with the company headquarters at Tabubil, in PNG's Western Province. (The mine is set to cease operations in 2013.)

Interested in India—and its shortwave outlets? You can download lists of all the All India Radio stations from [www.qsl.net/vu2js](http://www.qsl.net/vu2js). The lists include one which is complete in kHz order, another with the external services arranged by language, another in time order, and one more sorted by stations. Each is available at a particular page on that site, courtesy of well-known Indian DXer Jose Jacob, VU2JS.

DXer Brian Clark of New Zealand notes the apparent return to the air of Radio Sarandi, Uruguay, on 6045 (USB). Another apparent reactivation is the Bolivian, Radio Nacional Huanuni, now said to be on 5965.

Radio Television Malaysia is reported to be installing three new 100-kW transmitters at its Kajang site. The new ones are expected to be operational by the end of this year. Give it another couple of years and Radio Pakistan should have two more 100-kW units in place. Those that are in operation now (using the same power) are never heard—at least not by me! This is one international broadcaster that really needs an out-of-country relay!

Another opposition broadcaster recently active is the Voice of the Country, sponsored by the Save the Gambia Project, now on the air from 1815 to 1830 on 15225, but only on Saturdays. The transmission is via Nauen, Germany, in English along with some local dialects. To contact the station, visit [www.savethegambia.org](http://www.savethegambia.org).

### Reader Logs

Remember, your shortwave broadcast station logs are always welcome. But *please* be sure to double or triple space between the items, list each logging according to its home country, and include your last name and state abbreviation after each. And, please take a moment to look over your logs before you send them.

Also needed are spare QSLs or good copies you don't need returned, station schedules, brochures,

pennants, station photos, and anything else you think would be of interest. And how about sending a photo of you in action at your listening post? (I know—the pleading never ends!)

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, Anchor Point, 7355 at 1250 with Christian music. (Ng, Malaysia) 7425 at 0145 with schedule. (Parker, PA) News monitored at 0335. (Paszkiwicz, WI)

**ALBANIA**—Radio Tirana, 13640 at 1000 with W and ID, then news from 2002. (Coady, ON)

**ARGENTINA**—Radiodifusion Argentina al Exterior, 11710.6 at 0008 with W and pgm line-up, EE news and current affairs at 0235 recheck. (Paszkiwicz, WI) 0320 with W in FF and Argentine vocals. (D'Angelo, PA) 15345

at 2300 in SS with ID and news, perhaps under-modulated. (Linonis, PA)

**ASCENSION IS.**—BBC South Atlantic Relay, 6100 at 0429 sign on with IS, ID and anmts in PP, f/by news. (D'Angelo, PA) 9915 at 2150 with summary of African news. (Brossell, WI)

**AUSTRALIA**—Radio Australia (Shepparton), 9580 at 1717 on how people drive, 13630 at 2134 on trouble in Cameroon, 15230

at 2305 on the budget, 15240 at 0443 on solar power, 15515 at 0440 and 17750 at 0432. (MacKenzie, CA) 9720 in Pidgin at 1010 and 11945 at 0835 on the U.S. base in Okinawa. (Ng, Malaysia) 11660-Brandon with sports at 2127. (Taylor, WI) 15515 with *In the Loop* at 0329. (Coady, ON) 15560 at 2315 with talk on elections in Burma and the Philippines. (Linonis, PA)

ABC Northern Territories Service: 2310-

## Help Wanted

We believe the "Global Information Guide" offers more logs than any other monthly SW publication (452\* shortwave broadcast station logs were processed this month!). Why not join the fun and add your name to the list of "GIG" reporters? Send your logs to "Global Information Guide," 213 Forest St., Lake Geneva, WI 53147. Or you can email them to [gdex@wi.rr.com](mailto:gdex@wi.rr.com). Please note that attachment files do not always go through. 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. Also discounted are unidentifieds, duplicate items (same broadcaster, same frequency, same site), and questionable logs.*

## A Guide To "GIG-Speak"

Here's a partial list of abbreviations used in the "Global Information Guide"

(l)	listed	Lang	language
(p)	presumed	LSB	lower sideband
(t)	tentative	LV	La Voz; La Voix
*	sign on/off time	M	man
//	parallel frequency	NBC	National Broadcasting Corporation (Papua New Guinea)
AA	Arabic	nf	new frequency
ABC	Australian Broadcasting Commission	ORBT	Office de Radiodiffusion et Television du Benin
AFN	Armed Forces Network	PBS	People's Broadcasting Station
AFRTS	Armed Forces Radio TV Service	PP	Portuguese
AIR	All India Radio	PSA	public service announcement
am	amplitude modulation	QQ	Quechua
ancr	announcer	RAE	Radiodifusion Argentina al Exterior
anmt(s)	announcement(s)	RCI	Radio Canada International
AWR	Adventist World Radio	Rdf	Radiodifusora, Radiodiffusion
BBCWS	BBC World Service	REE	Radio Exterior de Espana
BSKSA	Broadcasting Service of the Kingdom of Saudi Arabia	RFA	Radio Free Asia
CBC	Canadian Broadcasting Corp.	RFE/RL	Radio Free Europe/Radio Liberty
CC	Chinese	RFI	Radio France International
CNR	China National Radio	RHC	Radio Havana Cuba
co-chan	co-channel (same) frequency	RNZI	Radio New Zealand International
comml	commercial	RR	Russian
CPBS	China People's Broadcasting Station	RRI	Radio Republik Indonesia; Radio Romania International
CRI	China Radio International	RTBF	RTV Belge de la Communaute Francaise
DD	Dutch	s/off	sign off
DJ	disc jockey	s/on	sign on
DW	Deutsche Welle/Voice of Germany	SIBS	Solomon Is. Broadcasting Corp.
EE	English	sked	schedule(d)
f/by	followed by	SLBC	Sri Lanka Broadcasting Corp.
FEBA	Far East Broadcasting Association	SS	Spanish
FEBC	Far East Broadcasting Company	TC	time check
FF	French	TOH	top of the hour
GBC	Ghana Broadcasting Corp.	TT	Turkish; Thai
GG	German	TWR	Trans World Radio
HH	Hebrew; Hungarian	unid	unidentified
HOA	Horn of Africa	USB	upper sideband
ID	identification	UTC	Coordinated Universal Time (= GMT)
II	Italian; Indonesian	UTE, Ute	utility station
Intl	International	v	variable
IRIB	Islamic Republic of Iran Broadcasting	vern	vernacular (local language)
IRRS	Italian Radio Relay Service	VOA	Voice of America
IS	interval signal	VOIRI	Voice of Islamic Republic of Iran
JJ	Japanese	VOR	Voice of Russia
KBS	Korean Broadcasting System	W	woman
KK	Korean	ZBC	Zambian Broadcasting Corp.





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### Radio Veritas Asia

The Spratly Islands consist of more than 100 islands. The Spratly are surrounded by fertile fisheries and fossil-fuel deposits. The deserted islands territories are disputed by the China, Malaysia, Taiwan, Vietnam and the Philippines. About 1/2 (48) islands are populated by a few military from China, Malaysia, Philippines and Vietnam. The Islands are located in South China Sea, east of Vietnam to south of Palawan, the Philippines.

This entry was posted on Tuesday, November 20th, 2007 at 1:01 am and is filed under [Philippines History](#).

Beneath the clouds: The disputed Spratly Islands in the South China Sea, shown on this QSL from Radio Veritas Asia. (Thanks Rich D'Angelo)

Alice Springs with an interview pgm at 1157. (Brossell, WI) 2485-Katherine with EE music at 1115. (Barton, AZ) 4835-Alice Springs with ABC News at 2130. (Ng, Malaysia)

**BOLIVIA**—Radio San Miguel, Riberalta, 4700 heard at 0105 to past 0300 with local upbeat music, ballads, folk and SS talk. (Alexander, PA)

Radio Logos, Santa Cruz, 4865 in SS with a hymn-like song heard at 0949. (Taylor, WI)

**BONAIRE**—Radio Nederland Relay, 17605 in DD at 2325. NA and off at 2327. (MacKenzie, CA)

**BOSNIA - HERZEGOVINA** — International Radio of Serbia, 9675 at 0028 with IS, fanfare, W with ID and into news. (Coady, ON)

**BOTSWANA**—VOA Relay, Mopeng Hill, 4930 at 0335. (Parker, PA) 12080 at 0418 on international cooperation in outer space. (MacKenzie, CA)

**BRAZIL**—Radio Verdes Florestas, Cruzeiro do Sul, 4865 heard at 0955 with recorded "live" concert of guitar/slow ballads. (Parker, PA)

Radio Clube do Para, Belem, 4885 at 0432 but poor with LA pops. (Wood, TN)

Radio Novo Relogio, Rio de Janeiro, 4905 (t) at 0237 with what sounded like time pips, but might have been part of a UTE transmission. (Paszkievicz, WI)

Radio Difusora, Macapa, 4915 heard at 0026 with pops/highlife and M with ID. (Parker, PA)

Radio Brazil Central, Goiania, 4985 heard at 0000 with M, ID, freq. and pops. (Parker, PA) 2355 with live sports in PP. (Brossell, WI)

Radio Voz Missionaria, Florinapolis, 5940 with PP preacher at 0305-0400; then light instrumental music. Weaker on //11750. (Alexander, PA) 9665.2 at 2239 in PP with song by man and into a long talk. (Taylor, WI)

Super Radio Deus e Amor, Curitiba, 9565.5 at 0330 with PP preacher and some religious music. (Alexander, PA)

CBN-Radio Global, Sao Paulo, 9587.1 (t) with possible ID at 0345 and religious talk in PP. (Paszkievicz, WI)

Radio Nacional Amazonas, Brasilia, 11780 heard at 1636 with M and ID, music. (Parker, PA)

**BULGARIA**—Radio Bulgaria, 5900 with commentary monitored at 2130 and 6200 with news in SS at 2130. (Padazopulos, Greece) 7300 in SS at 0149. (Parker, PA) 11700 at 0252 in Bulgarian with comments and vocals. (MacKenzie, CA) 2300 on the Bulgarian parliament. (Linonis, PA)

**CANADA**—Radio Canada Intl, 9515 in FF at 1724, 13725 in SS at 0032. //11990. Also 15330 in FF at 2122 and 15445 in SS at 2327. (MacKenzie, CA) 11990 at 2330 with interview in SS. (Linonis, PA) 15235 heard at 2040 on cultural changes compared to the 1960s. (Barton, AZ)

CBC Northern Service, 9625 at 0410 with comments on other nations' attitudes towards Canada. (MacKenzie, CA) 0500 on Queen Elizabeth's day. (Coady, ON) 1518 with slow music. (Parker, PA)

**CHILE**—CVC-La Voz, 17680 in SS monitored at 1733 with comments and music. (MacKenzie, CA) 1739 in SS. (Parker, PA)

**CHINA**—China Radio Intl, 6030 via Canada at 0553 into *I Want to Learn Chinese*, 7305 in CC at 2150, 9675 in Cambodian at 2346, 9690 via Spain at 0337 on women's rights groups, 11840 at 2308 on social uprisings in China, 11930 in CC at 0042 and 13760 on Chinese lifestyles. (MacKenzie, CA) 7360-Kunming in listed Laotian at 1325, 7390-Jinhua in (l) Tagalog at 1135, 7435-Nanning at 1235 in (l) Mandarin, 9450-Kashi at 1311 in (l) Hindi, 9460-Kashi with EE news at 1233, 11610-Xi'an in (l) Mongolian at 1152 and 11935-Shijiazhuang in (l) Russian at 1203. (Brossell, WI) 9650 at 1300 with ID, news and *China Drive*. (Coady, ON; Yohnicki, ON) 17735-Kunming with news in II by W at 0830. (Ng, Malaysia)

China National Radio/CPBS: CNR-1, 4460 in CC at 1130. (Barton, AZ) CNR-5, Beijing, 7620 in Mandarin at 1206 and CNR-6, Beijing (p) 9170 in (l) Amoy at 1208. Voice of the Strait, Fuzhou (p), 9505 in Mandarin at 1230. (Taylor, WI)

Firedrake music jammer, 9380 monitored at 1215, but uncertain of target. (Brossell, WI)

**COLOMBIA**—Marfil Estereo, Puerto Lleras, 5910 at 0054 with SS and nice LA ballads, then into ID and news at 0101. (Taylor, WI) 0320 with folk things, W with SS talk, M

with TC and promo. (Paszkievicz, WI) 2319 with radio drama in SS. (Parker, PA)

**CROATIA**—Voice of Croatia, Deanovic, 3985 at 0200 with ID and into *Croatia Today*. Fair with ham QRM. (Coady, ON) 9925 via Germany in SS heard at 0245, M with ID at 0247. (MacKenzie, CA)

**CUBA**—Radio Havana Cuba, 5040 in SS at 0333, 5970 at 0350 with comments on the World Cup, 11760 in SS at 1655, 13760 in SS at 0023, 12020 in SS at 0036, 12030 in SS at 2147 and 15380 in SS at 2330. (MacKenzie, CA) 5970//6000 in SS at 0358. (Yohnicki, ON) 11760 at 0331. (Padazopulos, Greece)

Radio Rebelde, Havana, 5025 in SS at 0330. (MacKenzie, CA)

**CZECH REPUBLIC**—Radio Prague, 9410 in EE at 2135. (Parker, PA) 9440 at 2227, with rotating IS, ID and sked anmts, f/by news and *Magazine*. (Coady, ON)

**DJIBOUTI**—Radio Djibouti, 4780 from \*0301 with NA, local tribal music, f/by AA talk and Koran at 0304. (Alexander, PA) 0307 with Koran, M/W ancrs. (Parker, PA)

**EGYPT**—Radio Cairo, 6270 with intl music at 0250. (Maxant, WV) 2132 with news. (Padazopulos, Greece) 9280-Abis at 2106 with W in (p) FF but uncertain since it was so garbled, 9306-Abis in AA at 2110. (Parker, PA) 15170 in (l) Indonesian at 1247. (Brossell, WI)

**ENGLAND**—BBC, 5875 Cyprus Relay in Dari and 0051, 9410 Cyprus on Central America at 0206 and 9435 via Dhabbiyah (UAE) in Azeri at 0213. (Taylor, WI) 6195 Cyprus at 0220 with *Outlook*, 11860 via French Guiana in SS at 1205, 15285 in CC at 1334 with M/W talk. (Coady, ON) 7210-Rampisham at 0306 in Swahili, ID at 0314. (D'Angelo, PA) 9410 Thailand Relay at 0426 with comments on sports. (MacKenzie, CA) 9605 Thailand with headlines at 1244 and 15575 Cyprus with a comedy pgm at 1328. (Brossell, WI) 9740 Cyprus at 1120 on World Cup. (Linonis, PA) 11995 Singapore Relay in Hindi at 0115. (Ng, Malaysia) 13675 Singapore at 1718. (Fraser, ME) 17790 heard at 0325. (Padazopulos, Greece)

Bible Voice Network, 13590 via Nauen heard at 1451 with W preaching. (Taylor, WI)

CVC, 9500 via Uzbekistan in (l) Hindi at 1235. (Brossell, WI)

**EQUATORIAL GUINEA**—Radio Nacional, Bata, 5005 (p) heard at 0514 with SS talk by M hosting music pgm. Poor in noise. (D'Angelo, PA)

Radio Nacional, Malabo, 6250 at 0608 with SS talk, mentions of Malabo. Poor and irregular, with weak modulation. (Alexander, PA)

**ETHIOPIA**—Radio Ethiopia, 7110 at

### In Times Past...

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

**BOLIVIA**—La Perla del Acre, Cobija, Bolivia, on 4600, noted in SS at 0140 on August 18, 1989. (Dexter, WJ)



\*0259 with electronic keyboard IS, opening anmts in Amharic, gongs at 0300 and Amharic talk, local pops and HOA music. Weak on //9704. (Alexander, PA) 0314 in Amharic with anc talk, ID, more talk, music bridge, M/W ancrs. (Taylor, WI) 0331 with news in (I) Amharic. (D'Angelo, PA)

Radio Oromiya, 6030 at \*0322 with xylophone-type IS, opening anmts in (I) Oromo, f/by local music. Radio Marti and its jammer are off on UTC Mondays. (Alexander, PA)

**GABON**—Africa No. One, 9580 in FF at 2200 with lively African music. (Linonis, PA)

**GERMANY**—Deutsche Welle, 7240 Rwanda Relay, at 0436 on men and modesty in the music industry, 9825 Portugal Relay in GG at 0236, 13650 in AA at 1730, 15275 in GG at 1715 and 15640 Rwanda in EE at 2115. (MacKenzie, CA) 7430 via Rampisham with *Newslink* at 0413, 15620 Rwanda in RR at 1445 and 17610 Rwanda in FF at 1736. (Parker, PA) 11605 Rwanda in RR at 1820 and 15510 Rwanda in RR at 1755. (Brossell, WI) 12005 via UAE at 0305 with *Newslink* and 13735 Sri Lanka Relay in CC at 1300. (Ng, Malaysia) 11865 with *Hits in Germany* at 2130 and 15410 via UK with *Newslink* at 1641. (Coady, ON)

**GREECE**—Voice of Greece, 9420 with commentary in Greek at 0347. (Padazopulos, Greece) 11645 with Greek music at 0605. (Maxant, WV) 15630 in Greek at 1450. (Parker, PA) 15650 at 1330 with (p) news in Greek. (Brossell, WI)

**GUAM**—Adventist World Radio (t), 15320 heard at 2210 in an Asian language. (Linonis, PA)

**GUINEA**—Radio Guinee, 7125 at 2220 with Afro-pops and FF anmts. Abruptly off at 2323. (Alexander, PA)

**GUYANA**—Voice of Guyana, 3290 at 0356, with M ancr and really terrible music. (Parker, PA)

**HONDURAS**—Radio Misiones Intl, Comayagueta, 3340 at 0115 with gospel songs, EE sermon with SS translations. Also heard at 0810 and 1005 with the same format. (Alexander, PA) 0404 with W in SS, occ. M talk, some rustic instls. (D'Angelo, PA) ID by W at 1020 and vocals. (Barton, AZ)

**INDIA**—All India Radio, 7240-Mumbai with EE news by W at 1030. (Ng, Malaysia) 11840 at 1200 in (p) Hindi. (Linonis, PA)

**INDONESIA**—Radio Republik Indonesia, Palangkaraya (Kalimantan), 3325 (p) with chanting at 1030 and what seemed like opening anmts by a W. (Barton, AZ)

RII, Makassar (Sulawesi), 4750 at 1216 in (p) II. (Brossell, WI)

Voice of Indonesia, 9525 at 1241 with soft instls and anmts in II. (Brossell, WI)

**IRAN**—Islamic Republic of Iran Broadcasting, 6065 in AA at 2353 and 15545 in AA at 1250. (Brossell, WI) 7200-Kalamabad with Koran at 0233 and 11660-Zahedan in AA at 0445. (Parker, PA) 9495 at 0130 on U.S. "oppression." (Linonis, PA) 9495-Kalamabad at 0216 with "Voice of Justice" service. Also 11695 in Urdu at 1312 and 11765 at 2132 in JJ with indigenous flutes. (Taylor, WI)

**ISRAEL**—Galei Zahal, 6973u in HH at 0025 with blues and rock. (Parker, PA) 0130. (Yohnicki, ON)

**JAPAN**—Radio Japan, 5960 via Canada in JJ at 0250. (Yohnicki, ON) 5960 via Canada in JJ at 0348, 9650 via UAE in JJ at 2216, 9835 in JJ at 1754, 11935 in JJ at 0325, 13640 in JJ at 2336, 15265 via Bonaire in JJ at 2334, and 17810 in JJ at 0425. (MacKenzie, CA) 6090 in CC at 1127, 6190 in (I) KK at 1240 and 11740 via Singapore in JJ at 1155. (Brossell, WI) 6120 via Canada at 1213. (Fraser, ME) 11740 via Singapore in Burmese at 1040. (Ng, Malaysia) 13740 via (p) UAE in JJ heard at 1459. (Coady, ON)

**KUWAIT**—Radio Kuwait, 15540 monitored at 1745 on their relationship with Iraq. (Maxant, WV) 1920 on education in Kuwait. (Fraser, ME) 2030 with pops to 2050 then M with ID and news. (Coady, ON)

**LIBYA**—Radio Jamahiriya/Voice of Africa, 15235 NF heard at 1450 with local pops, IDs, talk on African unity. //15240, both with abrupt sign off at 1558. (Alexander, PA)

**MAURITANIA**—Radio Mauritanie, Nouakchott, 4845 in vernacular monitored at 2245 with M/W in light banter, phone call and instl with sitar-like instruments. (Parker, PA)

**MEXICO**—Radio Mil, Mexico City, 6010 at 0030 with SS futbol game and anmts. Covered by Radio Sweden via Sackville at 0100. (Alexander, PA)

**MOLDOVA**—Radio PMR, 6240 in GG at 2357. (Brossell, WI) 9665 at \*0000 with IS, ID and into EE pgm from 0000-0015, then into (p) Moldovan to 0030. (Linonis, PA) 0053 in EE with a report on the *Red Book of Flora and Fauna*. (Fraser, ME)

**MOROCCO**—RTV Marocaine, 15345 in AA monitored at 1716 in AA with W ancr, call-ins. (Parker, PA) 1850 with ME instls. (Coady, ON)

**NETHERLANDS**—Radio Nederland, 9670 via Northern Marianas in DD at 1245. (Brossell, WI) 11610-Madagascar Relay on climate change at 1935. (Fraser, ME)

**NEW ZEALAND**—Radio New Zealand Intl, 6170 at 1027 on Marori voting rights and into *Late Edition*. (Coady, ON) Same time with jazz. (Brossell, WI) 9655 with sign on, bird call IS and news. Also 13730 with pops and a DJ at 0245. (Maxant, WV) 0026 with soccer comments. (MacKenzie, CA) 0230 on various Pacific islands. (Linonis, PA)

**NORTH KOREA**—Voice of Korea, 9335 in FF at 1652 to 1700 when they went into KK. Also 11710 at 1650 in FF and into KK at 1700. (MacKenzie, CA) 9345-Kujang in Mandarin at 1201, W ancr and typical DPRK operatic things. (Taylor, WI) 11710-Kujang at 1613 with FF talks. (Parker, PA)

Korean Central Broadcasting Station (KCBS), 6285 at 1246 with victory songs. Off at 1250. (Brossell, WI) 11710-Kanggye in KK at 2130. (Taylor, WI)

Pyongyang Broadcasting Station, 3250 (p) heard at 1125 in KK. (Barton, AZ)

**OPPOSITION**—Radio Republica (to Cuba), 5954 via Costa Rica, at 0115 with numerous IDs and SS pgmg. (D'Angelo, PA)



Rich D'Angelo's QSL for a Radio Liberty transmission via Sitkuani (Lithuania) on 9635.



Transmitter sites used by Adventist World Radio are mapped on this sample QSL.

Radio Bilai (to Ethiopia), 15350 via Samara from 1800 sign on with ID, anmt, Amharic talk, local music. (Alexander, PA)

Voice of Peace and Democracy (to Eritrea), 7165 at \*0355 with HOA music, opening anmts, talk in (I) Tigrinya. M-W-F only. (Alexander, PA)

Radio Payem e-Doost (to Iran), 7460 via Moldova in Farsi monitored at 0305 with rooster crow and other barnyard sounds; W, then M over music. Off at 0314, as scheduled. (Taylor, WI)

Denge Mesopotamia (to Iraq), 11530 (p) monitored at 0515 with local pops. (Alexander, PA)

Voice of the Wilderness (to N. Korea), 11680 via Armenia at 1308 with two ancrs and short talks. (Taylor, WI)

Radio Voice of the People (to Zimbabwe), 9875 at \*0400 with Afro-pops, opening ID, EE and vernacular anmts. Off at 0458 with ID and email address. (Alexander, PA)

Radio Y'Abaganda (to Uganda), (p) 15410 via France from \*1700 sign on with African choral, vernacular talk at 1704. Saturdays only. (Alexander, PA)

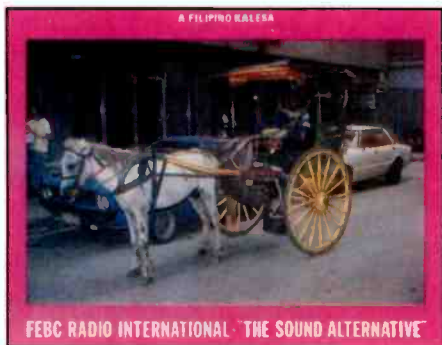
**PAKISTAN**—Radio Pakistan, 15100 with a traditional Urdu song heard at 0950. (Ng, Malaysia)

**PAPUA NEW GUINEA**—Radio Southern Highlands, Mendi (Papua), 3275 at 1120, just barely above the noise level. (Brossell, WI)

Radio Milne Bay, Alotau (New Guinea), 3365 weak at 1309 with talks and music. (Brossell, WI)

Radio East New Britain, Rabaul (New Britain), 3385 in Tok Pisin, poor at 1117.





An FEBC QSL for reception on 5990 via Bocaue. (Thanks Rich D'Angelo)



One of a large variety of QSL styles offered by KBS World Radio, South Korea.



Radio Tirana features an Albanian village on one of its QSLs. (Thanks Paul Gager, Austria)

(Taylor, WI) 1215 with a possible religious service. (Linonis, PA)

Radio New Ireland, Kavieng (New Ireland), 3905 heard at 1117 with island music and M ancr in Tok Pisin. Poor. (Taylor, WI)

Radio Fly, Tabubil (New Guinea), 3915 at 0844 in EE and Tok Pisin at with ID and mellow EE vocal. Possible ID at 0859 with mention of "Fly" and (p) local news. Poor, with periodic ham QRM. (Taylor, WI)

**PERU**—Radio Vision, Chiclayo, 4790 at 1014 with usual SS preacher over distorted PA system. (Parker, PA)

La Voz de la Selva, Iquitos, 4824.4 with talk and vocals monitored at 0238. (Paszkievicz, WI)

Radio Cultura Amuata, Haunta, 4955 monitored at 0007 with M/W in SS. Not in for long. (Parker, PA)

Radio del Pacifico, Lima, 4974.8 in SS monitored at 0003 with M/W ancrs, slow music. (Parker, PA)

Radio Melodia, Arequipa, (p) 5929.9 at 0132 in SS with W and a religious or political talk. (Taylor, WI)

**PHILIPPINES**—Radio Veritas Asia, 9615 in CC at 1143 and EE ID at 1200. (Brossell, WI) 15225 at 1220 with Win Karen. (Ng, Malaysia)

**PIRATES**—Pirate Radio Boston, 6950.6 monitored at 0105 with "Charlie Loudenboomer" reading mail. pirateradio boston@gmail.com. (Hassig, IL) 0156 reading mail and offering scenes of Stoneham QSLs. (D'Angelo, PA)

Radio Ronin Shortwave, 6950.6 at 0100-0155\* with rock and radioroninshort wave@gmail address. (D'Angelo, PA) 0303 with various rock things. (Alexander, PA)

The Crystal Ship, 6826 at 0056 with "Yo ho ho" IS, rock and marches. tcshort wave@gmail.com. (Hassig, IL) 6861 v 0056-0206\* with IS, rock and "Voice of the Blue States Republic" slogan. (Zeller, OH) 0155 with patriotic music, email address. (Alexander, PA)

Outhouse Radio, 6926v at 0045 and 0105, later with reduced carrier DSB, with heavy metal and comedy bits. outhouseradio@gmail.com. (Hassig, IL)

Radio First Termer, 6930u at 0000 with an eerie story and other strange tales. Gave website as radiofirsttermer.com. (Hassig, IL) 0015 heard with IDs, station history and talk on Sam's Club. (Alexander, PA)

Northwoods Radio, 6925u heard at \*1328 with loon IS and slogan "broadcasting freedom from the Great Lakes," and folk tunes. (Zeller, OH)

WLDJ, 6950u heard at 0450-0454\* with W ancr, rock and slogan "Voice of the last DJ." (Alexander, PA) 0530, but very poor. (Wood, TN)

WMPR, 6925 heard at 0300-0332\* with techno sounds, frequent IDs. Poor-fair. (D'Angelo, PA)

Voice of Chaos, 6925u at \*0000-0027 with talk of chaos in the world, talk on abuse of painkillers, some rock/pop oldies. voice-ofchaos@gmail.com. (Zeller, OH)

WTCR, 6925u heard at 0100 with pop/rock and ID. (Hassig, IL) \*0152-0258 with usual 20th Century Fox fanfare IS, usual Beatles and other rock oldies. Belfast address. (Zeller, OH)

Barnyard Radio, 6830u at 0115 with heavy metal and punk rock. (Hassig, IL)

WMPR, 6955.1 heard at 0000 with usual pgm of dance things. (Hassig, IL)

WEAK, 6915u at 0235 with urban contemporary, later pop. Not the original WEAK in Chicago. (Hassig, IL) 2335-0000 with IDs, blues, oldies pop. (Alexander, PA)

Hard Tack Radio, 6925u at 0020-00445 with ID, email, variety of bluegrass, Celtic and patriotic things. (Alexander, PA)

**POLAND**—Polish Radio, 11675 via Austria at 1200 with *News from Poland*. (Coady, ON)

**PORTUGAL**—RDP Intl, 15560 in PP monitored at 1300 with ID mentioning was beamed to Africa, Brazil and Canada, f/by

news in PP. (Fraser, ME) 1330 with upbeat music. (Parker, PA)

**ROMANIA**—Radio Romania International, 7345, 9645, 11895 and 15340 with mailbag pgm at 0330. (Padazopoulos, Greece) 11735 heard at 1700 with news headlines and 11940 with local music at 2245-2300. (Linonis, PA) 11895 at 0338 with classical music by Romanian groups, cooking show. (D'Angelo, PA)

**RUSSIA**—Voice of Russia, 7270-Yerevan in RR at 0227 and 7285-Kishinev in RR at 0220. (Parker, PA) 7440-Lvov (site presumed) at 0130 with brief news, f/by *The Christian Message from Moscow*, frequent IDs and schedule at 0158 prior to Kremlin bells and final "This is Moscow" ID. (D'Angelo, PA) 9665 via Moldova at 0200 with bell IS, fanfare and ID f/by news. (Coady, ON) 0250 with EE/RR lesson. (Maxant, WV) 9735 via French Guiana in SS at 0445 and 13775-Petropavlovsk at 0450 with *Music around Us* and *Music Calendar*. (MacKenzie, CA) 12065-Chita in EE at 1324. (Taylor, WI) 1206 in (I) VV. Also 15510-Samara in (I) Pashto/Dari at 1210. (Brossell, WI)

NVK Radio Sakha, Yakutsk, 7230 in (I) Yakutsk. Poor at 1154 with M/W talk. QRM probably from CNR-1. Xi'an. (Taylor, WI)

Kyzyl Radio, 6100 at \*1200 with ID in CC and RR, then (p) news in RR. (Brossell, WI)

**SAO TOME**—VOA Relay, Pinheira, 6080 on the Gulf oil spill heard at 0323. (Parker, PA)

**SAUDI ARABIA**—Broadcasting Service of the Kingdom, 11820 at 1937 in AA with talk, Koran. //11915. (Coady, ON) 2245-2300 close with Koran. (Linonis, PA) 17560 with Koran at 1727. (Parker, PA)

**SLOVAKIA**—Radio Slovakia Intl, 11610 with news in SS at 0410 with M/W talks. (Parker, PA) 2100. (Brossell, WI)

**SOUTH AFRICA**—Channel Africa, Meyerton, 3345 with M/W talk, music bridges at 0423. (Parker, PA)

Radio Sondergrense, 3320 in Afrikaans at 0050. (Yohnicki, ON)

**SOUTH KOREA**—KBS World Radio, 9650 via Canada at 1220. (Yohnicki, ON)

**SPAIN**—Radio Exterior de Espana, 3350 Costa Rica Relay in SS at 0516, 9630 Costa Rica in SS at 0342, 9665 in SS at 1753, 11680 in SS at 0045, 15110 in SS at 2127, 15160 in SS at 2340 and 17850 Costa Rica in SS at 2027. (MacKenzie, CA) 6055 in EE with *Sports Review* at 0015. (Fraser, ME) 11815 Costa Rica in SS at 2300. (Linonis, PA) 15170 Costa Rica in SS at 1325. (Coady, ON) 17595 at 1731 with upbeat music in SS. (Parker, PA) 2058 with IS, time pips, W opening in SS. (Barton, AZ)

**SUDAN**—Sudan Radio TV/Radio Omdurman, 7200 with \*0238 abrupt sign on with local chants, AA talk, Koran, radio drama, local pops. QRM from a weaker Iran and occ. hams. (Alexander, PA) 0303 in AA with apparent news in AA. (Coady, ON) 0320 with at least five minutes of Koran. (Taylor, WI) 0330 with African vocals, anmts with music interludes. (Paszkievicz, WI)





The Town Hall square in Bardejov, Slovakia, is featured on this Radio Slovakia International QSL received by Paul Gager.

Miraya FM, 9740 via Slovakia heard at 0354 with EE talk about unity in Southern Sudan, EE news at 0400, AA talk at 0416. (Alexander, PA)

**SWAZILAND**—TWR, 3200 at 0313 with EE religious talk, choir. Also 3240 at 0328 with group singing, M in (I) Nda language. (D'Angelo, PA)

**SWEDEN**—Radio Sweden, 6010 via Sackville with EE news at 0230. (Parker, PA) 13870 with EE news at 1530. (Padazopoulos, Greece)

IBRA Radio, 13830 via Wertachtal (p) at 1930 in (I) Fulfulde with interesting native music. (Taylor, PA)

**TAIWAN**—Radio Taiwan Intl. 5950 via Florida at 0444 and 17725 via Florida in SS at 2325. (MacKenzie, CA)

Han Sheng Broadcasting (t) 9745-Kuanyin in Mandarin at 1255. M and fanfare. M again for several minutes. Not //CNR-1 so probably not a jammer. (Taylor, WI)

Sound of Hope, 7280 in CC at 1254. (Brossell, WI)

**THAILAND**—Radio Thailand, 9890 with global news in EE at 1245. (Ng, Malaysia)

**TUNISIA**—RT Tunisienne, 7345 in AA at 2240 with Koran. (Linonis, PA) 9725 in AA at 0328. (MacKenzie, CA)

**TURKEY**—Voice of Turkey, 6165 with anmts in EE at 0353. (Padazopoulos, Greece) 9830 at 2200 with IS, ID, time pips, opening anmts and news. (Coady, ON) 11835 in GG at 1806. And 15480 at 1250 in TT with coverage of a live sports event. (Brossell, WI)

**UGANDA**—UBC Radio, (p) 4976 at 0351 with continuous music pgmg to 0400 when into news and a return to music at 0415. (D'Angelo, PA)

**UKRAINE**—Radio Ukraine Intl. 7440 at 0019 with local folk, M/W in EE with listener letters about them having been missing from shortwave. Ancrs mentioned that closing the station was "out of the question," but noted

they needed new equipment. Signed off at 0059\*. (D'Angelo, PA) 0137 in UU with slow news. (Parker, PA)

**UNITED STATES**—Voice of America, 7340 Lampertheim Relay at 0336 in Kinyranrwanda. (Taylor, WI) 7575 Northern Marianas Relay with news at 1330, 9530 Philippines Relay in (I) Mandarin at 1317, 9890 Philippines in (I) Indonesian at 1149, 11825 Philippines in CC at 1158 and 12045 Philippines in Mandarin at 1244. (Brossell, WI) 9390 Kuwait Relay in Pashto at 0250. (Parker, PA) 12015 Thailand Relay at 1709. (MacKenzie, CA) 12015 with African news at 1820. (Yohnicki, ON) 15145 Philippines in possible Special English at 2300. (Linonis, PA)

Radio Free Asia, 7595 Philippines Relay at 1335 in (I) Burmese and 11590 Kuwait Relay in (I) Tibetan at 1340. (Brossell, WI) 9385 Tinian (NM) in KK at 2140. (Ng, Malaysia) 9445 Northern Marianas Relay in CC at 1630, 9905 via Palau in CC at 1650, 11795 Northern Marianas in CC at 1700, 13625 Northern Marianas in CC at 2138, 13760 Saipan (NM) in CC at 0454, 15585 Northern Marianas in CC at 2323 and 17880 Northern Marianas in CC at 0417. (MacKenzie, CA) 9885 via Wertachtal in (I) Tibetan at 0247 and 11590 Kuwait Relay in Tibetan at 1249. (Taylor, WI)

Radio Marti, 13830-Greenville in SS at 1725. (MacKenzie, CA)

Radio Farda, Sri Lanka Relay 5860 in Farsi at 0049. (Taylor, WI) 7295-Biblis in Farsi at 0214 and 15560 Sri Lanka in Farsi at 1445. (Parker, PA)

AFN/AFRTS-Key West, 12133.5u at 1706. (Parker, PA)

Family Radio/WYFR, 9280 via Yunlin, Taiwan, in Mandarin at 1210, 11535 via Yunlin in Mandarin at 1243 and 11725 (p) via Petropavlovsk in Mandarin at 1318. (Taylor, WI) 17895 in FF at 1713. (MacKenzie, CA) 9310 via Kazakhstan at 1340 with Harold Camping, 9450 via Novosibirsk in (I) Tibetan at 1225 and 11725 Petropavlovsk-Kamchatka in CC at 1215. (Brossell, WI) 11565 in CC at 0905. (Ng, Malaysia)

WWCR, Tennessee, 3215 at 0510, 4840 at 0323, 5890 at 0543, 5935 at 0346 and 9980 at 0050. (MacKenzie, CA) 4840 at 0425. (Wood, TN) 9350 at 2125. (Parker, PA)

WHR1, South Carolina, 17520 heard at 1744. (MacKenzie, CA)

KAJI, Texas, 5755 heard at 0538. (MacKenzie, CA)

WRMI, Florida, 9955 in SS at 0305. (MacKenzie, CA) 2010 with pgm IDs as "Israel Radio" and "World Radio Network." (Wood, TN)

WINB, Pennsylvania, 9265 with schedule and frequencies at 2102. (Parker, PA)

WTJC, North Carolina, 9370 with hymns at 2131. (Parker, PA)

WJHR, Florida, 15550u heard at 1735. (Alexander, PA)

WRNO, Louisiana, 7505 heard at 0250. (Maxant, WV)

WEWN, Alabama, 5810 in SS heard at 0335. (MacKenzie, CA) 11520 at 1755. (Maxant, WV)

**VATICAN**—Vatican Radio, 7305 at \*0227 with IS, opening ID and into FF. (D'Angelo, PA) 0255. (Maxant, WV) 11625 via Madagascar in FF at 0440 and 11715 in AA at 0450. (Parker, PA)

**VENEZUELA**—Radio Nacional, 13680 via Cuba at 2259 in EE with IS, M with sign on and W with comments. (MacKenzie, CA)

**VIETNAM**—Voice of Vietnam, 6175 via Canada in SS at 0415. (MacKenzie, CA) 7210-Daclac in VV at 1156. Signal was just poor to fair. (Taylor, WI)

**ZAMBIA**—One Africa, 4965 at 2314 with Christian music. (Parker, PA) 9430 at 0535 with African news, African music. (Maxant, WV)

And, once again, order is restored! A snappy salute and a barrel of thank yous to the following who checked in this month: Brian Alexander, Mechanicsburg, PA; William Hassig, Mt. Prospect, IL; Peter Ng, Johor Bahru, Malaysia; Stewart MacKenzie, Huntington Beach, CA; George Zeller, Cleveland, OH; Joe Wood, Greenback, TN; Fotios Padazopoulos, Athens, Greece; Charles Maxant, Hinton, WV; Robert Fraser, Belfast, ME; Robert Brossell, Pewaukee, WI; Mike Coady, Peterborough, ON; Rick Barton, Phoenix, AZ; Michael Yohnicki, London, ON; Rich D'Angelo, Wyomissing, PA; Rich Parker, Pensburg, PA; Mark Taylor, Madison, WI; Sheryl Paszkiewicz, Manitowoc, WI; and Jack Linonis, Hermitage, PA. Thanks to each of you!

### 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 or other prize. 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](mailto: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 prizewinner is **Robert Brossell**, who receives a t-shirt from Universal Radio—your complete source for everything shortwave, along with fast, friendly service. If you don't already have one, you really should get their big, free catalog of radio stuff. Just email a request to them at [dx@universal-radio.com](mailto:dx@universal-radio.com), or phone (614)-866-4267. Or you can drop a line to Universal Radio, 6830 Americana Parkway, Reynoldsburg, OH 43068. Please mention *Pop Comm* and the "Global Information Guide" when writing.



# BROADCASTING

## World Band Tuning Tips

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

This listing is designed to help you hear more shortwave broadcasting stations. The list covers a variety of stations, including international broadcasters beaming programs to North America, others to different 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	0300	7110	Radio Ethiopia	Amharic
0000	12020	Radio Havana Cuba	SS	0300	7460	Radio Payem e-Doost, via Moldova	Farsi
0000	13725	Radio Canada International	SS	0300	7340	Voice of America, Germany Relay	Kinyarwanda
0000	5890	Radio Farda, Sri Lanka Relay	Farsi	0300	9725	RT Tunisienne, Tunisia	AA
0000	6055	Radio Exterior de Espana, Spain		0300	6080	Voice of America, Sao Tome Relay	
0000	11680	Radio Exterior de Espana, Spain	SS	0300	4775	TWR, Swaziland	
0030	9675	International Radio of Serbia		0300	3240	TWR, Swaziland	Ndau
0100	7400	Radio Bulgaria	SS	0300	7200	Radio Omdurman, Sudan	AA
0100	4915	Radio Difusora Macapa, Brazil	PP	0300	9630	REE, Spain, Costa Rica Relay	SS
0100	5910	Marfil Esterio, Colombia	SS	0300	11895	Radio Romania International	
0100	5940	Radio Melodia, Peru	SS	0300	9735	Voice of Russia, via French Guiana	SS
0100	6010	Radio Mil, Mexico	SS	0300	6165	Voice of Turkey	
0100	4955	Radio Cultural Amuata, Peru	SS	0300	9645	Radio Romania International	
0100	5954	Radio Republica, via Costa Rica	SS	0300	4965	CVC-One Africa, Zambia	
0100	4975	Radio del Pacifico, Peru	SS	0300	7340	Voice of America, Germany Relay	
0100	7440	Voice of Russia, via Ukraine		0300	5045	Radio Cultuura do Para, Brazil	PP
0100	15745	Sri Lanka Broadcasting Corp.		0300	7210	Radio Fana, Ethiopia	Amharic
0130	9495	IRIB, Iran		0300	11960	Radio Jordan	
0200	11710	Radiodifusion Argentina al Exterior	various	0330	6030	Radio Oromiya, Ethiopia	Oromo
0200	7425	Radio Tirana, Albania		0400	4885	Radio Clube do Para, Brazil	PP
0200	9925	Voice of Croatia, via Germany		0400	15515	Radio Australia	
0200	7200	Islamic Rep. of Iran Broadcasting		0400	11600	Islamic Rep. of Iran Broadcasting	AA
0200	6973	Galei Zahal, Israel	HH	0400	9410	BBC, Cyprus Relay	
0200	9435	BBC, via UAE	Azeri	0400	9875	R. Voice of the People, to Zimbabwe	EE/vern
0200	4825	La Voz de la Selva, Peru	SS	0400	4790	Radio Vison, Peru	SS
0200	13730	Radio New Zealand International		0400	5950	Radio Taiwan, via Florida	
0200	7295	Radio Farda, Germany Relay	Farsi	0400	3345	Channel Africa, South Africa	
0200	3320	Radio Sondergrense, South Africa	Afrikaans	0400	9740	Miraya FM, Sudan, via Slovakia	AA
0200	9665	Voice of Russia, via Moldova		0400	6175	Voice of Vietnam, via Canada	SS
0200	7270	Voice of Russia, via Armenia	RR	0400	11625	Vatican Radio	FF
0200	7285	Voice of Russia, via Moldova	RR	0400	13775	Voice of Russia	
0230	7305	Vatican Radio	FF	0400	4005	Vatican Radio	
0300	9565	Super Radio Deus a Amor, Brazil	PP	0400	5010	Radio Madagasikara, Madagascar	Malagasy
0300	4930	Voice of America, Botswana Relay		0430	11715	Vatican Radio	AA
0300	5025	Radio Rebelde, Cuba	SS	0500	6100	BBC, Ascension Island Relay	PP
0300	9690	China Radio International, via Spain		0500	5040	Radio Havana Cuba	SS
0300	4780	Radio Djibouti	AA	0500	9625	CBC Northern Service, Canada	
0300	11935	Radio Japan, via Bonaire	JJ	0500	5005	Radio Nacional, Equatorial Guinea	SS
0300	6075	Deutsche Welle, Portugal Relay	GG	0500	11725	Radio New Zealand International	
0300	3290	Guyana Broadcasting Corp.		0500	9430	CVC-One Africa, Zambia	
0300	9420	Voice of Greece	Greek	0600	11605	Voice of Greece	Greek
0300	3240	Radio Misiones Intl, Honduras	SS	0600	6250	Radio Nacional, Equatorial Guinea	SS

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0600	4725	Star Radio, Liberia		1300	9530	Voice of America, Philippines Relay	Mandarin
<b>0700</b>	7125	Radio Guinee, Guinea	FF	<b>1400</b>	13590	Bible Voice Ntwk, Eng., via Germany	
<b>0800</b>	11945	Radio Australia		1400	15560	RDP International, Portugal	PP
<b>0900</b>	4865	Radio Logos, Bolivia	SS	1400	15235	Radio Jamahiriya, Libya	
0900	3915	Radio Fly, Papua New Guinea	EE/Pidgin	1400	15650	Radio Farda, USA, Sri Lanka Relay	Farsi
0900	3945	Radio Vanuatu		1400	9425	All India Radio	
<b>1000</b>	7240	All India Radio		<b>1600</b>	11760	Radio Havana Cuba	SS
1000	6170	Radio New Zealand Intl		1600	9480	KAJI, Texas	
1000	3310	Radio Mosoj Chaski, Bolivia	SS	1600	9905	Radio Free Asia, via Palau	CC
1000	3330	Ondas del Huallaga, Peru	SS	<b>1700</b>	17680	CVC-La Voz, Chile	SS
1000	4805	Radio Difusora Amazonas, Brazil	PP	1700	15275	Deutsche Welle, Rwanda Relay	GG
1000	4815	Radio el Buen Pastor, Ecuador	SS	1700	13830	Radio Marti, USA	SS
<b>1100</b>	3325	Radio Republik Indonesia	II	1700	15550	WJHR, Florida	usb
1100	3905	Radio New Ireland, Papua New Guinea	Tok Pisin	1700	15410	Radio Y'Abaganda, via France	Saturdays
1100	3250	Pyongyang Bc. Stn., North Korea	KK	1700	17560	BSKSA, Saudi Arabia	AA
1100	9615	Radio Veritas Asia, Philippines	CC	1700	11735	Radio Romania Intl	
1100	9655	Radio New Zealand Intl		1700	12133.5	AFN/AFRTS, Florida	usb
1100	11825	Voice of America, Philippines Relay	CC	<b>1799</b>	12015	Voice of America, Thailand Relay	
1100	3250	Radio Luz y Vida, Honduras	SS	<b>1800</b>	11605	Deutsche Welle, Rwanda Relay	RR
1100	2485	ABC No. Territories, Australia		1800	11835	Voice of Turkey	GG
1100	4780	Radio Cultural Coatan, Honduras	SS	<b>1900</b>	15540	Radio Kuwait	
1100	5765	AFN/AFRTS, Guam	usb	1900	11610	Radio Nederland, Madagascar Relay	
1100	5020	Solomon Is. Broadcasting Corp.		1900	13830	IBRA Radio, Sweden, via Germany	Fulfulde
<b>1200</b>	7355	KNLS, Alaska		<b>2000</b>	13640	Radio Tirana, Albania	
1200	11840	All India Radio	Hindi	2000	15345	RTV Marocaine, Morocco	AA
1200	6120	Radio Japan, via Canada		2000	17850	Radio Exterior Espana, Costa Rica	SS
1200	4750	Radio Republik Indonesia, Makassar	II	<b>2100</b>	9915	BBC, Ascension Island Relay	
1200	15545	JRIB, Iran	AA	2100	6200	Radio Bulgaria	SS
1200	9500	CVC, via Uzbekistan	Hindi	2100	9410	Radio Prague, Czech Republic	
1200	15710	Radio Cairo, Egypt	II	2100	9305	Radio Cairo, Egypt	AA
1200	9605	BBC, Thailand Relay		2100	11865	Deutsche Welle, Rwanda Relay	
1200	9525	Voice of Indonesia	II	2100	11765	Islamic Rep. of Iran Broadcasting	JJ
1200	11675	Polish Radio, via Austria		2100	9270	Radio Cairo, Egypt	
1200	15225	Radio Veritas Asia, Philippines	Karen	2100	9265	WINB, Pennsylvania	
1200	3365	Radio milne Bay, Papua New Guinea	Tok Pisin	2100	15110	Radio Exterior de Espana, Spain	SS
1200	3275	Radio Southern Highlands, Papua NG	Tok Pisin	2100	11610	Radio Slovakia International	SS
1200	3385	Radio East New Britain, Papua NG	Tok Pisin	2100	9370	WTJC, North Carolina	
1200	9670	Radio Nederland, via No.Marianas	DD	2100	12085	Radio Damascus, Syria	
1200	9345	Voice of Korea, North Korea	Mandarin	<b>2200</b>	11780	Radio Nacional Amazonas, Brazil	PP
1200	6285	KCBS, North Korea	KK	2200	9440	Radio Prague, Czech Republic	
1200	9390	Voice of America, Kuwait Relay	Pashto	2200	9580	Africa Numbr One, Gabon	FF
1200	11590	Radio Free Asia, Kuwait Relay	Tibetan	2200	4845	Radio Mauritanie, Mauritania	AA
1200	15450	Voice of Turkey	TT	2200	15320	Adventist World Radio, Guam	unid Asian
1200	9890	Radio Thailand		2200	9830	Voice of Turkey	
1200	9650	KBS, South Korea, via Canada		2200	11940	Radio Romania Intl	RR
1200	15510	Voice of Russia	Pashto/Dari	2200	11820	BSKSA, Saudi Arabia	AA
1200	6100	Kyzl Radio, Russia	RR	2200	17550	Radio Kuwait	AA
1200	6165	Radio Educacion, Mexico	SS	<b>2300</b>	9665	Voz Missionaria, Brazil	PP
<b>1300</b>	9580	Radio Australia		2300	15345	Radiodifusion Argentina al Exterior	SS
1300	7360	China Radio International	Laotian	2300	17605	Radio Nederland, Bonaire Relay	DD
1300	9650	China Radio International, via Spain		2300	15560	Radio Australia	
1300	9450	China Radio International	Hindi	2300	11700	Radio Bulgaria	
1300	15650	Voice of Greece	Greek	2300	11840	China Radio International, via Canada	
1300	11695	Islamic Rep. of Iran Broadcasting	Urdu	2300	13640	Radio Japan	JJ
1300	15285	BBC, Singapore Relay	Mandarin	2300	6240	Radio PMR, Moldova	GG
1300	11590	Radio Free Asia, Kuwait Relay	Tibetan	2300	15580	Radio Free Asia, No. Marianas Relay	CC
1300	7575	Radio Free Asia, Philippines Relay	Burmese	2300	13680	Radio Nacional Venezuela, via Cuba	
1300	12065	Voice of Russia					



# Trivia And Toons

by R.B. Sturtevant, AD7IL

**Q.** How did the Allies break the German weather codes and why were they so important?

**A.** Before troops went ashore on D-Day and in the landings on North Africa, Sicily, and Italy, the most important Allied war effort against occupied Europe had been comprised of the bombing missions. Sending planes up into a hostile sky is dangerous enough, even if the *only* thing the pilots have to worry about is the enemy. An even greater danger, however, is posed by bad weather conditions, and Europe has some terrible weather for flying. Weather reports gleaned from resistance stations and the decoding of German weather traffic were the only sources the Allies had to guide their planning for these critical operations, but the resistance stations were often too far apart and not always well placed to be able to give the Allies a complete weather picture. To decode what the Germans were sending in their own reports, therefore, the Allies sent professional weather observers into areas near where the Germans had weather observation stations. The Allied weather observers would send in reports by radio identical to those the Germans were sending out. These “duplicate” reports acted as a crib for the code breakers at Bletchley Park. In time the Allies were able to read German weather reports from all over Europe as soon as they were coded and sent out by the Nazis.

**Q.** When the Soviets launched Sputnik in 1957, the satellite transmitted its history-making beeping signal in the ham bands. Wasn't that a violation of established treaties governing the usage of international frequencies? Why were the

ham bands used instead of frequencies set aside for governmental use?

**A.** Yes, you're right, but Sputnik was not about technology as much as it was about propaganda. If the satellite went up but only sent signals on government-only frequencies, it could be hidden or denied by the various non-Communist governments around the world. Ham bands were chosen so that the thousands of amateur radio operators would be first to pick up the signal. The Soviets were sure hams would get the story out, even if it were just “Beep...Beep...Beep.” That was more important to the Soviets.

In another case in point, when the Chinese sent up their first satellite, it transmitted an endless recording of “The East Is Red,” a communist anthem. And they let everyone know what the frequency was.

**Q.** What's the latest trick from the folks at Whiz-Bang Corners where all the R&D gets done?

**A.** Well things have slipped a little since James Bond's friend Q passed on. You probably noticed that he wasn't in Jim's latest movie. His replacement is probably locked in the lab trying to work out some bugs in their newest variation on Letter Boxes, or as we call them Dead Letter Drops. As most spy thriller readers know, a “Dead Drop” is a carefully chosen spot where one spy can conceal a message for another spy who comes along later to pick it up, so no one will realize they're communicating. That's how super-spy Robert Hansen did it.

To modernize this process, the Brits came up with laptop computers disguised inside things like rocks in a park. In this approach, the first spy comes to the park and sits near, but not too near, the rock. He uses a QRP transmitter to send his message, coded or not, in CW or some other digital form. The receiver, which is hidden inside the rock, statue, or other object, picks up the message and records it onto the computer. The second spy comes by later and picks up the message by reversing the process.

The problem is that computers frequently develop bugs, unlike a well-built QRP rig. And you can't very well demolish, say, a park's bandstand to get at the hidden computer, fix it, and put it back without drawing any one's attention.



## IN GEAR

Power Up

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## Kenwood's TS-590S HF And 6-meter Transceiver

Kenwood has announced a new high-performance HF/50-MHz all-mode amateur radio transceiver, the TS-590S. Designed to enable users, from beginners to seasoned DXers, to enjoy a full range of ham radio pursuits, it provides maximum dynamic range and in-band IMD characteristics comparable to higher priced radios in a ruggedized unit. The TS-590S uses 32-bit DSP from the IF stage forward, enhancing the AGC for the target signal in the IF passband, which dramatically improves the in-band IMD characteristics. The radio also deploys a down conversion receiver, narrow first roofing filter, and dedicated first mixer, improving dynamic range significantly to filter unwanted adjacent off-frequency signals. Designed specifically to tolerate the long hours of operation and physically demanding conditions of DXpeditions and contests, the transceiver's second cooling fan means lower RPM operation for higher airflow and less noise. The lightweight die-cast aluminum chassis and large heat-sink assures that the TS-590S is durable and can withstand high temperatures. The TS-590S offers operating ease with a simple menu for intuitive operation and a large display for enhanced visibility. Equipped with a USB port, this transceiver can be connected to a computer using a standard USB cable.

The MSRP for the Kenwood TS-590S is \$1,964. For additional information, call Kenwood USA at 800-950-5005 or visit them at [www.kenwoodusa.com](http://www.kenwoodusa.com).

## Sangean ATS-909X Shortwave Receiver

Sangean has announced the release of its new ATS-909X, a portable LW/AM/FM/SW PLL synthesized receiver. Describing it as "the flagship of the Sangean line of AM/FM/SW receivers," the company says it provides performance and features generally found in more expensive tabletop communication receivers, but in a compact and stylish

package. It enhances shortwave listening with a wide-narrow bandwidth switch and excellent single side band performance (SSB tuning to 40-Hz steps via fine tuning), and squelch control can be set to adjust the seek and find sensitivity. The ATS-909X offers wide-band AM/FM coverage from longwave (153–519 kHz), mediumwave (520–1710 kHz), and shortwave (1711–29999 kHz), five tuning methods for easy frequency location, and 406 programmable memories. Call letters of local RDS (Radio Data Systems) FM stations show in the large LCD display with a bright white LED backlight. The control interface is compatible with the Sangean DAR-101 digital recorder so you can make MP3 recordings with the ATS-909X; the Aux-In jack allows for MP3 player or iPod connectivity. Other features include a built-in headphone amplifier; three programmable wake timers; clock displays even when the radio is tuning; 42 world city times stored; and signal strength, battery life indicator. It operates on four AA Alkaline or rechargeable batteries or included AC Adapter; a built-in battery charger can recharge NiMH batteries.

The ATS-909X sells for approximately \$450 on the Web. For additional information, visit [www.sangean.com](http://www.sangean.com) or contact your favorite dealer.



The "flagship" of the Sangean line of AM/FM/SW receivers, the ATS-909X boasts advanced features in a compact and stylish package.

by Staff

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# Holiday Gift Ideas

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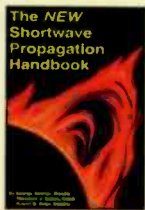
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by Walt Maxwell, W2DU

All the info in Reflections I and II and more! This completely revised and updated, 424-page 3rd edition is a must-have!

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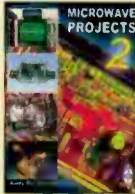
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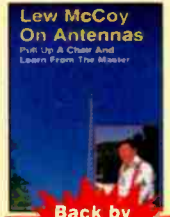


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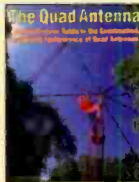


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## Using The iPad For Radio—Part I

by Ken Reiss  
radioken@earthlink.net

*“Depending on what you want it to do, the iPad may offer an almost dizzying array of ways to do it—and you can’t argue with its convenience.”*

Unless you’ve been living under a rock for the last few months, you’ve probably heard about Apple’s latest media darling, the iPad. In case you *were* under a rock, it’s a tablet device based on the same operating system as the iPhone and iPod Touch, but the larger screen and a custom processor give it a bit more punch than its smaller cousins. Techno geek that I am, it didn’t take long for me to think about how it might be used to help the radio enthusiast with all kinds of things. And since I came up with a lot of ways, we’re going to look at this topics in two parts, starting with an overview this month and getting a little more specific next time.

### What It Is And What It’s Not

Technically, the iPad is not a major powerhouse for a portable computer. Most laptops have more functionality, but what the iPad does have is huge popularity with users and, therefore, an ever-expanding application library. Everyone I know who has one doesn’t put it down much, including yours truly. My wife, who didn’t want an iPad until she played with one for all of 60 seconds even got herself an extra carrying bag that matches her purse so she can take it along most of the time. It really is a different kind of gizmo.

The iPad is available in three sizes (16GB, 32GB, and 64GB), all of which come with either Wi-Fi-only network capability or the option, for an additional \$130, of a consistently connected 3G cellular modem as well (Wi-Fi is used when it’s available, and then the 3G is used as a fall-back). If you’re mostly in areas where Wi-Fi is available, you might not need or want the 3G capability. Of course, the 3G also comes with the additional cost of a data plan (\$15–\$25/ month), depending on your use.

Unlike many Windows-based netbooks and laptops that I’ve seen that use solid-state drives (memory as hard disk space rather than a spinning hard disk, which is much more susceptible to damage and crashing), almost all the memory in the iPad is available for user data. On a Windows system, 10 to 20GB can be lost to the operating system and other installed applications. The processor is a 1-GHz custom chip made by Apple that the company has dubbed A4. Apparently, the newest iPhone uses the same chip and it was engineered specifically for mobile devices.

What sets the iPad apart is the 1.5-pound weight and the touch screen operating system lighting up a bright, nearly 10-inch LED display. It’s like having a clipboard in your hands with



As a computer, the iPad is only so powerful—as a tool for the radio hobby, it can really deliver a punch.

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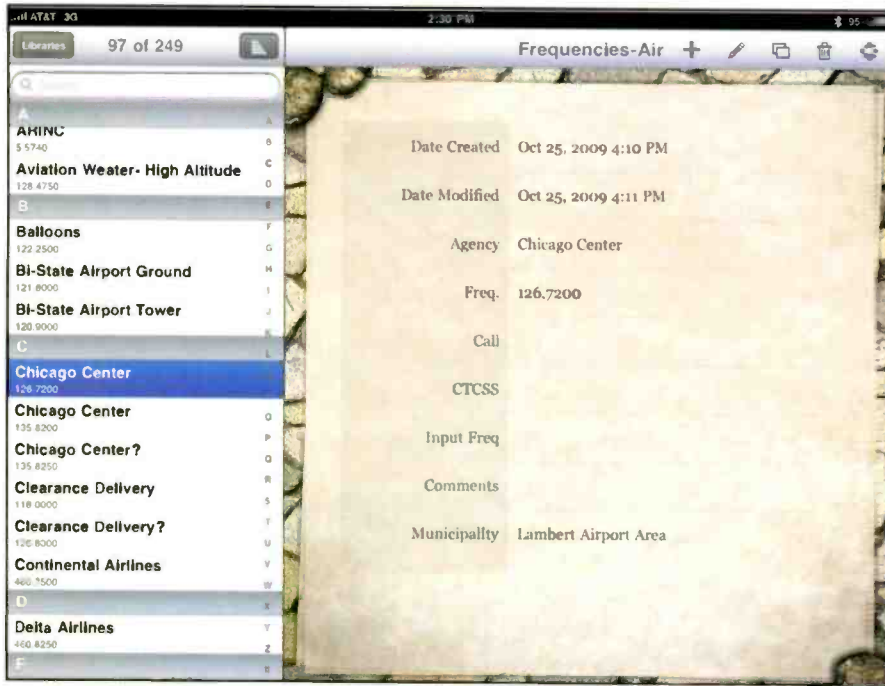
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Bento, an easy-to-use database program, can be used to store virtually any kind of data you like. Here, a list of St. Louis area aviation frequencies has been imported and is kept handy for quick reference. The nice thing about having your frequency database on the iPad is that it's searchable and sortable at any time, any where.

almost unlimited data. The battery is good for nine or 10 hours, so it's a viable option to carry it around all day—and that's just what people seem to want to do with it.

One thing I noticed in some brief and admittedly unscientific testing is that the

iPad seems to generate less RF noise than most other computing devices. It's not perfect to be sure, but the instant on/off function helps keep the noise to a minimum if you're listening for DX on HF. Of course, I have enough noise most of the

time that this test is a little suspect, but the point is that it's not a major noise factory like most PCs are.

What's most important to us, though, is that while it's not actually a receiver, there are lots of ways the iPad can be used to enhance our enjoyment of the radio hobby, just as we use our personal computers, but with its own twist. Organizing information is the obvious use, but even within that sphere, there's lots of room to use different apps for different types of info. Depending on what you want it to do, the iPad may offer an almost dizzying array of ways to do it—and you can't argue with its convenience.

## Putting It To Work: Basics

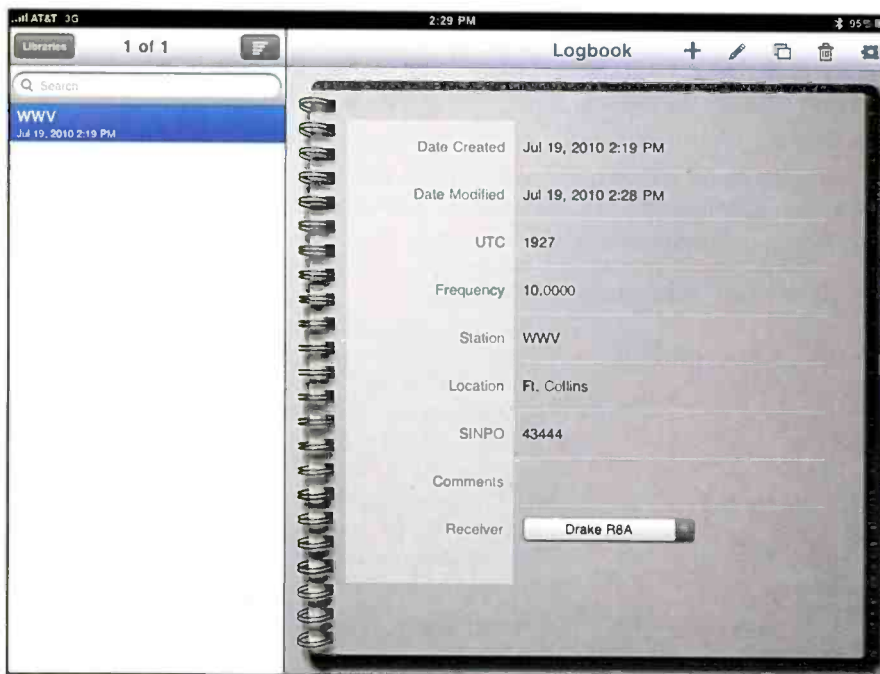
What the iPad does best is manage information, in any format. You can use it as an electronic reference guide or as a more active database manager. Information can be organized in as simple a manner as a giant notepad (or an electronic version of a three-ring binder) or as a complete database or spreadsheet. A lot will also depend on how much time you want to invest in the management of the information.

Possibly the most important use for radio listeners is the management of frequency information. A variety of apps might help with this, depending on how organized you are already on your computer. At the simple end, just using the built-in Web browser to look up information is extremely handy.

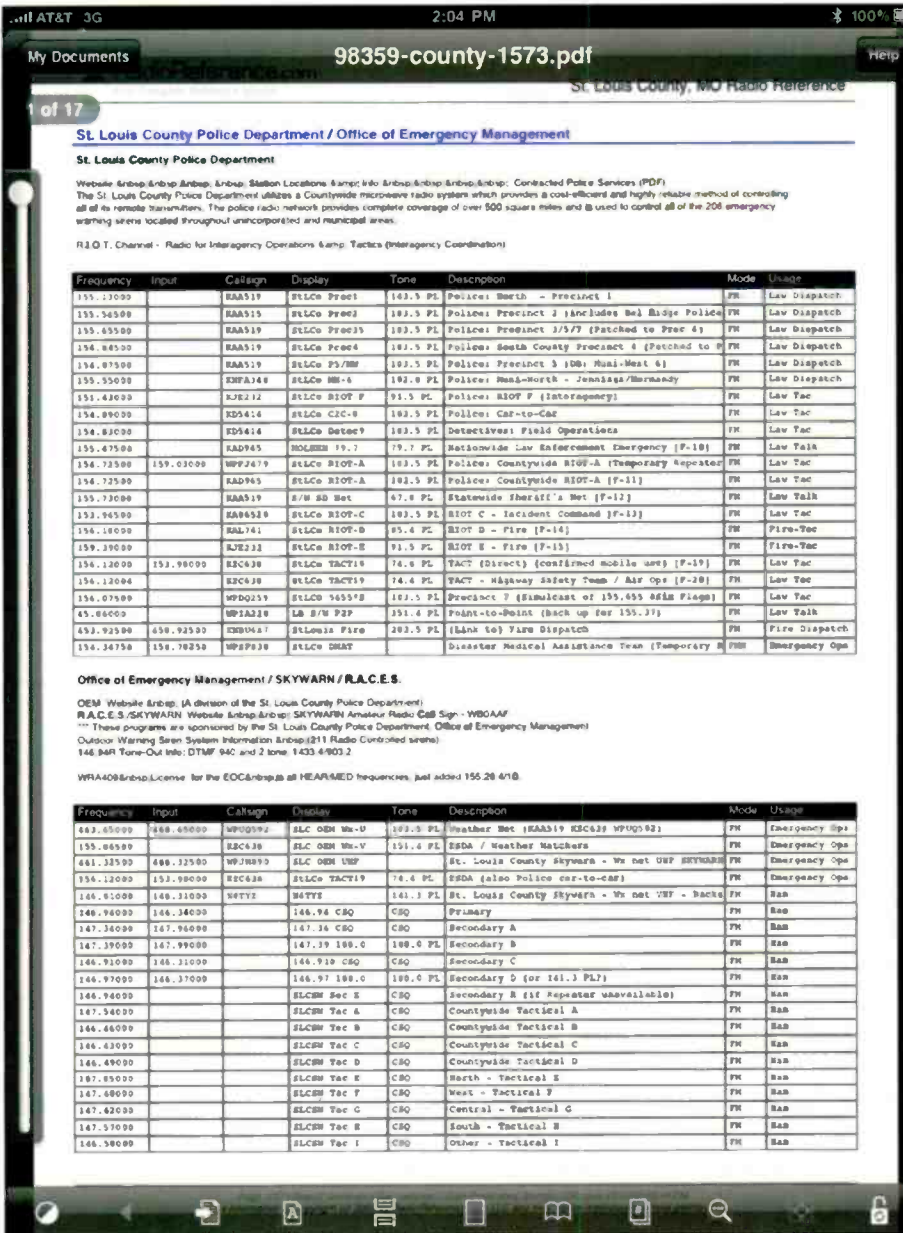
One thing to be aware of is that the iPad does not support Flash, so things like the maps at RadioReference.com don't work, but you can navigate just fine using other controls. RadioReference.com also offers downloadable PDF reports to premium subscribers, and pulling those into a file-reading app, such as iBooks or my preferred program, GoodReader, lets you handle the large amount of data they contain, making a complete reference guide available to you any time, any where.

I also should note that it's easier to navigate if you use a browser called iCab, as it allows for direct downloading of files and then opening them in an external application. This can be done with the built-in Safari browser, but it seems like more trouble than is necessary.

You quickly find that because the iPad isn't a full-blown computer, you have to work around the capabilities of the apps. This is one area where it you may find yourself getting frustrated, but persevere. Once you figure out a system that works



Here's Bento with a quickly created log book. It took me only about five minutes to put this together (and three of those were spent deciding that UTC really needs to be a text field so I could have a leading 0, as in 0130). Once created, my data is always right at hand.



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**Frequency Of The Month**

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

Our frequency this month is a hot one: 154.175. Have a listen to see what you hear in your area. Let me know, even if it's nothing, and as long as you include your mailing address in the entry, we'll enter you to win a one-year subscription to *Pop'Comm*. Send your entry to radioken@earthlink.net, or via more traditional means to Ken Reiss, 9051 Watson Rd, #309, St. Louis, MO 63126. Please include the frequency in the subject line or on the envelope for correct routing.

The most recent winner of our drawing is **Greg Hatzis of Highland Mills, New York**. Congratulations, Greg!





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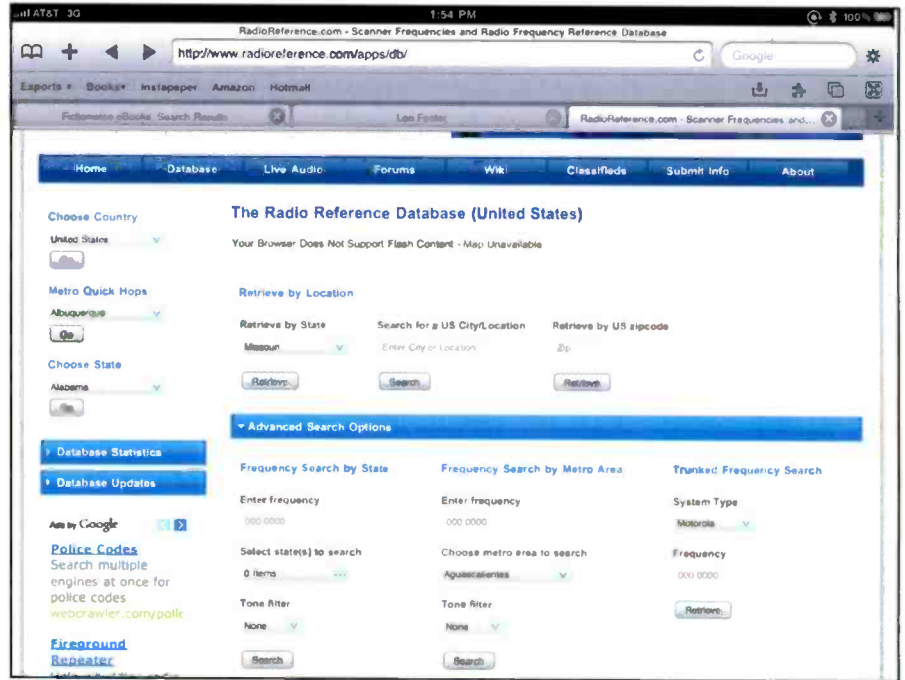
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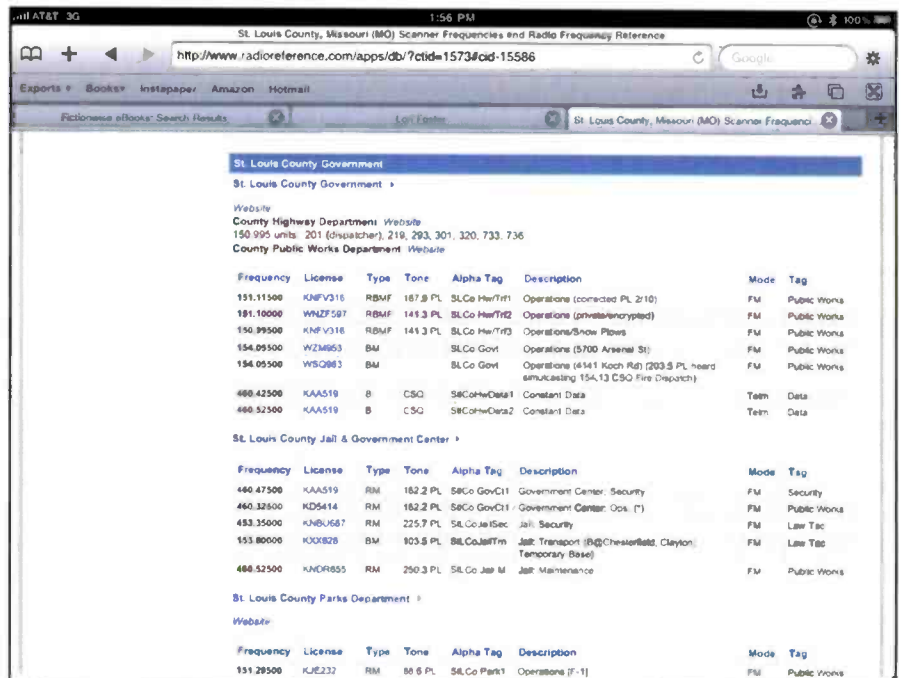
This is the screen of the RadioReference.com database as seen in the iCab browser. Just below the title, there's a message that the browser doesn't support Flash, so the handy and colorful map you may be used to doesn't appear, although the search by menu functions all work just fine.

for you, it's becomes quite easy, and the iPad offers so many other advantages (besides being just plain fun) that it's worth the effort...well for most gadget freaks anyway.

Getting back to GoodReader and PDF files, one of the nice things about the app is that it lets you load PDF files from your

computer as well. iBooks also does this as well now (it hadn't when I got started), but GoodReader has a little better filing system and makes the whole process a bit easier to organize.

PDF files have become pretty standard. Manuals for lots of products are available for download (including for the



For quick reference, the Web browser on the iPad is very easy to use. Lots of data can be found just by a quick Google search, but here is more RadioReference.com info for the St. Louis area.

Frequency	Input	Callign	Display	Tone	Description	Mode	Usage
144.55000			SLCCW Inc J	CBQ	Other - Fictional J	FM	Scan
223.42900			SLCCW 223-A	CBQ	223 Countywide Secondary A	FM	Scan
223.42900			SLCCW 223-B	CBQ	223 Countywide Secondary B	FM	Scan
224.98900			SLCCW 223-C	CBQ	223 Countywide Secondary C (11 no Repeater)	FM	Scan
442.10000			SLCCW 223-C2	CBQ	Countywide Secondary C (11 no Repeater avail)	FM	Scan
442.14000	442.10000		SLCCW 223F	CBQ	223F Primary	FM	Scan
444.36000			SLCCW Sec-A	CBQ	Countywide Secondary A	FM	Scan
444.36000			SLCCW Sec-B	CBQ	Countywide Secondary B	FM	Scan

**St. Louis County Government**

**St. Louis County Government**

Website  
County Highway Department: 480-4800 Website  
150 Parkville Airport 201 (Dispatch): 218, 233, 301, 320, 733, 738  
County Public Works Department: 480-4800 Website

Frequency	Input	Callign	Display	Tone	Description	Mode	Usage
151.11500	151.01500	SRP314	SLCCW Bu/Trf1	141.9 PL	Operations (corrected PL 2/10)	FM	Public Works
151.10000	151.00000	SRP317	SLCCW Bu/Trf2	141.3 PL	Operations (private/encrypted)	FM	Public Works
151.99500	151.98500	SRP314	SLCCW Bu/Trf1	141.3 PL	Operations/Route Flows	FM	Public Works
151.05300		SRK51	SLCCW Govt		Operations (5700 Arsenal St)	FM	Public Works
151.05300		SRK51	SLCCW Govt		Operations (4141 Rock Rd) (203.5 PL heard 01)	FM	Public Works
440.42500		SAAS19	SLCCWData1	CBQ	Constant Data	Telem	Data
440.52500		SAAS19	SLCCWData2	CBQ	Constant Data	Telem	Data

**St. Louis County Jail & Government Center**

Frequency	Input	Callign	Display	Tone	Description	Mode	Usage
445.47500	445.47500	SAAS19	SLCCW GovC1	147.3 PL	Government Center: security	FM	Security
445.12500	445.12500	SRK14	SLCCW GovC1	142.2 PL	Government Center: Ops. (F)	FM	Public Works
452.35000	452.35000	SRK0687	SLCCWJailSec	225.7 PL	Jail: Security	FM	Law Tac
133.80000		SRK228	SLCCWJailTrn	112.5 PL	Jail: Transport (St. Charlesfield, Clayton, Over)	FM	Law Tac
440.52500	440.52500	SRK0653	SLCCW Jail M	234.3 PL	Jail: Maintenance	FM	Public Works

**St. Louis County Parks Department**

Website

Frequency	Input	Callign	Display	Tone	Description	Mode	Usage
151.29500	151.29500	SRJ232	SLCCW Park1	88.5 PL	Operations (F-1)	FM	Public Works
151.14500	151.25500	SRJ232	SLCCW Park2	88.5 PL	Security Parks/Recreation (F-1)	FM	Public Works
151.29500	151.33000	SRJ232	SLCCW Park2	88.5 PL	Administrative (F-1)	FM	Public Works

**Countywide Districts / Organizations**

**St. Louis Metropolitan Sewer District (MSD)**

Serves all of St. Louis County. Responsibilities include the interception, collection and treatment of wastewater, as well as stormwater management. Covers 525 sq. mi. in all of St. Louis City and 80% of the county. Serves 1.8 million people and has approximately 508,000 accounts, (9,649 miles of sewer) and 877 employees.

Frequency	Input	Callign	Display	Tone	Description	Mode	Usage
151.40000		SRK071	MSD Ops SR1		Operations (Sunset Hills)	FM	Public Works
151.88000		SRK096	MSD Ops 1		Operations	FM	Public Works
451.47500	451.47500	SRK070	MSD Ops 2		Operations (St. Louis)	FM	Public Works
451.75000		SRK154	MSD Ops Chfd		Sewer Ops (Chesterfield)	FM	Public Works
451.94250		WPC690	MSD Lema 1		Lema Sewer Treatment Plant	FM	Public Works
451.09750		WPC690	MSD Lema 2		Lema Sewer Treatment Plant	FM	Public Works
451.94250		WPC690	MSD Lema 3		Lema Sewer Treatment Plant	FM	Public Works
451.31250	451.31250	WPC690	MSD Heremac	067 DPL	Heremac Treatment Plant	FM	Public Works
451.86250	451.31250	WPC690	MSD TP-Heremac		Heremac Treatment Plant	FM	Public Works
173.39425		WPC623	MSD Data 1		Wastewater Data (CSO)	Telem	Data
451.34250		WPC666	MSD Data 2		Wastewater Data	Telem	Data

Page 2177 Report Generated For: (hidden) | Date Generated: Monday 18th July 2010 02:23:44 PM  
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A RadioReference.com PDF report, available to premium subscribers, is a very convenient reference tool, especially on an ultraportable iPad.

iPad itself, if you'd like to take a look before you buy one; visit [http://manuals.info.apple.com/en\\_US/iPad\\_User\\_Guide.pdf](http://manuals.info.apple.com/en_US/iPad_User_Guide.pdf) and can be easily stored in a folder in GoodReader. You can also generate your own PDFs using several free or low-cost PDF writer programs. (I'm using a Mac, so the ability to create PDFs is built in to any program that can print, and it's easy to transfer your information to the iPad for later reference.)

**Databases**

Of course, an iPad is a computer, and you can certainly use it in a more "computer like" way. For instance, you may want to be able to access a searchable database wherever and whenever you

wish. Again, for scannists, have frequency information in this way is a terrific benefit. There are several programs that will give you this functionality, ranging from Apple's own Numbers spreadsheet (which can read and export Excel documents) to more dedicated information managers like the one I use, Bento.

Bento was a good choice for me because it will connect with the Bento desktop version I use for my Mac (this is one of the few programs that doesn't have a windows version yet). It's really easy to set up a database on the computer and transfer the info into the iPad for later use.

Those of you who keep logbooks will also be glad to know that Bento creates a great one. You can have all kinds of information at your fingertips, using Bento to

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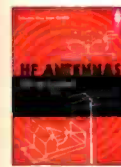
Edited by Andy Barter, G8ATD



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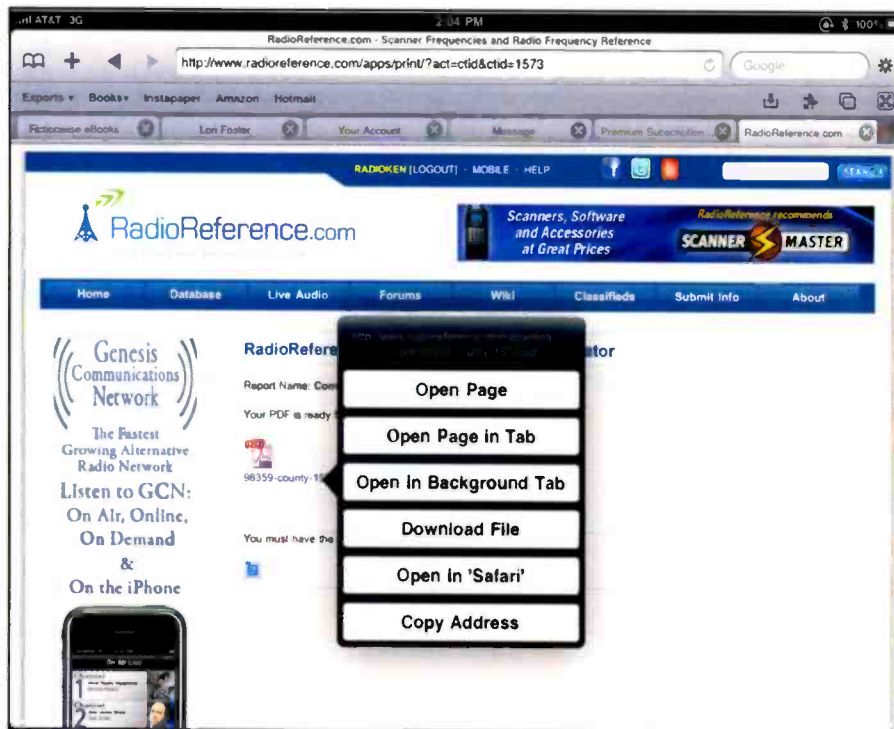
enter and update it. Even if you don't have the desktop version, you can still use the program right on the iPad (which is not always the case with programs that are partnered with a desktop application).

You may be more comfortable, or more used to, a spreadsheet, and there are a lot of choices here, too. Apple's Numbers takes a little getting used to, but gives you a lot of control. There are also a number of applications that will give you access to MS Office documents, including the ability to create and edit Excel spreadsheets. Docs to Go and Office HD both do a good job of editing and saving excel compatible spreadsheets. I wouldn't recommend either of them just for radio, but if you have a need for office documents for other purposes, you can certainly adapt them to radio purposes as well.

### Next Time

Now that we've touched on the iPad's more general capabilities, we'll treat ourselves to the really fun stuff next time as we sample some of its cool apps. What can I say, once a techno geek, always a techno geek (until there's a new app to cure that).

Until next month, good listening!



One of the reasons I like to use iCab for my radio hobby is that it has direct download capability. Once the file is downloaded it can be opened directly into GoodReader or uploaded back to your computer via USB cable for filing. The default Safari browser opens the PDF right in the browser, but then it's difficult to save for later use.

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# More On VOIP And Antennagate News— The iPhone Uses An Antenna!

by Dan Srebnick, K2DLS  
k2dls.rfbits at gmail.com

*“If you stay up late and like trivia contests, be sure to check in to the well-attended and well-run Insomniac Net on WIN system frequencies.”*

Anyone who knows a thing about antennas, including a teenager playing with the whip antenna on a portable FM radio, knows that they interact with their surrounding environment. Metal or other conductive materials, such as the human body, can change reception characteristics. Objects in close proximity can influence the standing wave ratio (SWR) and anyone who ever erected an antenna knows that sometimes moving an antenna by one foot up, down, or sideways can improve or degrade performance. You don't have to be a scientist to understand this.

The 1900-MHz spectrum used by the AT&T Wireless network, and therefore the iPhone, has a wavelength of about 15 centimeters, or just under six inches for us metrically challenged Americans. So no one should have been surprised at last summer's stories about reduced signal strength to the iPhone if touched in a certain spot—the antenna (see **Figure 1**). The broadcast, print, and Internet media all latched on to the same story. They were shocked, *shocked* I tell you, to learn that when a user touched the exposed antenna on the side of the phone, the number of bars displayed on the signal meter dropped.

During a July press conference, Apple CEO Steve Jobs correctly pointed out that many other smartphones have the same issue. I confirmed the same on a T-Mobile G1. Touching the case in a particular spot, presumably near the antenna, causes a two bar reduction in displayed signal on this Android-based smartphone. All this simply validates what our readers know: cellphones, smartphones, Blackberries, and iPhones are still radios. They are subject to the same laws of physics that govern radio. Good marketing by the wireless providers seems to have made the general public forget this reality.

Thanks to YouTube, you can watch Steve Jobs explanation any time. Load [www.youtube.com](http://www.youtube.com) in your Web browser and search for “Steve Jobs iPhone4.”

## More VOIP For Hams And Non-Hams

Last column we took a look at EchoLink, an amateur radio VOIP protocol. Let's continue by looking at IRLP, another VOIP amateur radio protocol. We'll also take a look at Skype, a VOIP protocol that can be used by almost anyone (except some iPhone users!).

The Internet Radio Linking Project (IRLP) has some interesting features. It uses custom hardware and software to inexpensively link amateur radio stations via the Internet. Typically, the stations being linked are repeater systems, but there are also “simplex” IRLP nodes scattered about the world. Linking is usually a very simple process.

My “home” repeater is K2GE, located in Sayreville, New Jersey. Its IRLP node number is 4789. If you have an IRLP node near you and you want to try connecting up, the procedure is usually something like:

Press transmit, announce your callsign and that you are about to use IRLP. Let the carrier drop, and wait for the courtesy tone if your local node supports one, and then use the DTMF on your

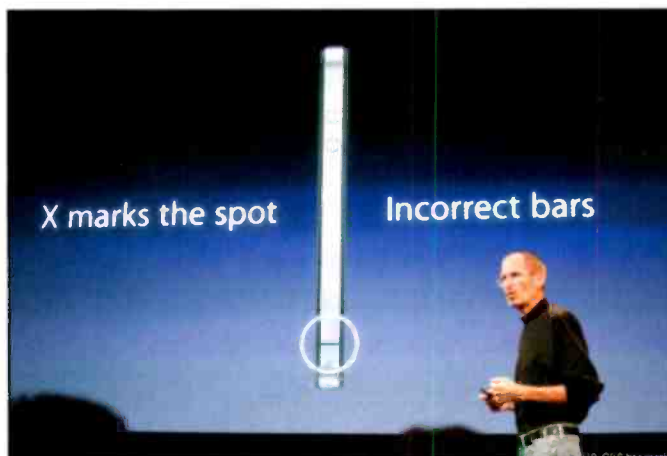
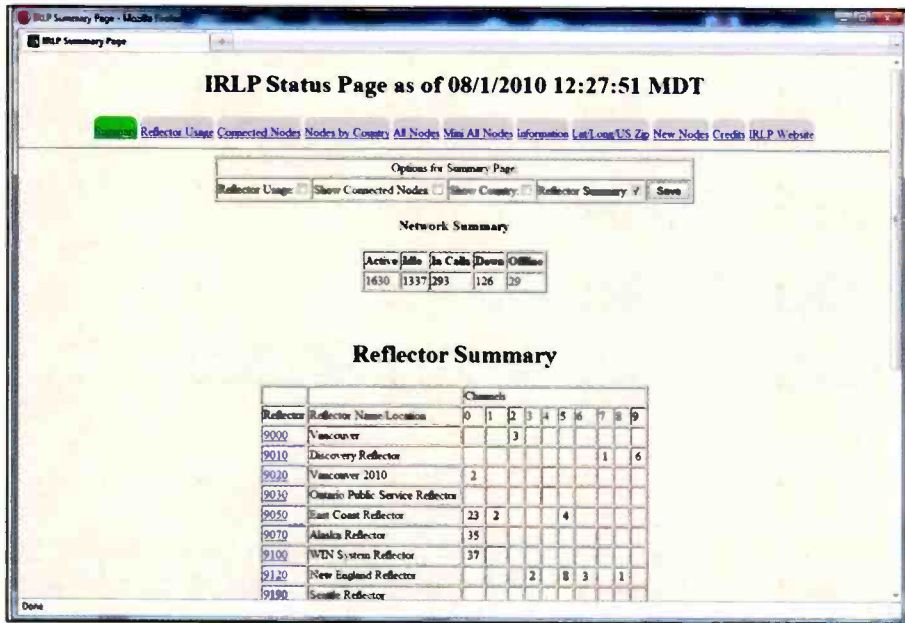


Figure 1. The iPhone antenna human interface port!  
(CBS Interactive photo)





radio to dial 4789. If it worked, you'll hear a voice announcement indicating that the connection was successful.

As mentioned last time, there may be local prefixes or variations to this convention. It pays to ask a repeater control operator for permission to use the linking features. They will often be glad to offer guidance on any local configurations or commands of which you should be aware. For example, "73" is the code usually used to disconnect from an active link, but some other digit could be required by your local node, especially if it is an EchoIRLP (combination EchoLink and IRLP node).

Figure 2. The IRLP Status Page provides a view into the level of activity of IRLP in real time.

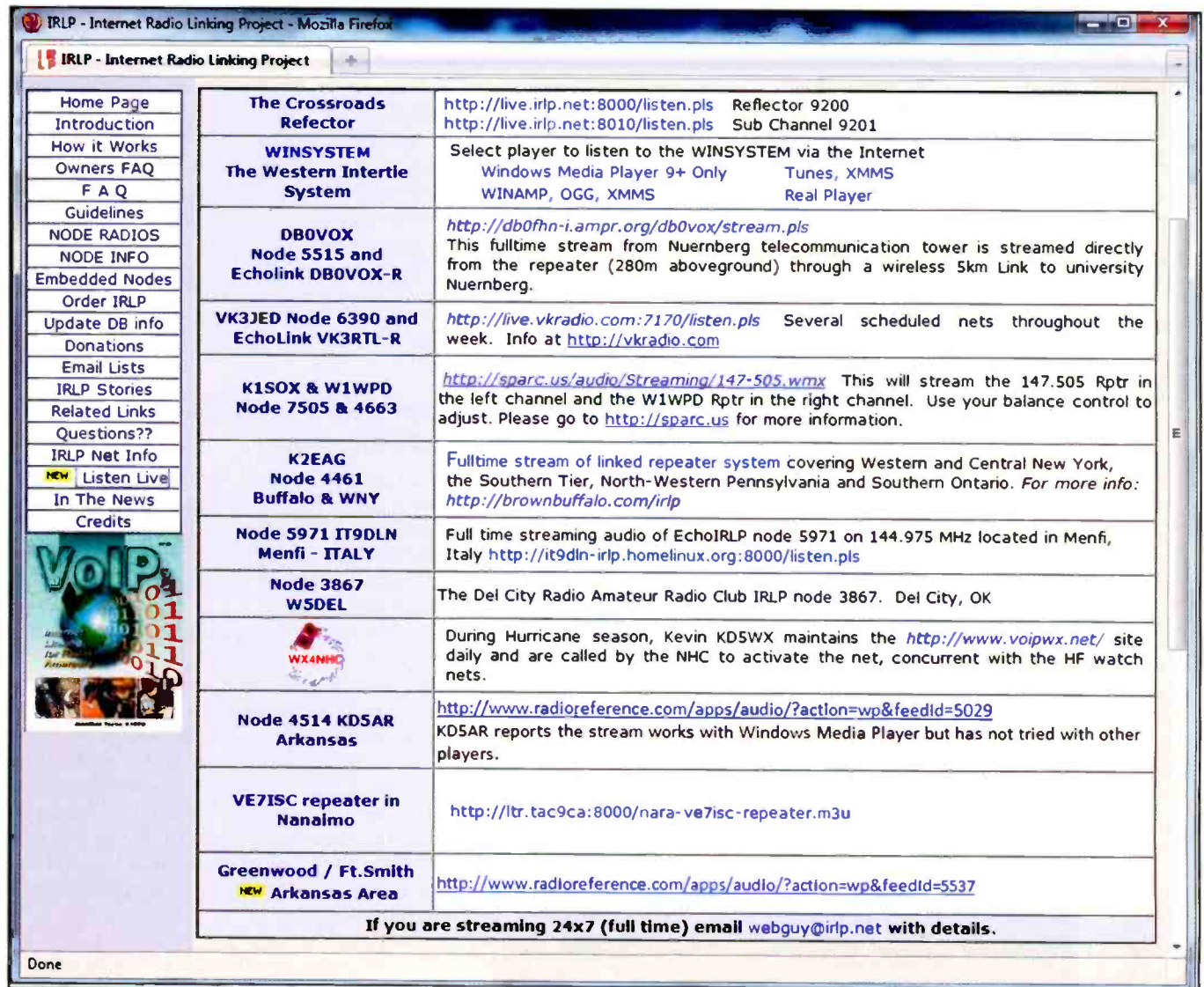


Figure 3. The IRLP website has a wealth of information and also enables you to listen live via the Internet to IRLP-connected systems.

IRLP also supports the connection of multiple RF-based systems into a conference. The conference bridge is known as a reflector. Reflectors typically have a number of channels to support multiple conferences. Sometimes a reflector channel is designated for a particular region, language, or purpose.

The very popular Western Intertie Network, or WIN, system ([www.win.system.org](http://www.win.system.org)) links 71 mostly west coast North American systems via reflector 9100. If you want to listen in now, it offers a live audio stream on its website. Look for the link on the left hand side of the webpage that says "Streaming Audio." If you stay up late and like trivia contests, be sure to check in to the well-attended and well-run Insomniac Net on WIN system frequencies. It occurs each night at 11 p.m. Pacific Time and provided me with much entertainment during a trip to San Francisco a couple of years ago.

Other popular IRLP reflectors include the Crossroads Reflector (9200) and the Western Reflector (9250). It's important to remember that the first three digits are

the reflector number and the last digit is the channel. So if you want to meet a friend on Channel 1 of the Crossroads Reflector, you'll dial 9201 on your DTMF pad. A status of all currently operating IRLP reflectors may be found at <http://status.irlp.net> (see **Figure 2**). There is a wealth of information available about IRLP at the main IRLP website ([www.irlp.net](http://www.irlp.net)). Take a look at the IRLP Net Info for an extensive list of amateur radio nets held over IRLP linked systems. **Figure 3** shows some possibilities for listening online, via the website.

There are some strict rules for connecting your station to a reflector. Imagine a cacophony of repeaters announcements, CW IDs, and repeater tones from 71 different linked repeaters coming through a VOIP conference. No one op would get a word in edgewise without a common protocol to arbitrate the clutter. So the protocol is this: No tones, local repeater voice announcements, or CW IDs are supposed to be carried down the IP connection to the reflector. Doing so would disrupt the reflector and the remote station would be banned from the reflector until this problem is resolved.

David Cameron, VE7LTD, is the creator of IRLP. In order to maintain supportability, the operator of an IRLP node must use hardware and software supplied by the IRLP project. While some may

object to this edict as being against the amateur radio spirit of experimentation, IRLP does seem to be a very well-run network with few problems. The hardware consists either of an IRLP interface board, which costs about \$100 and connects to a computer via a parallel printer port, or a hardware appliance for about \$700. A customized version of CentOS (for Community ENTERprise Operating System, an Enterprise-class Linux distribution based on the freely available sources from Red Hat Enterprise Linux) is recommended. This comes installed on the appliance version or can be purchased on CD from the IRLP project.

## Skype For The Rest Of Us

You don't need a ham license to get in on the VOIP fun. Skype ([www.skype.com](http://www.skype.com)) is a mostly free VOIP service that anyone can use to talk around the world. This VOIP linking service is client-based, runs on multiple platforms, such as Windows, Mac, and Linux, and allows free calling to another user with Skype client software. For a fee, it also allows calls back into the regular POTS network (Skype Out). Skype offers video calling, conference calling with multiple computers, and instant message-type chat.

The best way to use Skype is with a VOIP headset, but you can also use a com-

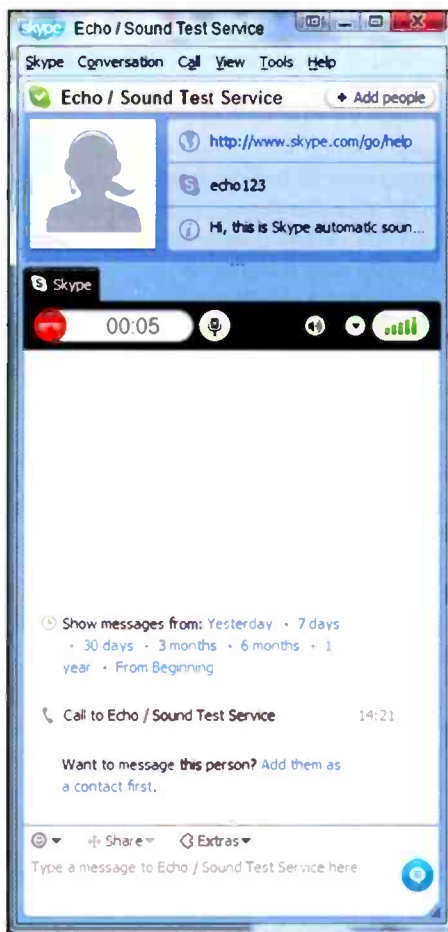
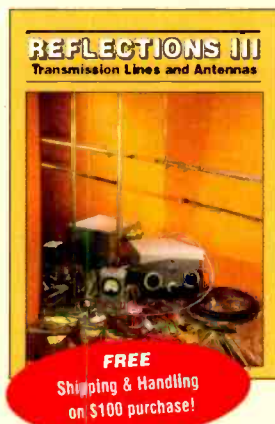


Figure 4. When starting out with Skype, be sure to make a test call to verify that your audio levels are properly adjusted.

## REFLECTIONS III

by Walter Maxwell, W2DU

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puter microphone and speaker as well. The audio compression algorithm in Skype is so good that it makes a cheap headset or microphone sound very passable.

Installing Skype is fairly straightforward, and Linux support is not bad. If you're running a 64-bit version of Fedora, Ubuntu, or one of the other operating systems, you may have to install some 32-bit support libraries. The Skype binary for Linux is 32 bits. You'll know this is the case if you try to start Skype from the menu system and nothing happens. Try it again from the command line and you'll get some descriptive error messages that inform you which 32-bit libraries are not installed on your 64-bit system.

Skype has some very good online forums where you are likely to find the

help that you need, or in the spirit of the hobby, at least some pointers to help you figure it out. Windows and Mac users should not have to tinker after the install to get Skype to work right the first time.

One of the first things you should do after installing Skype is to select your Skype Name. This is equivalent to a handle that is displayed in the user directory and is how other Skype users will find you. For example, my Skype Name dsreb-nick. The Skype Name is also the name that is used to sign on to the Skype service. If you edit your profile, you can set up your display name as well. I put my callsign in there because I use Skype mainly to talk to other hobbyists. Anyone searching the Skype directory for my callsign can easily find me that way.

You should then make a test call to the Skype test call server. Select Call / Audio Settings / Make a Free Test Call. This gives you an opportunity to adjust your microphone and speaker volume settings for the best quality call.

Skype can be used in many ways. Use it to speak to (and see) family members anywhere there is an Internet connection. Use the conference feature to have an online club meeting. My friend Lenny, WB2LUH, uses Skype regularly to ragchew with other hams back in his native Italy. Want to set up a schedule with a remote DX station? If that station has Internet access, you can coordinate a clear frequency via Skype. I use the text chat feature to let some of the hams in my area know when I've just worked some good DX. A few of us keep Skype loaded whenever we're in the shack.

Skype has been criticized as a closed protocol. It uses encryption to protect your call as it traverses the Internet, but the algorithm has not been published so no one really knows how secure "secure" is. Because of the unknowns, some see it as a potential vector for malware to enter your computer. So, if you get a Skype invitation from someone you don't know, and they want to send you some pictures to open or files to run, proceed with the same caution you would use if this happened over an instant messenger service. Make sure that you run antivirus and anti-spyware software on your computer and that you scan it regularly.

Skype is also available for your Blackberry or Android device, but check with your carrier to see if there are additional charges or restrictions. There are may be additional charges with the iPhone when using a mobile data network. However, WiFi use should not encounter additional charges, according to the Skype website.

### Deja Vu All Over Again— Is It Radio?

IRLP definitely is a radio/Internet hybrid. Skype is pure Internet, but is used by radio enthusiasts and many others. Why debate? If it's fun and enhances your enjoyment of your hobby, it's all good. Don't fret, participate. Email me at k2dls.rfbits@gmail.com or call me via IRLP. I often monitor the K2GE repeater, which is IRLP node number 4879, during the morning and evening drives (EST). Or call me via Skype. Search for "Dan K2DLS."

73 de K2DLS

### "RF Bits" Web Links

Apple Computer	<a href="http://www.apple.com">www.apple.com</a>
Steve Jobs on iPhone Fixes	<a href="http://www.youtube.com/watch?v=2ZctdV9dZyE">www.youtube.com/watch?v=2ZctdV9dZyE</a>
WIN system	<a href="http://www.winsystem.org">www.winsystem.org</a>
IRLP Info	<a href="http://www.irlp.net">www.irlp.net</a>
IRLP Status Page	<a href="http://status.irlp.net">http://status.irlp.net</a>
Skype	<a href="http://www.skype.com">www.skype.com</a>

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# The Day Everything Happened

by Tomas Hood,  
NW7US, nw7us@arrl.net

The first day of August 2010 was a sensational day for solar scientists. Just about everything happened on the sun that solar observers were hoping to observe some day. What especially awed the science community, and inspired many sensational news stories around the world, was how all the events were interconnected: multiple flares, coronal mass ejections (CMEs), filament eruptions, long-distance interactions all over the sun, and strong thermal variations. One might expect to see multiple flares, and perhaps a few CMEs, on the same day; this day, however, was filled with rare events.

At approximately 0855 UTC on August 1, 2010, a C3.2 magnitude soft X-ray flare erupted from NOAA Active Sunspot Region 11092 (1092), triggering a CME, as well as a “solar tsunami,” a huge wave that rippled away to the northwest from the sunspot region (**Figure 1**).

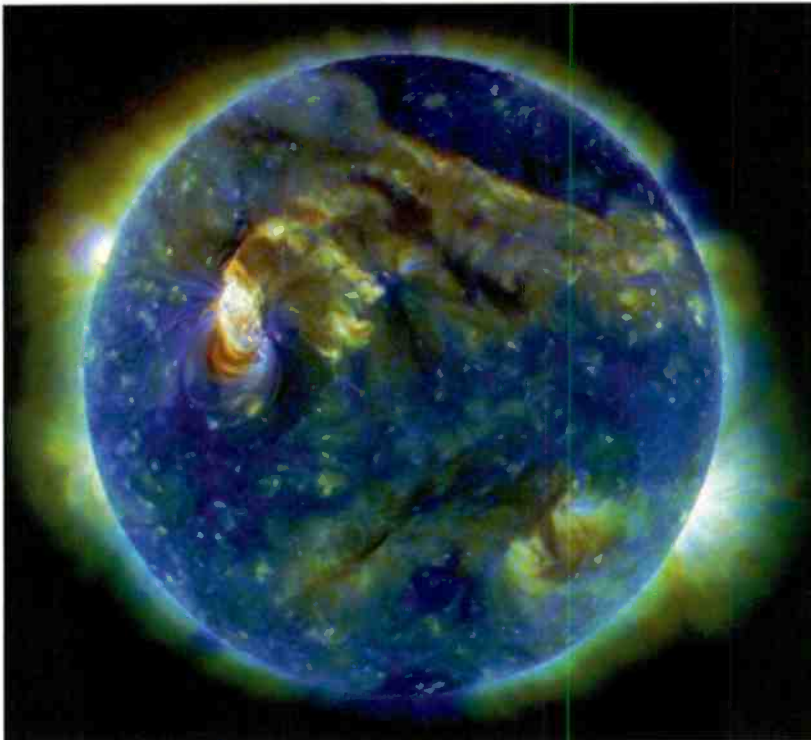


Figure 1. On August 1, almost the entire Earth-facing side of the sun erupted in a tumult of activity. There was a C3-class solar flare (white area on upper left), a solar tsunami (wave-like structure, upper right), multiple filaments of magnetism lifting off the stellar surface, large-scale shaking of the solar corona, radio bursts, coronal mass ejections, and more. This multi-wavelength (211, 193, and 171 Angstrom) extreme ultraviolet snapshot from the Solar Dynamics Observatory (SDO) shows the sun's northern hemisphere in mid-eruption. Different colors in the image represent different gas temperatures ranging from ~1 to 2 million degrees K. (NASA/SDO/AIA photo)

This seemed to have triggered a huge filament eruption as well as a second CME.

Prior to the filament's eruption, NASA's Solar Dynamics Observatory (SDO) Atmospheric Imaging Assembly (AIA) instruments revealed an enormous plasma filament stretching across the sun's northern hemisphere. When the solar tsunami wave triggered by the C3.2-class X-ray explosion plowed through this filament, after rippling through the corona, it appears to have caused the filament to erupt, sending out a huge plasma cloud (a CME).

This wave can be seen emerging from the origin of the X-ray flare and sweeping across the sun's northern hemisphere into the filament field (see the movie at <http://tinyurl.com/pcaug1wave>). Solar scientists conclude that both eruptions, occurring together, are linked, despite the approximately 400,000-km distance between the flare and the filament eruption. How can this be? While we cannot always see the magnetic field lines between solar features (magnetic field lines are not visible unless there is plasma trapped along these field lines), we can assume from this event that huge connecting field lines existed between the sunspot region and the filament in the sun's northern hemisphere.

During this time, multiple filaments of magnetism were seen lifting off the sun's surface. Incredibly, large-scale shaking of the solar corona was also observed.

The two CMEs reached Earth's magnetosphere starting on August 3. When the shockwave of the huge plasma clouds plowed into the magnetic force field, it connected in a way that “opened” the atmosphere, allowing the plasma to ride the magnetic field lines down to Earth's magnetic poles (**Figure 2**). This resulted in aurora light shows that were seen around the world, as far south as Michigan, and as far north as New Zealand. (For amazing photographs of the aurora lightshow, visit [SpaceWeather.com](http://SpaceWeather.com): [www.spaceweather.com/aurora/gallery\\_01aug10\\_page3.htm](http://www.spaceweather.com/aurora/gallery_01aug10_page3.htm).)

Some news media outlets pounced on the sensational solar activity of August 1, sensationalizing it even further. For instance, an article on the [Telegraph.co.uk](http://TheTelegraph.co.uk) website stated, “The earth could be hit by a wave of violent space weather as early as Tuesday after a massive explosion of the sun, scientists have warned.” The piece went on to paint a dire picture of widespread devastation, which was echoed around the world in other outlets. A number of news agencies reported that a “solar tsunami” was racing toward Earth and could



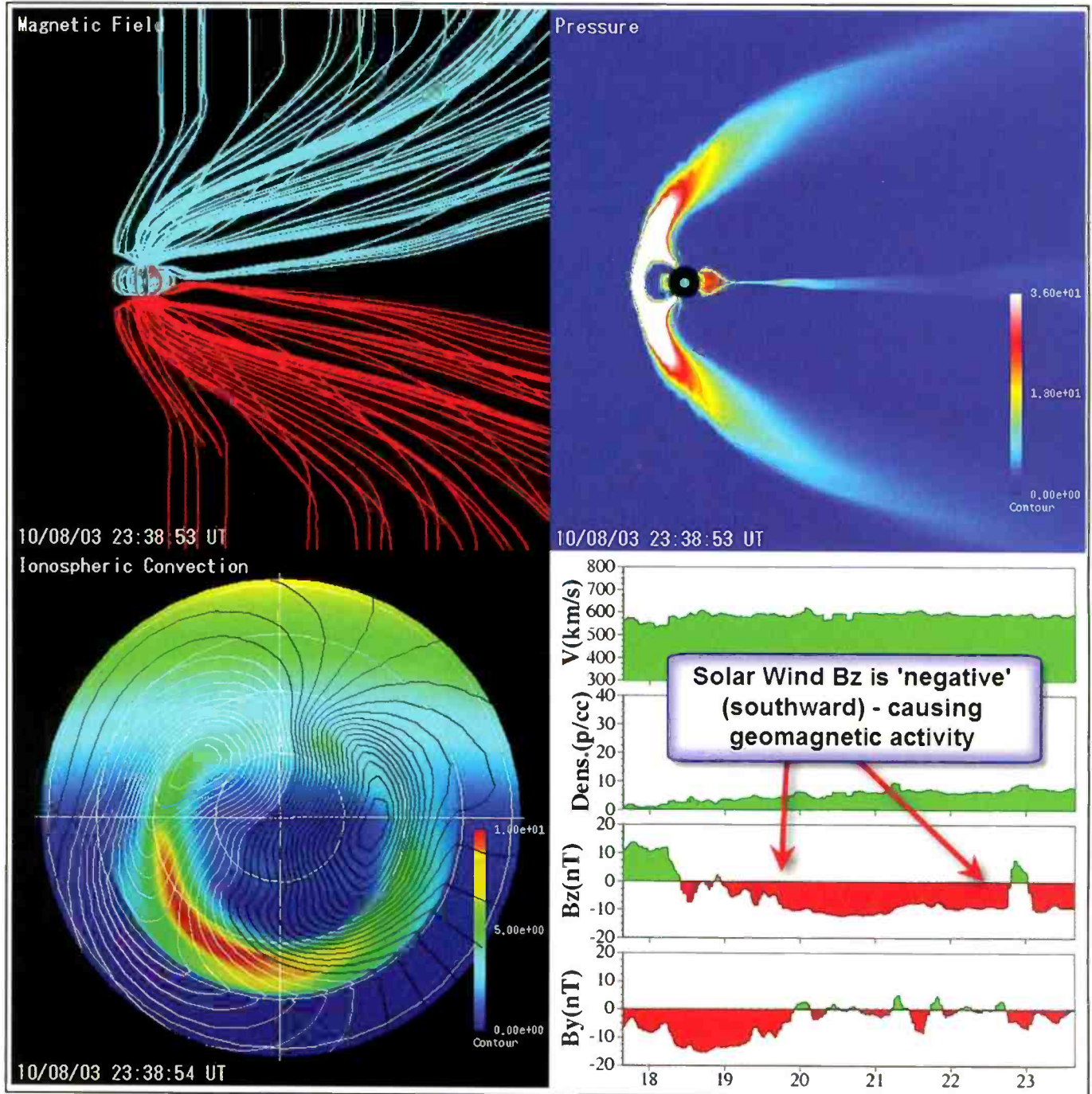
possibly cause a worldwide disaster. The question remains, *are we really in the path of a massive explosion that could signal global devastation?* Let's take a look.

Solar scientists recently held conferences where they discussed the impact of that once-in-a-century extreme space weather storm caused by incredibly large solar flares (of the X-class magnitude) that are Earth-directed. Some journalists connected the report of a "tsunami wave" on the sun's corona to the idea of a plasma cloud heading toward Earth, resulting in the news stories that this space weather event could be "the big one."

This is highly inaccurate. The August 1 double eruption event was, in the grand view, a rather small event. We've seen much more powerful events in the recorded history of flares, filament eruptions, and CMEs.

The X-ray flare (first event) was on the lower end of the C-class scale. When it occurred, it barely caused any shortwave signal fading on the sunlit side of the Earth, because it was a weak X-ray flare. The plasma released was not noticeably huge, either.

Further, the "tsunami" wave moves along the "surface" of the corona. It does not ripple out into interplanetary space (as many



This magnetosphere simulation from August 3, 2010, shows the passage of the coronal mass ejections from the double eruption occurring on the sun on August 1. When the Bz (a measure of the north/south orientation of the interplanetary magnetic field) goes negative during such an event, it means the solar wind's magnetic orientation is "southward" in relation to the Earth's magnetosphere. This causes a magnetic connection that allows plasma, riding on the solar wind, to enter the Earth's atmosphere, triggering geomagnetic storms and aurora. (Source: Copyright©NICT, Japan, used with permission-NW7US)

Optimum Working Frequencies (MHz) - For November 2010 - Flux = 96, Created by NW7US

UTC TO/FROM US WEST COAST	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CARIBBEAN	19	15	12	12	11	11	10	10	10	10	9	9	9	9	16	19	21	22	22	23	23	22	22	21
NORTHERN SOUTH AMERICA	27	25	19	16	15	14	14	13	13	13	13	12	12	12	21	25	27	29	30	31	31	31	30	29
CENTRAL SOUTH AMERICA	27	24	17	16	15	14	14	14	13	13	13	12	12	22	26	28	29	30	31	31	31	31	30	29
SOUTHERN SOUTH AMERICA	29	27	23	17	16	15	15	14	14	13	13	13	12	18	25	27	28	29	30	31	31	31	31	30
WESTERN EUROPE	9	9	9	9	9	8	8	8	8	9	9	9	8	9	14	15	14	14	12	10	10	9	9	
EASTERN EUROPE	9	9	9	8	8	8	8	8	9	9	9	9	8	8	8	11	13	12	10	10	9	9	9	
EASTERN NORTH AMERICA	21	18	14	13	12	12	12	11	11	11	11	11	10	10	18	21	23	24	24	25	25	24	24	23
CENTRAL NORTH AMERICA	12	11	9	7	7	7	6	6	6	6	6	6	6	6	6	10	12	13	13	14	14	14	13	13
WESTERN NORTH AMERICA	7	6	6	4	4	3	3	3	3	3	3	3	3	3	3	4	6	6	7	7	7	7	7	7
SOUTHERN NORTH AMERICA	21	19	16	12	12	11	11	11	10	10	10	10	10	13	18	20	22	23	23	23	23	23	23	22
HAWAII	20	19	18	17	15	11	10	10	9	9	9	9	8	8	8	8	8	15	18	19	20	20	20	20
NORTHERN AFRICA	9	9	9	9	9	9	9	9	9	9	9	9	8	12	15	16	17	17	13	11	10	10	10	10
CENTRAL AFRICA	11	11	10	10	10	9	9	9	9	9	9	9	8	11	14	15	16	16	14	13	12	12	12	12
SOUTH AFRICA	19	15	13	12	12	11	11	11	11	10	10	10	10	17	20	21	22	23	23	23	23	23	22	21
MIDDLE EAST	9	9	9	9	9	9	9	9	9	9	9	9	8	12	14	11	11	10	10	10	9	9	9	9
JAPAN	19	18	17	16	14	11	10	10	10	9	9	9	9	9	9	9	9	9	9	9	9	15	17	18
CENTRAL ASIA	18	18	17	16	14	11	10	10	10	9	9	9	9	9	9	9	11	11	11	11	11	11	17	19
INDIA	8	14	13	10	9	9	9	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8
THAILAND	18	17	17	15	13	10	10	10	9	9	9	9	9	9	9	9	11	12	11	11	11	11	11	15
AUSTRALIA	26	28	28	26	23	16	16	15	14	14	13	13	13	13	12	12	16	16	15	18	21	23	25	25
CHINA	16	17	16	15	13	10	10	10	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	14
SOUTH PACIFIC	29	30	28	26	21	16	16	15	14	14	13	13	13	13	12	16	16	18	21	23	25	27	28	28

UTC TO/FROM US MIDWEST	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CARIBBEAN	21	15	14	13	13	12	12	11	11	11	11	11	10	19	23	24	26	27	27	26	26	25	23	23
NORTHERN SOUTH AMERICA	24	20	17	16	15	14	13	13	12	12	12	11	19	23	25	27	28	29	29	29	29	28	27	26
CENTRAL SOUTH AMERICA	24	18	17	16	15	14	14	14	13	13	13	13	12	24	26	27	29	30	30	31	31	31	29	28
SOUTHERN SOUTH AMERICA	27	24	19	18	17	16	15	15	14	14	13	13	13	19	24	25	27	28	29	30	31	31	31	29
WESTERN EUROPE	9	9	9	9	9	8	8	8	8	8	8	8	14	16	17	17	16	15	14	12	10	10	9	9
EASTERN EUROPE	9	9	8	8	8	8	8	8	9	9	9	8	8	11	13	13	12	12	10	9	9	9	9	9
EASTERN NORTH AMERICA	14	10	10	9	9	9	8	8	8	8	8	8	8	12	15	16	17	18	18	18	18	18	17	16
CENTRAL NORTH AMERICA	7	6	4	4	4	4	3	3	3	3	3	3	3	6	7	8	8	8	8	8	8	8	8	8
WESTERN NORTH AMERICA	13	12	10	8	7	7	6	6	6	6	6	6	6	6	11	12	13	13	14	14	14	14	13	13
SOUTHERN NORTH AMERICA	14	13	9	9	8	8	8	7	7	7	7	7	7	7	12	14	15	16	16	17	17	17	16	15
HAWAII	22	21	19	16	13	12	11	11	11	10	10	10	10	10	10	13	19	19	21	23	23	24	24	23
NORTHERN AFRICA	11	10	10	10	9	9	9	9	9	9	9	9	11	15	17	18	19	19	19	18	14	13	12	12
CENTRAL AFRICA	11	10	10	10	9	9	9	9	9	9	9	9	10	15	17	18	19	19	19	14	13	13	12	12
SOUTH AFRICA	19	16	15	15	14	14	13	13	13	13	12	12	19	24	27	29	30	30	30	30	30	27	25	23
MIDDLE EAST	9	9	9	9	9	9	9	9	9	9	9	9	8	14	16	17	17	14	11	11	10	10	9	9
JAPAN	17	16	15	11	10	10	10	9	9	9	9	9	9	9	9	9	8	9	9	9	9	14	17	18
CENTRAL ASIA	17	16	14	11	10	10	10	9	9	9	9	9	9	9	9	9	11	11	11	11	11	11	15	18
INDIA	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
THAILAND	16	15	13	10	10	10	9	9	9	9	9	9	9	9	8	11	12	12	11	11	11	11	11	11
AUSTRALIA	26	27	25	20	16	15	15	14	14	13	13	13	13	13	12	18	17	16	16	15	18	21	23	25
CHINA	15	15	12	10	10	10	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	12
SOUTH PACIFIC	29	28	25	18	16	15	15	14	14	13	13	13	13	13	12	17	16	17	20	22	24	26	27	29

UTC TO/FROM US EAST COAST	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CARIBBEAN	15	13	12	11	11	10	10	9	9	9	9	9	14	18	19	21	21	22	22	22	21	21	20	18
NORTHERN SOUTH AMERICA	21	18	17	16	14	14	13	12	12	11	11	11	15	19	22	23	25	26	26	26	26	25	25	23
CENTRAL SOUTH AMERICA	22	20	19	18	17	16	15	14	14	13	13	16	22	24	26	27	29	30	30	31	31	30	29	26
SOUTHERN SOUTH AMERICA	26	23	21	19	18	17	16	15	15	14	14	13	20	22	24	26	27	28	29	30	31	31	31	29
WESTERN EUROPE	9	9	9	8	8	8	8	8	8	8	8	13	15	17	17	17	17	16	15	13	10	10	9	9
EASTERN EUROPE	9	9	9	8	8	8	8	8	8	8	8	10	15	15	15	15	14	13	12	10	9	9	9	9
EASTERN NORTH AMERICA	6	5	4	4	4	4	4	4	4	3	3	3	5	7	8	8	9	9	9	9	9	8	8	7
CENTRAL NORTH AMERICA	15	11	10	10	9	9	9	8	8	8	8	8	8	13	16	17	18	19	19	19	19	18	17	17
WESTERN NORTH AMERICA	21	18	14	13	12	12	12	11	11	11	11	11	11	10	18	21	23	24	25	25	25	25	24	23
SOUTHERN NORTH AMERICA	16	12	11	10	10	10	9	9	9	9	9	9	8	15	17	19	20	21	21	21	21	20	18	18
HAWAII	22	19	14	13	13	12	12	11	11	11	11	11	11	10	11	11	16	21	24	25	26	25	25	24
NORTHERN AFRICA	12	11	11	11	11	11	11	10	11	11	10	19	21	23	24	25	25	24	22	19	14	13	12	12
CENTRAL AFRICA	12	12	11	11	11	11	11	11	11	11	10	19	22	23	24	25	25	23	20	15	14	14	13	12
SOUTH AFRICA	17	16	15	15	14	14	13	13	13	13	12	23	27	29	30	30	31	31	31	31	30	27	25	18
MIDDLE EAST	11	10	10	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	12	16	17	17
JAPAN	15	11	10	10	10	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	12	16	17
CENTRAL ASIA	13	11	10	10	9	9	9	9	9	9	9	9	9	9	9	12	12	11	11	11	11	11	10	16
INDIA	9	9	9	9	8	8	8	8	8	8	8	8	12	15	16	14	11	10	10	10	9	9	9	9
THAILAND	11	10	10	10	9	9	9	9	9	9	9	9	9	10	14	13	13	12	12	11	11	11	11	11
AUSTRALIA	26	23	17	16	15	14	14	14	13	13	13	13	12	20	19	17	16	16	16	16	19	21	24	25
CHINA	11	10	10	10	9	9	9	9	9	9	9	9	8	10	10	9	9	9	9	9	9	9	9	8
SOUTH PACIFIC	27	23	19	17	16	16	15	14	14	13	13	13	13	19	19	17	17	19	21	24	26	27	29	29



news stories claim), so it is not a tsunami wave headed toward Earth. The term "solar tsunami" is only accurate in describing a wave that moves across the Sun's corona. You can find information on these solar tsunami events here: [www.nasa.gov/mission\\_pages/stereo/news/solar\\_tsunami.html](http://www.nasa.gov/mission_pages/stereo/news/solar_tsunami.html).

Another newsworthy event was the M-class X-ray flare that erupted from active sunspot region 1093 on August 7. This flare was 10 times more powerful than the C-class flare on August 1 that got such media attention. This M1.0 magnitude solar flare peaked at 1824 UTC on August 7 and ejected a huge mass of coronal plasma. Many hoped that the CME, originating from the sunspot region 1093, would trigger auroral displays around the world just like those that occurred earlier in the month. However, because this CME was not fully Earth-directed, most of the CME missed the magnetosphere, resulting in only the slightest increase in geomagnetic activity between August 10 and 11.

This flare, one of the biggest since the start of Cycle 24, also triggered a metric type II radio burst. This kind of radio burst can be heard from a radio receiver tuned to, say, a 6-meter frequency as the burst occurs. The burst sounds like rushing wind.

You can hear audio of a type II radio burst as recorded on 50 MHz by Thomas Ashcraft on April 2, 2001, at 2151 UTC that occurred during the X22.0-magnitude X-ray flare, by browsing to <http://tinyurl.com/50MT2RB>. Incidentally, the April 2, 2001, flare is the second largest event on record, after the X28.0-magnitude mega-flare that occurred on November 4, 2003.

A movie of the August 7 M-class flare showing a series of filtered views of the event as seen by the Solar Dynamics Observatory's Atmospheric Imaging Assembly can be viewed at <http://tinyurl.com/20100807mflare> and is available in high definition.

While you're viewing movies, be sure to check out the movie located at <http://tinyurl.com/20100803cme>, which shows a simulation of Earth's magnetosphere on August 3. About two-thirds into the movie, you can see the arrival and then the passing of the CME from the multiple-eruption event of August 1, 2010. Browse also to <http://tinyurl.com/20100801filament> and watch the massive filament eruption associated with the C-class flare of August 1, 2010.

## HF Propagation For November

Paths on 31 through 19 meters are becoming ever more reliable between North America and Europe in the morning and between North America and Asia during the late afternoon hours. The strongest openings occur for a few hours after sunrise and during the sunset hours. Thirty-one and 25 meters will often remain open into many areas late into the night and will open early in the morning, especially when part of the propagation path moves through sunlit regions. Twenty-two and 19 may still offer nighttime paths, though these will become less reliable later in November.

Nineteen, 22, and 25 meters compete with 16 for the good daytime DX during November. They will open for DX just before sunrise and should remain open from all directions throughout the day, with a peak in the afternoon. Nighttime conditions will favor openings from the south and tropical areas. Since the Southern Hemisphere has long daylight hours, DX paths on these bands from stations in the south will be common.

The all-season bands, 31 and 25 meters, are crowded and signals are usually very strong and steady. Twenty-five meters

is expected to be an excellent band for medium distance (500 to 1,500 miles) reception during the daylight hours. Longer distance reception (up to 2,000 to 3,000 miles) should be possible for an hour or two after local sunrise, and again during the late afternoon and early evening. Heavy congestion will occur here since many international and domestic broadcasters make use of 25 meters. Thirty-one meters, the backbone of worldwide shortwave broadcasting, will provide medium-distance daytime reception ranging between 400 and 1,200 miles. During November, reception up to 2,500 miles is possible during the hours of darkness, and until two to three hours after local sunrise. Thirty-one meters, too, is highly congested, making reception of weak exotic signals a bit more of a challenge.

Thirteen and 16 meters will be open during a fair number of days through November when flux levels remain above 100. Paths from Europe and the South Pacific as well as from Asia, at least during days of higher solar flux levels, are common, especially on 16 meters. Look for best conditions from Europe and the northeast before noon and from the rest of the world during the afternoon hours. Reception from the South Pacific, Australia, New Zealand, and the Far East should be possible well into the early evening. At this stage in the solar cycle, the 10.7-cm flux levels are too low to sustain band openings at these frequencies for long, if at all.

Seventy-five through 120 meters is coming alive, though. Signals below 120 meters are improving, too. Throughout November, expect an improvement in nighttime DX conditions on these bands. Since the night is longer, and there is the seasonal decrease in static "noise" levels, expect good long-range DX on the low bands, starting with signals from closer locations right after sunset, and then extending to areas farther away as the night develops. Europe should be possible in the late evening. DX paths will move farther west through the night. By morning openings from Asia should be common.

## VHF Conditions, Meteor Showers

One of the largest yearly meteor showers occurs during November. Appearing to radiate out of the constellation of Leo, this shower is known to create intense meteor bursts. The shower is not expected to produce a heavy stream of hourly meteors this year, however. At best, large, spectacular visuals might occur 10 to 20 times per hour during the peak on November 17 at 1500 UTC. (Check out [www.imo.net/calendar/2010](http://www.imo.net/calendar/2010) for a complete calendar of meteor showers in 2010.)

From a radio perspective, when we're talking about meteor scatter radio propagation, we count any meteor-formed plasma clouds that will support VHF radio signals. With modern digital modes that enable very weak-signal detection (such as JT2 and JT4, <http://physics.princeton.edu/pulsar/K1JT/>), even small meteors that are not visually significant play a role for catching distant VHF signals.

## Working Meteor Scatter

Meteors are particles (debris from a passing comet) ranging in size from a speck of dust to a small pebble. Some move slowly, others fast. When you view a meteor, you typically see a streak that persists for a little while after the meteor vanishes. This "streak" is called the "train" and is basically a trail of glowing plasma left in the wake of the meteor. Meteors enter Earth's atmosphere traveling at speeds of over 158,000 miles per hour. Besides being fast, the Leonids usually contain a large number

of very bright meteors. The trains of these bright meteors can last from several seconds to several minutes. It's typical for these trains to be created in the *E* layer of the ionosphere.

Meteor scatter propagation is a mode where radio signals are refracted off these trains of ionized plasma. Because the height of these plasma trains is in the *E* layer, the range of a meteor scatter contact is between 500 and 1,300 miles. The frequencies that are best refracted are between 30 and 100 MHz. However, with the development of new software and techniques, frequencies up to 440 MHz have been used to make successful radio contacts off meteor trains.

Lower VHF frequencies are more stable, and last longer, bouncing off meteor trains. A 6-meter contact may last from a second to well over a minute. The lower the frequency, the longer the specific "opening" made by a single train. Conversely, a meteor's ionized train that supports a 60-second refraction on 6 meters might only support a 1-second refraction of a 2-meter signal. Special high-speed digital modulation modes, like high-speed CW (in the neighborhood of hundreds of words per minute) are used on these higher frequencies to take advantage of the limited time available.

## Current Solar Cycle Progress

The Dominion Radio Astrophysical Observatory at Penticton, BC, Canada, reports a 10.7-cm observed monthly mean solar flux of 79.9 for July 2010, up from June's 72.6. The 12-month smoothed 10.7-cm flux centered on January 2010 is 75.5, up from December's 74.9. The predicted smoothed 10.7-cm solar flux for November 2010 is about 96, give or take about 7 points.

The Royal Observatory of Belgium reports that the mean monthly observed sunspot number for July 2010 is 16.1, up from June's 13.5. The lowest daily sunspot value during July 2010 was eight (8) on June 1-3 and 7-8. It is a welcome development in this new cycle to see a full month with daily sunspots. The highest daily sunspot count for July was 30 on July 24. The 12-month running smoothed sunspot number centered on January 2010 is 9.3, one point higher than December's 8.3. A smoothed sunspot count of 39 is expected for November 2010, give or take about 8 points.

The observed monthly mean planetary A-Index ( $A_p$ ) for July 2010 was 6, and for June, 7 (adjusted down one point from

the initial report of 8 for June). The 12-month smoothed  $A_p$  index centered on January 2010 is 5.0, about the same as December. Expect the overall geomagnetic activity to be active to stormy during November. Refer to the Last Minute Forecast published in *CQ* magazine or on the author's website (<http://prop.hfradio.org>) for the outlook on what days that this might occur.

## I'd Like To Hear From You

I welcome your thoughts, questions, and experiences regarding this fascinating science of propagation. You may email me, write me a letter, or catch me on the HF amateur bands. Please come and participate in my online propagation discussion forum at <http://hfradio.org/forums/>. If you're on Facebook, check out <http://tinyurl.com/fbswx> and <http://tinyurl.com/fb-nw7us>. And speaking of Facebook, also visit the *Popular Communications* magazine fan page at <http://tinyurl.com/fb-popcomm> and leave a message.

Until next month, 73 de NW7US

Tomas Hood, P.O. Box 1980, Hamilton, Montana 59840, [nw7us@hfradio.org](mailto:nw7us@hfradio.org)

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# Goal Setting: Reward Yourself With An Award!

by Kirk Kleinschmidt, NTOZ  
kirk@cloudnet.com

Setting goals is all the rage nowadays. Whether it's Jillian Michaels trying to "help" some poor contestant set an insane weight-loss goal on *The Biggest Loser*, or a late night TV infomercial hawking the latest Tony Robbins motivational spectacular, or President Obama dolefully proffering yet another measly economic benchmark, we're a goal-setting society, to be sure.

And because it's suddenly all the rage, all the time, you don't have to wait for New Years—although that isn't too far off anyway—to set some new goals for your ham radio activity. As with most other goals, the process is simple: You

set a goal, achieve the goal, and reward yourself with an award!

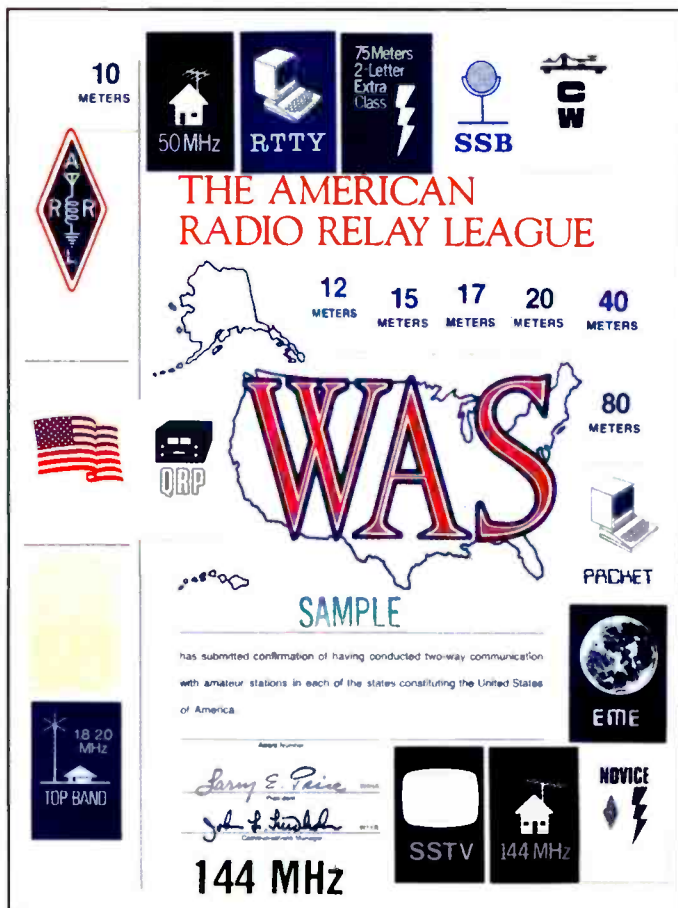
If you're trying to lose weight, you might give yourself something special, like a vacation, a new car, etc., when you reach that magic number. You could take the same approach as a ham, too. If, for example, you work all 50 states in a single weekend, you might reward yourself with a new teeny-weenie-size transceiver to power the hill-topping activities you've been daydreaming about. The possibilities are limited only by your imagination and your pocketbook!

Although the "achieve a goal, buy a radio" plan is indeed a lovely idea, the rewards I'm discussing this month are amateur radio operating awards. There are oodles of them available—many are obscure, and some are traditional rites of passage—and there are plenty of good reasons to go after the ones that catch your eye.

In the process of working toward and qualifying for each new certificate, a pursuit that can span your entire ham radio career, you'll learn an awful lot about a wide variety of ham radio activities and you'll open up new perspectives on our wonderfully diverse hobby.

If, for example, you're clueless about what happens on 6 meters during a big *E*-skip opening on a hot summer afternoon, after lining up a 6-meter radio and putting up a simple, yet suitable, antenna, you'll be on your way. And after you've studied, planned, and finally worked enough grid squares to qualify for the VUCC award (more later), you'll be a legitimate expert—and you'll have an achievement award on your shack's wall to prove it!

When you've mastered 6 meters you can move onto something new (or set several compatible goals and work on them simultaneously). I've done this for years, and I'm certainly not alone. For example, most of my DXing takes place at 5 watts or less. If I have worked and confirmed a DX entity at the 5-watt level, I'll try to complete a QSO at 1 watt. But if something really juicy and exotic makes an appearance, say an entity that I have never worked or confirmed before, I'll crank my power up to 50 or 100 watts and let 'er rip. (That's not anywhere near the legal limit, but it's a bunch of power with my attic condo antenna.)



This old-school Worked All States certificate has just about every possible endorsement. Too bad it was a sample!

The point is, most hams are working toward several broadly defined operating goals at once. And you can, too.

## Wallpaper For Your Shack... Experience, Skill, And Achievement For You

The Old-Timers call the pursuit of operating achievement awards "chasing paper," or "the great wallpaper chase." I sometimes imagine that the shacks of yesteryear lacked paint or wall coverings of any kind, forcing early hams to earn as many operating certificates as possible, thereby covering their shacks' bare walls with awards, posters, plaques, and QSL cards (if only to hide the dreary bare walls). And even if your shack has mahogany paneling highlighted with gold leaf, don't be shy about covering that exotic wood with any and every certificate that comes your way! It's only wood...and gold!

Solar Cycle 24 is showing signs of finally perking up, so awards that may have been quite difficult to achieve during the doldrums may now become possible. When you're getting started, be sure to focus on awards that *can* be achieved *right now*, and fill in the blanks later, when conditions are generally better. If electrical noise is killing 160 meters at your QTH, for example, get on 6 meters and work grid squares, saving Worked All States on 160 for later (after you track down that pesky noise source or move to the country).

In addition to providing a creative outlet for that pile of QSL cards you've been amassing, chasing awards can motivate you to improve your station and your operating skills. A lot of ham activity is sparked by the desire for one award or another.

You can spend as much time as you like in the chase, because you're really competing only with yourself. There are thousands of awards and certificates to work toward, some easy, some almost impossible. Set your sights on one or two that make sense and go for the gusto.

## Awards And Sponsors

All of these awards, big and small, are sponsored by ham radio magazines, national radio societies, and local/regional clubs and associations. Some of the most popular include those sponsored by the ARRL ([www.arrl.org/awards](http://www.arrl.org/awards)) and the Radio Society of Great Britain (RSGB, [www.rsgb.org/operating/awards.php](http://www.rsgb.org/operating/awards.php)).

You can earn awards for working all 10 callsign areas in Japan, for working 100 or more Russian oblasts (similar to US states), or for working 100 or more "islands of the world" (IOTA, short for Islands On The Air).

Another popular and venerable awards program is managed by *Pop'Comm* sister publication *CQ* magazine. For more information, point your Web browser to [www.cq-amateur-radio.com/awards.html](http://www.cq-amateur-radio.com/awards.html). In recent years, *CQ* has introduced several innovative operating awards especially suited for beginners, including the iDX Award, which uses the Internet and doesn't even require a radio or antenna!

For a huge list of awards worldwide (and related Web links), look up AC6V's ham radio awards page at [www.ac6v.com/hamawards.htm](http://www.ac6v.com/hamawards.htm). Not to be outdone, Ted Melnosky, K1BV, has published *The K1BV DX Awards Directory* since 1987. The gigantic 2006 version—the last published version available—lists info on 3311 awards! As of this year, the continuously updated electronic version is available free of charge at [www.dxawards.com](http://www.dxawards.com). This is a *tremendous* resource, and Ted is to be commended for his long-time efforts! The sheer number of amateur radio awards listed here will make you dizzy!

As an FYI, most awards sponsored by national membership organizations require "local" applicants to be members of that organization. To qualify for

ARRL-sponsored awards, for example, U.S. hams have to be ARRL members, while non-U.S. hams do not.

## Some Popular Awards

There are too many awards to even begin to list here (as evidenced by K1BV's massive collection), but I do have space to list a few of the most popular, most traditional awards.

*Worked All States*—The Worked All States award is for just what it sounds like it's for: working and confirming contacts with hams in all 50 states. It's a hugely popular award among beginning hams. Aside from the basic certificate for any combination of bands/modes, specialty certificates are issued for a variety of different bands and modes such as Satellite, 160 meters, SSTV, RTTY, and each VHF band. Available endorsements include SSB, CW, Novice, QRP, Packet, EME, and any single band. Sponsored by the ARRL.

*Worked All Continents*—WAC is a beginning DXer's first achievement award. It's given by the International Amateur Radio Union for confirming contact with hams in the six continental regions of the world: Africa, North America, South America, Asia, Europe, and Oceania (the South Pacific, including Australia, New Zealand, and Hawaii). Endorsements are available for different



Seeing my 1977 Morse code proficiency certificate really takes me back to the beginning of my ham radio journey. Mystery stain and all!



bands and modes. This award can easily be earned by beginners, but you'll need HF privileges to do it. (During really nice solar cycle peaks WAC can be worked on 6 meters, but it's probably not going to be possible during Cycle 24.)

**The DX Century Club**—This highly sought-after award is the DXer's benchmark worldwide. DXCC is awarded to hams who confirm contacts with fellow hams in 100 or more "DXCC entities." Official countries like France and Sweden are definitely DXCC entities, but other areas, such as Hawaii and Alaska, are also considered DXCC entities, which makes your job a little easier, if a bit more confusing.

As of August 15, 2010, there were 338 entities on the official ARRL DXCC Entity List, which is available from the ARRL website at <www.arrl.org/dxcc>. There you'll also find a complete list of rules and DXCC award endorsements.

Perhaps the easiest way to rack up contacts toward DXCC is by participating in one or more weekend DX contests that pop up throughout the year. Even with an uncooperative solar situation, many DX contest competitors work DXCC in one day! If that's beyond your capacity as a beginner, don't dismay—after a few contests you'll be well on your way. Sponsored by the ARRL.

**Worked All Zones**—This DX award separates the men from the boys and the women from the girls. It's awarded for confirming contact with hams located in 40 geographic zones worldwide as defined by the award sponsor, CQ magazine. Just because 40 zones sounds like a lot less than 100 countries (or entities), don't be fooled. Some of the zones can take a lifetime to work—and I'm speaking from experience! After 30-plus years of casual DXing, I have yet to work a station in Zone 26, which includes Thailand, Cambodia, and Vietnam. Complete rules and maps for this torturous, yet popular, award can be found at [www.cq-amateur-radio.com/wazrules.html](http://www.cq-amateur-radio.com/wazrules.html).

**VHF/UHF Century Club (VUCC)**—Techs and VHF/UHF enthusiasts can dig right into the VUCC, which is awarded for confirming QSOs with hams in 100 maidenhead grid squares (on 6 or 2 meters). As you move higher in frequency the number of grid squares you have to confirm goes down commensurately. At 432 MHz, the magic number is 50. At 10 GHz, it's 5! Six meters is a great place to start your VUCC efforts;

2 meters is much more difficult. For more information about the grid square system, see [http://en.wikipedia.org/wiki/Maidenhead\\_Locator\\_System](http://en.wikipedia.org/wiki/Maidenhead_Locator_System). Sponsored by the ARRL.

## SWLs Encouraged

Most ham radio awards, regardless of the source, can be earned by SWLs. Instead of working hams in 100 countries, you can listen to and confirm via QSL cards (if necessary) the on-air conversations held by hams in 100 countries, and so on.

Many countries used to require (and some may still require) that their beginner-class hams collect a certain number of QSL cards by listening to other hams on the air before they could upgrade to higher-class licenses. I have quite a few of these "SWL cards" in my collection.

## The Chase Is On

Whether transmitting or listening, The Great Paper Chase is the perfect way to drive your achievements and exploration of ham radio. Remember: Set, achieve, and enjoy your reward!

**TAIWAN R.O.C.** 4629

**SWL STATION** MEMBER OF JARL

**JA1-20762/BV**

I HRD UR QSO WITH JA7SGV ALSO JP1RIW/BV

TO RADIO	DATE	UTC	MHz	MODE	RST
NT0Z/1	MAR. -3. 1990	1131	14	SSB	5/1
RX: ICF-200ID MX-7 ANT: DP GP PSE QSL VIR					
RMKS: Hope to see you on the air JARL OR DIRECT					

QRA KEN'ICHI HOSHINO  
QTH P.O. BOX 7-94 HSIENTHEN TAIWAN R.O.C.

SWLs can earn many ham radio awards by listening to—and confirming with a QSL card—QSOs completed by others. With this QSL, SWLer Kenichi, JA-20762/BV, in Taiwan, copied my QSO with JA7SGV in Japan and requested a QSL card from me to confirm his reception.

DXCC-329 USA-CHC-A9 USACA-2700+ WAZ WPX WAVE W100SM H22 AAA  
200-OK WPR WAG WAV SPDXC YODXC CAA BUDAPEST CCC TPA WAA WOG  
MURPHY'S MARAUDERS PA0-PROVINCES DIPLOMA-PARAGUAY 5-KG6 WNC  
SLOVENSKO R6K  
BERMUDA OHA  
TWINS WASM  
PACC WAQE  
WAKI WJDXC  
DUF4 POLSKA  
AJD MILANO  
S6S GATEWAY OF INDIA RNARS WBH HAMPSHIRE WACYL DUNA-KANYAR  
NKDXC YO-AD YOKOHAMA BEOGRAD WMRC WJDXA WGS-100 WAWKCA WAK

**K1BV**

Radio	Date	UTC	Band	Ch	RST	FT-901-DM SB-200
WV7SBA	9 Nov 84	1741	14	SSB	5/1	80/40 Dipoles 20/10 3 Ele Yagi Hartford County

Please/Thanks QSL Awards Hunter

Ted Melinosky  
525 Foster Street  
South Windsor, CT. 06074

Today, Ted, K1BV, maintains an online database of more than 3,000 ham radio awards (see text). When I worked him way back in 1984 he was already an accomplished paper chaser. Just look at all of the awards listed on his QSL card!

**SWL OE1-111080** a1

HELMUTH ABEL  
1150 WIEN, FUNFHAUSGASSE 3/8

TO RADIO	DATE	GMT/MHZ	MS/KC	2-WAY	RST
WV7SBA	07.03.87	16:06:07	21370	SLB	5/8

PSE/TNX QSL VIA BUREAU QVSV OR DIRECT VY 73. Helmut

**AUSTRIAN AMATEUR RADIO STATION**

Austrian SWL paper chaser Helmut, SWL OE1-111080, listened in as I worked a UK ham on 15 meters and sent this QSL card to mark the occasion (and to request my card in return!).

## Airport Roundup

by Tom Swisher, WA8PYR  
airscan65@gmail.com

Over the last couple of years we've been trotting around the country visiting various areas served by large airports, but it's time for a change. This issue, we're going to list a variety of random county and municipal airfields around the country.

### From Fields Closer To Home

While international and large regional airports host the majority of passenger flights throughout the country, county and municipal airports handle plenty of flights as well. Many freight, corporate, and general aviation operations call small airports home, and some county and municipal airports handle more overall flights than larger passenger-only airports.

General aviation is the most common operation you'll see at these airports, but there is also a pretty sizable community of ultralight and aerobatic aircraft out there, most based at and practicing near small local airports where there's plenty of airspace for swooping around. Some of these smaller fields also host Army and Air National

*“Many freight, corporate, and general aviation operations call small airports home, and some county and municipal airports handle more overall flights than larger passenger-only airports.”*

Guard aviation units, which can provide interesting viewing and monitoring on days when unit exercises are conducted.

Most of these airports are pretty simple affairs, with a single runway and few if any taxiways, many T-hangars for general aviation aircraft, and perhaps a larger hangar or two for a fixed base operator. There is often no control tower at these airports, with aircraft announcing their status and intentions on the CTAF (Common Traffic Advisory Frequency) channel; this simply takes the form of an announcement by the pilot of current position and intentions. Other smaller airports do have con-



A B25 medium bomber lifts off from Grimes Field, Urbana, Ohio. (Photo by Tom Swisher ©2010)



control towers, although these are usually only staffed part-time, during the peak traffic hours; after the tower closes, the tower frequency is used as a CTAF channel. Many are lighted, too, with runway lights activated by radio after the tower closes.

## Special Events

You can also sometimes see interesting small-scale air shows at these fields, as old warbirds, ranging from cargo planes, to fighters, to torpedo planes, to heavy bombers often

visit smaller airports to put on shows and give rides (for a price, of course). One of the most interesting lately was held at Grimes Field in Urbana, Ohio (about 20 miles north of Wright-Patterson Air Force Base) for the recent annual reunion of the survivors of the Doolittle Raid on Tokyo during World War II. Over 20 B-25 medium bombers, just like those flown by Doolittle's Raiders, flew into Grimes and flew small performances along with several P-51 fighters, with the event capped by a mass flyover of the Air Force Museum. It was an excellent, once-in-a-lifetime gathering and great fun to attend.



The tower and small terminal building at Bolton Field, Columbus, Ohio. The tower is only open part time. (Photo by Tom Swisher ©2010)



T-hangars at Bolton Field, Columbus, Ohio. T-hangars—so called because their internal layout resembles a T—are used to house small aircraft. (Photo by Tom Swisher ©2010)

Check out what special events may be planned for your own local airport. You may be surprised—and delighted.

## Scan Your Local Skies

So, let's whip out the old no-frills scanner and pay a visit to some smaller airports around the United States. See the accompanying table for a sampling of frequency information for regional airports worth a look. For information on an airport

near you, don't forget [www.airnav.com](http://www.airnav.com) as a source of frequency, runway, and other information about your local field. Also, don't forget about the emergency frequencies of 121.5 and 243.0. You'll often see more use of these in the area of a municipal or county airport where approach and departure services are not available from a TRACON or ARTCC.

There you have it. Now plug in those frequencies and head out to your local airport. You might be surprised at what you see and hear.

### Frequencies For Some Smaller Airports

#### **Grimes Field Airport (I74)**

**Urbana, Ohio**

CTAF/Unicom: 122.7

AWOS: 118.325

Approach/Departure: 118.425

#### **Martin State Airport (KMTN)**

**Baltimore, Maryland**

Tower/CTAF: 121.3

Ground: 121.8/253.4

UNICOM: 122.95

ATIS: 124.925

Approach/Departure: 119.0

Clearance Delivery: 121.8

Air National Guard

command post: 347.2

Air National Guard C-130

operations: 384.1

#### **Port Bucyrus-Crawford County Airport (17G)**

**Bucyrus, Ohio**

CTAF/UNICOM: 122.8

AWOS: 126.625

Approach/Departure: 124.2

(0600-0000)

Approach/Departure: 134.9/317.7

(0000-0600)

#### **Napa County Airport (KAPC)**

**Napa, California**

Tower/CTAF: 118.7/257.8

Ground: 121.7

Unicom: 122.95

ATIS: 124.05

Clearance Delivery: 127.85

Approach/Departure: 127.8/353.5

#### **Homer Airport (PAHO)**

**Homer, Alaska**

CTAF: 123.6

Approach/Departure: 125.9/270.3

Unicom: 123.0

Unicom: 122.70

Unicom: 123.05

ATIS: 135.65

#### **Capital City Airport (KFFT)**

**Frankfort, Kentucky**

CTAF/Unicom: 122.8

ASOS: 119.275

Approach/Departure: 120.75

Clearance Delivery: 118.1

Air National Guard: 139.35

Air National Guard: 226.6

Air National Guard: 42.25 (FM)

#### **Boulder Municipal Airport (KBDU)**

**Boulder, Colorado**

CTAF/Unicom: 122.725

AWOS: 118.825

#### **Boca Raton Airport (KBCT)**

**Boca Raton, Florida**

Tower/CTAF: 118.425

Ground: 121.8

AWOS: 121.125

Clearance Delivery: 121.8

Clearance Delivery: 127.35

(2300-0700)

Fixed Base: 131.65

Fixed Base: 131.95

#### **Manhattan Regional Airport (KMHK)**

**Manhattan, Kansas**

Tower/CTAF: 118.55 (0700-2100)

Ground: 121.85 (0700-2100)

ASOS: 119.075

Approach/Departure: 121.25

Approach/Departure: 127.35/257.97

(2100-0700)

Multicom: 122.85

#### **Helena Regional Airport (KHLN)**

**Helena, Montana**

Tower/CTAF: 118.3/257.8

Ground: 121.9

Unicom: 122.95

ATIS: 120.4

Approach/Departure: 119.5/229.4

Approach/Departure: 133.4/285.4

(0000-0600)

Air National Guard: 321.45

National Guard: 126.2

National Guard: 40.65 (FM)

#### **Austin Executive Airport (KEDC)**

**Austin, Texas**

CTAF/Unicom: 122.975

AWOS: 118.825

Approach/Departure: 119.0 (west)

Approach/Departure: 127.225 (east)

#### **Barnstable Municipal Airport (KHYA)**

**Hyannis, Massachusetts**

Tower/CTAF: 119.5/257.8

Ground: 121.9

Unicom: 122.95

ATIS: 123.8

Clearance Delivery: 125.15

Approach/Departure: 118.2

Approach/Departure:

128.75/290.3/387.1 (2200-0600)

#### **Lynchburg Regional Airport (KLYH)**

**Lynchburg, Virginia**

Tower/CTAF: 127.65/257.8

Ground: 121.9

Unicom: 122.95

ATIS/ASOS: 119.8

Approach/Departure: 125.47 (east)

Approach/Departure: 135.0 (west)

#### **Pearson Field Airport (KVUO)**

**Vancouver, Washington**

CTAF/Unicom: 123.0

VFR Advisory: 119.0

ASOS: 135.125

Clearance Delivery: 121.65

Approach/Departure: 124.35

South Approach: 118.1

#### **Sierra Vista Airport-Libby Army Airfield (KFHU)**

**Fort Huachuca/Sierra Vista, Arizona**

Tower/CTAF: 124.95/284.75

Ground: 121.7/268.7

Unicom: 122.95

ATIS: 134.75/265.7

ASOS: 119.675

GCA Approach/Departure:

127.05/254.35

Approach/Departure: 134.45/327.15

(0600-1400)

Base Operations: 122.95

PMSV: 239.8

Radar: 119.5/237.5/254.35



# More Memories— Restoring My Realistic Jetstream Receiver, Part II

by Peter J. Bertini  
radioconnection@juno.com

*“The higher frequency end of the dial tracking is easy, but the low-end tracking is an art, especially for best sensitivity.”*

Last month I indulged myself by introducing readers to an old favorite radio of my very own: a Radio Shack Jetstream transistor. This sweet little relic from my youth is now nearly half a century old (gulp!) and deserves—and needs—some quality time spent on the “Wireless Connection” workbench. So now let’s continue our restoration where we left off.

## Aligning The Jetstream

Ideally, I’d have the service literature available to guide me through an alignment procedure, but as I noted last month that information couldn’t be located. The radio had suffered some ham-type

“activity” during its earlier years—there were attempts to retune the air band to extend coverage into the 2-meter ham band as well as a general diddling of anything that could be adjusted by youthful, inexperienced fingers to make other “improvements.”

I was able to trace out most of the circuit path for the AM broadcast band and AM aircraft band sections of the radio; at least to the point where I knew what each trimmer or coil adjustment was for. To cut to the chase, refer to the Table for a general guideline of the color-coded tuning cores used in many transistor radio IF stages and for the local oscillator coils. The alignment points are shown in the Figure. That drawing, along with

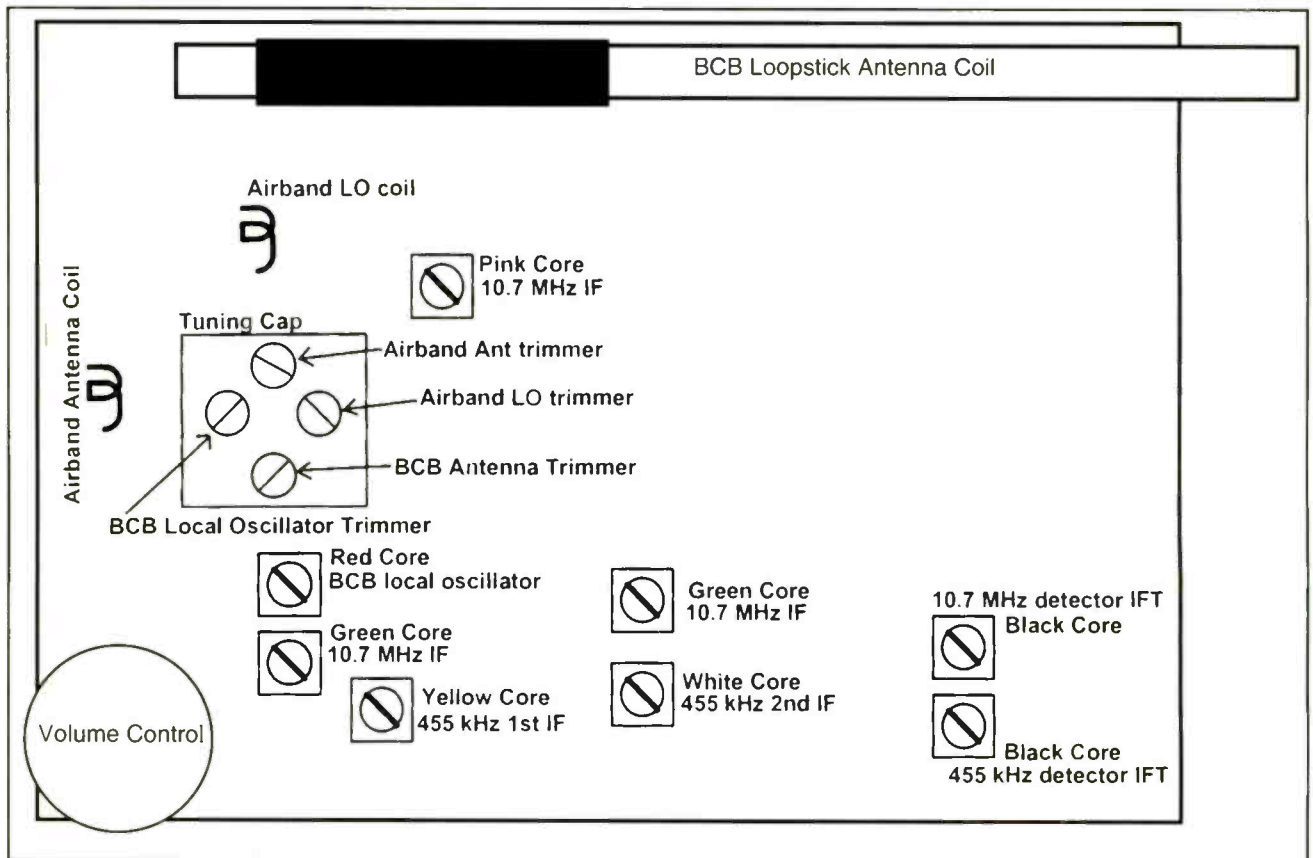


Figure. This drawing shows the alignment points for the Jetstream’s IF and RF stages.

Photo A, provides a reference for the alignment points for the Jetstream.

## AM BCB Alignment

Let's start by aligning the AM section. We'll tackle the 455-kHz IF stages first. The radio should be set for AM broadcast band reception. We need a way to inject a signal into the IF stages. The easiest solution I've come up with is shown in Photo B. A loop, comprised of three turns of insulated wire, is placed over the end of the ferrite core for AM BCB loopstick antenna. This is used to inject an IF signal from one of the shop's HP 8640B signal generators, as shown in Photo C. Tune the radio to the lowest AM dial set-

ting, which will minimize the losses of the IF signal being forced through the AM mixer stage.

Set the signal generator to 455 kHz and a 400-Hz or 1000-kHz internal modulated tone at about 30 percent modulation, and increase the signal generator RF output until the modulated tone is heard in the speaker. Take a look at the tuning tool in Photo B, which is designed for these IF transformers. Be aware that using a regular screwdriver tip or makeshift tool runs the risk of damaging the ferrite tuning slug core. Use the proper tool! Keeping the signal at the lowest possible level, peak and repeak the three 455-kHz IF stage transformers shown in the Figure until no further improvement is noted.

**Table. Tuning Core Color Codes**

455 kHz 1st IF	Yellow
455 kHz 2nd IF	White
455 kHz 3rd IF	Black
455 kHz Oscillator	Dark Red
10.7 MHz 1st IF	Pink, Green
10.7 MHz 2nd IF or 3rd IF	Orange, Brown, or Black

Table. Color-code scheme used to identify the miniature-style IF transformers and other coils used in transistor radios.



Photo A. As we first saw in October, the top view of the Jetstream printed circuit board shows the radio's extremely tight component density.

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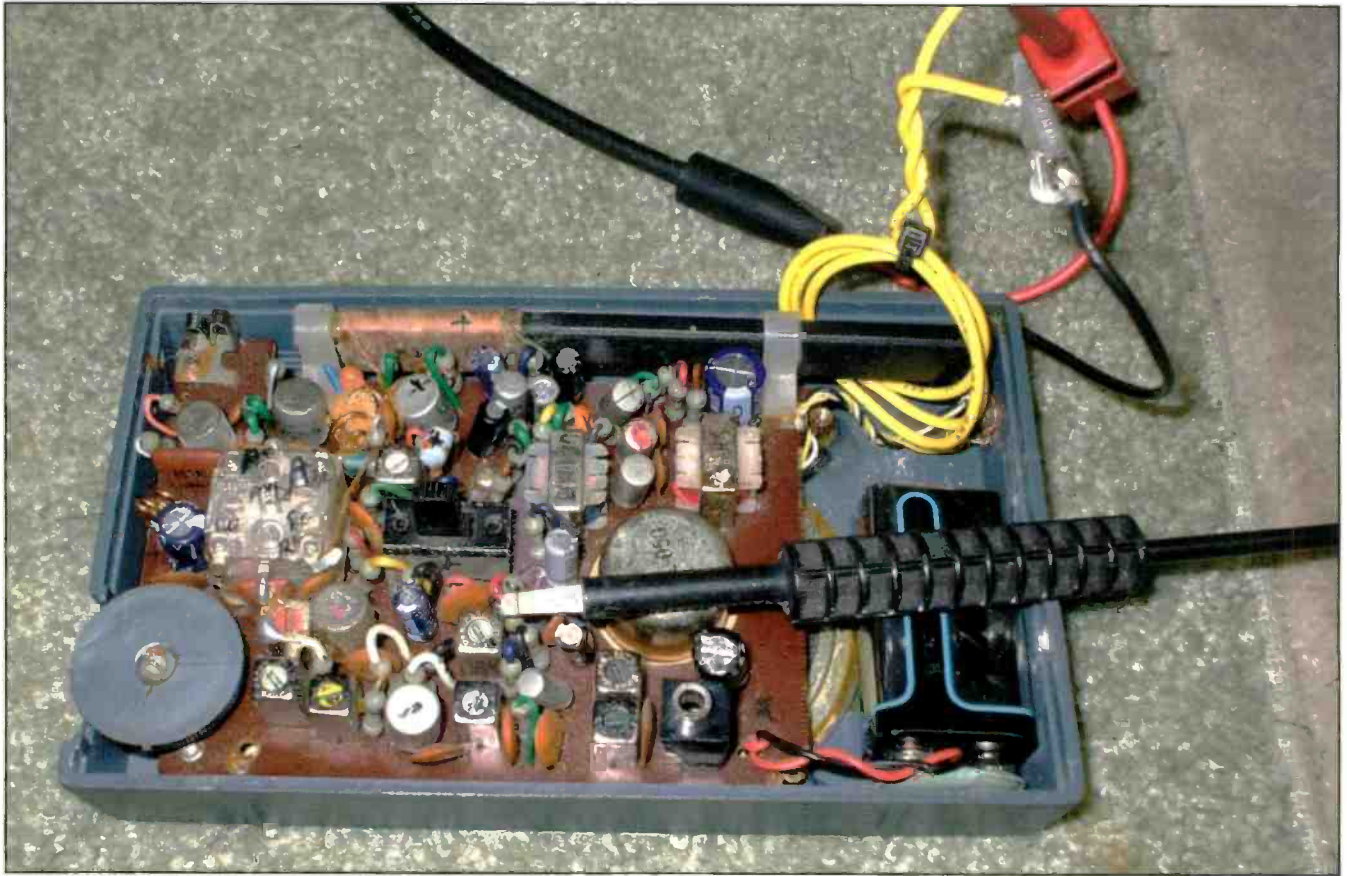
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A three-turn loop of insulated wire was used to couple the signal generator to the Jetstream for the AM broadcast band RF and IF stage alignment procedure. I can't emphasize enough the importance of using the correct tool—note here that I made sure to select the properly sized alignment tool to avoid damaging the fragile ferrite tuning cores.



While almost any available signal generator would do for the IF and BCB alignment, I used one of my shop's HP-8640 lab-grade generators for this procedure. Note that in this photo the generator was locked to 10.7 MHz for aligning the aircraft band's 10.7-MHz IF stages.

Using the setup shown, with a three-turn loop over the loopstick, a 300- $\mu$ V signal at 455 kHz should be audible.

Now, let's continue with the AM BCB alignment and tracking. The higher frequency end of the dial tracking is easy, but the low-end tracking is an art, especially for best sensitivity. Remember that the tracking is much more critical at the low end of the dial, since the AM antenna stage selectivity will be three times that of the high end. Several kHz of tracking error will mean more signal loss at the low end of the dial.

Here's a quick way to do it. Tune the radio dial fully to the low end of the AM band, and simply tune the Red core for the AM BCB local oscillator coil for a peak in background noise. A noisy light dimmer switch or fluorescent light will serve as a local "noise source" for this step, if needed. This will give you the best sensitivity at the low end of the dial, and if the IF is set to 455 kHz the dial tracking should be entirely adequate in light of the Jetstream's very limited dial scale resolution. Otherwise, the loop stick antenna coil winding will have to be slid on the



ferrite core to fine-tune the antenna's tuned circuit to optimize the tracking at the low end of the dial. This should not be needed.

Next, tune the radio to a weak station at the high end of the dial, or use the coupling loop and the shop signal generator for the high-end tracking alignment. Carefully adjust the AM band local oscillator trimmer (located on the back of the

tuning capacitor; again refer to the **Figure**) to set the station or signal generator to the correct frequency marking on the dial. For instance, a signal at 1600 kHz should be aligned with the 1600 kHz dial marking. Keeping the signal as low as possible while still being audible, carefully peak the AM BCB antenna trimmer (rear of the tuning capacitor; see **Figure**) for the best peak in the signal level. Now

go back and check the low-end tracking, and repeat the tracking alignments at both ends of the dial until no further improvement is noted.

## Aircraft Band Alignment

Hopefully anyone with a Jetstream has a set that was never diddled by an inexperienced technician, as mine was. The

### Cool Coil Creations

Recently, a mysterious package arrived at "The Wireless Connection" World Headquarters. The sender was Bob Ryan, a name that should be recognized by our long readers; Bob was the impetus behind several of the simple one and two regenerative receiver projects that have been featured here over the past several years.

Not to keep you folks in suspense, **Photo D** shows what I found when I opened the box. Bob had kindly gifted us three samples of his latest coil creations. Notice the nifty coil holder rack that Bob also supplied.

These are the nicest handcrafted plug-in coils that I have seen. These are the types of coils that would be used with the Boy's First Radio one-tube regenerative receiver project, featured over a decade ago in several of our columns that ran back in 1999, or for the more recent Dumpster Diver Receiver project submitted by Bob Ryan himself.

I was curious to learn the secrets of how Bob was able to craft these in his small apartment workshop. Here's what he told me:

These three plug-in coils are samples of what I have been doing during this winter's radio building season. Nowadays, I am employing new, empty 20-dram pill bottles as my coil forms. The threaded bottle's neck just squeezes tightly into an empty four-pin empty, used, salvaged radio tube base. There was no need for glue or cement, the friction fit will hold forever!

The local Pill Shoppe sells three-dozen bottles for five dollars, a very reasonable sum!

I rough up the sealed end on a rotary wire wheel to provide a non-slip grab surface. Marine grade spar varnish adheres well to the plastic pill bottle material. All in all, it is the most handsome coil I've evolved!

**Photo E** is a close-up of how Bob incorporates a small APC-style surplus air-trimmer capacitor in the top of the form. This cap can be used for a multitude of purposes. For example, a small value cap could serve as the antenna coupling capacitor in a regenerative receiver design, or a larger value could serve as a rough band-setting capacitor, while a smaller tuning capacitor, coupled to a front-panel vernier drive system, is used for fine tuning. The plastic used in these pill containers is extremely low loss, and this sort of coil construction should be of interest to hams who are considering building one of Ted Crosby, W6TC's HBR receiver projects that ran in *QST* magazine during the late 1950s and early 1960s. The original polystyrene coil forms specified by Ted have been "unobtainium" for decades.

Folks who would like more information on Bob's coils are welcome to contact him by mail. Write to Bob Ryan, Apt 132, 1000 S. Gilbert St., Helmet, CA 92543-7065. Bob would love hearing from you!



Photo D. The three handcrafted coils that were made by Bob Ryan in his small apartment workshop in southern California.



Photo E. This close-up shows how Bob has mounted two screwdriver-type APC-style air trimmer capacitors in his coil forms. The capacitor bodies are kept well out of the actual coil winding area on the form; this preserves the coil Q factor.



IF for the aircraft band operates at 10.7 MHz; and the radio is also AM for that band. Note that the companion 1967-era Patrolman series radios are probably very similar to the Jetstream design, except that those radios will be designed for narrow band FM reception instead of the AM mode on VHF.

IF signal injection is a bit trickier, but the three-turn signal injection loop will

work with a 1- to 3-mV tone modulated RF signal at 10.7 MHz. Clipping directly to the pc board connection for the aircraft band whip antenna is another good point to inject the 10.7-MHz IF signal, but I've seen the set become unstable and self-oscillate when this is done. There are four 10.7-MHz IF transformers that need to be peaked. These are also shown in the **Figure**. Carefully repeak each trans-

former, using the minimum signal level needed to hear the modulated tone, until no further improvement is noted.

## Aircraft Band RF Tracking

The RF tracking for the aircraft band is also a bit trickier than for the AM BCB side. Don't align the radio unless you are sure it will benefit from doing so. Start by checking the tracking at the high end of the dial's tuning range; the most convenient marking is at 134 MHz. Inject a strong signal at 134 MHz, and slowly sweep the signal generator above, through, and below 134 MHz. The signal should be heard within a MHz or so of the dial marking. Carefully adjust the aircraft band local oscillator trimmer capacitor so that the 134-MHz signal coincides with the 134-MHz dial scale marking. Reduce the signal generator signal until the modulated tone is just above the background noise, and peak the aircraft band antenna trimmer for maximum recovered signal.

Next, check the dial tracking at the lowest frequency marking at 108 MHz. Don't worry about small errors, but if major alignment is needed you can squeeze or expand the open wound coil for the aircraft band local oscillator (see **Figure**) to tune it to the desired frequency. ~~You can then expand or squeeze the aircraft band antenna coil winding to tune it for best sensitivity.~~ If these coils were never disturbed, this alignment step likely can be skipped.

The foam rubber that is inserted in those coils dampens vibrations that can result in mechanically induced feedback. If the low-end tracking is adjusted, it will interact with the high-end tracking, and tracking alignment at both ends of the dial should be alternately readjusted until no further improvements are noted. My radio's sensitivity was measured at about 3  $\mu$ V with the signal generator connected directly to the whip antenna connection point on the pc board. Note that this may cause instability and oscillations in the receiver.

## Until Next Time...

Hopefully you enjoyed this look at a somewhat newer classic radio. And hopefully you'll have held on to your own radio memory and can restore it using these methods. Let me know!

Until next time, keep those soldering irons warm and those old tubes glowing (and those transistors firing)!

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# Uncle Charlie Walker, Radio's Pioneer @!\$%\* Talker

by Shannon Huniwell  
melodyfm@yahoo.com

*"She...caught one of the hefty cornstalk brooms hung on a sales display rack near the counter, demanded that the filth be silenced, and then batted the radio to its doom."*

**W**HOOSH! SMASH! SPARKS! It was the only time Billy Powley ever witnessed someone swat a perfectly good table radio to the floor. The sounds of hillbilly music and colorful commentary died suddenly as bits of plastic, glass, and wire flew like shrapnel from the five-tube chassis. His normally proper grandmother had committed this compulsive act with a brand new broom after his grandfather repeatedly refused to either tune away from Kingtree, South Carolina's WDKD or "turn the filthy thing off!" At issue were the facts that, 1) Billy was then only 11 years old, and 2) WDKD's Uncle Charlie Walker was on the air.

Powley, who chuckles when admitting that he's "now mature enough" to broach the once-sensitive subject of southern radio personality Charlie Walker, has long been a "Shannon's Broadcast Classics" reader and contacted me about what he refers to as "the WDKD/FCC blowup." This was unfamiliar territory to me, but my father excitedly talked over the last couple of words of my questions as he launched into the background story that ended with the 1964 license renewal denial of WDKD, a notably rare RF execution.

Much of Dad's exposé was based on a well-crafted scholarly paper presented by John Armstrong at the annual meeting of the Association for Education in Journalism and Mass Communication at the Sheraton Boston on August 5, 2009. Armstrong's paper, "The Pig in the Parlor: Uncle Charlie Walker and the First Amendment," acknowledged that "Walker is hardly...well known. But in 1961, long before...famous entertainers [like Howard Stern and similar shock jocks] were embroiled with the Federal Communications Commission, Walker forced the Commission to take a stand on censorship, 'dirty words,' and community standards. Walker's case was a forerunner of crucial FCC and judicial decisions on obscenity and indecency."

## Come To The Station And Kiss My A\_\_!

Bill Powley couldn't resist including one of Walker's most loquaciously liberal verbal stunts when first emailing me his recollections about the fateful day in the late 1950s that the poor old radio

Here's what WDKD looks like today in logo form. A half-century ago, however, the legal question surrounding the Kingtree, South Carolina, AM had nothing to do with its visual appearance, but rather the cleanliness of the station's language.



died. He'd been enjoying summer vacation helping out at his grandparents' little hardware/appliance store in Williamsburg County, South Carolina. The dark green Emerson AM receiver resided on the shop's main counter, not far from a big bronze cash register. Technically, the set was "inventory," and a yellowed price tag dangled from the power cord that shared an outlet stuffed with those bakelite triple plug extenders installed to accommodate a selection of kitchen clocks, a key making machine, and several table lamps.

Powley's Granddad had a routine when opening the store each morning. And number one on the to-do list was click on the radio. While its tubes warmed, the old fellow would check the telephone for dial tone, be sure that an old .22 caliber pistol was still hidden by a few pages of folded newspaper under the counter, and then pull the strings that lit up three rows of fluorescent fixtures overhead. By that time, the AM would be ready for Granddad to fine-tune to 1310 kilocycles so as to eliminate any AC hum that might interfere with WDKD's signal carrying Uncle Charlie Walker.

"Rather than being just a daily assignment," Powley explained, "adjusting the radio's volume was an *ad hoc*, up and down requirement, totally dependent upon how close my Grandma came to the four-inch permanent magnet speaker." Much less fun-loving than her husband, Powley's grandmother didn't approve of the "tawdry comments" made over the public airwaves by Charlie Walker. While she'd been completely unsuccessful in reforming Granddad's listening habits, her cold shoulder treatment motivated him to keep the sound at an almost inaudible idle whenever she or any "proper customers" were in the radio's



proximity. He was also supposed to prevent their grandson's virgin ears from Walker's "French."

"One morning, we thought that Grandma was tightly cloistered back in the office going over the accounts payable," Powley said, "but we were careful to have WDKD on pretty low anyway. Then, one of Granddad's gregarious customer pals nearly jingled the bells off the front door when he pushed it open, laughing his head off about some prissy complaint letter Charlie Walker had been reading over WDKD. Granddad motioned for me to fire up the AF gain. I cranked it just as Walker invited anybody who didn't approve of the way he broadcast, "to come on down to WDKD and kiss my a\_\_!"

Wouldn't you know it, Powley's grandmother managed to catch just that specific suggestion. She also caught one of the hefty cornstalk brooms hung on a sales display rack near the counter, demanded that the filth be silenced, and then batted the radio to its doom. Witnesses later learned that Grandma's mighty swing occurred exactly in the center of the planned pregnant pause Walker timed to maximize the effect of his double entendre. Had the unlucky AM survived another few seconds, it would have revealed Walker announcing that the *mule* he'd just offered for kissing was tied up out in back near WDKD's transmitter tower!

## A Southern Character's Background

Columbia, South Carolina, native, Charles Thomas Walker got the radio bug as a teenager. He was in high school when nearby WNOK hired him to run the control board for its on-air performers, but Walker yearned to get on the mic. After completing his formal education he signed up as a DJ with WGCD Chester, South Carolina, moving on from there to WKDK, the 250-watt AM in Newberry.

By the time he reached his early 20s, Walker had a hankering to locate a long-term broadcast home and found it when a new 5-kW daytimer debuted in Kingstree. Officials at this WDKD hired Williams in 1949. The fledgling station's South Carolina community of license served as the seat of Williamsburg County, was steeped in an agricultural tradition, and had a population of about 3,800. WDKD's coverage, however, extended to some 40,000 people, a majority of whom were African-American.

Armstrong's historical treatise indicates that during the Kingstree AM's early history, Walker was the station's jack-of-all-trades. Although only 22, he adopted the moniker, Uncle Charlie, and "began broadcasting at 6 am—5 am in tobacco season—with a country music show called 'Grits and Gravy.' At 7 am, he switched to a more pop-oriented show called 'Toast and Coffee' At 9 am, a preacher came in for morning devotions, and then at 9:30 am, Walker hosted a two-hour program called 'Gospel Jamboree.' In the afternoon, Walker hosted another program called 'Sundown Hoedown' that aired until sign-off. The programs were interspersed with news bulletins, commercials, and public service announcements, all read by Walker."

Though commercial revenue allowed Walker to earn a living, he didn't kowtow to sponsors. In fact, one advertiser—a diminutive fellow who operated a chain of country stores—told the FCC that Walker regularly lambasted him for being a short, big shot. Walker referred to him on the air as the only man in the region who could milk a cow while he was standing up. But it made no difference how much Walker made fun of him, the businessman reasoned, because the irreverent commercials generated paying customers.

Management at other advertiser-supported media, however, were likely chagrined about Walker's effective selling power,



The once-controversial radio personality, Charlie Walker smiles as he gets "roasted" by well wishers honoring him for decades of community service. His wife, Peggy, who adopted the moniker "Ole Scrap Iron," is seen at his left and is obviously proud of her spouse's laudable record of assisting those in WDKD's coverage area. It doesn't require a close study of this photo of Uncle Charlie Walker, also affectionately known as the "Mouth of the South," to get the sense that he's a genuine character with lots of predictably unpredictable things to say whenever the mic was hot. (Image courtesy of *The News*, Kingstree, South Carolina)

and wanted to see what made him tick. Just three years into Walker's stint at WDKD, the *Charleston News and Courier* wrote an piece on him that declared that people either loved or hated Uncle Charlie. Then, perhaps hoping to blow a whistle that'd reach radio regulators' ears, the newspaper declared, "How Charlie Walker has gotten away with murder in conservative, church-going Williamsburg is still a source of wonder...His remarks are enough to turn the wave lengths red." It's curious that the columnist used that particular hue to describe Walker's musings, as red, in the early 1950s, was instantly associated with broadcasters of the communist—at least left-wing—persuasion. Blue would have been a more appropriate off-color metaphor.

According to *The News* (Kingstree), from 1953 to 1954, Uncle Charlie lent his broadcasting talents to Armed Forces Radio-Korea, where "the troops proclaimed Charlie was making more noise on the air than the Chinese artillery." Once finished with military service, he returned to WDKD where he announced he was back on the mic, "drinkin' mash and talkin' trash!"

## How Risqué Did He Get?

This is a family publication, so I won't go into great detail about Charlie Walker's raunchier radio ramblings. And, truth be told, Walker didn't say offensive things every time the on-air light illuminated. Nor was he ever accused of full-throttle four-letter-word cussing on the radio. Armstrong notes that when the mood did strike him, though, the Southern personality's trademark banter could be described as "earthy language [interjected] into his on-air jokes and comments." For example, whenever Uncle Charlie mentioned area locales in commercials or public service messages over the Kingstree station, "the neighboring town of Greeleyville became *Greasy Thrill*, Bloomville became *Bloomersville*, and Andrews was *Ann's Drawers*."

As any survivor of puberty and adolescent locker room discourse can attest, references to traditionally verboten topics—



like intimate activity and women's underwear—serve as a catalyst for innuendo which can lead down a tall-tale trail. From time to time, Walker would take his listeners on such journeys. On one storytelling foray, Uncle Charlie described a conversation between some fictional local newlyweds. The guy asked his bride how she came to have cracks between her toes. When she indicated that they'd resulted from her having walked barefoot in mud, Walker quipped that the husband then wondered aloud if she'd also sat in the mud.

A previously silent WDKD partner happened to catch this 1956 vignette and instantly became vocal. He canned Walker, much to the dissatisfaction of the DJ's loyal fans and the majority station owner, who quickly nixed the firing. Not long after Walker got back on the microphone, the more sensitive WDKD official washed his hands of the controversial host by selling his station shares to that principal stockholder and Kingstree businessman, one Edward G. Robinson (no relation to the gangster movie actor).

Unchastened, Walker responded by poking fun at his employer, whom he branded "Old Moneybags," whenever he spoke about him on WDKD. No doubt, Walker's strong audience popularity and the related advertising revenues he could pump into Robinson's bank account convinced the FCC licensee to play accepting father to his apparently prodigal son.

## The Other Uncle Charlie

While Walker's questionable broadcast musings eventually made him a free speech/obscenity topic in law schools throughout America, his spirit of local radio public service that established him as a hometown hero. As far back as that 1952 *Charleston News and Courier* article, Walker was had a reputation for jumping headlong into raising awareness of, and donations for, any good cause within the WDKD coverage area. Armstrong cites the Williamsburg County school superintendent declaring that "Walker made the best plea he had ever heard for a family whose home had been burned down."

So trusted was the broadcaster, that he sometimes simply held out a donation cup in a crowd of local folk, and they'd eagerly respond—even if they didn't know how the funds would be used until Walker later revealed the money's humanitarian mission on WDKD. He'd happily make personal appearances to come to the aid of any group or individual in need, from volunteer fire departments and school sports teams to a kid requiring expensive medical treatment. Ironically, in this capacity, Walker essentially served as the FCC's ideal radio host, someone who works tirelessly to satisfy the public's *convenience, interest, and necessity*. Of course, that frontrunner distinction could make him a thorn in the side of his competition.

## Hey, Who Called The Kilocycle Cops?

The lion's share of Charlie Walker's listeners was made up of rural African-Americans and economically challenged white folks who no doubt greatly appreciated his concern for the disadvantaged. It's a good bet that Walker's main audience felt little connection with federal authorities and would be unlikely to inform them that their favorite DJ was prone to use barroom language over public bandwidth. Also protecting him were the fiscal benefits of his on-air indiscretions, which prevented his boss from taking any punitive action. For a decade, this laissez-faire attitude defined Charlie Walker's world.

In 1953, Walker was serving his country halfway across the world from Kingstree, South Carolina, and his WDKD when a

WJOT WINDING SEPTEMBER 9, 1967

# THE OFFICIAL WJOT TIGER SURVEY

The TOP 12 Hits in the Lake City Area • The Tiger Hits & Extras

1. (2) TURN ON THE MUSIC Springfield (Saxophone)	7. (5) SWEETEST THING THIS SIDE Cherie Bartley (Vand)
2. (5) HIGHER AND HIGHER Jackie Wilson (Brunswick)	8. (8) REFLECTIONS Diana Ross & Supremes (Motown)
3. (1) YOU'RE MY EVERYTHING Temptations (Gordy)	9. (12) COLD SWEAT James Brown (King)
4. (11) CHAINED TO YOUR HEART Bobby Moore (Checker)	10. (15) I'LL TURN TO STONE Percy Sledge (Atlantic)
5. (9) HART, HART ROW YOUR BOAT Tina Turner (ABC)	11. (16) APPLES, PEACHES, AND PUMPKIN PIE Ray and Techniques (Decca)
6. (14) THE LETTERS Boyz n the City (Mala)	12. (19) SHOOT DAMBIANA Nancy Murray (S&W)
13. (16) I Wanna Testify Barclay (Atlantic)	13. (16) I Wanna Testify Barclay (Atlantic)
14. (6) Gimme Little Sign Sly & the Family Stone (S&W)	14. (6) Gimme Little Sign Sly & the Family Stone (S&W)
15. (7) Last Minute Miracle Sly & the Family Stone (S&W)	15. (7) Last Minute Miracle Sly & the Family Stone (S&W)
16. (17) Don't You Think It's Time The Impressions (Atlantic)	16. (17) Don't You Think It's Time The Impressions (Atlantic)
17. (22) Funky Broadway The Impressions (Atlantic)	17. (22) Funky Broadway The Impressions (Atlantic)
18. (24) Do You Like Me a Little Bit Jimmy Ruffin (Soul)	18. (24) Do You Like Me a Little Bit Jimmy Ruffin (Soul)
19. (10) Don't You Ever Leave Me The Impressions (Atlantic)	19. (10) Don't You Ever Leave Me The Impressions (Atlantic)
20. (37) Servant of the Lord The Impressions (Atlantic)	20. (37) Servant of the Lord The Impressions (Atlantic)
21. (25) Lord, I'm Here The Impressions (Atlantic)	21. (25) Lord, I'm Here The Impressions (Atlantic)
22. (23) Gettin' Ready Tommy James & Shondells (Soul)	22. (23) Gettin' Ready Tommy James & Shondells (Soul)
23. (27) Love Bug (Part 2) The Impressions (Atlantic)	23. (27) Love Bug (Part 2) The Impressions (Atlantic)
24. (13) Everlasting Love The Impressions (Atlantic)	24. (13) Everlasting Love The Impressions (Atlantic)
25. (4) One of a Kind The Impressions (Atlantic)	25. (4) One of a Kind The Impressions (Atlantic)
26. (30) Day After Tomorrow The Impressions (Atlantic)	26. (30) Day After Tomorrow The Impressions (Atlantic)
27. (35) You've Got to Let Me Know The Impressions (Atlantic)	27. (35) You've Got to Let Me Know The Impressions (Atlantic)
28. (1) Soul on Fire The Impressions (Atlantic)	28. (1) Soul on Fire The Impressions (Atlantic)
29. (34) I'll Be Home in Love Again Tom Jones (Parrot)	29. (34) I'll Be Home in Love Again Tom Jones (Parrot)
30. (1) I've Got a Feeling (To Your Heart) Soul Survivors (Crimson)	30. (1) I've Got a Feeling (To Your Heart) Soul Survivors (Crimson)
31. (40) Why Did I Love You So Billy Stewart (Chess)	31. (40) Why Did I Love You So Billy Stewart (Chess)
32. (1) East River Drive Clifford Curry (Blif)	32. (1) East River Drive Clifford Curry (Blif)
33. (1) Dream Clifford Curry (Blif)	33. (1) Dream Clifford Curry (Blif)
34. (35) I'm Gonna Love You Just a Little More James Carr (Goldwax)	34. (35) I'm Gonna Love You Just a Little More James Carr (Goldwax)
35. (38) In the Heat of the Night Ray Charles (ABC)	35. (38) In the Heat of the Night Ray Charles (ABC)
36. (39) Four Seasons Love The Impressions (Atlantic)	36. (39) Four Seasons Love The Impressions (Atlantic)
37. (26) Baby I Love You The Impressions (Atlantic)	37. (26) Baby I Love You The Impressions (Atlantic)
38. (1) Nine Pound Steel The Impressions (Atlantic)	38. (1) Nine Pound Steel The Impressions (Atlantic)
39. (1) Take A Look Amelia Franklin (Atlantic)	39. (1) Take A Look Amelia Franklin (Atlantic)
40. (1) Soldier's Sol Story The Impressions (Atlantic)	40. (1) Soldier's Sol Story The Impressions (Atlantic)

HEAR THE HITS ON THE PER DEE TIGER

By 1967, WDKD's old rival WJOT was rocking with Top-40 music, programming that many older folks then considered indecent. Earlier in the decade, WJOT officials played a major role in unseating the market's most popular DJ, because they felt his broadcasts weren't fit for public consumption, or so they said.

competing station set up shop in nearby Lake City. The owners of this 1000-watt AM daytime facility, WJOT, had no doubt heard of Uncle Charlie and were probably glad that the popular announcer was in Korea and not attracting listeners from Williamsburg County. But in 1954 Walker returned to the states and his place at WDKD. WJOT officials were keenly aware of Walker and, for whatever their true motive—civic responsibility, envy of his persuasive selling power, or simply wanting to get the area's best-known media personality out of their market—they blew the whistle on Walker.

Armstrong reports that "the rivalry between [WJOT and WDKD] took a harsh turn in October 1959 when...WJOT's operations manager and chief engineer, began taping some of Walker's broadcasts. The FCC was notified about the tapes and their suggestive content and three [FCC] representatives came to Lake City" where the Feds were played the recordings and then took the reels back to Washington. The big shots lost little time in contacting Edward G. Robinson and his Washington lawyer (a woman, in the then almost exclusively male legal profession) regarding Walker's comments made over WDKD.

After hearing the tapes the lawyer sent word to Robinson that the Commission had ample evidence to take action against Walker and the WDKD license, which was slated for renewal at the end of 1960. Her serious tone prompted a worried Robinson to head right into the WDKD studio and sack Charlie Walker.





When President Kennedy's FCC appointees began presiding over the electronic mass media in 1961, they made it clear that a station license renewal would not be automatic for any AM, FM, or TV outlet: the station had to be able to demonstrate it hadn't violated Commission rules. One of the Agency's biggest no-no's has always been "lack of candor," or being untruthful in responses to questions on applications or queries by FCC representatives. That's why when WDKD's owner testified that he didn't know his star DJ was prone to using colorful language on the air, the businessman pretty much told the FCC to take the keys to the South Carolina AM daytimer.

"Robinson fired Walker immediately," according to Armstrong, "without even letting him finish out the day at WDKD."

The shaky station operator notified the Commission of this staffing change, admitting that Walker's comments could have been considered in poor taste, but said he'd been unaware of the DJ's penchant for off-color humor. That assertion fell apart in May 1961 during the FCC's four-day hearing at the Williamsburg County Courthouse to determine whether or not Robinson's character was upstanding enough for his continued qualification as a broadcast station license holder. The WJOT tattletale happily offered testimony against Robinson, as did a couple of local pastors. "Both of [them]," says Armstrong, "stated that they had complained to WDKD about Walker's coarse language, but without effect." That—and Robinson's charged courtroom comment about not airing serious debate on public issues because it might motivate some minority to seek election—pretty much nailed the coffin shut on Robinson's radio license.

The hearing examiner recommended to his superiors that Robinson not be permitted to operate WDKD. They agreed,

as did a Federal appeals court, and the Commission denied his long-pending application for WDKD's license renewal. After a 1964 decision by the US Supreme Court not to interfere with the lower court's ruling, Robinson had no choice but to cease broadcasting. Contrary to some local residents' predictions that Robinson's license denial would put Kingtree radio listeners at a loss, the FCC made an unusual offer. Some members of the community secured the Commission's OK for a license to operate on WDKD's assigned frequency—as soon as Robinson's last legal avenues were officially road-blocked—and then bought WDKD's facility from the defrocked licensee for about \$120,000. The new folks also got the Federal nod to use the station's call letters so that the general public would hardly notice a change.

### What About Our Favorite Uncle?

For true WDKD aficionados, the Kingtree airwaves were far less lively without Charlie Walker's comments sounding through the Dixie ether. Even before the new group had taken over his longtime audio home, Walker had gotten a salesman job with a meat-packing outfit. Nonetheless, in late 1963, he went on trial for allegedly breaking Federal laws barring profane, indecent, and/or obscene speech over the public airwaves.

Those incriminating tapes—donated by WDKD's competition, WJOT, of course—were played in the courtroom, and the judge instructed the jury to find Walker guilty only if "the average person of the [WDKD coverage] community" would be offended by the recordings' content. Reportedly, none of the African-American and poor-white target demographic (the "average" members of Walker's audience) were in the jury, nor were they offered chance for significant input at Robinson's hearing.

In any event, Charlie Walker was found guilty. The judge apparently realized that more than a few high-powered crusader lawyers would love to take a crack at turning Walker's plight into a front page First Amendment crusade and question the jurist's sentencing decision. He gave Walker five years probation rather than hefty fines and jail time.

By the late 1960s, the controversial personality was able to get back on the air, this time at WKYB in Hemingway, South Carolina, where he also sold com-

mercials. The year 1970 saw Walker smiling more brightly when he was invited back to WDKD—after pledging to keep its signal clean—as morning host and ad salesman. Later, he was even able to buy part interest in the station. That association lasted until a 2004 programming change apparently made WDKD a simulcast satellite of a Sumter, South Carolina AM and forced the nearly 80-year-old Charlie Walker out of the broadcast business.

Walker had other ways to reach his neighbors, however. Since the 1970s he wrote a well-received weekly column for Kingtree's local paper, *The News*. In late 2008, its publisher, Tami Rodgers, helped honor Williams as he was given South Carolina's "highest achievement [award] for volunteer and community service." Rodgers told the celebration's attendees that if she "had to sum up Charlie Walker with one word, that word would be *authentic*. He's as real as it gets, as true as they come," she declared, "and most certainly one of a kind!"

### Billy Powley's Grandma's Authentic Admonition

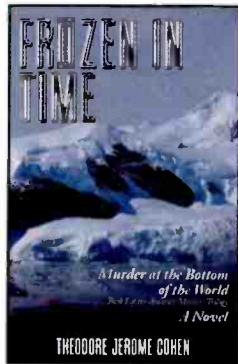
That wrecked radio described at the beginning of this column was replaced by another "demonstrator" model that Billy Powley's grandfather secured from inventory storage. As he was taking it out of its carton and young Powley finished sweeping up its predecessor's remains, Grandma, reappeared from the office. Standing with her hands on her hips, she decreed that Charlie Walker's voice would no longer be permitted in the store—even at low volume! The old woman did approve of the reception of Lake City's Top-40 formatted WJOT, at any AF gain level.

A week after the radio/broom incident, Powley confided in his grandfather that he really missed hearing Uncle Charlie. "He was like an old buddy to me, too," the old man replied, and then suggested the boy gently broach the subject with Grandma at dinnertime.

"That conversation with my grandmother didn't last long," Powley remembers. "As soon as I mentioned Charlie Walker she pounded her fist on the dining room table and emphatically admonished me. 'I strongly suggest that whenever you feel the need to listen to anything uttered by Mr. Charlie Walker, that you read a book instead!'"

Powley closed his email with a recol-

Want a good read that you can happily pass along to anyone of any age who enjoys science, radio communications, and a brisk air of mystery? Get a copy of *Frozen InTime* by fellow *Pop'Comm* reader, Ted Cohen.



lection about what happened after she found out that his grandfather had bought him a flea market copy of Salinger's *Catcher In The Rye*. "She didn't even look for a broom when she discovered the then oft-banned book," he said. "Grandma just tore the paperback into quarters and put the pieces into her compost pile. Returning from the backyard, she promised to devote at least 15 minutes per day praying that I wouldn't end up like Granddad or his radio hero Uncle Charlie."

### One For The Approved Library List (A Shannon Suggestion)

Had a recently published book been around circa 1960, it might have been met with the approval of all Billy Powley's relatives and would have provided an additional sense of adventure for the boy. The fascinating *Frozen In Time: Murder at the Bottom of the World* is the first installment of a trilogy by *Pop'Comm* subscriber Theodore J. Cohen, a longtime ham radio operator (N4XX) and broadcast band DXer who weaves a bit of radio into this worthwhile read. Cohen's fiction borrows from real-life intrigue he experienced in 1961 as a university grad student selected to brave an Antarctic scientific expedition with a cast of characters that includes bank robbers and a South American mentor whose possible range of motives gave me fits as I tried to figure out if he was a good guy or a criminal mastermind.

I heartily recommend Cohen's novel for a captivating yet easy read this winter, when the chilly air will help transport you to a desolate, icy landscape—where good old-fashioned radio still trumps cellphones and the Internet!

And so ends another day of broadcast history at *Pop'Comm*...

## readers' market

**Advertising Rates for Readers' Mart:** Non-commercial ads are 30 cents per word, including abbreviations and addresses; minimum charge \$6.00 per issue. Ads from firms offering commercial products or services are \$1.00 per word; minimum charge \$20.00 per issue. Boldface words are \$1.20 each (specify which words). Leading key words set in all caps at no additional charge. All ads *must be prepaid in full* at time of insertion; a 5% discount is offered for prepaid 6 time insertions. All ads must be typewritten double spaced.

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## Hoos On First

by Bill Price, N3AVY  
chrodoc@gmail.com

*“...as long as there are owls to give a hoot, I’m safe for another year.”*

**B**eezer is back! Back with a new job involving euphonia, the rare but annoying C-melody saxophone, and my favorite instrument, the buffoon.

As you may remember from our last episode, friend Beezer—who worked with Norm and me at that place which shall not be mentioned—had moved on to Florida in search of more humid pastures, where his extremely fine wire antenna was severing mangos (or papayas) from a neighbor’s tree. During that time, he was servicing optical equipment, but had fallen into a lens-grinding machine and made a spectacle of himself. But I digress.

He does get to Cowfield County now and then, at least enough to pay a short visit. (Hey Norm! That’s a *hint!*)

As all my good ham friends do, Beezer asked if I was “on the air” yet, and of course the answer is still no.

Well, it happens that Beezer had brought me a lovely three-element beam that a friend of his had just recently taken down. With only a little effort on my part, we could have it up in an afternoon.

We went out to inspect the roof while I scrambled for an excuse. I am so glad we have a tin roof.

Once when Norm was here, he wanted to string an antenna from the landlord’s silo. I had told him that the landlord wouldn’t allow it, and just then the landlord showed up. Norm asked if he couldn’t attach an antenna wire to the silo, and my landlord (nicest guy on the planet) said, “Sure—just don’t hurt the cows,” which is pretty much his standard reply to any request. After that, a comedy of Norm’s particular style of errors ensued, and he eventually left without putting up an antenna.

Beezer looked longingly at the silos. “If we only had a way to get up there, that’d be a *perfect* place to mount a beam. It must be 75 feet up there.”

“Nope,” I said. “Landlord won’t allow it. Too much lightning around here.”

No way was I gonna tell him there were iron climbing rungs on the back of the silo.

“Too bad,” Beezer said. “Only other way would be a tower.”

“Yup,” I said, thinking of Hank Hill and his beer-slurping friends.

A tractor drove toward us, down the long lane from the main road.

“Is that your landlord?” Beezer asked.

“Naaah—it’s just one of the farmhands,” I told him.

As if on cue, Mrs. N3AVY came out the back door with an envelope. “Mr. Elliott is coming up the driveway right now—give him the rent check, will you?” she said, handing me the envelope.

Beezer said to her, “No, Bill said it wasn’t the landlord, just a farmhand.”

Right about this time the big tractor drove past our house and my wife waved, and yelled, “Here’s the rent!”

“Oh,” I said. “I guess it *is* the landlord after all.”

“Let’s ask him,” Beezer said as he approached. “Say, would it be OK if I put up a radio antenna for Bill on that silo?”

I mouthed the words along with my landlord, “Sure—just don’t hurt the cows.” This wasn’t gonna be easy.

I looked for signs of structural damage near the top of the concrete silo. Not a crack. Built like Gibraltar.

I told Beezer the feedline couldn’t run across the power lines near the silo. “No problem. We can run it down the side and trench it across the driveway then up out of the ground in your yard.”

I have never particularly liked birds—although I don’t *dislike* them either, except for what they do to my car, but at this very moment six very large birds appearing overhead saved me from a terrible fate.

“Oh, right,” I said. “The owls. I forgot all about the owls.”

“What owls?” Beezer asked.

“In the silos,” I said. “There are three nesting pairs of barn owls—one in each silo. The state nature guys come every couple of months to check on their nests.” Then I told him how this had kept Norm from putting up an antenna several years prior.

I don’t know how much longer I can keep from having an antenna installed on my behalf, but as long as there are owls to give a hoot, I’m safe for another year. Beezer never did unpack the antenna, but we had a great visit. I’ve got a nice picture of the owls now, prominently hung right there in the living room. It cost me a whole \$7.50 at the thrift store.

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