

# POPULAR COMMUNICATIONS

DECEMBER 2011

Shortwave Listening • Scanning • AM & FM • Radio History



## Voice in the Night

Christmas Eve, 1906, p. 12



Plus: Gordo's Gift Ideas • Review: Radiosport Headset

### Season's Greetings

Pop'Comm's  
Gone Mobile!  
p. 4

941  
410  
P150  
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**GRECOM**

# Seasons Greetings from GRE

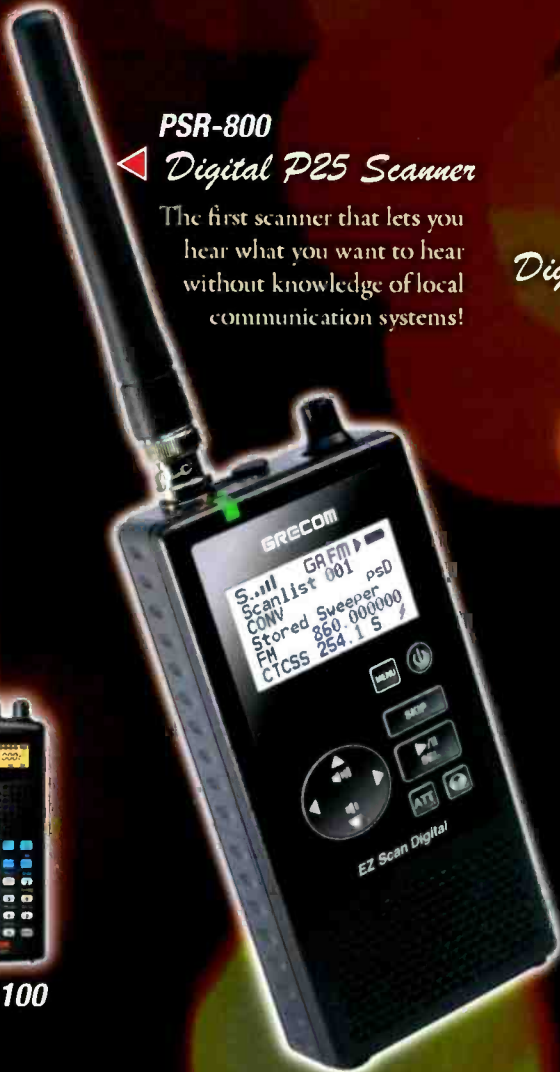


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**PSR-410**

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**PSR-800**

◀ *Digital P25 Scanner*

The first scanner that lets you hear what you want to hear without knowledge of local communication systems!

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**PSR-500**



**PSR-600**



▶ **PSR-200U**

*Conventional Scanners* ▶ **PSR-100**



▶ **PSR-700** the first Scanner with a built-in SD card and nationwide database included!



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# Universal Radio — Quality equipment since 1942.

**ICOM**  
**IC-R75**  
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Enjoy exciting international radio reception with the **Icom IC-R75-22** communications receiver. With full coverage from 30 kHz to 60 MHz; all longwave, medium wave and shortwave frequencies are supported plus extended coverage to include the 6 meter amateur band. Some innovative features of the R75 include: FM Mode Detection (but not the FM broadcast band), Twin Passband Tuning, Two Level Preamp, 99 Alphanumeric Memories, four Scan Modes, Noise Blanker, Selectable AGC (FAST/SLOW/OFF), Clock-Timer, Squelch, Attenuator and backlit LCD display. Tuning may be selected at 1 Hz or 10 Hz steps plus there is a 1 MHz quick tuning step and tuning Lock. The front-firing speaker provides solid, clear audio. The back panel has a Record Output jack and Tape Recorder Activation jack. The supplied 2.1 kHz SSB filter is suitable for utility, amateur, or broadcast SSB. However, two optional CW/SSB filter positions are available (one per I.F.). The formerly optional **UT-106 DSP board** is now included and factory installed! Free Icom ball cap. **Order #0012 \$619.95**



**R6** The **Icom IC-R6** covers 100 kHz to 1309.995 MHz (less cellular gaps) in: AM, FM Narrow and FM wide. Enjoy local VHF-UHF coverage plus international shortwave broadcast. 1300 memories store: frequency, mode, step size, duplex, CTCSS, tone squelch and skip settings. Other features include: attenuator, LCD lamp, AM ferrite bar antenna, auto power off, CTCSS decode, weather function and battery save. You can put the world in your pocket for under \$200.00. **Call or visit website for price.**



**R20** The **Icom IC-R20** covers an incredible 150 kHz to 3304.999 MHz (less cellular) with 1250 alphanumeric memories, bandscope and SSB/CW. It has: two VFOs, dual watch, voice scan control, NB, large two line LCD and CTCSS/DTCS/DTMF. A built-in **IC audio recorder** can record up to 4 hours of reception! With charger, Li-ion battery, belt clip and strap. **Call for price.**

DTMF. A built-in **IC audio recorder** can record up to 4 hours of reception! With charger, Li-ion battery, belt clip and strap. **Call for price.**

## IC-R9500



The **Icom IC-R9500** raises the bar for professional receivers. Enjoy unmatched performance from 5 kHz to 3335 MHz (less cellular, in consumer version). Visit the Universal website for full details on this state-of-the-art instrument.

## YAESU FT-450D



The **Yaesu FT-450D** amateur transceiver operates 160 to 6 meters with 100 watts on all bands. The superb receiver covers 30 kHz to 54 MHz. Operating modes include USB, LSB, CW, AM and FM. A built-in TCXO provides outstanding stability. The Yaesu FT-450D expands on the success of the previous FT-450, providing features such as: built-in antenna tuning system, classically designed knobs, dedicated data jack for FSK-RTTY, CTCSS, user configurable functions, digital voice announcement of frequency, mode and S-meter, 500 regular memories and two voice memories, CW beacon function, 10 kHz roofing filter, key illumination, foot stand plus 500 and 300 Hz CW filters. If you are in the market for a good shortwave receiver, with the idea of going into amateur radio in the future, this may be your ticket. The FT-450D comes with: MH-31A&J hand mic, mic clip and DC power cord. This radio requires 13.8 VDC at 22 amps.

## YAESU

### FT-857D



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



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

### FT-897D



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

### FT-817ND



**FREE** Yaesu canvas urban case with FT-817ND.

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

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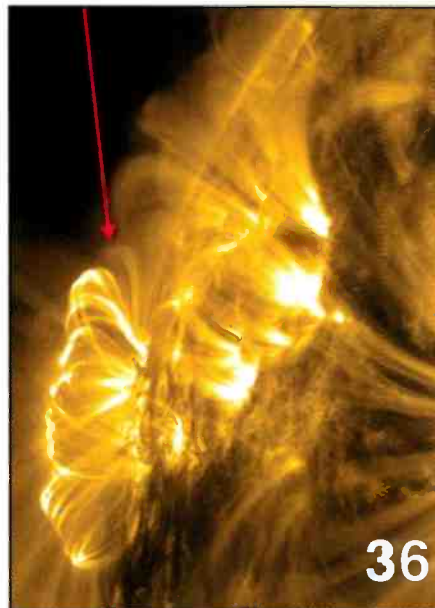
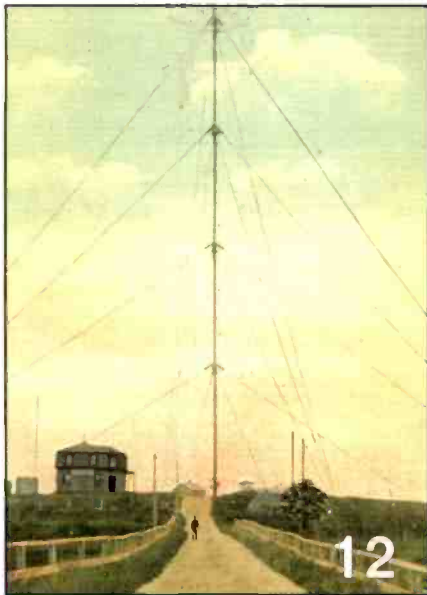
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- Returns subject to a 15% restocking fee.
- Prices shown do not include shipping.

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## ON THE COVER

*Pop'Comm* artist-cartoonist Jason Togyer, KB3CNM, used ink and gouache — "a kind of thick watercolor," he says — to create this wonderful depiction of Reginald Fessenden's historic first-ever AM voice broadcast, December 24, 1906. Fessenden's remarkable story is told by *Pop'Comm* writer R.B. Sturtevant, AD7IL, who conducted painstaking research in developing his piece, beginning on page 12. Sadly, when Fessenden died in 1932, he was largely a forgotten man. In the spirit of the holidays, we'd like to change that.

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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 unmediated late breaking news in English -- China News in Taiwan, Tanjug Press in Serbia, Iraqi News in Iraq -- all on RTTY.

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

## Super Active Antenna

"World Radio TV Handbook" says MFJ-1024 is a

"first-rate easy-to-operate active antenna... quiet... excellent dynamic range... good gain... low noise... broad frequency coverage."

Mount it outdoors away from electrical noise for maximum signal. Minimum noise. Covers 50 KHz-30 MHz. Receives strong, clear signals from all over the world. 20 dB attenuator, gain control, ON LED. Switch two receivers and auxiliary or active antenna. 6x3x5 in. Remote has 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

Plug this compact MFJ all

band active antenna into your receiver and you'll hear strong, clear signals from all over the world, 300 KHz to 200 MHz including low, medium, shortwave and VHF bands. Detachable 20" telescoping antenna. 9V battery or 110 VAC MFJ-1312B, \$15.95. 3 1/2x1 1/4x4 in.



MFJ-1022  
\$69<sup>95</sup>

## Eliminate power line noise!

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.

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

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

## High-Gain Preselector

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

## Dual Tunable Audio Filter

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



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



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



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



MFJ-752D  
\$119<sup>95</sup>

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

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

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

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

## High Performance Modem

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

## Easy to use, tune and read

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

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

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

Copies most standard shifts and speeds. Has

MFJ AutoTrak™ Morse code speed tracking.

Use 12 VDC or use 110 VAC with MFJ-1312D AC adapter, \$15.95. 5 1/4x2 1/2x5 1/4 D 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 1/4x1 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



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.

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

## High-Q Passive Preselector

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

## Super Passive Preselector

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

## MFJ Shortwave Speaker

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



MFJ-281  
\$12<sup>95</sup>

## MFJ All Band Doublet

102 ft. all band doublet covers .5 to 60 MHz.

Super strong custom fiberglass center insulator provides stress relief for ladder line (100 ft.).

Authentic glazed ceramic end insulators and heavy duty 14 gauge 7-strand copper wire.



MFJ-777  
\$59<sup>95</sup>

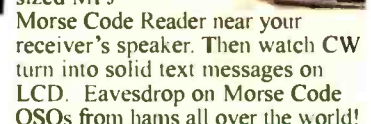
## MFJ Antenna Switches

MFJ-1704 \$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 MFJ-461 pocket-sized MFJ Morse Code Reader near your receiver's speaker. Then watch CW turn into solid text messages on LCD. Eavesdrop on Morse Code QSOs from hams all over the world!



MFJ-461 \$89<sup>95</sup>

## 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 1/2x1 Dx2 H inches.



MFJ-108B, \$21.95.

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## EDITORIAL

### Tuning In

by Richard Fisher, KI6SN  
<[editor@popular-communications.com](mailto:editor@popular-communications.com)>

## Pop'Comm Has Gone Mobile (in a Parallel Universe)

With its December edition, *Pop'Comm* exists in a kind of parallel universe. No, we haven't brought Ray Bradbury on staff. But we've made our magazine — make that: *your* magazine — available digitally in addition to the print copy you're now holding in your hands.

Now, you can read *Pop'Comm* on your home PC or Macintosh, laptop or a number of mobile digital platforms, including the iPhone, iPad and Android 2.0 and higher, to start.

We call it a parallel universe because you'll see content of the print and digital versions is identical, but each version will offer its own distinct advantages.

For example, the traditional readers who like thumbing through *Pop'Comm's* printed pages while kicking back in an easy chair or over a cup of coffee — tearing out *must-keep* articles or taking the magazine along wherever they go — can continue to do so.

Readers who prefer getting their information online are now able to have *Pop'Comm* delivered to them each month online and have ready access to hyperlinked supplemental information throughout the magazine. This month, for example, in a review of a Radiosport headset you can link to a video demonstrating just *how loud* a NASCAR track can be, or — with a click — visit the website of each manufacturer for the items listed in Gordon West, WB6NOA's, holiday gift guide.

Print subscribers will see the web addresses in print and can type the URL into their computer to see the same information on the web.

Zinio™ is *Pop'Comm's* digital host, "one of the top names in the e-magazine hosting business," said CQ Communications Editorial Director Rich Moseson, W2VU. "This will assure that our magazines will always be able to take advantage of new technology when it becomes available." (Visit Zinio's website at: <<http://www.Zinio.com>> — Ed.)

For the latest information on *Pop'Comm's* digital edition — as well as all other CQ Communications magazines — visit: <<http://www.cqcomm.com/>>. You'll find details on subscription rates for all print and digital editions there, as well. Digital updates will be posted on all magazine homepages, on Facebook pages, Twitter and in the CQ Newsroom: <<http://www.CQNewsroom.blogspot.com>>.

We think this is an exciting time for *Pop'Comm*, and hope you do, as well.

We'd like your feedback. Write: <[editor@popular-communications.com](mailto:editor@popular-communications.com)> or Editor, Popular Communications, 25 Newbridge Rd., Hicksville, NY 11801-2953 USA.

By the way, if you're wondering: *Who is Ray Bradbury?* Visit: <<http://www.raybradbury.com/about.html>>.

## Clock is Ticking to Pop'Comm's Monitoring Station Program Liftoff

We're in the final countdown to the January 1, 2012 launch of the *Pop'Comm Monitoring Station Program*, bringing into the monitoring community mainstream the designation and assignment of listener station identifications (similar to amateur radio callsigns), and a wide-ranging awards, recognition and activities program.

Harkening to the *Popular Electronics* WPE program of 50 years ago, *Pop'Comm's* 2012 program inauguration in a way is *déjà vu all over again*.

Details of the program's framework appear in the October 2011 *Pop'Comm Tuning In* editorial: "*Building a Pop'Comm Monitoring Station Community: Being 'Part of Something Bigger.'*" If you missed it, the editorial has been posted on *Pop'Comm On the Web*: <<http://www.PopCommMagazine.blogspot.com>>

Look for the column and for *Pop'Comm Monitoring Station Program* updates there, as well. We'll post notices on late-breaking news regarding the program via Facebook <<http://www.Facebook.com/PopComm>>, Twitter <<http://www.Twitter.com/PopCommMagazine>>, and in the CQ Newsroom <<http://www.CQNewsroom.blogspot.com>>.

If you haven't signed up for CQ's email list, don't delay. Simply go to <<http://www.cq-amateur-radio.com/>> and click on the green *Join Our Email List* link on the right side of the page. You'll be on board in no time.

Meantime, brush up on your SWL and scanner listening skills, fine tune your digital monitoring post and get ready to receive your *Pop'Comm Monitoring Station* identification sign, official Certificate of Registration, and to take in a whole new excitement surrounding our listening community. Be part of "*something bigger.*"

Stay tuned. We'll keep you posted.

## Season's Greetings from Pop'Comm

From everyone at *Pop'Comm*, may you hear the most joyful of noises this holiday season — especially from your radio — and have the happiest, healthiest New Year ever! *Maestro, if you please:* <<http://bit.ly/qWGBxh>>. — **Richard Fisher, KI6SN**

# Icom has the receivers for the experts...

For those just getting started...



## IC-R75 Wide Band Receiver

- 0.03–60.0 MHz\*
- Triple Conversion
- Twin Passband Tuning
- Digital Signal Processing (DSP)

## IC-R9500 The Ultimate Wide Band Receiver

- 0.005–3335.000MHz\*
- USB, LSB, CW, FSK, FM, WFM, AM
- 1020 Alphanumeric Memory Channels
- P25 (Option UT-122)
- Five Roofing Filters and so much more!



## AND for those on the go!

### IC-R20 Advanced Ops

- RX: 0.150–3304.999MHz\*
- AM, FM, WFM, SSB, CW
- 1250 Alphanumeric Memory Channels
- Dualwatch Receive
- 4-hour Digital Recorder



### IC-RX7 Track Ready

- RX: 0.150–1300.0MHz\*
- AM, FM, WFM
- 1825 Alphanumeric Memory Channels
- 100 Ch/Second High Speed Scan
- Computer Programmable<sup>2</sup>
- Water Resistance Equivalent to IPX4



### IC-R6 Pocket Compact

- RX: .100–1309.995MHz\*
- AM, FM, WFM
- 1300 Alphanumeric Memory Channels
- 100 Ch/Second High Speed Scan
- Computer Controllable<sup>1</sup>



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# The Weirder Side of Wireless

by Staff

## Do It Yourself: Talk Radio Unemployment in 40 Seconds

What's the fastest way to lose your job at a radio station? In about 40 seconds? That's how long it took South Africa, Talk Radio 702 newsreader Mark Esterhuysen, to fire off an obscenity 13 times against police, a politician and a political party.

We'll leave it to your imagination as to which expletive the 23-year-old broadcaster used. The audience was stunned.

According to a story on *MailOnline.com*, Esterhuysen "started his hourly bulletin at 1 a.m. in Johannesburg by introducing himself as normal before beginning his furious tirade." (*To see the full story, visit: <a href="http://bit.ly/q4DgZy">http://bit.ly/q4DgZy</a>. - Ed.*)

The report went on to say that Esterhuysen then "expressed anger about being stuck on his network's overnight 'graveyard shift' before inviting listeners to follow his blog and then storming out of the studio."

(*LISTEN: Live streaming of Talk Radio 702 is at: <a href="http://www.702.co.za/onair/tunein.asp">http://www.702.co.za/onair/tunein.asp</a>. - Ed.*)

## Nothing From Nothing Leaves Something

Researchers at Georgia Tech recently announced they are tapping RF transmissions from a television transmitter located half a kilometer (three-tenths of a

mile) from their lab to power a wireless temperature sensor.

In a *Georgia Tech Research News* [<http://gtrsearchnews.gatech.edu/>](http://gtrsearchnews.gatech.edu/) article, the scientists said scavenging experiments using TV bands has already yielded power amounting to hundreds of microwatts. It also says that multiband systems are expected to generate one milliwatt or more. Researchers say that is enough to operate many small electronic devices, including a variety of sensors and microprocessors.

The report goes on to note that devices requiring 50 milliwatts or more should be able to be powered by adding super-capacitors across the output of the power system for storage and using cycled operation.

The Georgia Tech team is looking, as well, at alternative power for the sensors. The current line of thinking is most likely solar power for daytime operations with the scavenged RF power used at night.

The self-powered wireless sensors are created using ink-jet printers and a special ink containing nanoparticles of silver or other material. The researchers have been able to literally print out a combination of sensors, antennas and energy-scavenging capabilities on paper or flexible polymers. The resulting sensors can be used for chemical, biological, heat and stress testing for defense and industry.

So far, these scavenging devices are able to recycle energy using RF sources ranging from 100 MHz to 15 GHz or higher. If all this work leads to a cost-effective end product, one of these days you might be able to recharge the battery on your HT from the rest of the signals on the air. (*By Bill Pasternak, WA6ITF*)

## Live, From the Elf Club



For your entertainment pleasure we offer you a YouTube video featuring titans of radio history — Marconi, Fessenden, Armstrong, DeForrest and Sarnoff — in an homage to "Oh, Christmas Tree," specially performed for the holidays. *Season's greetings! Visit: <a href="http://bit.ly/rkU3li">http://bit.ly/rkU3li</a>. (Courtesy of YouTube)*

## Threats to NPR Hosts Land Maine Man in Custody

A 38-year-old Maine resident received a 46-month jail sentence after threatening Melissa Block and Guy Raz, hosts of National Public Radio's afternoon news program "All Things Considered."

John Crosby got the maximum penalty allowed under federal guidelines after contacting the NPR hosts via Internet from Portland, Maine.

When arrested in Portland, investigators found a shotgun in Crosby's car. Because he was previously convicted of state robbery and heroin possession felonies, Crosby had been barred from having firearms, officials said. (*Read the FBI affidavit at: <a href="http://bit.ly/qfeGwc">http://bit.ly/qfeGwc</a>. - Ed.*)

## 'Due Process' Feels the 'Rule of Law'

Randy "Due Process" Kelton, talk host of "Rule of Law," was given a one-year prison sentence in Austin, Texas for "acting as an investigations company without holding a license" according to a report in the *Tyler (Texas) Morning Telegraph*.

(Continued on page 50)



## News, Trends, And Short Takes

by D.Prabakaran  
<bcdxer@hotmail.com>

### Denmark to Try Digital Radio With DVB-T2

Danish free-to-air broadcaster Open Channel has obtained a DVB-T2 trial license to broadcast digital radio on a 1.7 MHz channel bandwidth — known as a T-DAB frequency — in the Greater Copenhagen area. (For an explanation of DVB-T2 technology, visit: <<http://bit.ly/ouNHuC>>. — Ed.)

Open Channel believes DVB-T2 Lite, a subset of DVB-T2, will provide a 2.5 to 4 times increase in capacity compared to the DAB/DAB+ standard under the same broadcasting conditions and will be better suited for both indoor and in-car reception. (VIDEO: To see a DVB-T2 signal demonstration, visit this YouTube site: <<http://bit.ly/rpDIUB>>. — Ed.) (Source: Published reports)

### 10 Indonesian Radio Stations Banned for Jeopardizing Flight Safety

Indonesia's Communications and Information Ministry, through the Batam office of the Satellite Orbit and Radio Frequency Monitoring Agency (Balmon), has banned 10 licensed private radio stations in Batam, Riau Islands, for endangering flight safety at Changi Airport in Singapore and Hang Nadim Airport in Batam. Two-hundred people have subsequently lost their jobs.

Agency head Muhammad Sopingi told *The Jakarta Post* <<http://bit.ly/ofGhe0>> the ministry's Directorate General of Post and Telecommunications had received letters of complaint from the Singapore and Hang Nadim Airport flight authorities in June about a radio communication interruption between pilots and air traffic controllers (ATC) due to the frequency synchronization problems caused by the radio stations in Batam. (AUDIO: Listen to live streaming of KEI-FM, 102.3, Batam, one of the stations banned from the airwaves, according to a story in the *Jakarta Post*. <<http://www.keifmbatam.com/>>. — Ed.)

During takeoffs and landings, pilots often heard songs aired from radio stations, so they could not clearly hear traffic guidance from the ATCs on their radios. (Source: Published reports)

### South Korea Starts Unification Broadcasts Aimed North

The South Korean ministry handling relations with North Korea announced it would start producing Internet television and radio broadcasts designed to raise public interest in unification.

The unification ministry said an Internet broadcasting channel would produce video content, weekly news reports and other material <<http://unitv.unikorea.go.kr>>, according to a report by the Yonhap News Agency.

An Internet radio channel was scheduled to broadcast news on unification and interviews with North Korean refugees beginning in September <<http://uniradio.inlive.co.kr>>. (Source: AFP)

### Drought Programs Beamed to Horn of Africa By the VOA

The Voice of America <<http://www.VOAnews.com>> is broadcasting special drought-related radio programs “delivering life-saving information to the hundreds of thousands of victims of the humanitarian crisis who are now at risk of starvation in Somalia and the Horn of Africa,” authorities said.

The first of the half-hour radio programs were broadcast on medium wave in Somali and Amharic, and featured an exclusive interview with USAID Director Rajiv Shah, who recently visited the region and calls the famine “an extraordinary tragedy.”

VOA Director David Ensor said the goal of the programs is to “provide vital information, reunite families and let the victims of the crisis know about international concern and assistance. Information is vital in a humanitarian crisis and VOA and its international broadcasting partners will do whatever is possible to use our unique worldwide broadcasting capabilities to get information to the people who are suffering the most.”

The medium wave broadcasts are Monday through Friday on 1431 kHz. They are also broadcast on shortwave, streamed on VOA Somali and Horn of Africa websites and broadcast throughout Africa on the Arabsat satellite, VOA said.

The Somali language show airs at 1530 UTC and the Amharic program airs at 1600 UTC. (Source: VOA)

### RTP: There is ‘Every Reason’ to Suspend Shortwave

The chairman of the board of *Rádio e Televisão de Portugal* (RTP) <<http://www.rtp.pt/homepage/>>, Guilherme Costa, said the company has “every reason” to suspend the shortwave transmissions of RDP Internacional. In an interview with the *Lusa News Agency*, Costa said “such a platform is obsolete from the technical point of view, is generally poor quality in terms of reception, and is expensive, adding that discussions about shortwave began within the organization in May 2009,” according to a report from tvi24.

Costa noted RDP had received 190 messages regarding suspension of shortwave broadcasts, and more than half came via email from “people who can listen to broadcasts on the Internet.”

RTP announced in May it would temporarily suspend the shortwave broadcasts of RDP Internacional from June 1, citing the low number of listeners and the need to reduce costs. (Source: tvi24)

## Capitol Hill And FCC Actions Affecting Communications

by Richard Fisher, KI6SN

### FCC Commissioner: Put FM Receiver Chips in Cell Phones — Now

FCC Commissioner Michael J. Copps believes the United States should not need events such as the 2011 hurricanes and severe storms or the 10-year anniversary of the September 11, 2001 terrorist attacks to be reminded of the importance of notifying and warning the public of emergencies.

In remarks in September during a webinar on the importance of public communications during emergencies, he said “the time is here for a thorough, calm and reasoned discussion about (placing) FM (receiver) chips in (cell phone) handsets. We all acknowledge the need for redundancy in communications — especially emergency communications — and during the (August 23) earthquake (whose epicenter was in Virginia) a lot of folks were only able to get information through radio broadcasts when the phone networks got congested.

The National Association of Broadcasters has been a staunch supporter of enabling — even requiring — FM receiver chips in every cell phone.

“What are the pros and cons of an FM chip?” Copps asked. “To what extent have other countries had experience with this? There will be a lot of questions to answer, but with the stakes so high, we should be open to discussing any and all reasonable ideas.

“And we must understand the sense of urgency that this requires, given the passing of a decade between 9/11 and now. Public safety has waited too long. Citizens have waited too long.”

### Watchdog Group: Fox's 'The X-Factor' Crossed the Line On Decency

The Fox Television Network singing contest show “The X Factor” has a U.S. watchdog group up in arms, charging the program violated decency standards.

The Parents Television Council threatened to file an FCC complaint alleging contestant Geo Godley’s performance was indecent, “dropping his pants and exposing himself during a song and dance routine,” *International Business Times* reported.

“The prolonged, previously videotaped footage of a contestant dancing nude on the ‘X Factor’ stage represents a conscious decision by the pro-

ducers — with the approval of the network’s broadcast standards department — to intentionally air this content in front of millions of families during hours when they knew full well that children would be watching.” PTC President Tim Winters was quoted by *Deadline New York*.

“If Godley performed his act in public, he would have been arrested. But if he performs it in front of a Fox camera, his act is beamed via the public airwaves into every home in the nation,” Winters said.

“‘The X Factor’ judge Paula Abdul called the performance ‘shocking and disgusting,’ while L.A. Reid described it as ‘offensive, disgusting, distasteful and upsetting.’” *Deadline New York* reported. (For the full *Deadline New York* story, visit <<http://bit.ly/q9PjoM>>. — Ed.)

### Commission Eyes ‘Deployable Aerial Communications Architecture’

Recognizing that during the critical 72 hours after a disaster strikes it could be difficult to maintain critical public safety communications, the FCC in September issued the White Paper “The Role of Deployable Aerial Communications Architecture (DACA) in Emergency Communications and Recommended Next Step.” (For the full text of the document, visit: <<http://bit.ly/qPUT58>>. — Ed.)

“The document discusses the potential of airborne repeaters and other communications gear to replace or supplement damaged terrestrial communications systems,” a story posted on *TVTechnology.com* reported. “The DACA vision involves deploying an aerial communications system within 18 hours and using it to temporarily restore critical communications, including broadband, for a period of 72 to 96 hours.”

In the White Paper, the FCC’s Public Safety and Homeland Security Bureau “recognized the many issues that have to be addressed before DACA can be implemented,” *TV Technology* reported. “Interference to remaining terrestrial communications, spectrum coordination and authorization requirements will be addressed in a future FCC Notice of Inquiry.”

By the end of the year, the Commission is expected to conduct a workshop on deployable

(Continued on page 50)

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## The Next Revolution in Video and TV, Part II

by Rob de Santos, K8RKD  
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Twitter: @shuttleman58

*“The ability to see over and around objects by moving your head or changing the perspective of the image promises to be yet another revolution in video.”*

Last month, we discussed some of the coming changes in cable and TV technology. This month, we’ll pick up right where we left off.

In the past year, one of the hot topics in cable has been 3-D TV. Sales of 3-D televisions continue to be slow and prices high suggesting that while consumers are interested they are not yet convinced to spend money for it.

The flat growth in 3-D movie ticket sales suggests the novelty of 3-D has worn off and consumers are becoming more aware of where 3-D is most effective. Consumer reservations have not just been about price but also those annoying special glasses and limited programming options.

The rush to add 3-D programming by the networks seems to have slowed, as well, with only movies and sports channels continuing to expand the offerings. Expensive-to-produce programs for limited audiences don’t make big profits.

### Getting Better and Better

More interesting is the continuing improvement in the imaging technology. Portions of the 2012 Olympics will be produced in ultra-HD formats as high as 7680 x 4320 pixels and labeled by SONY as Super Hi-Vision.

Initially these very high-resolution images (accompanied by 22 channel “3D” audio over 24 speakers!) will be used for a limited number of very large projection screens. Engineers working on this technology have said the intensity is such that even they have problems watching it close up for extended periods without becoming ill. Human effects of this technology will need serious study.

### Storage, Transmission, Display Technologies

At a consumer level, solutions to issues of disk storage densities (how do you store that much information in a CD-sized space?) and advanced disk formats such as *violet-ray* and *ultra-violet-ray* disks and players are in the works. Quantum physics-based methods may be among the technologies needed to store the large amounts of data involved.

Transmitting the data for ultra-HD TV is an issue, too, and presently require bandwidths of up to 650 Mbps; about six to eight times the maximum home data rates available now and more than 60 times what the average U.S. citizen in an urban area has available to them.

Other display technologies are already in the main stream. OLED, or “organic light emitting diodes” is one example. OLED TVs are already in stores, but are more expensive than older technologies such as plasma TV. (*WATCH: For a video tutorial on OLED posted on YouTube visit: <http://bit.ly/peAYHZ>. – Ed.*)

Still out there in the future is the prospect of holographic TV: The ability to see over and around objects

by moving your head or changing the perspective of the image. It promises yet another revolution in video. Most experts still believe that true holographic TV is at least a decade away. (*WATCH: A Kinect camera and standard graphics chips are used by MIT researchers to demonstrate the highest frame rate yet for streaming holographic video, via YouTube: <http://bit.ly/oGTq8a>. – Ed.*)

### Small Wonders . . .

At the other end of the spectrum is the movement of video to the smallest of screens.

Smartphones and the tablet computer revolution pose entirely different issues. How dense can we make the pixels so the image quality is good, frame rates approach that magic number of 30 per second (where the human brain sees the image as smoothly flowing), and data rates do not overwhelm the wireless networks? This is the object of intense research at the moment.

How quickly, if ever, all of this reaches your local electronics dealer is open to debate.

### Looking Ahead 20 Years

What is clear is that rapid advances in technology promise that what we’ll have open to us in 20 years will be very different than today.

All of this brings us back to cable and satellite viewing in the home:

- Where will consumers view most of their video and how can distributors get it to you in the most cost- and spectrum-efficient manner?
- Where should they put their “research eggs?” The answer to this question is critical to the companies involved. Get it wrong and your company may not survive.
- As consumers, what do we want, and when? That’s hard to answer because of that age-old conundrum: I don’t miss what I have never seen. The rapid growth of viewing programs on smartphones and tablets was not something completely foreseen a decade ago.
- Finally, what does this mean for the communications hobby? Just as the disappearance of analog TV broadcasts changed the TV DXing hobby, it’s not hard to see that these changes will influence what we do as hobbyists. Sentimentally, it’s easy to say: “Wow, it used be fun to DX that!” but technology marches on. There will be new variations in the hobby.
- Better or worse? Most likely, our children and grandchildren will decide this.

*If you had to choose what you want in your TV of 2021 what would it be? Let me know what you are thinking about by e-mail, post, Twitter or even over the air. I look forward to hearing from you. More on the future of communications technology next month.*

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# Reginald Fessenden's Joyful Noise—December 24, 1906

## Now Largely Forgotten, This Canadian Inventor Made Broadcast History

By R.B. Sturtevant, AD7IL

**T**he rumors had been all over the waterfront for several days in the Christmas season of 1906.

They started among the seamen of the powerful United Fruit Company's cargo fleet and sailors of the U.S. Navy. It wasn't exactly a secret, but it was spoken about in hushed tones:

*Something is going to happen on Christmas Eve and everyone is going to be let in on it by wireless.*

The Navy? *Are we going to War?*

United Fruit? *Must be something happening in South America.* After all, the company has plantations all over down there and a huge shipping complex.

It just put a powerful wireless station in Guatemala. United Fruit is pretty tight with the government, having benefited from the U.S. Marines being in the Caribbean, among other things.

And then there is the Panama Canal. President Roosevelt almost went to war with Columbia over rights to build it. Teddy did some deft maneuvering to help create a new country for his ditch — Panama.

The suspense was brutal. *What could it be?* They'd have to wait until 9 o'clock on Christmas Eve to find out.

### Nine O'clock: A Chill and Excitement in the Air

The Boston Evening Transcript's December 24, 1906 edition reported it would be "clear and colder" that Monday night. The temperature was expected to dip to 12 degrees after reaching a daytime high of only 28. A typical New England winter evening.

At the appointed hour, all stations in the know had their best wireless operators on duty. Nobody had said whether the

*"Something is going to happen on Christmas Eve and everyone is going to be let in on it by wireless . . . The suspense was almost killing them."*

important message would be coming in International Morse — used by most of the world's shipping — or in American Morse, used by Canada and the U.S.

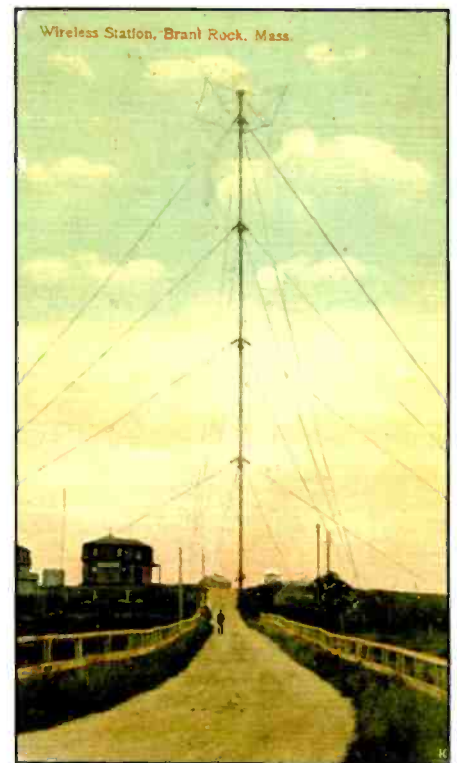
Since the Navy was involved, the message might even be in its new Navy Morse. Since nobody knew for sure, the operators on duty had to handle at least International and American Morse codes. *Everyone listened.*

Nine o'clock. Wireless rooms aboard ships and in shore stations all across the north Atlantic and Caribbean stood by in radio silence. Out of airwaves: *CQ CQ CQ* — a general call sent steadily in American Morse. Brief silence.

Astonished listeners, for the first time in history, heard the broadcast of a human voice. At the microphone, Reginald Fessenden would go on to introduce himself, speaking from Brant Rock, Massachusetts. His remarks were followed by a recording of George Frederic Handel's "Largo." (*LISTEN: To "Largo," from ClassicalMusicOnly via YouTube: <<http://bit.ly/oU8nKE>>. — Ed.*)

Next Fessenden began to sing "O Holy Night," accompany himself on the violin. Unknown to the listening seamen, Fessenden's wife and his secretary were scheduled to give readings. Both suffered the world's first cases of *mic fright*. Neither could utter a word.

Fessenden, recovering quickly, wished all of his stunned listeners a Merry



A colored postcard shows the radio tower at Brant Rock, Massachusetts where Reginald Fessenden made the first radio broadcast by voice on December 24, 1906.

(Courtesy of Wikimedia Commons)

Christmas and asked them to send verifications to report reception of the first-ever radio program broadcast to an audience.

### 'It Was Uncanny . . . !'

An account of the historic transmission described the operators receiving the first broadcast: ". . . a human voice coming from their instruments — someone speaking . . . Then a woman's voice rose

in song. It was uncanny! Many of them called their officers to come and listen. Soon the wireless rooms were crowded. Next someone was heard reading a poem. Then there was a violin solo. Then a man made a speech . . .”

History did not record what “the rumor with her thousand tongues” said about the special secret broadcast before it was heard. But afterward, Fessenden’s voice broadcast was the talk of seaports from the North Atlantic to the Caribbean. People could not have been more amazed if a stone had spoken.

A second broadcast had been promised for New Year’s Eve. It went off without a hitch — to an even larger audience. All who heard it were simply amazed.

Reception reports came in from places as disparate as Norfolk, Virginia and Guantanamo Bay, Cuba. Operators at stations across the Caribbean reported hearing Fessenden. He was heard around the North Atlantic and in the north of Scotland. The world of communications had been changed forever.

## Behind the Voice in the Broadcast

Who was this man, Reginald Fessenden, who, with a quiet voice, was heard so far?

The son of a clergyman, Fessenden was born in 1866 and grew up in Ontario, Canada. As a boy he was interested in mathematics and experimentation far beyond his years.

Fessenden was a brilliant student, graduating at age 15 from Trinity High School in Port Hope, Ontario. He was soon given a teaching assistantship in mathematics at Bishop’s College in Quebec.

He received a small income and a chance for a year of college credit if he passed his exams. Fessenden did so with ease. At the close of the school year he was offered “principalship” of a school in Bermuda where he planned to continue his experimentations.

Upon arrival he found he was indeed the principal, but the only teacher, as well. His stay in Bermuda lasted two years, where he met his wife-to-be.

In 1883, Fessenden was offered a chance to attend Oxford University in England but turned it down to go to New York to try to get a job with Thomas Edison.

An unknown Canadian? Edison was too busy to offer an interview. Undaunted,

Fessenden haunted Edison’s job sites. His perseverance paid off when a “tester” at a cable-laying site walked off the job. One of Edison’s assistants, who had talked to Fessenden several times, hired Reggie on the spot. Testers checked the cables before they were connected. It was not very interesting work but Fessenden had his foot in the door. Before long Reggie was Chief Tester and helped the company beat a deadline to complete the project.

Fessenden’s fieldwork led to an offer for a job in Edison’s New Jersey laboratory.

## At Edison, Fixing What Was Broken

While working for Edison, Fessenden developed a reputation as an electrical troubleshooter. Once he got an emergency call to work on the generator at J.P. Morgan’s estate. Fessenden quickly ended the blackout. The financier gave Reggie a liberal paycheck for his services and asked Fessenden to inspect the wiring throughout the mansion.

Wiring in those days was usually installed bare. Fessenden recommended that it be replaced with rubber-insulated wire inside galvanized tubing. It was a revolutionary idea at the time. Fessenden developed this idea further in Edison’s lab. Learning of this success, Edison promoted Reggie to head up work on generators and development of insulation for electrical wiring.

For seven years, Fessenden worked



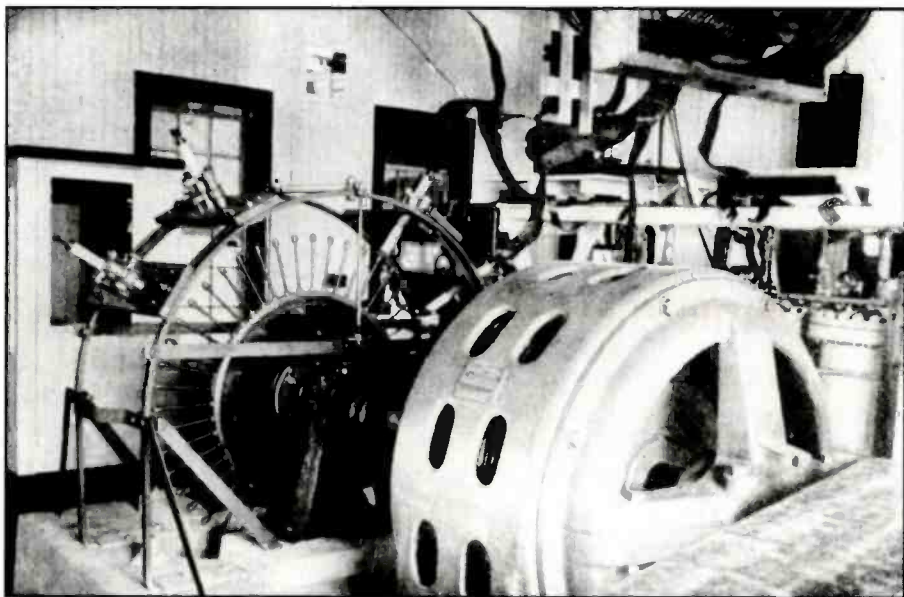
Reginald Fessenden died in January 1932 — largely a forgotten man. (Courtesy of Wikimedia Commons)

with Edison, conducting experiments and reading widely in Edison’s vast technical library. In 1890 Edison’s company ran into financial trouble and the lab was closed.

That September Reggie was quietly married to Mary Trott — that girl he’d met in Bermuda.

## On to Westinghouse

With the New Jersey laboratory closed, Fessenden was offered a job by Edison’s chief rival, George Westinghouse — inventor of the air brake.



A 500 cycles-per-second, synchronous rotary gap transmitter was part of the transmitting site at Brant Rock, Massachusetts in 1906. (Courtesy of Wikimedia Commons)

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With 1,000 alphanumeric memories and a TCXO that delivers solid frequency stability and performance not found in most desktop units, the AR8200 Mark III covers 500 kHz to 3GHz\* and can be used with optional internal slot cards that expand its capabilities. It features true carrier reinsert on in USB and LSB modes and includes a 3kHz SSB filter. The data port can be used for computer control, memory configuration and transfer, cloning or tape recording output. A special government version, AR32000Mark III IR, features user-selectable infra-red illumination of the display and operating keys.

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With an optional P25 (APCO25) decoder module, improved front end and receive audio response, display illumination control, ultra-stable TCXO and up to four optional cards that can enhance certain functions, the AR8600Mark II covers 100kHz to 3GHz\* with 1000 alphanumeric memories and free downloadable control software. Receives WFM, NFM, Super-narrow FM, Wide and Narrow AM, USB, LSB and CW.



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*Whatever the monitoring need, AOR products deliver exceptional performance for use by federal, state and local law enforcement agencies, the military, emergency managers, diplomatic service, news-gathering operations, and home monitoring enthusiasts.*

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By Steve Nichols G0KYA

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Edited by Dobbs, G3RJV & Telenius-Lowe, 9M6DXX

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Now known as the Reginald A. Fessenden House, this home at 45 Waban Hill Road in the Chestnut Hill area of Newton, Massachusetts was a longtime residence of the Fessendens. Listed in 1976 on the National Register of Historic Places, it is now a private home and not open to the public. (Courtesy of Wikimedia Commons)

In the Westinghouse laboratory in Newark, New Jersey, Fessenden was tapped to supervise work on generators and make improvements in the light bulb.

By improving the lead-in wires to the incandescents, Reggie solved the company's problems, which allowed Westinghouse to fulfill his contract to light the huge 1892 Columbian Expedition in Chicago.

Fessenden visited England to observe the new steam turbine invented by Charles Parson, leading Reggie to envision a day when ships would be driven by turbine-electrical power — something no one had yet considered.

## Professor Fessenden: A Move to Academia

Fessenden returned from England to a professorship at Purdue University in Lafayette, Indiana. It wanted to establish a program of studies in electrical engineering. The school bought what was needed to establish an electrical research lab and allowed Fessenden to conduct experiments to further his longtime ambition to transmit sound vibrations without wires.

After a year at Purdue, much to the

regret of the faculty and students, Fessenden left teaching to spend more time working on experiments and his inventions.

Through the intervention of his old boss, George Westinghouse, Fessenden located in Pittsburgh, where he became head of electrical engineering at Western University of Pennsylvania. He would be able to conduct his experiments there.

Fessenden began working on the theories of Heinrich Hertz who had discovered electromagnetic waves could travel through walls. Those theories were thought to be the way to improve the Morse telegraph system by developing a system without wires.

It was Marconi's theory on the movement of radio waves that surmised a spark could create a whiplash effect that would carry the waves outward. Fessenden's studies led him to appreciate that radio waves moved like ripples from a stone thrown into water.

## Amplitude Modulation and the Weather Bureau

This was the first time that amplitude modulation (AM) waves were under-



Standing at the base of the antenna at Brant Rock is Edward F. Perry, Jr., owner of WATD-FM in Marshfield. The tower that once stood here was used for the first voice broadcast over a radio transmitter on December 24, 1906. In part, the plaque beside him reads: "Site of First Radio Broadcast . . .By Reginald Fessenden." (Courtesy of Wikimedia Commons)

stood and made it clear that, when sent at high frequencies, could include the variation of the human voice. After reading one of his papers before the American Institute of Electrical Engineers in 1899, Fessenden attracted the attention of the U.S. Weather Bureau.

In 1900 it brought Fessenden on to improve the bureau's Morse code system — used in reporting and forecasting the weather. Within a few months Fessenden had made Morse improvements and, through his experimentation had transmitted the human voice more than 50 miles.

The event took place on December 23, 1900 from Fessenden's research station on Cobb Island in the Potomac River. He transmitted to a station in Arlington, Virginia. Surprisingly Fessenden was told to keep quiet about his transmission of voice by officials in the Weather Bureau. They wanted more testing and improvements. This occurred almost a year before Marconi's December 12, 1901 transatlantic transmission of Morse code from England to Newfoundland.



A transmitting station was built here by Reginald Fessenden and in 1906 made the first two-way radio telephony transmissions between here and Brant Rock in Massachusetts from a 450-foot mast. (Photograph and caption by JM Briscoe, courtesy of Wikimedia Commons)

Fessenden was not completely satisfied with his first voice transmission. To improve reception in early 1901 he started work on a new type of signal detector, which he patented in 1903.

After renewing Fessenden's contract, the Weather Bureau decided to enlarge its operations and establish stations at Roanoke Island, Cape Hatteras and Cape Henry along the Carolina coast. Weather in the area was very treacherous and was why it was called "The Graveyard of the Atlantic." Reggie moved there to supervise construction. While there he did extensive research in antenna design and construction.

After getting his first stations up and running, Fessenden came into dispute with the Weather Bureau over the rights to his patents. After an appeal to President Roosevelt, Fessenden resigned from government service.

## The National Electric Signaling Company

In 1904 Fessenden was hired to engineer the Niagara Falls Power Plant of the newly-established Ontario Power Commission.

With the aid of two Pittsburgh millionaires, Fessenden formed the National Electric Signaling Company (NESC), which would establish Morse code stations for clients and run their own service from Brant Rock, Massachusetts.

NESC established stations in New York, Washington and Philadelphia and was in contact with stations as far away as Alexandria, Egypt — 6,000 miles. In doing this he beat Marconi by sending messages both ways across the Atlantic. Fessenden established stations in New Orleans and Guatemala, as well, and aboard United Fruit Company ships.

As everywhere else, Fessenden had been experimenting with sending the human voice over the airwaves. It was here, though, that he had his first real success.

## A Stunning Surprise from Scotland

NESC had built a station in Machrihanish in northern Scotland. One day the operator in Brant Rock was explaining to an operator at the station in Plymouth over an experimental voice circuit how to run a dynamo. Shortly after, a cable came from Machrihanish that the operator had overheard the two-way American transmission. It was a revelation that would lead to the historic Christmas Eve broadcast in 1906.

Fessenden's partners were not really interested in voice or music transmission. In time the NESC partnership soured. His patents were seized by the company. With them, NESC felt it had no more need for Fessenden. He was fired in 1911.

For the next two years Fessenden's time was spent trying to earn enough to pay legal fees in his patent battles and to support his family. At this time he started working for Submarine Signaling Company of Boston where he developed a system for submarines to signal each other while submerged. Fessenden also took a lesson from the Titanic disaster, suggesting that icebergs could be located using the reflection of radio waves — a prescient vision of what would become radar. Later he sent radio waves to determine the depth of water beneath a ship's hull.

With the outbreak of World War I, Fessenden volunteered his services to the Canadian government. He was sent to London where he worked on devices to detect enemy artillery and hostile submarines. Unfortunately the military bureaucracy showed little interest in developing his ideas. Sonar and radar would have to wait for another war.



THE WHITE HOUSE  
WASHINGTON

January 8, 2007

I send greetings to all those celebrating 100 years of voices over the airwaves.

Radio plays an important role in informing, entertaining, and protecting people everywhere. At the turn of the last century, Reginald Fessenden pioneered wireless communications and opened the door for technological advances that have improved the lives of Americans and individuals around the world. This occasion is an opportunity to remember Fessenden's broadcast of voice and music over the air a century ago and a chance to celebrate the many ways radio has enriched our lives and our Nation.

I appreciate all who work in radio, and I am grateful to the amateur radio operators who provide emergency communications that help make our country safer and more secure. Your good work strengthens our society and represents the American spirit.

Laura and I send our best wishes. May God bless you.

In a January 2007 White House letter, President George W. Bush noted that, "This occasion is an opportunity to remember Fessenden's broadcast of voice and music over the air a century ago and a chance to celebrate the many ways radio has enriched our lives and our nation."  
*(Courtesy of the White House)*

In 1915 Fessenden returned to Boston and settled his legal problems. He perfected a depth-finding device, as well, which he called the Fathometer. The 1920s brought more interest in radio and increased the value of his more than 100 patents.

## Financially Secure . . . and Largely Forgotten

Finally, in 1928, Fessenden became financially secure after an out-of-court settlement from his old partners for \$500,000.

Now 62, with a heart condition, Fessenden returned to Bermuda where he lived quietly in retirement. In January 1932, he died — largely a forgotten man.

The head of General Electric called him "The greatest wireless inventor of the age. Greater even than Marconi."

In a 1943 case before the U.S. Supreme Court the Marconi Company's claim to Marconi's invention of radio was denied. Reginald Fessenden, with three others, was given that credit. Yet today his name is practically unknown. Not like Christmas Eve, 1906 and that historic first:

*" . . . a human voice coming from their instruments — someone speaking . . . "* They would come to know it was Reginald Fessenden.

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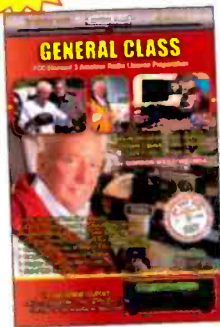
by Forrest M. Mims  
 A great introduction for anyone who wants to learn the fundamentals of electronics. Includes 100 projects you can build, and great experiments that demonstrate how electricity works! **GSTD \$19.95**

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Mention this ad for a free gift.

# Gift-Giving (and Receiving) Ideas for the Communications Lover



By Gordon West, WB6NOA

Annually around the holidays I go through my equipment files on the year's acquisitions of stuff I *really* liked. I can tell you, 2011 was a good one.

Some radios and accessories I used in classroom demonstrations this year became instant favorites. That's where this column comes in: Ideas for Santa's list.

They'll work for gift giving, or as hints for receiving. So, let's get this holiday party started!

## It Was 'Lights Out and Radios On'

Last September the lights went out in millions of households in a wide area of Southern California, including the metropolis of San Diego. Same thing happened in many areas of the east after Hurricane Irene roared through.

Ham operators got out their trusty HTs and stayed on the air. So did scanner listeners with battery-operated handhelds.

So, what was going on over the radio waves? It was AM broadcast radio to the rescue. Local stations swung into "emergency news" mode and their signals kept those with battery-powered AM radios in the know.

In Southern California, I was treated to unbelievable extended ground wave reception and nighttime sky wave reception using the C.Crane CCRadio-EP AM/FM slide rule VFO radio.

This ultra-sensitive, single-conversion receiver has excellent selectivity when tuning in weak AM stations next to a local

*"Some radios and accessories I used in classroom demonstrations this year became instant favorites . . . and ideas for Santa's list."*

radio powerhouse. Twin-coil ferrite loops can adjust the pick-up pattern, as well, without needing to rotate the radio for best reception or improved adjacent-frequency rejection.

I picked up some nighttime AM stations halfway across the country between emergency broadcasts of the San Diego "Lights Out" information station, KOGO, 600 kHz. VFO tuning allows you to slide to each side of the double-sideband signal, to minimize interference, and pull in extremely weak signals that other receivers don't even hear.

It runs on four "D" batteries. It can switch to an external AM long wire antenna, as well. On the Web, visit: <<http://www.CCrane.com>>. Phone: (800) 522-8863.

**PRICE:** The C.Crane CCRadio-EP is \$79.95

## No Manual? No Problem! A Nifty! Solution

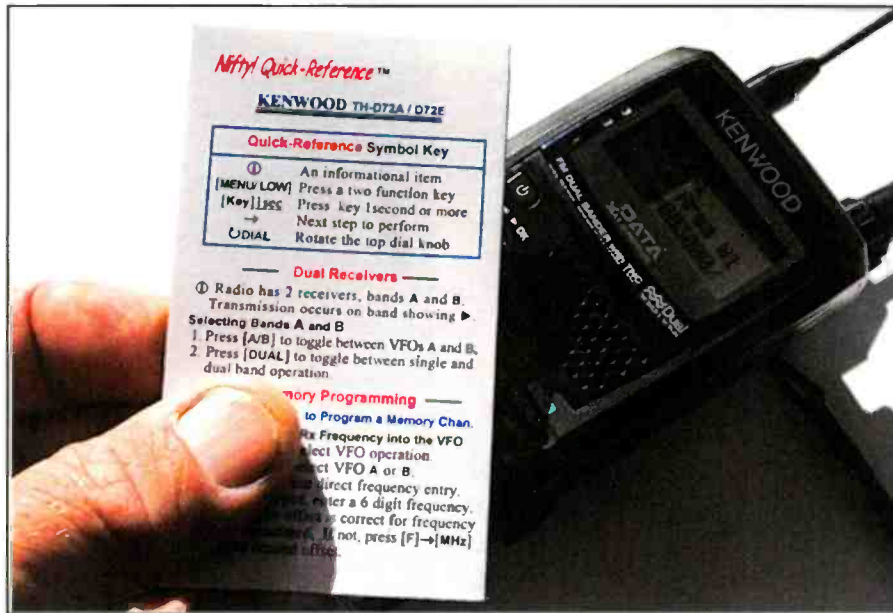
They call them "plastic *Nifty* mini manuals." If you lost your radio's instructions, these quick-reference laminated guides can help you through the keystrokes.



The C.Crane CCRadio-EP AM/FM slide rule radio has a hot front end and is VFO tuned. (Courtesy of WB6NOA)



Want to add a long-wire AM antenna to your portable radio? Here's where you'd plug it into the C.Crane CCRadio-EP AM/FM slide rule radio. (Courtesy of WB6NOA)



The Nifty! card for the Kenwood TH-D72A and D72E handheld radios is very handy! (Courtesy of WB6NOA)



With Engraved Memories call sign plaques, order either color or white LEDs. (Courtesy of WB6NOA)

I am just getting started with the ICOM D-STAR ham radio network, and I wholeheartedly agree with Bernie Lafreniere, N6FN, Mr. Nifty: "D-STAR is considerably more complex than traditional FM repeaters." His manual even covers "D-STAR options like Dplus by AA4RC, which you might not find in the original instruction manual."

Besides the laminated pocket cards for each piece of radio gear — including scanners — Nifty does books, as well. And they are good!

The little Nifty! pocket cards and manuals have logically-arranged programming steps to get started with a new rig. However, bring along your "granny glasses" — the type font is way too small for my aging eyes.

Nothing beats the detail of the original owner's manual. I tend to loan mine out but they rarely come back. The Nifty! cards are a nice, small substitute — shirt or hip pocket ready!

A recommendation, however: Head down to the drug store and buy a pair of eyeglasses "cheaters," too.

**PRICE:** They vary, depending on the radio. Look up your radio's model number on the Nifty! Ham Accessories website: <<http://www.niftyaccessories.com>>

## Signs of Good Things to Come

*Imagine:* An etched mirror glass, LED-illuminated call sign desk plaque. Wouldn't that add some class to that radio station of

yours? I can tell you, the plaques made by Engraved Memories are *way cool!* They use no-heat LEDs! (To see the company's full line of products, visit: <<http://www.jimsengraving.com>>. — Ed.)

Choose between a string of white or colored LEDs constructed within a solid wood base with a slot to slip in the etched mirror call sign plaque.

Add 12-volts DC, and the LEDs reflect through the etching of your call sign, your name, and, if you want it, a picture of the world, or just about anything you design on a computer.

When I do ham shows, I run the LEDs with a small 9-volt battery for portability, and that little battery is still chugging along!

They are made in the Engraved Memories shop of Jim Thibeault, KF4NBN, where he has the etching machinery for glass, stone and ceramics. Ask Santa to bring one and you will be mightily impressed with how well the jolly ol' fellow comes through.

**PRICE:** Engraved Memories call sign desk plaques are custom-made for under \$200 each.

## In-Depth Antenna Analysis

If anyone should ask me which relatively inexpensive product revolutionized the way we play radio, I would say the award goes to the antenna analyzer.



The WB6NOA call sign from Engraved Memories looks snazzy on top of the new ICOM IC-9100 transceiver. (Courtesy of WB6NOA)

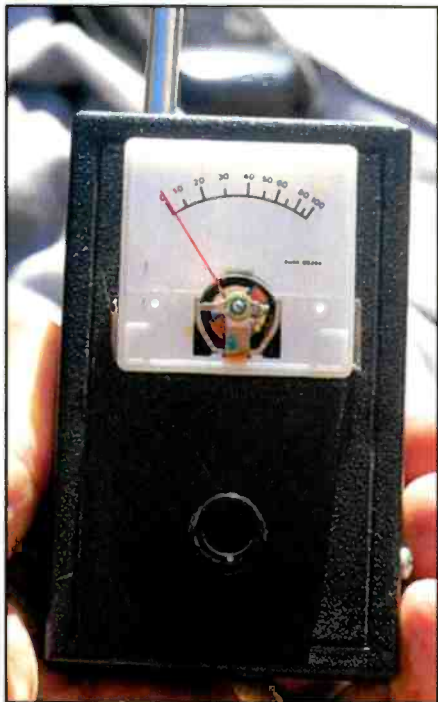
MFJ Enterprises has been a leader in antenna analyzer development. Its line of products is hard to beat: <<http://www.mfjenterprises.com/>>.

I use an antenna analyzer nearly every week, working with mobile and maritime mobile new installations. For base station antennas, my MFJ have been on many a roof. No more shouting down to the radio room about where the SWR is dipping! To see MFJ's selection of antenna analyzers, see: <<http://bit.ly/oAux1M>>.

New on the scene, though, is the NCG Company Comet CAA-500 cross-needle portable antenna analyzer to read both SWR and impedance from 1800 kHz to 500 MHz: <<http://bit.ly/nLKDO6>>. It is being distributed in North America by NatCommGroup.

The Comet CAA-500's frequency coverage is from 1.8 MHz to 500 MHz and is continuous, including the 222 MHz band. Seven frequency ranges are front-panel selectable.

I like its big cross-needle readout. You can really see the dip of SWR and — hopefully — resting impedance around 50 ohms. If you see the dip, but an impedance mismatch on an automobile, it's a clear indication that you may need to do some feedpoint matching at the antenna mount — and MFJ also has in-line impedance matchers.



A small MFJ Enterprises Field Strength meter is great for checking beam antenna patterns. (Courtesy of MFJ Enterprises)

The Comet CAA 500 has two antenna jacks for the common coaxial cable connectors — PL and for UHF, the N. It runs on an internal battery and can take external DC, as well. The thumb-wheel frequency adjustment is a one-hand operation when doing tower work aloft.

**PRICE:** The NCG Company Comet CAA-500 Antenna Analyzer is about \$450. To see the company's full line of products, visit: <<http://www.natcommgroup.com>>.

## One Good Sniffer

A great two-way radio service tool is the simple field strength meter. Consider all you might do when checking out a new ham installation:

- Sniff *which* mobile antenna is transmitting the signal (for those of you with porcupine rigs.)
- Compare FRS (Family Radio Service) fixed-antenna transmit field strengths
- Verify hidden transmitter beacon power output
- Locate damaged braid on coaxial cable runs
- Sniff for RF on computer connections to your rig

MFJ Enterprises offers a variety of inexpensive field strength meters with no battery required! Each offers a sensitivity control to the simple internal diode element, and the analog meter tells all: <<http://www.MFJEnterprises.com>>.

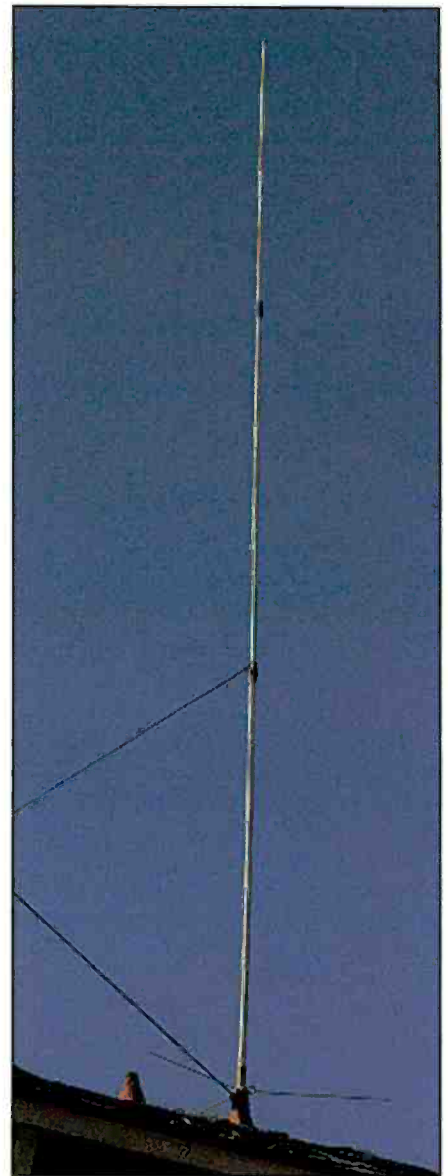
**PRICE:** Varies, depending on the instrument. Visit: <<http://bit.ly/qmX1OR>>.

## Get Some Collinear Gain

Whether you are a scanner radio listener or an avid ham operator on 2 meters and 440 MHz, you would be amazed to hear the improvement in reception by switching out your faithful ground plane or discone antenna for a collinear gain, dual-band vertical.

First on scene with these high-gain collinear fiberglass verticals were Comet/NCG Company <<http://www.natcommgroup.com>> and Diamond Antenna <<http://www.diamondantenna.net>>, each with various styles of collinear VHF/UHF, high-gain fiberglass verticals.

The technology of increasing transmit and receive is accomplished through stacking copper elements inside a white radome, called a collinear array. Stacking elements vertically and properly feeding them within the white fiberglass



This three-piece, dual-band collinear antenna at Gordon West, WB6NOA's, Southern California location is secured with guy rope to withstand gusty winds from the Pacific Ocean. Normally, no added support is needed. (Courtesy of WB6NOA)

enclosure redirects wasted sky-bound energy, and combines it down close to the horizon to improve transmission and reception gain on VHF and UHF. (What's a "randome?" Visit: <<http://bit.ly/naeDkB>>. — Ed.)

The more elements you stack, the greater the gain down close to the horizon. Both Comet and Diamond, plus other less expensive imported fiberglass verticals, offer the most gain with their three-piece, 17-foot gleaming fiberglass base station antennas.



The three sections are easily assembled by either a small set screw or a conventional screw, locking elements in place.

Typical VHF gain is 8 dB, and UHF gain over 11 dB, with both gain figures omnidirectional down close to the horizon. Hook up a small handheld radio to one of these antennas on the roof, and your effective radiated power (ERP) goes from 5 watts up the coax to approximately 30 watts output on VHF, and 50 watts ERP on UHF.

You will also hear stations that were just noisy signals before you switched from your unity gain ground plane. Switch your old, tired, small coax too to help increase ERP. It would be unthinkable to run RG-58/U to this new antenna — or, for that matter, even your old ground plane — as the loss of RG-58U skyrockets at UHF and VHF.

If you want the ultimate in low loss coax for your new white fiberglass collinear gain antenna, go for some LMR-400 type coax, add the spaghetti-size short jumper cable that joins up to your HT, and everybody will think you are running a 50-watt base station from the house.

The three-piece white fiberglass antennas don't require guy lines, unless you live in a very windy area. As you can see in my QTH photo, the wind can come off the Pacific pretty strong in Southern California, so the non-metal guy line keeps my antenna straight up. Get some gain in your signal!

**PRICE:** Check company websites. NCG/Comet: <<http://www.natcomgroup.com>>, Diamond Antennas: <<http://bit.ly/oqouLv>>.

## Crimping Your Style — All the Right Connections

I loaded up on the new PowerWerx-joined Anderson Power Poles and how nice to have them hitched at the hip so as not to wiggle apart. I also brought in the major size Anderson power pole crimper that can take the 15-, 30- and 45-ampere power pole connectors and squash them properly.

Strip the wire, push the Anderson connector on firmly to where the stranded wire slightly grabs it, place it lip-down into the appropriate slot (mine has a white mark) and squeeze. Keep squeezing. This tool won't let go until you have the correct compression, where it magically cycles open and you can marvel at a great connection without soldering.

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**We KNOW shortwave and what it takes to provide high performance antennas, low loss coax switches and effective station protection! See Models DX-SWL and DX-ULTRA SWL antennas on our WEB site.**

**DID YOU KNOW** that with our U. S. Defense Logistics Agency (DLA) approvals, our Model TT3G50 broadband coax surge protectors and Model DELTA-2B/N surge protected coax switches are approved for use in ALL U.S. military and NATO applications, worldwide? And, ALL of our products are made in our U.S. ISO-9001 certified manufacturing facility. Cage Code 389A5 for details.

- **Our Model DELTA-2B/N surge protected coax switch** now has a Military part number, along with its National Stock Number (NSN) as issued by the DLA. It is AN/URN-31(V). The most recent orders are going on U.S. Navy nuclear attack subs and fast attack (PT) boat operations centers!



- **The Model ATT/TT3G50 series** of Broadband Surge Protectors are approved by the U.S. Navy for heavy cruiser satellite antenna systems, U.S. Air Force Tactical and Strategic air antenna systems, U. S. Army surface to air (Patriot) missile system ground control vans, UAV Pilotless Planes, U.S.A.F., Army, Marine Corps and Navy wireless base security antenna systems, and precision government satellite GPS systems, to name a few, just a few.



- **DID YOU KNOW** our line of DX series dipole, sloper and SWL antennas are so rugged we have NEVER had a report of any antenna wire or



component breaking due to high winds? Even hurricane strength type winds--EVER, in all these years? The only reports we've had, and only a few of these, is when a tree limb or piece of a roof goes through it. Why so rugged? Because we use high tensile strength insulated solid copper 12 ga. antenna wire, all stainless steel hardware, and an ISO-9001 certified manufacturing technique that assures the most rigorous QC processes for highest quality. NO ONE else makes antennas like we do. Expensive? Maybe, but not when you consider the quality/performance/ lifetime use factor!

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After you have done both red and black wires, remember, from the rear, red is on the right, tongue down. Push each wire in until you hear the connector go “click,” verify REAR RIGHT RED, and you are set. Visit: <<http://www.PowerWerx.com>>.

**PRICE:** Under \$100.

## For Ham Activity, It's a WIN-Win Situation, for Sure

My last pick hit in *The 2011 Best New Things for the Ham Radio Operator* is the VHF-UHF-based WIN System. Getting on and becoming a member will open a whole world to you — literally.

But we're getting ahead of ourselves.

First, we know many new radio amateurs are likely to be mystified when buying a new dual-band handheld with *nothing* loaded into memory. True, all good hams *should know* how to program their HT, but brand new hams may not know the local repeaters in their vicinity for programming.

A few radio stores *may* preset some local channels in their HTs, and almost always a favorite VHF or UHF frequency is for the WIN System — the Western Intertie Network. It's an *open* repeater system (everyone is welcome), membership supported, where WIN System repeaters throughout the country and the world are tied together: <<http://www.winsystem.org/>>.

The WIN System features wide-area linking, using dedicated full duplex radio links as well as long-range Internet Radio Linking Project (IRLP) connectivity. The IRLP system is a computer-linked network allowing the WIN System to connect the IRLP node in real-time audio to any other IRLP node, which is then connected to amateur radio repeaters.

Here comes the fun — monitor your local WIN System repeater to be sure the channel is open. Now, briefly transmit your callsign and listen for the repeater to ID or go “beep-bop.” (*For a listing of WIN System repeaters around the country and world, visit: <<http://bit.ly/rkO69d>>. — Ed*)

About 2 seconds later, a chap from Anchorage, Alaska might come on, joined by a sun-bathing ham in Miami Beach, or a lady from Texas who has information about, say, an incoming hurricane. It's like a giant party line, and everything on connecting up these repeaters happens automatically behind the scenes. (**AUDIO:** *To listen to the WIN System via streaming audio, visit: <<http://bit.ly/rdDoy2>>. — Ed.*)

If you don't have a repeater in your area, Jeffrey “Shorty” Stouffer, K6JSI, can help you get started with a micro-node at your house or office. (“Shorty” is 6-foot, 6-inches tall. — Ed.)

The WIN System is a family operation — late evening most every night, the “Insomniac Party” is held, with check-ins from literally around the world.

All that's necessary to get started with the WIN System is just the local repeater memorized in your VHF or UHF handheld radio's memory. You'll probably want it in the No. 1 slot!

As a regular user, support the system with membership. If you just want to stop in and say *hello*, come on board!

**PRICE:** For membership and donation information to the WIN System, visit: <<http://bit.ly/rqLQAE>>.

## Another Year in the Books

So, that's it for my Santa's pick hits for 2011. I hope you enjoy them as much as I have.

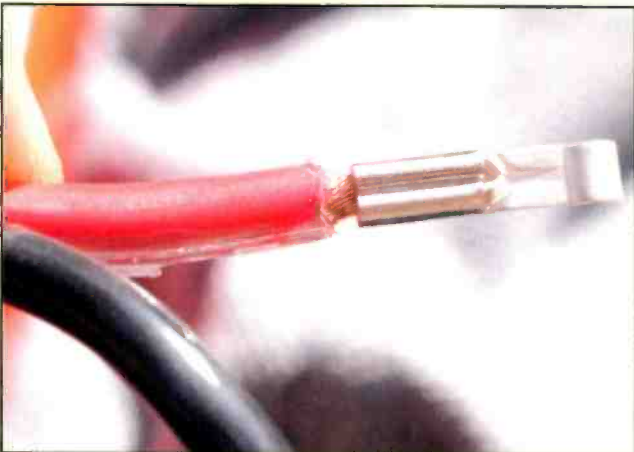
— *73 and Happy Holidays, de WB6NOA.*



**Step 1:** Strip the wire and push on the Anderson power connector. (Courtesy of WB6NOA)



**Step 2:** Slip the connector into the crimper and squeeze hard. (Courtesy of WB6NOA)



**Step 3:** Admire your finished connector. It's ready to go in the plastic holder. (Courtesy of WB6NOA)

# A Holiday Shopping List Labeled 'Made in America'

by Bruce A. Conti  
<contiba@gmail.com>

*"Finding electronics produced in the United States can be challenging, but as you'll see, there are lots of great American brand names to consider for holiday giving."*

The overriding theme of the 2012 presidential campaign has clearly been about creating jobs, jobs and more jobs. With the U.S. unemployment rate holding around 9 percent, candidates are trying to convince voters that they know how to stimulate the economy and create jobs.

Over the summer *ABC World News* aired a special series called "Made in America" which proposed one solution to reducing unemployment. "If every American spent an extra \$3.33 on U.S.-made goods, it would create almost 10,000 new jobs in this country," hypothesized the report. (VIDEO: For an overview of the *ABC News* series "Made In America," visit: <<http://abcn.ws/p0Zsok>>. - Ed.)

Most economists will agree that there's no such thing as a service economy. We can't just service the widget, we need to make the widget in order to maintain a healthy economic base, so they say. Others argue to the contrary: The availability of "cheap" goods from overseas has helped to build the U.S. economy, suggesting that the manufacture of mundane retail products such as radios and televisions is better done elsewhere while the American workforce concentrates on the development of higher-value technology and products.

Regardless of where you might stand on the issue, it certainly can't hurt to *shop American*.

With that in mind, the *Broadcast Technology Annual Holiday Wish List* targets quality products made in the USA.

## Palstar R30A Returns!

The Palstar R30A <<http://www.palstar.com/r30.php>> is back, and better than ever. This little, yet-powerful tabletop general coverage communications receiver underwent a redesign after the original digital display module was discontinued by the manufacturer.

The new R30A maintains the Palstar-signature simplified ergonomics and compact size of the original. **Photo A.**

It incorporates two Collins IF filters as standard equipment, as well, formerly offered separately in the R30CC model.

Unlike most general coverage receivers, the R30A is not desensitized in the AM broadcast band, making it a favorite among DXers. Operating power of 12 volts DC is provided by an external AC adapter, or an internal 10 AA-cell battery pack.

**PRICE:** The R30A lists for \$749.95.

## Quantum Loop Antenna

The mission of Radio Plus+ Electronics has always been to provide AM broadcast DXers with the tools to enhance the DXing experience, according to owner Gerry Thomas, KB4JFM. Radio Plus+ designs and manufactures all of its products at a self-described "very small shop" located in Pensacola, Florida, with some components farmed-out to local fabricators. More than 80 percent of the component costs of Radio Plus+ products is attributed to parts made in the United States and Canada.

The Quantum Loop antenna <<http://www.dxttools.com/PRODUCTS.htm>> is Radio Plus+ Electronic's flagship product — the first DX tool offered when the company was started.

The baseline Quantum QX Loop v2.0 features a 7.5-inch ferrite rod with Litz wire coil windings; ultra-low noise, double-balanced 30+ dB JFET amplification; Q-multiplication for sharp tuning using old-fashioned mechanical variable capacitors; and rugged construction, powered by an external 9-volts DC.



**Photo A:** The Palstar R30A tabletop general coverage communications receiver incorporates two Collins IF filters as standard equipment — formerly offered separately in the R30CC model. (Courtesy of Palstar)



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## WorldRadio Online

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A general interest online only ham magazine with a special focus on the human side of amateur radio and on projects and activities accessible to the average ham. Regular topics include DXing, emergency communications and "trail friendly" radio!

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Photo B: The RFSpace SDR-IQ receiver can capture as much as 190 kHz of RF spectrum on your computer's hard drive. (Courtesy of RFSpace)

The standard loophead covers the AM broadcast band from 530 to 1700 kHz. Optional longwave and tropical shortwave loopheads are available. The upgraded QX v2.0 Plus+ features a JFET/MOSFET amplifier with continuously variable Q-spoiling for phasing applications and increased gain.

**PRICE:** The QX v2.0 lists for \$199 and the Plus+ model for \$239, with discounts offered for domestic broadcast DX radio club members: <<http://www.dxtools.com/DXClub.htm>>.

### RFSpace SDR-IQ Receiver

The SDR-IQ receiver from RFSpace Inc. <<http://www.rfspace.com/RFSpace/Home.html>> was the first commercial software defined radio (SDR) successfully introduced to the DX community. While there have been significant advancements in SDR technology offered by foreign competitors such as the Excalibur and Perseus SDR receivers, the original Made in USA SDR-IQ is hard to beat for its price tag.

An SDR is essentially a computer controlled "black-box" receiver without the knobs, pushbuttons and rotary controls of a conventional radio. All receiver operations are driven by a computer software interface via a USB connection to the black box.

SDR applications have the singular ability to "capture" or record a wide bandwidth of RF spectrum for later playback with full demodulation and tuning capabilities just like live DXing.

The RFSpace SDR-IQ receiver <<http://www.rfspace.com/RFSpace/SDR-IQ.html>> can capture as much as 190 kHz of RF spectrum on your computer hard drive. **Photo B.**

Other features include 500 Hz to 30 MHz coverage with frequency resolution to 0.031 Hz, open source software for custom control development, serial port panoramic adapter interface with communications receivers including ICOM and AOR, FFT and waterfall spectrum display, and it's fully powered by USB without requiring a separate external power supply or batteries for the ultimate in portability with a laptop computer.

Though the ergonomics of computer-screen menus and mouse control might seem rather geeky at first glance, it won't be long before you'll be discovering DX signals previously missed by old-fashioned single frequency monitoring.

**PRICE:** The RFSpace SDR-IQ receiver lists at \$525.

### State Of the Art Turntables

How many of us have held onto collections of long-playing (LP) vinyl records and 45 rpm singles, but no longer have anything to play them?

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*Quality. Style. Performance!*

Now you can "Tune in the world with SDR" without breaking your budget. Thanks to Alinco's new 150KHz to 30MHz desktop receiver, the DX-R8T featuring an I/Q output, you can monitor AM/FM/SSB/CW signals either in a superheterodyne or by using a PC with free SDR software. Enjoy DRM hi-fi broadcasts without a converter. PC-decode of HFDL, FAX, NAVTEX, RTTY, PSK and more. Alinco makes SWL fun and affordable!

SSB/AM/FM/CW and I/Q  
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\* An external 12Vdc/1A power supply and antenna required.

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Not subject to FCC part 15/IC approval. No license is required to operate this product. Specification subject to change without notice or obligation. ALL warranty claims and requests for repair/technical assistance for Alinco products should be sent to GRE America regardless of contact information found on the warranty certificate packed with the product.

Many audiophiles swear by vinyl for the best sound reproduction versus the limited sampling rate of digital, plus new releases and re-issues are still being produced on vinyl today. SOTA (State of the Art) Turntables <<http://www.sotaturntables.com/>> answers the growing demand for analog by manufacturing a full line of retro turntables ranging in price from hundreds to thousands of dollars, all made in America.

The basic Moonbeam model features a 24-pole AC synchronous motor and low-tension belt drive for vibration-free, no-drift, 33- and 45-rpm operation. **Photo C.**



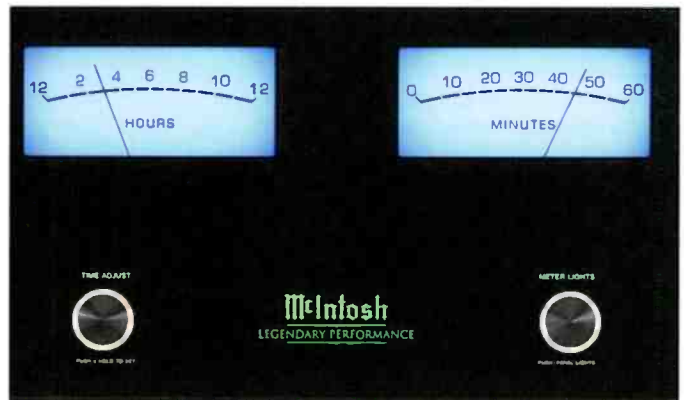
**Photo C:** The basic Moonbeam model turntable features a 24-pole AC synchronous motor and low-tension belt drive for vibration-free, no-drift, 33- and 45-rpm operation. (Courtesy of SOTA)

At the high end, the custom-ordered Millennium Vacuum turntable has a sub-chassis milled from a 1-inch-thick aluminum plate, serving as the base for a spring-less, hanging four-point balanced mass visco-elastic suspension system and damped 15-pound vacuum platter system for the ultimate in performance. *Impressive.*

**PRICES:** The low-end SOTA Moonbeam is \$750; the high-end Millennium Vacuum, \$9,500.

**Retro McIntosh Timepiece**

McIntosh Laboratory <<http://www.mcintoshlabs.com>> is well regarded for its vintage home audio equipment.



**Photo D:** The McIntosh MCLK12 mantle clock's hour and minute are displayed by two blue-backlit analog meters of the same design used in contemporary McIntosh stereo power amplifiers. (Courtesy of McIntosh Laboratory)

The McIntosh MCLK 12 mantle clock, **Photo D**, a tribute to the company's classic/retro stereo power amplifier design, would make an interesting presence in any broadcast DX radio shack. McIntosh calls it a fun way to monitor the passing of time. The hour and minute are displayed by two, blue-backlit analog meters of the same design used in the latest McIntosh stereo power amplifiers. Two front panel knobs adjust the time setting and meter backlighting <<http://bit.ly/nmEJIN>>.

The MCLK 12 is a stand-alone unit with shelf, wall or rack-mount options. However cool looking, it might be a tad indulgent for the average DXer.

**PRICE:** List price of the McIntosh MCLK 12 mantle clock is \$2,000.

## Tower Site Calendar

"North American broadcasting became a booming industry in 1922, 90 years ago, when more than 500 stations signed on around the country," says a fybush.com press release about its 2012 calendar.

"This . . . Tower Site Calendar marks that anniversary by honoring some of the stations that trace their heritage back to 1922." **Photo E**.

The 2012 Tower Site Calendar is a 12-month wall calendar that features a monthly photo of a broadcast transmitter site photographed by WXXI radio news anchor Scott Fybush, creator of Tower Site of the Week and NorthEast Radio Watch online <<http://www.fybush.com/>>.

The full-color calendar has become an annual tradition for radio engineers and has adorned the walls of many DX radio shacks.

Although our *Broadcast Technology Annual Holiday Wish List* follows a Made in USA theme, this year marks only the second time in its 11-year history that the calendar features a European tower.

September showcases Ireland's original high-power broadcast transmitter site in Athlone, made immortal in a Van Morrison song. (**VIDEO:** Hear Morrison cite Althone at 1:41 of a YouTube post of his SWL-related song "The Days Before Rock and Roll" <<http://bit.ly/pp6fBp>>. - Ed.)

The rest of the months contain photos of sites taken by Fybush during his travels around the U.S., often highlighting the regional beauty:

- A seaside shot of WDAE on the Gandy Causeway between St. Petersburg and Tampa, Florida.
- A tower farm in Bettendorf, Iowa, home to WOC.
- The waterfront studio of KGY in the Port of Olympia.
- Salt Lake City's KDYL, framed by some of Utah's mountains.
- A stunning sunset-backdrop shot of WSBT in South Bend.
- Rochester's historic WHAM, launched by George Eastman himself.
- WLKN overlooking a Wisconsin cornfield waiting to be harvested.
- A panoramic view of Manhattan's Four Times Square.
- A transmitter site in Fort Wayne, Indiana that includes the historic WKJG.
- Flint Peak, home to KLAX, in Glendale, California.

The calendar's monthly pages include significant dates in radio and television history, as well as civil and religious holidays. It is sold online only <<http://www.fybush.com/calendar.html>>.

**PRICE:** The 2012 calendar is \$18.

## NRC AM Radio Log

The National Radio Club (NRC) <<http://www.nrcdxas.org/>> has been serving the AM broadcast DX community since 1933. The NRC AM Radio Log is representative of the level of ded-

For over a decade CQ has been bringing you The CQ Amateur Radio Operators calendar. This year's calendar is better than ever! Fifteen spectacular color images of some of the biggest, most photogenic shacks, antennas, scenics and personalities from across the country!

Each month includes the dates of important Ham Radio events, major contests and other operating events, meteor showers, phases of the moon, and other astronomical information, plus important and popular holidays. CQ's 15-month calendar (January 2012 through March 2013) is great to look at, truly useful and makes a great gift!

*Order yours today!*



**Photo E:** The 2012 edition of the Tower Site Calendar commemorates the boom of North American broadcasting from 90 years ago, "honoring some of the stations that trace their heritage back to 1922." (Courtesy of Tower Site of the Week and NorthEast Radio Watch)

**CQ Communications, Inc.**  
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[www.cq-amateur-radio.com](http://www.cq-amateur-radio.com)

## So, Just What Does 'Made in USA' Really Mean?

By Bruce A. Conti

The Bureau of Consumer Protection is an arm of the Federal Trade Commission (FTC) empowered to protect consumers from marketplace deception and fraud as first mandated by Congress in the FTC Act of 1914 and subsequently defined acts to regulate commerce in the Communications Act of 1934 among others.

According to the paper *Complying with the Made in USA Standard* <<http://bit.ly/orPrw4>> published by the FTC in 1998, "The FTC Act gives the Commission the power to bring law enforcement actions against false or misleading claims that a product is of U.S.

origin." The FTC publication offers guidelines for determining whether or not a manufacturer can claim a product is "Made in USA" according to an "all or virtually all" compliance standard. While there is no domestic requirement for manufacturers to mark products as "Made in USA" when applicable, those who choose to make such a claim are required by law to comply with the FTC standard.

### Key aspects of the FTC standard:

- "All or virtually all" means that all

significant parts and processing that go into a product must be of U.S. origin, containing no or negligible foreign content.

- A "Made in USA" claim is not pre-approved by the FTC, but should a legal challenge arise, a manufacturer or marketer must be prepared to support its claim backed by competent and reliable evidence.

- Product final assembly or processing must take place in the U.S.

- The foreign percentage of manufacturing costs and materials must be negligible and far removed from the final product.

- Imported final end-products including those containing U.S. components must be marked with the country of origin as enforced by U.S. Customs.

The FTC standard ensures that the consumer can buy American with a high degree of confidence in the "Made in USA" label.



ication and service the club and its volunteer staff have provided over the decades.

The log contains a detailed listing of U.S. and Canadian AM broadcasting stations, a compilation of information unavailable from any other single source. Log entries for individual radio stations primarily listed by frequency include callsign, day/night power, time zone, pre-

sunrise/sunset authorizations, station slogans and format, network affiliations, QSL addresses, and FM/translator simulcast info with callsigns and frequencies.

New to this edition is a separate listing of AM radio stations with FM translators. Additional cross-references are sorted by callsign, city of license, stereo and HD digital operations. Published annually, the Log is updated by reports

from club members and "DX News" columnist Bill Hale who has corrected numerous errors to FCC data.

This year's Log is dedicated to the memory of Dr. Bruce Elving, editor and publisher of the FM Atlas, who passed away earlier this year. "Bruce was dedicated to the FM DXing hobby and championed it through the FM Atlas, his writings and his enthusiastic participation," writes Log Editor Wayne Heinen NØPOH. "He will be missed by all."

**PRICE:** The NRC AM Radio Log sells for \$25.95 on the NRC website, with discounts offered for club members.

### This Month in Broadcast History

**75 Years Ago (1936):** Experimental mechanical television station W2XR New York changed to WQXR AM, the first commercial classical music radio station in the U.S. Bing Crosby began a 10-year reign as host of the "Kraft Music Hall" with Jimmy Dorsey leading the orchestra on NBC radio.

**50 Years Ago (1961):** The "RockaHula Baby/Can't Help Falling in Love" 45 rpm release from the album "Blue Hawaii" by Elvis Presley was number one on the KYNO Fresno, California, list of Top 40 Tunes. KYNO later became a prototype for the "Boss Radio" format before KHJ Los Angeles adopted the much more music sound. (Watch video of Elvis performing "Rock-a-Hula Baby" in "Blue Hawaii" <<http://bit.ly/puL5AJ>>. - Ed.)

**25 Years Ago (1986):** After nearly a year off the air, the pirate radio station formerly known as Laser 558 attempted what was to be a short-lived return to the airwaves as Laser Hot Hits on 576 kHz.



### Will Your List Be 'Made In USA?'

Finding electronics Made in the USA can be challenging, but as you can see there are a few popular American name brands such as Palstar, Quantum and RFSpace that have earned the respect of the DX community, while top of the line home audio manufacturers like McIntosh and SOTA produce high-quality equipment that outperforms the imports.

*Next month: Mid-winter AM broadcast DXing featuring your logs to get everyone inspired for some radio fun. Until then, 73 and Good DX!*

# Open-Source Software, Linux and Amateur Radio

by Kirk Kleinschmidt, NTOZ  
<kirk@cloudnet.com>

*“When it comes to amateur radio software — and software in general, actually — we are at a particularly interesting crossroads.”*

**T**wo of my best ham radio buddies are bona fide Linux weenies. They eat, breathe and sleep Linux and open-source software. They’re philosophically against using commercial software and operating systems (OSs), especially anything made by Microsoft and Apple.

I can appreciate their perspective — and even agree with much of it — but as a computer service technician by day, I need to know the nuts and bolts of various versions of Windows (with a sprinkling of Mac and Linux thrown in for good measure).

Free and open-source software, nicknamed FOSS, is likely the way of the future for most or all software. In a way it’s the ham radio of software development, where everything is developed out in the open, by dedicated enthusiasts and, whether given away for free or commercially sold, everything under the hood can readily be tweaked, modified or repurposed to suit a particular need — all without draconian corporate oversight and exorbitant fees.

## Interesting Crossroads

When it comes to amateur radio software — and software in general, actually — we are at a particularly interesting crossroads. As computers become more and more powerful, their ability to run software that may not have been designed for one particular computing platform or another has expanded nearly to the point where specific hardware is becoming irrelevant.

Through a variety of means, modern Windows, Linux and Macintosh computers can run software designed for all platforms. Each respective computer system may still run its “own” software at the highest level of performance, but by hook or by crook, most of the rest will function completely — or at least “close enough for government work.”

Because of this computational convergence and because many Linux distributions are becoming so easy to use, there’s a mass migration of sorts from Windows to Mac and to Linux.

Macintosh computers have a stylish and stylized user interface on the outside, but are very Linux-like under the hood. In many ways the Macintosh operating system is the most elegant evolution of Linux (UNIX, BSD and so on). It fea-

tures the robustness, security and virus resistance of UNIX with a pretty, easy-to-use graphical user interface. Many Ma and Pa Macintosh users don’t have a clue that hard-core, Linux-like innards lurk beneath their computer’s glamorous exterior! (Personally, I refer to the Macintosh operating system as CLIX, short for Cupertino Linux. Cupertino, California, is Apple Inc.’s home base!)

Attractive though it may be, the Macintosh platform is even more locked down in a corporate sense than a typical Windows PC (and much more expensive). That’s where Linux comes in. It’s the true do-it-yourself operating system, and while it was once wildly complicated and supremely frustrating for non-geeks, modern Linux distributions are more powerful and easier to use than ever. Most versions also run well on older hardware, something that modern versions of Mac and Windows operating systems can’t claim.

Although there’s nothing new about hams fooling around with Linux — they’ve done so from the operating system’s beginning — there has been a slow-but-steady increase in the use and usability of Linux (and Linux software) by ham radio operators.

With each new release, “desktop Linux” — versions designed to be used by normal users on everyday desktop PCs — gets easier, faster and more hassle free. The various versions of Ubuntu Linux, for example, free to download at <<http://www.ubuntu.com>> have proven to be particularly attractive to Linux beginners and Windows refugees. When you throw in the fact that Ubuntu is absolutely free — a concept appreciated by many a ham — the convergence is hard to resist.

As mentioned, now that Apple’s desktop OS is very Linux-like under the hood, Windows is the only modern OS that *doesn’t* have acknowledged Linux-style underpinnings. Actually, there is a lot of UNIX/Linux code in Windows, but it’s hidden internally among millions of lines of “spaghetti code” and not frequently acknowledged.

There’s a lot to learn about using Linux in your ham shack, and I certainly can’t cover it all in this month’s column. What I can do, however, is point out that it’s easier than ever before to use a Linux box as your main shack computer, note that there’s a steady and growing base of powerful, free software for it, and highlight a couple of sneaky ways



to run Windows software in Linux, which makes migrating from Windows to Linux a lot easier.

Most users who switch find there are one or two Windows programs they can't seem to live without, and finding a way to run those programs in Linux can make all the difference, whether ham radio or general productivity software.

## Where There's a Will, There's a Way

Linux is probably the most versatile "software running" platform in existence, and there are several ways to run software, ham radio and otherwise.

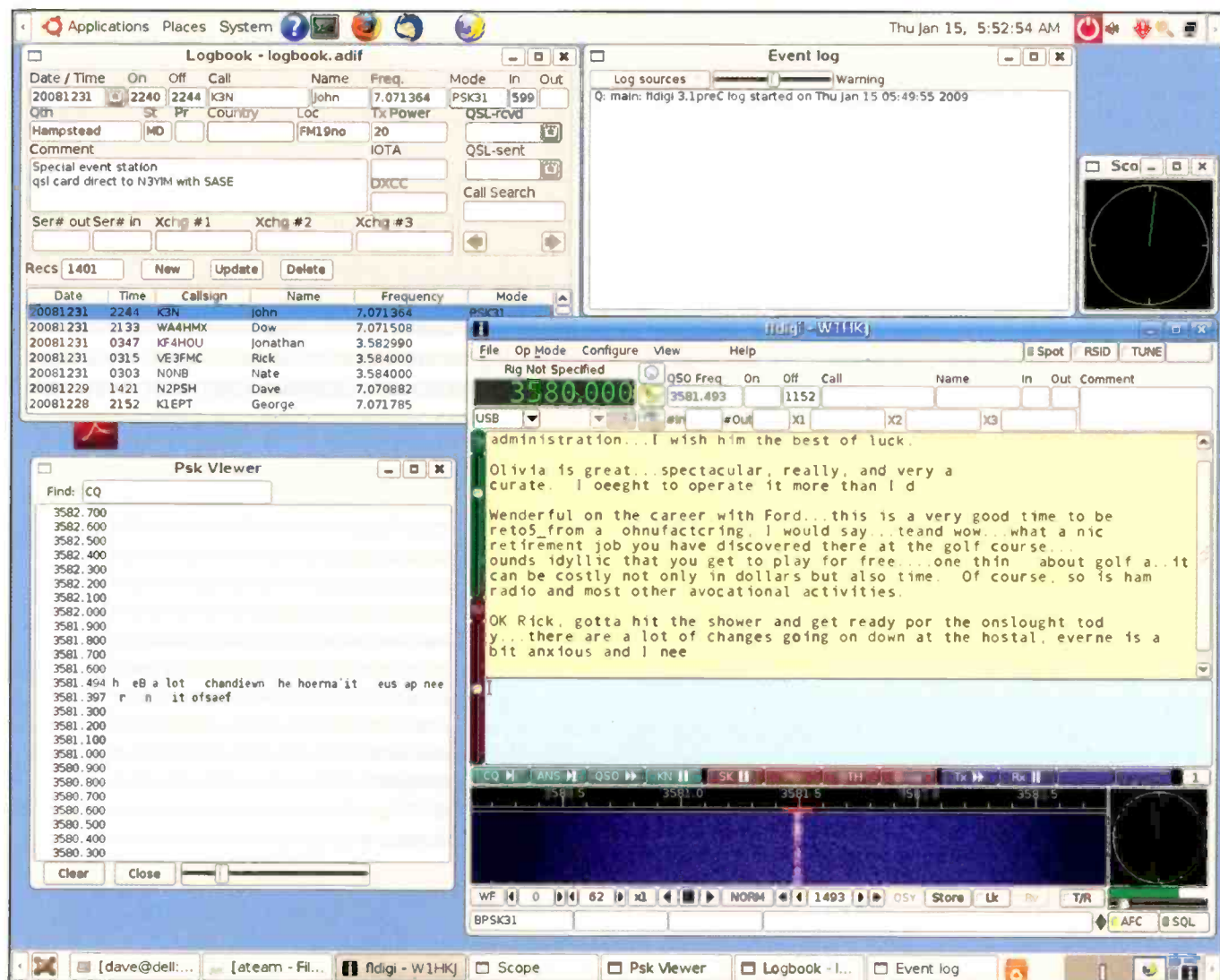
**Native software:** There's a surprising amount of native Linux ham radio software that's freely available. Major Linux distributions have the most popular programs (logging, digital modes, rig-control, you name it) "packaged" and available for downloading from "repositories" specific to that particular distribution tree. If you're extra nerdy you can download an application's source code and compile it expressly for your hardware

and your flavor of Linux (although the great strides forward in desktop Linux are aimed at making this extra-challenging task unnecessary).

**Emulation:** If there's some Windows software you just can't live without that doesn't seem to have a Linux equivalent, the first step in making it work in Linux is to try running it with the help of a free program called Wine. Wine is most properly called a "compatibility layer," which duplicates Windows function calls and provides native Linux alternatives as the software executes.

According to Wikipedia, Wine was initially an acronym for "WINDows Emulator," but its meaning later shifted to "Wine Is Not an Emulator" to differentiate its capabilities and operation from other more conventional emulators.

Many Windows programs (including plenty of ham radio applications) run in Linux with Wine's help, making it useful and more lightweight than all-out hardware virtualization. You can read about it at <<http://www.winehq.org>>. A Mac version (still in beta) is also available called WineBottler.



The flagship of all Linux ham radio software, fldigi is a powerful digital-mode, rig-control and logging suite for Linux and BSD developed by Dave Freese, W1HKJ. An official Ubuntu package, fldigi can be installed with an Internet connection and a couple clicks of the mouse. It also works in a wide variety of Linux distros. You can get your free copy and all of the supporting information from <<http://w1hkj.com>>, where you can also find links to the latest version of fldigi and a bunch of Dave's other free ham software. (Courtesy of NTOZ)

**Virtualization:** Modern PCs have fast multicore CPUs, tons of RAM and hard drive space to spare, which makes them ideal virtualization platforms. With so much spare processing power under the hood, fast Windows, Mac or Linux PCs can run more than one operating system *simultaneously!*

Through virtualization, a Linux host PC, for example, can run any flavor of Windows (OS) from within Linux. To the Linux *host* PC, the Windows *guest* PC is just another program running in its own window. Users can easily switch between native Linux apps and a complete, fully-functioning, virtualized Windows PC!

Amazingly, software running in “virtualized Windows,” thinks it’s running on an actual Windows hardware platform because a standard set of PC hardware is “virtualized” to completely support the needs of whatever Windows software is running inside the guest. Through the magic of virtualization, one operating system (*software*) can “pretend” to be another PC’s *hardware!* And there’s enough horsepower leftover to run both OSs — each running multiple native applications — at the same time.

I haven’t experimented with much ham software using virtualization, but I use it on my main PC every day. My main box (quite powerful with 16 GB of RAM), runs 64-bit Windows. Essentially, it mostly runs VMware, a popular virtualization application. The host PC runs multiple, task-specific guest OSs as needed.

My web-browsing guest OS is Ubuntu Linux. Basically, Linux is immune to malware and viruses, so I don’t have to worry about my main PC getting *virused to death* every other day from simple web browsing. Another guest OS (Windows XP), handles my four USB scanners (only two of which run in Linux) so I don’t have to install a bunch of potentially conflicting TWAIN drivers in my “clean as a whistle” host OS.

The base OS (64-bit XP Pro), Ubuntu Linux and Windows XP all run at the same time, and I can switch between them as if they were simple program windows. If I want to test a new OS I can simply install it in its own virtual space (while watching a movie or typing this column on another virtualized guest).

I’ve had as many as 10 guest OSs running at once, and with five or fewer running simultaneously, I don’t notice any performance hit. My data is stored on a separate file server, which all of the PCs (virtual and physical) share, so data isn’t duplicated, and so on.

This is admittedly a bit over the top for the average user, but it works for me, and my base PC never gets viruses or malware. And if a guest OS gets a virus or is otherwise damaged I can simply replace it without fooling around with the base PC.

For PCs with Windows as the host OS I prefer the free version of VMware <<http://www.vmware.com>>.

For PCs with Linux as the host I prefer Virtualbox (also free

from <<https://www.virtualbox.org/>> because it’s already “built in” to most Linux distributions or can be downloaded and installed with a mouse click or two. For PCs with Macintosh hosts, check out VMware Fusion or Parallels <<http://www.parallels.com>>.

You *can* run Macintosh guests on PC hosts after a fashion, but it involves breaking the rules — and technically the law — and isn’t recommended.

**Dual-booting:** Windows and Linux can peacefully coexist on the same PC hardware, although without virtualization they can’t run simultaneously. When you press the start button on a dual-boot PC, a menu will ask you to choose between Windows or Linux, like a machine with a split personality. What this lacks in simultaneity it makes up for in raw speed, as there’s absolutely no performance hit from using virtualization.

**Live disks:** Once arcane, live disks are now mundane, but handy! A live disk is a complete Linux installation on a CD or DVD. If you boot your Windows PC from a live disk in the PC’s DVD drive, it will boot to Linux. Live disks are a bit on the slow side, but they’re a great way to test your PC with Linux or perform online banking tasks with the utmost security because the OS is running from a non-writeable CD-ROM, other software — desirable or not — and viruses can’t “infect” it. The same things go for Linux distros installed on USB flash drives.

PC techs use live disks to boot PCs that have dead hard drives or corrupt Windows boot files. Hams also use them to create custom “ham radio Linux operating environments” that feature a complete OS and tons of ham software on a preconfigured disk or thumb drive!

Notable Linux distros tweaked for ham radio use include FØFAK’s ham radio Live CD <<http://shackbox.net>>, W9YA’s Portable Operating Environment <<http://www.bfst.de/shackstick>> and W1HJK’s Digipup, a pairing of fldigi, the premiere Linux digital-mode software and Puppy Linux, a mini Linux Live disk, available from <<http://www.w1hjk.com/flpuppy.html>>.

None of these “ham distro” projects seems to be undergoing active development, but they are nonetheless still functional and can provide a great way to get a taste of Linux and the ham radio software available for it.

## Will Your Next Shack PC Run Linux?

Linux and amateur radio share a common “DIY attitude” and community-based roots, and now that Linux and Linux-based ham radio software have never been more powerful and easier to use, you owe it to yourself to at least investigate. I think you’ll be pleasantly surprised!

### Linux Amateur Radio Resources:

- **AUDIO:** Linux in the Hamshack podcasts (62 audio episodes to date): <<http://lhspodcast.info>>
- **VIDEO:** On YouTube, an SWL looks at “Compiz Fusion and Ubuntu Linux”: <<http://bit.ly/p8lBmm>>
- **Linux Journal** ham radio resources: <<http://www.linuxjournal.com/ham>>
- Hamsoft — Linux software for the ham radio community: <<http://radio.linux.org.au>>
- Linux ham radio software: <<http://www.dxzone.com/catalog/Software/Linux>>
- Guide to Fedora Linux ham radio software: <<http://jjmcd.fedorapeople.org/amateur-radio-guide>>

# Pop'Comm December 2011 Reader Survey

Your feedback is important to us at *Pop'Comm*. It helps guide us to make the magazine even more valuable to you each month.

Please take a few minutes to fill out this month's Reader Survey Card and circle the appropriate numbers corresponding to the questions below. We'll pick a respondent at random for a year's free subscription or an extension of an existing subscription as thanks for your participation — so don't forget to fill in your mailing address and other contact information.

We encourage your comments and suggestions in the space provided, as well. Thank you.

*Last, but not least:* You can now take this survey online. See details below.

**With *Pop'Comm* being offered in both print and digital formats, I will likely:**

- Stick with the print edition..... 1
- Change to the digital edition..... 2
- Take both editions..... 3
- Do nothing. I'm not sure yet..... 4

***Pop'Comm* is giving readers lots of links to supplemental information on the Web.**

- I like that a lot. It's like having an even bigger magazine..... 5
- I find the basic information enough. Links don't interest me..... 6
- Will have to see if they're worth my time..... 7

**What supplemental content in *Pop'Comm* is most interesting? Choose all that apply:**

- Audio..... 8
- Video..... 9
- In-depth background information..... 10
- All of the above..... 11
- None of the above..... 12

**To which digital editions of CQ Communications magazines would you subscribe? Choose all that apply:**

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**Do you think having digital editions of all CQ Communications is a good or a bad idea? Tell us why. (Use the comment line.)**

## Take This Reader Survey Online

You can now participate in this reader survey via the Internet. Simply go to *Pop'Comm On the Web* : <<http://www.popcommmagazine.blogspot.com/>> and click the link to the *Pop'Comm December 2011 Reader Survey*. It's quick and easy.

## Look Who's a Winner . . .

For participating in the *Pop'Comm* Readership Survey, the winner of a free subscription or extension is **Thomas Mancuso, of Cheverly, Maryland.** (*Way to go, Thomas! And thanks for your suggestion about doing more on FM DXing. I'd like to see some FM loggings in Pop'Comm, too!* – Ed.)

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# September: A Record-Setting Month for Solar Cycle 24

by Tomas Hood, NW7US,  
<nw7us@arrl.net>

*“During the course of 30 days, the Sun unleashed 152 C-class flares, 31 M-class flares, and four X-class flares!”*

For a bit over a year, at least, this columnist has been forecasting that by the autumn season, the solar activity level would rise high enough to finally support wide-spread propagation of the higher shortwave radio spectrum.

Many have doubted that the Sun would ever wake up, but this column has postulated that the solar cycle is on course.

Witness the amazing solar activity that occurred during the month of September 2011. It was clear during August that the Sun was pulling back out of the temporary lull in activity, even while solar observers held their collective breath fearing the worst. But, the stunning activity of September made international news, and several Sunspot Cycle 24 records were broken.

During the course of 30 days, the Sun unleashed 152 C-class flares, 31 M-class flares, and four X-class flares! A fair number of the larger flares were accompanied by coronal mass ejections (CME), some of which were directed squarely at the Earth, while others merely glanced off of the magnetosphere.

These CME encounters resulted in a fair amount of auroral events, and certainly caused days of geomagnetic storm conditions. During each of the larger flares, there were rather severe radio blackouts (sudden ionospheric disturbances) on the sunlit side of the Earth, in the regions affected by the direct exposure to the flare's radiation. And, some of these flares also triggered solar proton storms, creating polar cap absorption conditions, making trans-polar radio propagation next to impossible. No doubt about it, September was the most active month, yet, in Sunspot Cycle 24.

## Enter: Sunspot Region Catania 82

One highlight during the march of sunspots across the solar disc was the arrival of active sunspot region Catania 82, later numbered by NOAA as Active Region 11302 (for short, 1302).

Rotating into view on September 22, it offered plenty of activity right from the start. At 1029 UTC, a long-duration magnitude X1.4 x-ray flare erupted from this region, located right on the Sun's northeastern limb. The magnetic structures seen at many wavelengths were stunningly beautiful.

The flare itself lasted more than four hours, starting with the initial X1.4-level explosion, but

continuing to expel amazing amounts of energy during the long four-hour decline (**WATCH:** See the Tomas Hood-narrated video showing the event in various wavelengths: <[http://nw7us.us/x14s22\\_1.html](http://nw7us.us/x14s22_1.html)>). This sunspot region now had everyone's attention!

## A Record-Setting Spot

As Active Region 1302 rotated away from the eastern limb, it increased in size, and was followed by other sunspots. By September 24, this one sunspot became the largest sunspot yet in Cycle 24, as of press time. It measured an incredibly large 1,300 millionths of the solar hemisphere. (*Sunspot observers report the day's Sunspot Area as the sum of the corrected area of all observed sunspots, in units of millionths of the solar hemisphere. – Ed.*)

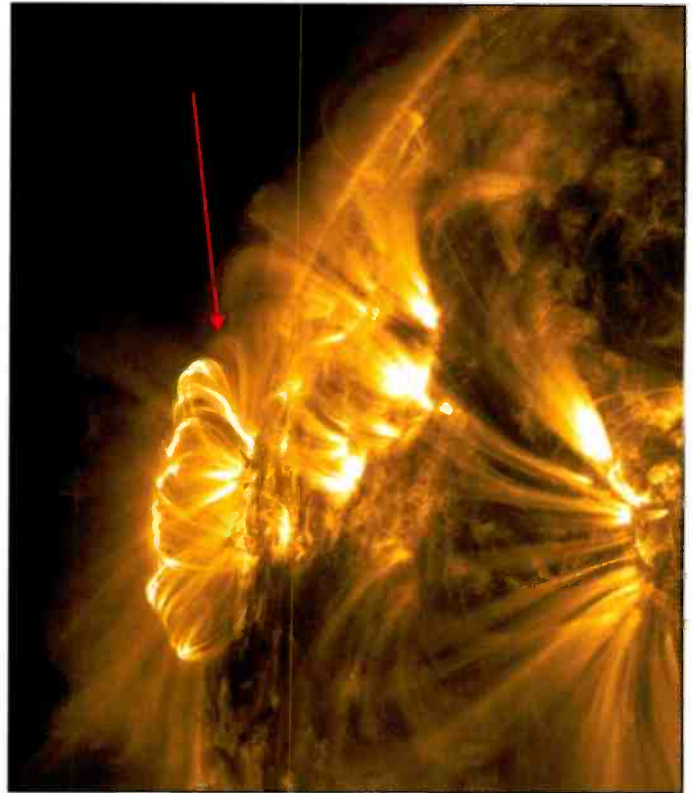
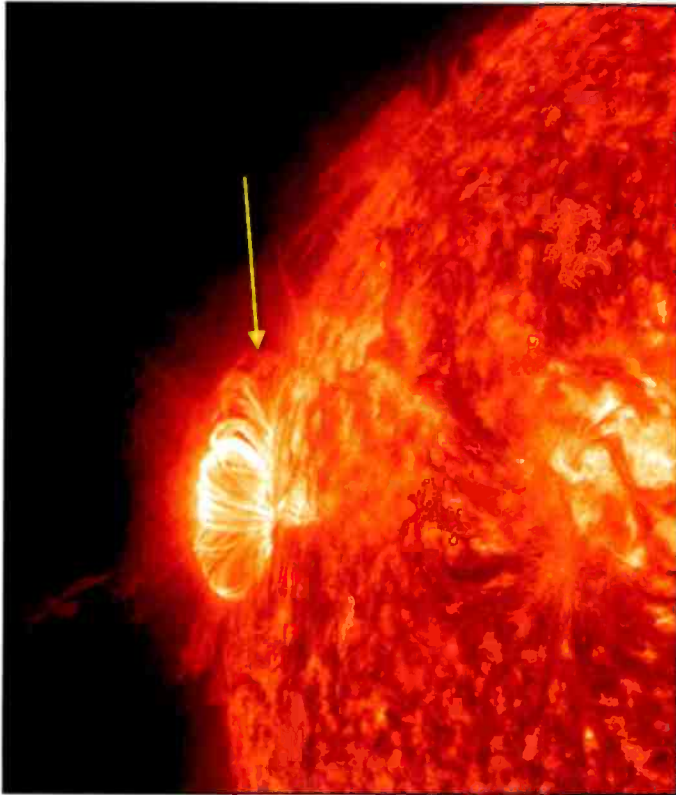
The combined total of all sunspots for September 24 was a phenomenal 1,930 units. That's the largest area yet recorded during this cycle. September 24 also became the day with the highest 10.7-cm Radio Flux reading so far in this sunspot cycle: 190! We have not seen a Flux reading this high since November 2, 2003, when it was also 190. That's a *long* eight years ago.

Of course, that's why we're now seeing background x-ray levels up in the C-class range, as well. Another record was reached on September 25: The background x-ray level reached C2.7, the highest yet in Cycle 24. The background x-ray level is the better gauge of solar energy capable of ionizing the F<sub>2</sub>-region of the ionosphere, providing for propagation of shortwave radio signals in the highest of the HF radio spectrum. Yes, we're now seeing the sure signs of the upward trend in the new Sunspot Cycle 24.

## LW and MW DX Season

We are in the heart of DX season! With winter officially starting on Southern Solstice at 0530 UTC, December 22, medium wave (MW) DX-chasers in northern latitudes stretch out their beverage antennas, or deploy their loop antennas, trying to catch faint signals from exotic AM broadcast stations located across the North Atlantic and Pacific Oceans, and from all locations of the Americas and even from Africa.

They have great success during this time of year because it is easier to catch these weak signals during the long hours of darkness when the



**Figures 1A (left) and 1B:** The Solar Dynamics Observatory (SDO) Atmospheric Imaging Assembly (AIA) captured the incredible magnetic structures that exploded into a magnitude X1.4 x-ray flare on September 22. The false-red colored image is taken at the 304-Angstrom wavelength, and sees the Sun's corona at a temperature of 50,000-degrees Celsius. The false-color yellow image is through the 171-Angstrom wavelength filter, viewing the Sun's corona at 600,000-degrees Celsius. The x-ray flare, erupting from sunspot region NOAA 11302 (1302), peaked at 1056 UTC, but took more than four hours to diminish! (Courtesy of Solar Dynamics Observatory (SDO)/Atmospheric Imaging Assembly – AIA)

lowest ionospheric layer, the D-region, is least ionized, allowing these MW DX signals (frequencies between 530 kHz and 1750 kHz) to propagate great distances with very little loss.

The seasonal decrease in weather-related noise makes it easier to hear the weaker DX signals on the lower frequencies. With thunderstorms few and far between, storm-related static and noise is greatly reduced.

Seasonally, the geomagnetic activity tends to quiet down during the winter months. The most active geomagnetic seasons are centered on the two equinoxes, in the spring and autumn. The solstice periods result in lower geomagnetic activity, providing more stable and reliable propagation on the shortwave spectrum, especially on the lower frequencies.

Even trans-polar propagation is improved because of the lower geomagnetic disturbances at the Polar Regions.

## MW DX Hunting Strategies

When is the best time to look for MW DX? The general rule is to start several hours before local sunset, and to continue through the night and into the early daylight hours.

As sunset approaches, the ionosphere starts to change. The D-region recombines and signals begin to punch through to the E- and F-regions, and distant propagation is more likely. Most broadcast stations in the United States change from high power to low power after their local sunset. If you listen just prior to their local sunset time, their higher power will propagate well because of the characteristics of nighttime ionization.

The idea is to maximize the degree of darkness at the station (and consequently, along the signal path from them to you) while they're on day power and pattern. The exception to this would be those cases where the power difference is small or none, but the nighttime pattern actually is more favorable to you.

At the same time, any station to the west that has a favorable nighttime signal in your direction (in other words, the station has significant nighttime power, and hopefully its antenna design has no deep null antenna pattern aimed at you) is a potential sunrise target.

D-region absorption increases rapidly when in direct sunlight — east of you begins to ionize under sunlight, while west of you is still dark and free of D-region ionization and the resulting radio signal absorption.

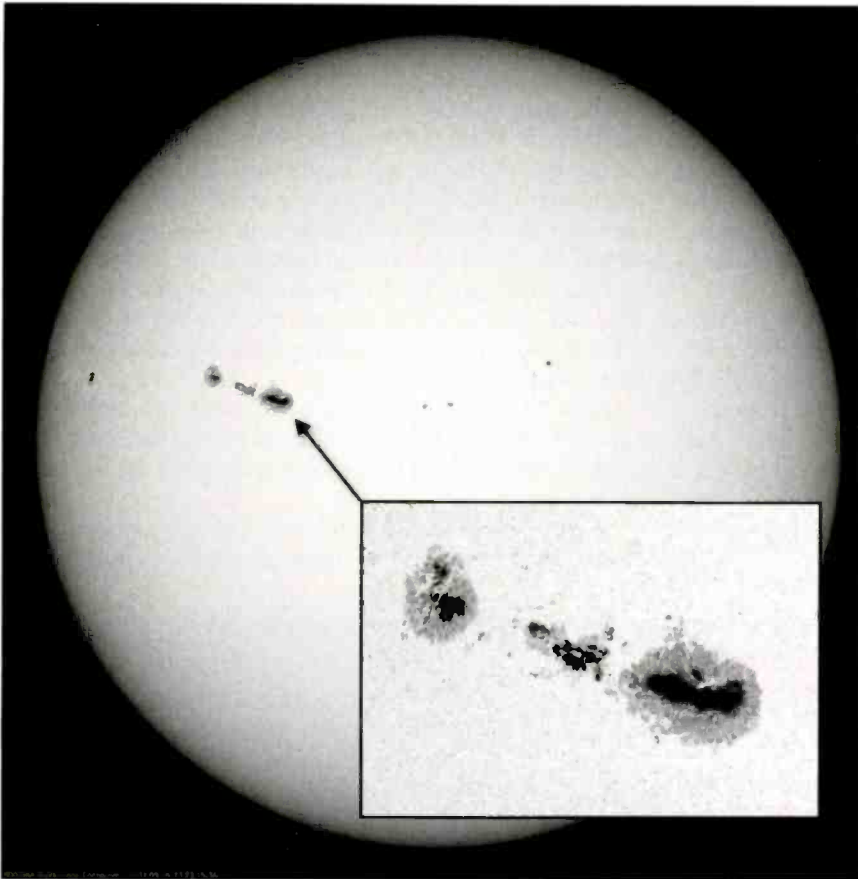
For a period of time around your local sunrise the relative strength of stations to the west of you increases, while eastern stations will start to fade, allowing the western stations to emerge from beneath. On rare and exciting occasions, this period will last long enough for some western stations to go to their higher power and daytime pattern.

The shortest day of the year is not the day when the sunrise is latest and the sunset earliest. The latest sunrise times at mid-latitudes are right around December 30, while the earliest sunset times are usually between December 5 and 10. This means that December can be viewed as an "autumn month" in terms of sunrise DX, but should be considered more like January for sunset DX.

This time of year is also the season when we experience an

Optimum Working Frequencies (MHz) - For December 2011 - Flux = 122, Created by NW7US

UTC	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
TO/FROM US WEST COAST																									
CARIBBEAN	21	16	13	13	12	12	11	11	11	11	10	10	10	10	15	20	22	23	24	24	24	24	24	24	23
NORTHERN SOUTH AMERICA	29	27	21	17	16	16	15	15	14	14	14	14	14	13	13	18	26	29	31	32	33	33	33	32	31
CENTRAL SOUTH AMERICA	29	26	18	17	16	16	15	15	14	14	14	14	14	14	20	26	29	31	32	33	33	33	32	31	
SOUTHERN SOUTH AMERICA	31	29	25	18	17	16	16	15	15	14	14	14	14	14	25	29	30	31	32	33	33	34	34	33	
WESTERN EUROPE	9	9	9	9	9	9	9	9	9	9	9	9	9	9	12	13	12	12	11	10	10	10	9		
EASTERN EUROPE	10	10	9	9	9	9	9	9	9	9	9	9	9	9	9	9	11	12	11	10	10	10	10		
EASTERN NORTH AMERICA	22	19	15	14	13	13	13	12	12	12	12	12	11	11	17	21	24	25	26	26	26	26	25	24	
CENTRAL NORTH AMERICA	13	12	10	8	8	7	7	7	7	7	6	6	6	6	6	10	12	13	14	14	14	14	14		
WESTERN NORTH AMERICA	7	7	6	4	4	4	4	3	3	3	3	3	3	3	3	6	7	7	8	8	8	8	7		
SOUTHERN NORTH AMERICA	23	21	17	13	13	12	12	11	11	11	11	11	11	10	10	18	21	23	24	25	25	25	25	24	
HAWAII	21	21	20	18	16	12	11	11	10	10	10	9	9	9	9	9	15	18	20	21	21	22	22		
NORTHERN AFRICA	10	10	10	10	10	9	9	9	10	9	9	9	9	9	14	16	17	17	13	12	11	11	11		
CENTRAL AFRICA	12	11	11	10	10	10	10	10	10	9	9	9	9	9	13	15	16	17	15	14	14	13	13		
SOUTH AFRICA	20	15	14	13	13	12	12	12	11	11	11	11	11	11	16	20	22	23	24	24	24	24	23	22	
MIDDLE EAST	10	10	10	9	9	10	10	9	9	9	9	9	9	9	9	12	12	11	11	11	10	10	10		
JAPAN	19	19	18	17	15	11	11	11	10	10	10	10	10	9	9	9	9	9	9	9	9	13	17	19	
CENTRAL ASIA	19	19	18	17	14	11	11	11	10	10	10	10	10	10	9	9	9	9	12	12	12	12	13	19	
INDIA	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9		
THAILAND	18	18	17	16	13	11	11	10	10	10	10	10	10	9	9	9	9	9	12	12	12	12	12		
AUSTRALIA	29	30	30	28	24	18	17	16	16	15	15	14	14	14	14	14	14	17	17	20	23	25	27		
CHINA	16	17	16	15	11	11	11	10	10	10	10	10	9	9	9	9	9	9	10	10	9	9	9		
SOUTH PACIFIC	31	32	30	28	23	18	17	16	16	15	15	14	14	14	14	16	18	20	23	25	27	29	30		
TO/FROM US MIDWEST																									
CARIBBEAN	22	16	15	14	13	13	13	12	12	12	12	12	11	19	24	26	27	28	29	29	29	28	27	25	
NORTHERN SOUTH AMERICA	26	21	16	15	15	14	14	13	13	13	13	12	12	19	25	28	29	30	31	31	31	31	30	28	
CENTRAL SOUTH AMERICA	26	19	17	17	16	15	15	15	14	14	14	14	14	24	28	30	32	33	34	34	34	33	32	30	
SOUTHERN SOUTH AMERICA	29	25	19	18	17	16	16	15	15	14	14	14	14	18	26	28	29	30	32	33	33	34	33	32	
WESTERN EUROPE	10	10	9	9	9	9	9	9	9	9	9	9	9	12	15	17	16	16	15	14	11	10	10		
EASTERN EUROPE	10	10	9	9	9	9	9	9	9	9	9	9	9	13	15	16	14	11	11	10	10	10	10		
EASTERN NORTH AMERICA	15	11	10	10	10	9	9	9	9	9	8	8	8	10	15	17	18	19	19	20	19	19	18	17	
CENTRAL NORTH AMERICA	7	6	5	4	4	4	4	4	4	4	4	4	4	4	5	7	8	8	9	9	9	8	8		
WESTERN NORTH AMERICA	13	12	10	8	8	7	7	7	7	7	6	6	6	6	10	12	13	14	15	15	15	15	14		
SOUTHERN NORTH AMERICA	15	13	10	9	9	8	8	8	8	8	7	7	7	12	15	16	17	18	18	18	18	17	17		
HAWAII	24	23	21	17	14	13	12	12	12	11	11	11	11	11	10	11	19	22	24	25	25	25	25		
NORTHERN AFRICA	12	11	11	10	10	10	10	10	10	9	9	9	9	15	17	19	19	20	20	19	15	14	13		
CENTRAL AFRICA	12	11	11	10	10	10	10	10	10	9	9	9	9	14	17	18	19	20	20	15	14	14	13		
SOUTH AFRICA	20	17	16	16	15	15	14	14	14	14	14	13	25	28	30	31	32	32	32	32	31	28	26		
MIDDLE EAST	10	10	9	9	9	10	10	10	10	9	9	9	9	11	15	17	18	15	12	11	11	10	10		
JAPAN	18	17	15	11	11	11	10	10	10	10	10	10	9	9	9	9	10	10	9	9	9	11	16	18	
CENTRAL ASIA	17	16	14	11	11	10	10	10	10	10	10	9	9	9	9	9	12	12	12	12	12	12	11	18	
INDIA	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9		
THAILAND	16	15	11	11	10	10	10	10	10	10	9	9	9	9	9	9	13	13	12	12	12	12	12		
AUSTRALIA	29	29	27	22	17	17	16	15	15	15	14	14	14	14	14	13	20	18	17	17	20	23	25	27	
CHINA	15	15	11	11	10	10	10	10	10	10	9	9	9	9	9	9	10	10	10	10	9	9	9		
SOUTH PACIFIC	32	30	27	19	18	17	16	15	15	15	14	14	14	14	20	19	19	21	24	26	28	30	31		
TO/FROM US EAST COAST																									
CARIBBEAN	16	12	12	11	11	10	10	10	10	9	9	14	19	21	22	23	23	24	24	23	22	21	19		
NORTHERN SOUTH AMERICA	22	18	17	16	15	14	13	13	12	12	12	11	16	21	24	26	27	28	29	29	28	27	26	25	
CENTRAL SOUTH AMERICA	22	20	19	18	17	16	15	15	15	14	14	14	24	27	29	31	32	33	34	34	34	33	31	28	
SOUTHERN SOUTH AMERICA	27	22	21	19	18	17	16	16	15	15	14	14	21	24	26	28	30	31	32	33	33	34	33	31	
WESTERN EUROPE	10	9	9	9	9	9	9	9	9	9	9	15	17	18	18	18	17	17	15	12	11	10	10		
EASTERN EUROPE	9	9	9	9	9	9	9	9	9	9	9	11	11	11	11	11	11	10	9	9	9	9	9		
EASTERN NORTH AMERICA	6	5	5	5	4	4	4	4	4	4	4	4	4	7	8	9	9	10	10	10	9	9	8		
CENTRAL NORTH AMERICA	16	11	11	10	10	10	9	9	9	9	9	9	11	16	18	19	20	20	21	20	20	19	18		
WESTERN NORTH AMERICA	22	19	15	14	13	13	13	12	12	12	12	12	11	17	22	24	25	26	27	27	26	26	24		
SOUTHERN NORTH AMERICA	18	13	12	11	11	10	10	10	10	9	9	9	9	14	18	20	21	22	22	23	22	21	20		
HAWAII	24	20	15	14	14	13	13	12	12	12	12	12	12	12	12	12	22	25	27	28	27	27	25		
NORTHERN AFRICA	13	12	12	12	12	12	12	12	12	11	18	22	24	26	26	27	26	24	21	15	14	14	13		
CENTRAL AFRICA	13	12	12	12	12	12	12	12	12	12	11	18	22	24	26	27	27	25	22	16	15	14	13		
SOUTH AFRICA	18	17	16	15	15	14	14	14	14	14	23	28	31	33	33	34	34	34	33	32	30	27	19		
MIDDLE EAST	11	11	11	10	10	10	10	9	9	9	12	17	19	20	21	21	15	14	14	13	13	13	12		
JAPAN	15	12	11	11	10	10	10	10	10	9	9	9	9	9	10	10	10	9	9	9	9	9	15	17	
CENTRAL ASIA	13	11	11	10	10	10	10	10	10	9	9	9	9	13	13	12	12	12	12	12	12	11	16		
INDIA	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9		
THAILAND	11	11	11	10	10	10	10	10	9	9	9	9	13	14	14	13	12	12	12	12	12	12	12		
AUSTRALIA	28	25	18	17	16	15	15	14	14	14	14	14	14	22	21	19	18	17	17	21	24	26	28		
CHINA	11	11	11	10	10	10	10	10	10	9	9	9	9	11	10	10	10	10	10	10	9	9	9		
SOUTH PACIFIC	29	25	18	17	16	16	15	15	14	14	14	14	16	21	20	19	20	23	26	28	29	31	32		



**Figure 2:** The left-most sunspot in NOAA Active Sunspot Region 11302 (short, 1302) became the largest single sunspot so far in Sunspot Cycle 24, measuring a remarkable 1,300 millionths of a solar hemisphere! This sunspot group unleashed a number of X-class flares, as well as a multitude of C- and M-class flares during its march across the solar disc during September. It was so active that it made international news, triggered aurora events, and helped push the 10.7-cm flux to a record high of 190 on September 24. This activity turned on the highest shortwave frequencies. The 10-meter amateur radio band became a world-wide DX band, day after day. September clearly was the most active sunspot month yet in Cycle 24. (Courtesy of SDO/Helioseismic and Magnetic Imager – HMI)

improvement of radio wave propagation below 500 kHz, exactly because of the combined improvement of long hours of darkness and the seasonal quiet provided by the reduction in northern-hemispheric electrical storms.

### Shortwave DXing Season

Shortwave DX is hot, too, especially on the mid- to low-HF bands from early evening until late at night, and then again from early morning through high noon. With ever-increasing Cycle 24 activity, there is more F<sub>2</sub>-region ionospheric support for worldwide DX on the higher HF spectrum.

Expect very good propagation on 19 and 16 meters, with both opening up at dawn toward the east, and remaining open toward the west during the early evening.

Nineteen meters will be the hottest daytime band, while 22 and 25 meters will become a close second. These start with early morning openings in all directions until about an hour or two after sunrise, and then remain open into one place or another through the day until early evening.

When conditions are good (days with low geomagnetic activity, and higher solar sunspot activity), 22 through 16 meters are likely to remain open toward the south and west from early evening until about midnight.

The best band for around-the-clock DX will be 31 and 25 meters. Twenty-five meters continues to be an excellent band for medium distance (500 to 1,500 miles) reception during the daylight hours, with longer distance reception (up to 2,000 to 3,000 miles) possible for an hour or two



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*Any day you don't learn something new is a wasted day!*

after local sunrise, and again during the late afternoon and early evening.

From midnight to sunrise, 41 and 31 meters promise some of the hottest nighttime DX during December. The first DX openings should be toward Europe and the east during the late afternoon, then move across the south through the hours of darkness, while remaining open into most parts of the world. Just after sunrise, openings will be more in a westerly direction. Low seasonal noise will make DXing a pleasurable endeavor.

For regional shortwave DXing, rely on short-skip propagation (distances between 250 and 1,300 miles). During December try 90 through 41 meters during the day for paths less than 250 miles, and 90 down to 120 meters at night for these distances.

For openings between 250 and 750 miles, try 41 meters during the day, and both 90 and 120 at night. For distances between 750 and 1,300 miles, 22 through 31 should provide daytime openings, while 41 down to 90 will be open for these distances from sunset to midnight.

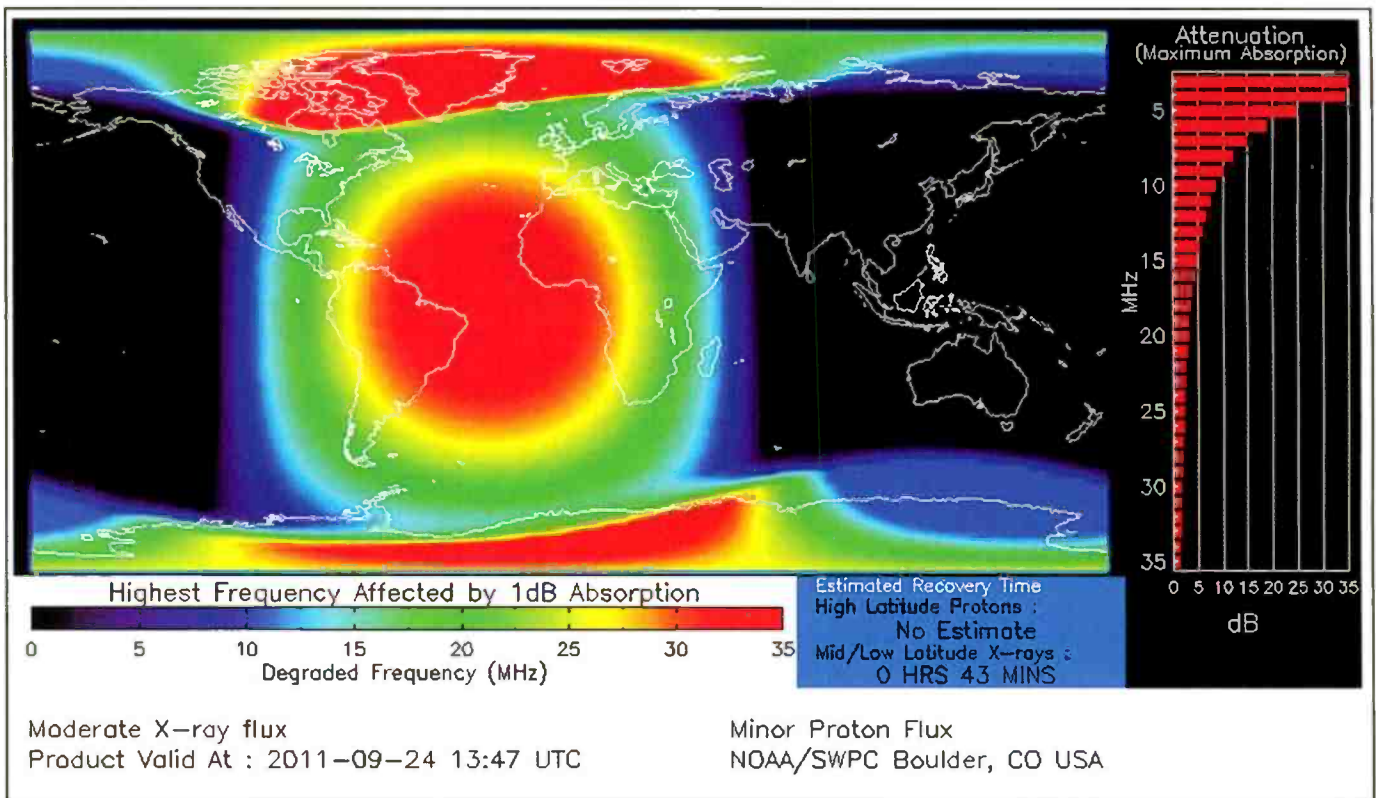
After midnight, 90 meters will remain open out to 1,300 miles until sunrise. Try 31 and 41 meters again for about an hour or so after sunrise.

For openings between 1,300 and 2,300 miles, openings will occur on 22 through 16 meters, with fewer on higher bands, during the daylight hours. During sundown to midnight, check 22 through 41 meters for these long-distance openings, and then check 41 down to 90 meters after midnight until sunrise. Try 41 and 31 meters again for an hour or so after sunrise.

DX openings on 120 and 90 meters during the hours of darkness and into the sunrise period, with considerably decreased static levels, are a sure bet during the longer hours of darkness in the Northern Latitudes.

Look for openings toward Europe and the south from the eastern half of the United States and toward the south, the Far East, Australasia, and the South Pacific from the western half of the country.

Ninety meters should peak toward Europe and in a generally easterly direction around midnight, and then open in a gen-



**Figure 3:** This map conveys several important radio propagation conditions. For radio communications by high-frequency propagation over the Polar Regions, there must be little to no D-region ionization, nor any intense auroral activity. In this example, from September 24, 2011, the map indicates a very strong polar cap absorption event is in progress. A polar cap absorption event results from the ionization of the D-region of the polar ionosphere by high energy protons. A PCA causes an HF radio blackout for trans-polar circuits and can last several days. PCAs are almost always preceded by a major solar flare with the time between the flare event and the onset of the PCA ranging from few minutes to several hours. When a large flare (M- to X-class) erupts and triggers a coronal mass ejection, the shock wave can accelerate protons that in turn rush into the Earth's magnetosphere along the magnetic structure of the solar wind's magnetic field lines. These protons follow Earth's magnetic lines, and rain down onto the Earth's magnetic poles, energizing the ionosphere, causing the PCA event. A polar cap absorption event is most significant to radio communications, as it affects shortwave radio communications. The second most important information conveyed by this map is the strong sudden ionospheric disturbance (SID) that is illustrated over the Atlantic Ocean, between South America and Africa. This is the result of a powerful x-ray flare. Within eight minutes (the time it takes the x-ray energy to travel from Sun to Earth) of the flare eruption, the ionosphere becomes highly energized, all the way down into the D-region. As the D-region absorbs shortwave radio waves, this causes a radio blackout. This map shows the affected area of the blackout, and the intensity in terms of the frequency range affected.

(Courtesy of The National Oceanic and Atmospheric Administration /Space Weather Prediction Center - SWPC)



erally western direction with a peak just after sunrise. The band should remain open toward the south through most of the night.

## Propagation on VHF and Above

Quite a bit of meteor shower activity is expected this month, and this should result in improved conditions for meteor-scatter openings on the VHF bands for distances up to about 1,000 miles.

When a meteor burns up in the atmosphere, its intense heat creates an ionized trail, making it possible for radio signals to propagate off of the ionized trail much like they would off of the ionosphere.

The annual Geminids meteor shower, while not a great candidate for visual enjoyment due to lunar interference, will provide opportunities for meteor-scatter propagation from December 7 to 17. The shower's peak is on December 14 with a maximum hourly rate possibly reaching 120, this year.

The Geminids meteor shower is a great opportunity for those trying the meteor-scatter mode of propagation, since one doesn't have to wait until after midnight to have results. The radiant rises early, but the best operating time will be after midnight local time. This shower also boasts a broad maximum, lasting nearly one whole day, so no matter where you live, you stand a decent chance of working some VHF/UHF signals off of a meteor's plasma trail. (For a complete list of meteor showers in December, visit: <<http://www.imo.net/calendar/2011>>. - Ed.)

A secondary seasonal peak in sporadic-E ionization should also result in some short-skip openings on low VHF between distances of about 800 and 1,300 miles. A rare occurrence of aurora during days of stormy geomagnetic activity is possible, providing some unusual short-skip openings on low VHF.

There is considerably less likelihood for trans-equatorial (TE) VHF openings during December, but look for a possible opening between the southern states and locations deep in South America. The best time to look for these is between about 8 p.m. and 11 p.m. local time.

## Current Solar Cycle 24 Progress

The Royal Observatory of Belgium reports that the mean monthly observed sunspot number for August 2011 is 50.6, (compare that with one year ago when it was 19.6), up from July's 43.9. The lowest daily sunspot value during August 2011 was zero (0) on August 14.

The highest daily sunspot count for August was 96 on August 31. The 12-month running smoothed sunspot number centered on February 2011 is 33.4, two points higher than January. A smoothed sunspot count of 70 is expected for December 2011, give or take about 8 points.

The Dominion Radio Astrophysical Observatory at Penticton, BC, Canada, reports a 10.7-cm observed monthly mean solar flux of 101.7 for August 2011, significantly up from the last three months, but not yet higher than March or April.

However, expect continued upward momentum as we move through the end of 2011. The 12-month smoothed 10.7-cm flux centered on February 2011 is 92.7, up over one point from January. The predicted smoothed 10.7-cm solar flux for December 2011 is about 122, give or take about 7 points.

The observed monthly mean planetary A-Index ( $A_p$ ) for August 2011 was 8, showing a steady level in geomagnetic activity. The 12-month smoothed  $A_p$  index centered on February 2011 is 6.8, about the same as January. Expect the overall geo-

magnetic activity to be active to stormy during December.

Refer to the **Last Minute Forecast** published in *CQ* magazine or on the author's website <<http://sunspotwatch.com>> 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. On Twitter, please follow @NW7US (and if you wish to have an hourly automated update on space weather conditions and other radio propagation-related updates, follow @hfradiospacewx).

I invite you to visit my online propagation resource at <<http://sunspotwatch.com/>>, where you can get the latest space data, forecasts and more, all in an organized manner. If you are on Facebook, check out <<http://www.facebook.com/spacewx.hfradio>> and <<http://www.facebook.com/NW7US>>.

Speaking of Facebook, check out the *Popular Communications Magazine* fan page at <<http://www.facebook.com/PopComm>>. This is a great place for the *Popular Communications* community to participate and share information, tips, DX spots and photos of your antennas, radios or your excursions into the field with your radio gear for that DX hunting trip.

Until next month,  
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## 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	5460	Radio Bolivar, Peru	SS	0300	6080	Voice of America, Sao Tome Relay	
0000	6135	Radio Santa Cruz, Bolivia	SS	0300	9735	Voice of Russia	SS
0000	4410	Radio Eco, Bolivia	SS	0300	12040	Voice of Russia	
0000	15190	Radio Incondidencia, Brazil	PP	0300	7305	Vatican Radio	
0000	9860	Radio Tirana, Albania	AA	0300	9660	Vatican Radio	
0000	6190	Deutschlandfunk, Germany	GG	0300	5915	Zambia National Broadcasting	
0000	9855	Voice of America, Sri Lanka Relay	Tibetan	0300	4805	Radio Difusora Amazonas, Brazil	PP
0000	15275	Radio Thailand		0300	4976	UBC Radio, Uganda	
0000	9685	International Radio of Serbia, via Bosnia		0300	6010	La Voz de Concecencia, Colombia	SS
0000	15180	Voice of Korea	SS	0300	6110	Radio Fana, Ethiopia	Amharic
0000	9700	Radio Bulgaria	BB	0300	6180	Radio Educacion, Mexico	SS
0100	6025	Radio Amanecer, Dominican Republic	SS	0300	9705	Radio Ethiopia	Amharic
0100	4985	Radio Brazil Central	PP	0300	9715	Voice of the Broad Masses, Eritrea	vernacular
0100	4875v	Radio Difusora Roraima, Brazil		0300	11660	Islamic Republic of Iran Broadcasting	AA
		Radio Difusora Roraima, Brazil	PP	0400	5025	Radio Rebelde, Cuba	SS
0100	4717	Radio Yura, Bolivia	SS	0400	5040	Radio Havana Cuba	SS
0100	6090	Radio Banderientes, Brazil	PP	0400	6160	CKZU, Canada	
0100	4055	Radio Verdad, Guatemala	SS	0400	4930	Voice of America, Botswana Relay	
0100	7460	Voice of America, Sri Lanka Relay	Urdu	0400	7390	Belarus Radio	Byelarusian
0100	3985	Croatian Radio		0400	6005	BBC, Ascension Is. Relay	
0200	5000	Radio Havana Cuba		0400	5960	Radio Japan, via Canada	JJ
0200	6165	RN Tchadienne, Chad	FF	0400	6155	All India Radio	Urdu
0200	11710	Radio Argentina Exterior		0400	9805	Radio France International	
0200	9235	Galei Zahal, Israel	HH	0400	7240	Deutsche Welle, Germany, via Rwanda	
0200	9955	WRMI, Florida		0400	11995	Radio France International	
0200	9680	Radio Taiwan International		0400	4775	Trans World Radio, Swaziland	GG
0200	5745	Sri Lanka Broadcasting Corporation		0400	11920	Radio Romania International	
0200	4985	Radio Clube do Para, Brazil	PP	0400	6175	Voice of Vietnam, via Canada	SS
0200	5953	Radio Pio Doce, Bolivia		0400	3345	Channel Africa, South Africa	
0200	15285	Voice of Philippines		0400	9585v	Super Radio Deus e Amor, Brazil	PP
0300	4780	Radio Djibouti	AA	0400	9780	Republic of Yemen Radio	AA
0300	6105	Radio Cancao Nova, Brazil	PP	0400	11930	Radio Belarus	
0300	15240	Radio Australia		0400	11960	Radio Jordan	AA
0300	11925	Radio Japan, via Bonaire	JJ	0400	15365	BBC, Oman Relay	
0300	7180	Voice of Broad Masses, Eritrea	Amharic	0500	5910	Radio Alcaravan, Colombia	SS
0300	6145	BBC, via South Africa		0500	15580	Voice of America Botswana Relay	
0300	5010	Radio Madagasikara, Madagascar	Mallagassy	0500	7295	Radio Algerienne, Algeria, via France	AA
0300	3345	Adventist World Radio, USA, via S. Africa	Amharic	0500	7245	Radio Mauritanie, Mauritania	AA
0300	12005	RTV Tunisienne, Tunisia	AA	0500	7285	Radio Sonder Grense, South Africa	
0300	11980	Voice of Turkey	TT	0500	9515	Radio Marumby, Brazil	PP
0300	9750	BBC, Seychelles Relay		0600	9545	Deutsche Welle, Germany, via Portugal	
				0600	7125	Radio Guinee, Guinea	FF

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0600	11725	Radio New Zealand International		1400	12025	Far East Broadcasting Assn. via UAE	Kashmiri
0600	5995	Radio Malienne, Mali	FF	1400	17725	Voice of Africa, Libya	
0800	9635	Radio Malienne, Mali	FF	1400	12150	Voice of America, Philippines Relay	
0900	4700	Radio San Miguel, Bolivia	SS	1400	9740	BBC, Singapore Relay	
0900	4990	Radio Apinte, Suriname	DD	1400	6100	Radio Rossii, Russia	RR
0900	4790	Radio Vision, Peru	SS	1400	13625	Radio Tirana, Albania	
1000	3310	Radio Mosoj Chaski, Bolivia	SS	1500	15125	Radio Canada International, via China	
1000	6050	HCJB Global, Ecuador	SS	1500	15120	Voice of Nigeria	
1100	9525	China Radio International	CC	1500	11905	Sri Lanka Broadcasting Corporation	
1100	5995	Radio Australia		1600	15500	Sudan Radio Service, USA, via England	AA
1100	2485	ABC Northern Territories Service, Australia		1600	15680	Radio Farda, USA	Farsi
1100	2925	Radio Nikkei, Japan	JJ	1600	15435	Broadcasting Svc of Kingdom, Saudi Arabia	AA
1100	9870	All India Radio	Hindi	1700	15510	Deutsche Welle, Rwanda Relay	RR
1100	4825	La Voz de la Selva, Peru	SS	1700	9770	Polish Radio, via Austria	
1100	4775	Radio Tarma, Peru	SS	1700	11735	Radio Romania International	
1100	5954	Radio Republica, (to Cuba)	SS	1700	15570	Vatican Radio	FF
1100	9655	Radio New Zealand International		1700	17850	Radio Exterior Espana, Costa Rica Relay	SS
1100	7360	Radio Nederland, via Philippines	DD	1800	17610	Deutsche Welle, Germany, via England	GG
1100	9910	Adventist World Radio, USA, via Guam	CC	1800	21690	Radio France Intl, French Guiana Relay	FF
1100	7260	Radio Thailand	Khmer	1800	15540	Radio Kuwait	
1100	7460	Radio Taiwan International	CC	1800	15215	Voice of Africa, Libya	Hausa
1100	5020	Solomon Islands Broadcasting Corp.		1900	15345	RTV Marocaine, Morocco	AA
1100	9430	Far East Broadcasting, Philippines	Mandarin	1900	15220	Adventist World Radio, USA, via Austria	FF
1100	9835	RTV Malaysia	Malayan	2000	15400	BBC, Ascension Is. Relay	
1100	11535	Family Radio, Florida, via Taiwan	Mandarin	2000	9705	Radio Ethiopia	Amharic
1100	7200	Myanmar Radio, Myanmar, (Burma)	Burmese	2000	9505	One Africa, Zambia	
1200	9855	China Radio International		2100	15235	Radio Canada International	F
1200	6165	Radio Nederland, via Ascension	SS	2100	17680	CVC-La Voz, Chile	SS
1200	11870	KNLS, Alaska		2100	17735	Radio Canada International	FF
1200	15610	IRRS, Italy, via Romania		2100	13630	Voice of Greece	Greek
1200	3385	Radio E. New Britain, Papua New Guinea	Tok Pisin	2100	15640	CVC-La Voz, England, via Germany	
1200	9930	T8WH, Palau	JJ	2100	15190	Radio Africa, Equatorial Guinea	
1200	3205	NBC, Papua New Guinea	Tok Pisin	2100	9665	Radio PMR, Moldova	
1200	3905	Radio New Ireland, Papua New Guinea	Tok Pisin	2100	17550	Radio Kuwait	AA
1200	11710	Voice of Korea, North Korea	FF	2200	7495	Radio Algerienne, Algeria, via France	AA
1200	4755	The Cross, Micronesia		2200	15265	Radio Japan	JJ
1200	9265	WINB, Pennsylvania		2200	7450	RS Makedonias, Greece	Greek
1200	5765	Armed Forces Radio, Guam		2200	15720	Radio New Zealand International	
1200	15450	Voice of Turkey		2200	9705	La Voix du Sahel, Niger	FF
1200	9650	KBS World Radio, South Korea		2200	9575	Radio Medi Un, Morocco	FF
1200	12065	Voice of Russia	VV	2200	12133	Armed Forces Radio, Florida	
1200	3945	Radio Vanuatu		2200	11930	Radio Marti, USA	SS
1200	5050	Ozy Radio, Australia	Greek	2200	15110	Radio Exterior Espana, Spain	SS
1300	6070	CFRX, Canada		2200	9830	Voice of Turkey	
1300	9625	CBC Northern Service, Canada		2200	15850	Galei Zahal, Israel	HH
1300	9580	Radio Australia		2300	9925	Croatian Radio, via Germany	Croatian
1300	15630	Voice of Greece	Greek	2300	11780	Radio Nacional da Amazonia, Brazil	PP
1300	9525v	Voice of Indonesia		2300	15370	Radio Havana Cuba	PP
1300	10300	Sound of Hope, Taiwan	CC	2300	7400	Radio Bulgaria	SS
1300	9335	North Korea, North Korea		2300	11700	Radio Bulgaria	
1300	11715	KJES, New Mexico		2300	17605	Radio Nederland, Bonaire Relay	DD
1300	12020	Voice of Vietnam		2300	15345	Radio Nacional RAE, Argentina	SS
1300	9690	All India Radio		2300	17605	Radio Nederland, Bonaire Relay	DD
1400	13625	Radio Tirana, Albania		2300	15430	Radio Free Asia, Northern Marianas Relay	CC
1400	11705	Radio Japan		2300	15585	Radio Free Asia, Northern Marianas Relay	CC
1400	13850	Kol Israel	Farsi	2300	15430	Radio Free Asia, Northern Marianas Relay	CC
1400	9690	All India Radio		2300	7345	RTV Tunisienne, Tunisia	AA
				2300	9780	CVC-La Voz, Chile	SS

# Communications Trivia

by R.B. Sturtevant, AD7IL

*Q: Who was Juliette Dodu and why do the French remember her name?*

**A:** Now that question goes back a long way. In 1870 she and her widowed mother ran the telegraph office in their small French town of Pithiviers in north-central France. That was also the year that the Franco-Prussian War broke out and Pithiviers was occupied.

The telegraph office was located in the women's home. Prussian troops took over the telegraph office and converted it to military traffic only. Juliette and her mother were restricted to the second floor of the house and forbidden to come into the telegraph office on the first floor.

Juliette tapped into the wires that came from the roof into the telegraph office with a spare telegraph receiving apparatus.

For 17 days, the 20-year-old girl listened in on all Prussian traffic and passed their dispatches to French authorities. It was estimated at the time that her actions saved the lives of 40,000 French troops.

In the end Juliette was caught, tried and sentenced to death. She is supposed to have said to her capturers, "I am French and so is my mother. I have acted for my country. Messieurs, do with me as you wish!"

An armistice ending the war was signed before her execution could be carried out. She was pardoned and set free. She was the first woman to be awarded the French Legion of Honor. She died in 1909 at the Clarens, Switzerland.

*(For more on Juliette Dodu, and the controversies surrounding parts of her life, visit: <[http://en.wikipedia.org/wiki/Juliette\\_Dodu](http://en.wikipedia.org/wiki/Juliette_Dodu)>. - Ed.)*

*Q: What kind of laws were on the books in Germany that allowed the Nazis to take over radio when Adolph Hitler came to power?*



This illustration by Ernest Jean Delahaye (1855-1921), appearing in Illustrated War News depicts Juliette Dodu with Prussian military troops in 1870. She was awarded the French Legion of Honor for her actions in intercepting Prussian messages — with the resulting intelligence believed to have saved the lives of 40,000 French troops. (Courtesy of Wikimedia Commons. Published before 1923 and public domain in the U.S.)

**A:** Actually in 1926 there was a law passed that said radio was not allowed to get involved in politics. It must remain neutral. The legislators were very naïve to think that things could remain that way.

By 1928 all sides from the political spectrum called for an end to political neutrality. By 1929 the restrictions were still in effect but limits to these restrictions were being called for. The change took place in 1932.

The new guidelines for political discussion reflected German family values and Christian beliefs. There was, however, a heavy nationalism that was growing in the country. In 1933, the year Adolph Hitler took power, the industry was a loosely-organized network of financially independent companies working on a regional basis rather than a national one.

The election of 1933 was heavily influenced by intimidation, violence, lies and thuggery. Radio had very little to do with the election. It was after the election that Joseph Goebbels, Hitler's head propagandist, took over the airwaves.

Basically, the Nazis made up a list of journalists and radio talent they considered "unreliable." When the "unreliable" showed up for work, someone else was sitting at their desk or work place. The popular protestant minister Dieter Bonhoeffer spoke on the radio regularly. Midway through his first post-election speech, the microphone went dead.

*(LISTEN: To Adolph Hitler's final radio address on January 30, 1945. The item is posted on YouTube and contains English translation: <<http://bit.ly/raMhrN>>. - Ed.)*

*Q: Was it email and the telephone that put Western Union out of the telegram business?*

**A:** Yes it was. Founded in 1859, Western Union started out as a merger of many small telegraph companies and became the leading light in communications for over a century and a half.

It built the Transcontinental Telegraph in 1861 and in 1872 devised a secure way to transfer funds between cities. At first users were afraid of fraud. But by 1877 Americans were sending \$2.5 million by wire every year. Most people don't realize that Western Union was also a leader in high-frequency radio — and many overseas messages went that way.

In the 1880s Western Union was handling 80 percent of the nation's message traffic. By the 1980s that river was down to a mere stream. But the money was still flowing through the wires.

In 2005 only 20,000 telegrams were sent at an average cost of \$10. In 2006, Western Union stopped its telegram service all together. But don't worry. It is still out there. In 2010, its revenues were \$5.2 billion and it paid out cash in 140 currencies to clients in 166 countries.

*(VIDEO: See a 20-minute 1956 documentary on the history of Western Union narrated by Ralph Paul and posted on YouTube: <<http://bit.ly/oTfWOJ>>. - Ed.)*

## IN GEAR

by Jason Feldman

Power Up

# New, Interesting and Useful Communications Products

The new MFJ Enterprises MFJ-994BRT 600-watt remote IntelliTuner™ will “tune any antenna automatically. Balanced or unbalanced,” the company says. The MFJ-993BRT — the ‘994’s little brother — handles 300-watts SSB/CW. (Courtesy of MFJ Enterprises)



## MFJ 600- and 300-Watt Remote Automatic Tuners

MFJ Enterprises has introduced the MFJ-994BRT and MFJ-993BRT Remote IntelliTuners™ that will “tune any antenna — balanced or unbalanced — automatically.

“MFJ’s exclusive IntelliTuners™, AdaptiveSearch™ and InstantRecall™ algorithms will give you ultra-fast automatic tuning with over 10,000 VirtualAntennas™ memories,” the company says.

These new tuners are mounted in a hard plastic case that measures 9-1/4 x 3 x 14-1/4 inches. Both units will cover 1.8 to 30 Mhz; have heavy-duty 16-ampere, 1,000-volt relays; and include the MFJ-4117 BiasTee Power Injector.

The MFJ-994BRT handles 600 watts — for Ameritron’s solid-state ALS-600/S, solid-state and popular tube-type AL-811/H amplifiers. In addition, it can handle 600-watts SSB/CW and matches 12-800 ohms.

The MFJ-993BRT handles 300-watts SSB/CW and matches 6-1,600 ohms.

“While you are transmitting the tuners will automatically tune for minimum SWR and remembers frequency and tuning settings,” the company said.

To do this, the IntelliTuners™ feature Intelligent Ultra-Fast Tuning, which works by first using MFJ’s InstantRecall™, which checks its memory to see if the frequency was operated before. If not, MFJ’s IntelliTuner™ algorithm — based on MFJ’s SWR Analyzer technology — kicks in. It measures the complex impedance of your antenna, calculates the components it needs and turns them on, and then fine tunes to minimize SWR.

If the IntelliTuner™ still cannot determine impedance, MFJ’s AdaptiveSearch™ algorithm will measure the frequency and determine the relevant component value. For faster searches, the user can set the target SWR to 2 (settable from 1.0 to 2.0).

### Features:

- A 9-1/4- x 3- x 14-1/4-inch durable, hard-plastic case
- A 10,000-antenna memory
- 16-amp, 1,000-volt relays
- MFJ-4117 BiasTee Power Injector

The MFJ-994BRT has an MSRP of \$399.95, while the MFJ-993BRT has an MSRP of \$299.95. Visit: <<http://www.mfjenterprises.com>>.

## iRig Microphone for iOS

iK Multimedia announces the first handheld condenser microphone for use with any iOS device — the iRig Mic.

The iRig Mic features a highly-unidirectional condenser-electret microphone capsule that provides recording in both close mic and long-distance mic conditions, and provides real-time monitoring with its dual mini-jack connector design, according to the company.

A three-level gain switch makes it adjustable for any sound pressure condition — from soft speaking to loud playing. Its form is perfect for handheld performance, plus it allows you to mount it on any mic stand leaving your device free for operating your favorite app, the company said.

The iRig Mic has an MSRP of \$59.95. For more information, visit the company’s website: <<http://ikmultimedia.com/irigmic>>.

(AUDIO: To listen to an audio comparison between the iPhone 4 and iPad 2 built-in microphones vs. the iRig microphone, visit: <<http://aol.it/oG6zk7>>. — Ed.)

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# The Many Delicious Flavors of Online Listening

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

*“The applications of remote receiver control, aside from just plain fun, are limited only by the imagination.”*

Typically, online listening makes one think of the online radio options. These include feeds from broadcast stations, Internet-only stations and user-customizable online radio such as Pandora. But there are other kinds of online listening, from scanner feeds to remote control of someone else’s radio receiver.

## Radio Reference

Scanner feeds hosted through Radio Reference <<http://www.radioreference.com>> allow listening to a scanner at a remote site online. The Radio Reference (RR) feeds are supplied on a volunteer basis by local scanning enthusiasts. They were used extensively by hobbyists and the news media

during the disastrous tornado that hit Joplin, Missouri and the surrounding areas.

Internet-connected radios, some of which can be remotely controlled, also count as online listening.

You can listen to the RR feeds for free. Click on “Live Audio” from its main page and you’ll be presented with options to browse feeds based upon a map or a list of the 50 top feeds by listener count at the current time.

During a recent check, the top feed was Chicago Police Department, followed by Los Angeles PD and Maricopa, Arizona. NYPD is on the list too, as is Montreal and Clark County, Nevada.

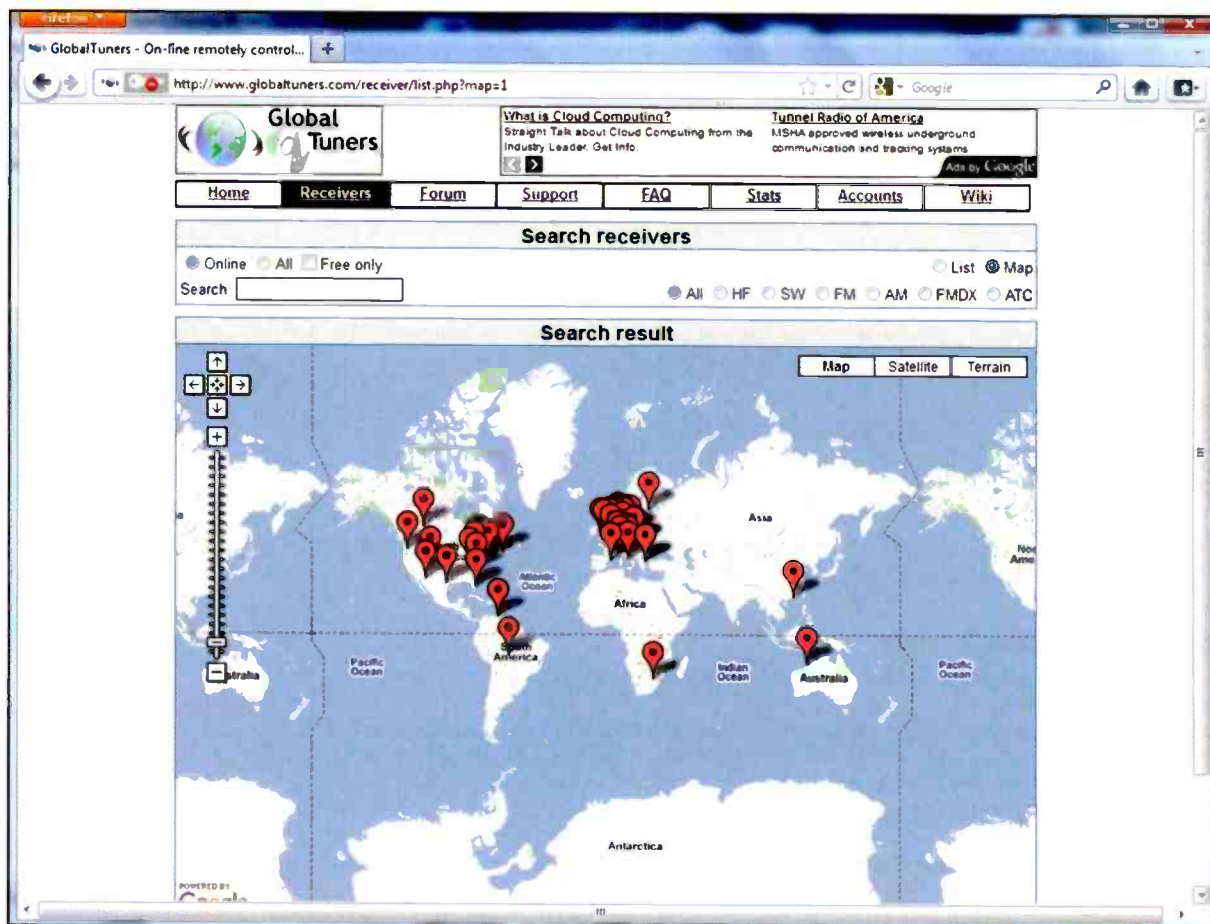


Figure 1: This is the Global Tuners map showing locations of remote controllable receivers. Clicking a map “pin” provides further information.

There is a lot to listen to. Some public safety organizations provide an official feed, direct from their dispatch center, and those are listed on their own tab.

RR also allows feeds to be listed by *genre*, including aircraft, marine, amateur radio and rail.

However, with RR, you cannot control a remote scanner. You may listen to whatever audio the remote device is tuned to at the time.

## GlobalTuners

A few years back there was a great online service called DX Tuners. It allowed remote control of radios all over the world through your web browser. Multiple people could even listen to the same radio. It was fresh, new and a lot of fun. DX Tuners fell by the wayside but its spirit lives on through GlobalTuners at <<http://www.globaltuners.com>>. It is free to use and offers a worldwide menu of radios that you can remote control from your computer.

A recent check showed 51 receivers online and available for remote listeners. While there is no charge to use GlobalTuners, registration is required. Interested users can sign up right on the website. For the first two weeks after registration, use is somewhat limited, but after that you have the run of the site. And what a site it is.

Some of the locations hosting remote receivers that you can tune include Austria, Canada, Finland, France, Germany, Hong Kong, Italy, The Netherlands, Slovakia, Spain, South Africa,

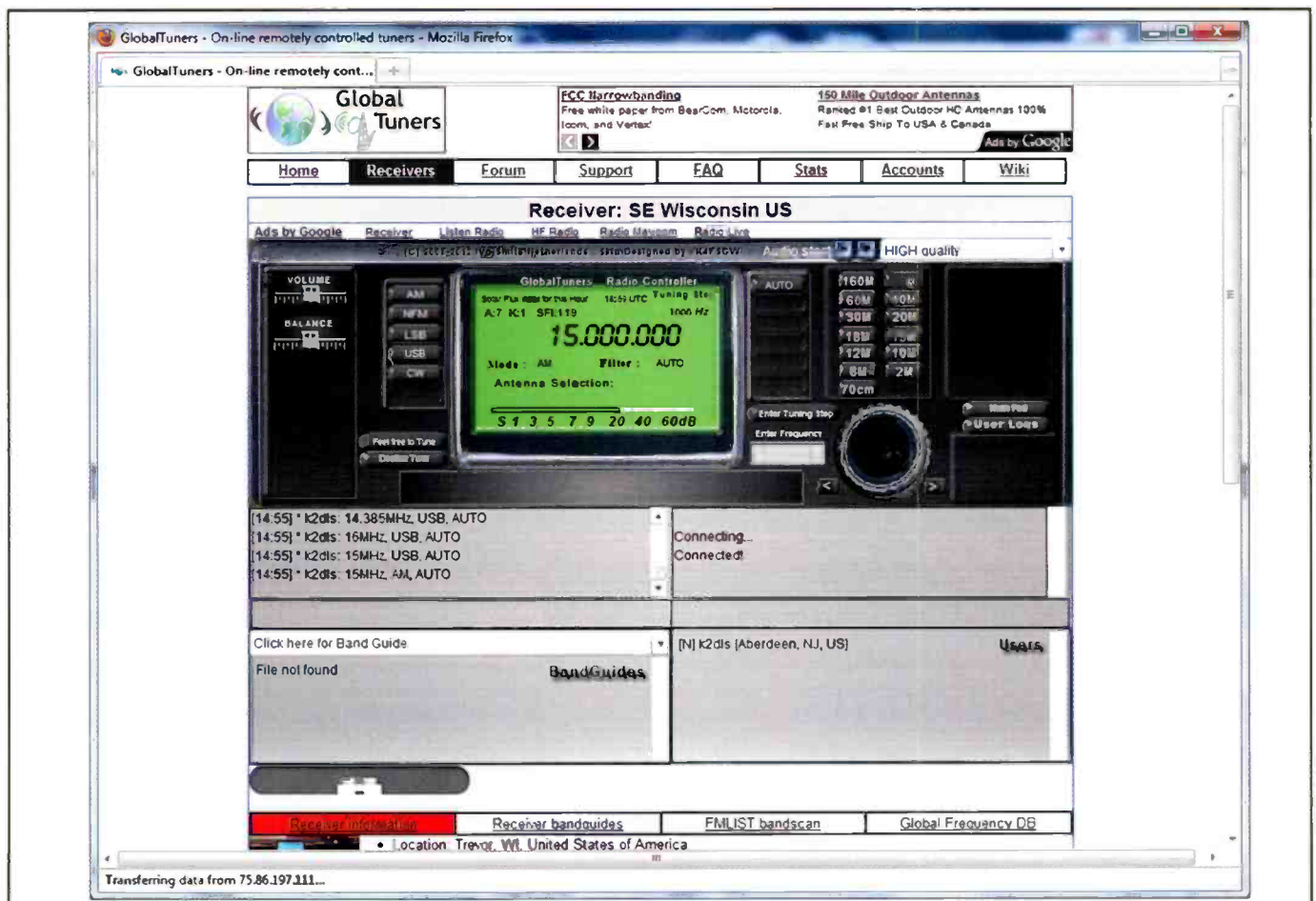
Switzerland, the United Kingdom and, of course, the United States. Both U.S. coasts and Canada, as well as the midsection of each country, are well represented. **Figure 1** shows a map of available receivers.

The radios seem to be very heavily weighted toward the computer-controlled ICOM models, such as the PCR-1000, 1500 and 2500. But I also saw some Kenwood, Sony and Yaesu radios in the list. According to the website, software is available for the following list of receivers:

- ICOM PCR-100, PCR-1000, PCR-1500
- Nearly all ICOM transceivers with a RS232 serial interface (IC-706, R8000, etc.)
- AOR AR-7030, AR-8020, AR-8600
- JRC NRD525, NRD545
- WDM and Video4Linux devices (TV/FM computer cards)
- Yaesu FT-817, VR5000, FRG-9600

GlobalTuners is Flash-based, and the remote receiver can be hosted on a Windows or Linux system, but there is no Mac version. One versatile software option is to use Javascript, which then offers your choice of various external audio players.

**Figure 2** will give you an idea of how GlobalTuners can look on your computer screen. You see an image of a radio within a web browser window. It is, however, a generic representation of an idea of a radio, but not of the specific model of radio that you are remote controlling. Therefore, all supported features of the radio are not always available.



**Figure 2:** A GlobalTuners control panel for a remote receiver located in Trevor, Wisconsin.

# Mil Spec Radio Gear

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by Mark Francis, K1OPF



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In this case, the remote radio is in Wisconsin. It is tuned to the 15-MHz signal of WWV and shows that "k2dls" in Aberdeen, New Jersey is connected. The S-meter shows a signal strength of S9 +20. The remote user can click the various mode and tuning buttons on his or

her browser and the remote receiver will follow.

## Perseus Client

When Microtelecom released the Perseus Software Defined Receiver (SDR) in 2007, it created a lot of excite-

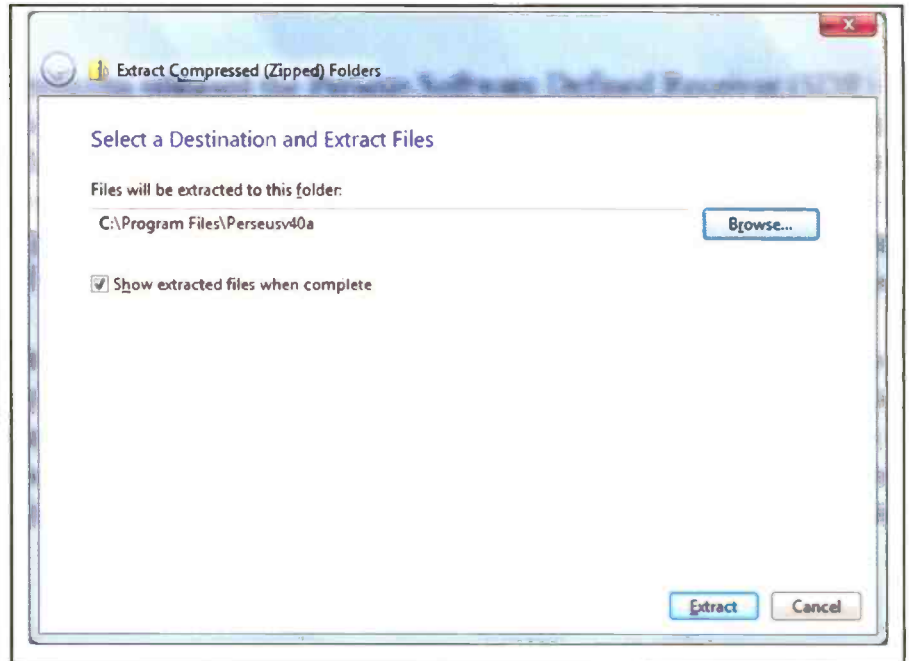


Figure 3: Change the file extraction location to the path shown above.



Figure 4: Note the "square" waveform of the DRM digital signal on 1296 kHz as opposed to the more "pointy" analog AM signals that surround it.



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ment in the SWL and shortwave DX community. It offered a high-quality, reasonably-priced SDR for the home user, with top-notch performance. Features such as digital signal processing (DSP), noise reduction (NR), user tailorable digital filters and integration with station listing databases such as HFCC and EiBi make this radio a hit with serious listeners.

Pop'Comm reviewed this radio in November of 2008 and gave it *two thumbs up* based upon its worthy performance.

Now, you can try the full software version of the Perseus for 30 days, running on your computer, but controlling someone else's radio. You can even control the author's Perseus (when it is online). Using the Perseus software for remote control is a bit more complicated than launching a web browser, although that is part of the first step.

Download and save to your Windows computer: <<http://microtelecom.it/perseus/Perseusv40a.zip>>. Extract the zip files but change the path to: "C:\Program Files\Perseusv40a" (Figure 3).

Navigate into the Perseusv40a directory, and then create a desktop shortcut for the file named "Perseus" with a type "Application." This is the shortcut that you will now double click to run the Perseus software. Since you don't have a Perseus receiver, the software will give you the option to run in demonstration mode. Select that option and the Perseus display screen will launch.

## Network Perseus Client Configuration

In the upper left hand corner of the display are two blue arrows, pointing up and down. Click that spot and an "About Perseus" window will display. Click the box captioned

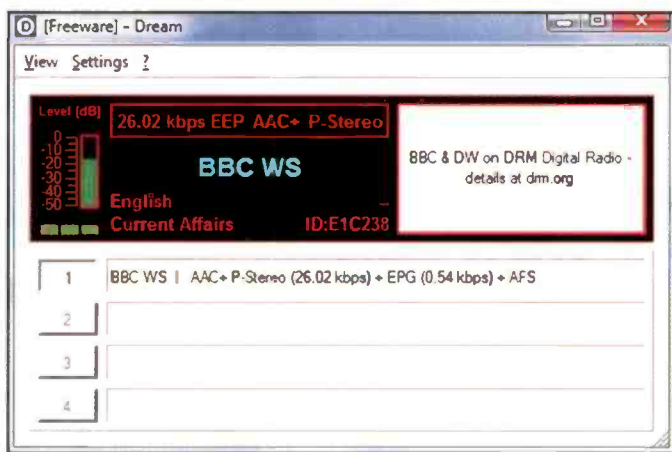


Figure 5: The Dream display showing BBC World Service digital reception (in stereo!) with a 26-kbps stream on the medium-wave band.

"Network Settings" and enter your callsign, handle or nickname, along with location information.

Enter 8015 as your client UDP port and click OK. Next, you have to implement a port forwarding rule on your Internet router that redirects port 8015 UDP packets back to the computer where the Perseus software is running. You can find specific information on how to port forward on your particular router at: <<http://portforward.com>>.

To listen remotely, look for the "Input Select" buttons on the lower left of the Perseus display. Select "Net." A Network Messages box will display. Now select "Addr" and a map show-

## Unwired (from page 6)

“Due Process” was also given a \$4,000 fine. Authorities were “fairly certain” he’d be appealing the case.

Kelton co-hosts “Rule of Law” with Deborah Stevens on the We The People Radio Network: <<http://www.wtprn.com/programs.html>>.

(Read the full story on the KIII-TV website: <<http://bit.ly/q4vLwk>>. – Ed.)

## They Didn’t Play His Song . . . Excitement Ensues

A former disc-jockey and student at Bridgewater State University in Massachusetts is facing charges for allegedly threatening to shoot up WBIM-FM, the campus station. Why? Because DJs wouldn’t play the song he’d requested.

Alex Finnegan, of Easton, “was charged with making a threat with serious public harm — a felony — and making a threat to commit murder, a misdemeanor,” according to a report on *EnterpriseNews.com*: <<http://bit.ly/n0DDh6>>.

Employees at the radio station say they told Finnegan “they had never heard of the song” by a band known as Rufio, “and suggested he call back the following week.” (*LISTEN: To WBIM-FM via streaming Internet audio*: <<http://www.bridgew.edu/wbim/index.htm>>. – Ed.)

Eva Gaffney, BSU spokeswoman, said Finnegan threatened to “come in with a gun and shoot up the place.”

He was arraigned in Brockton District Court and released a written statement to police: “The threats I made were completely a joke with no intentions of ever being made a reality. I am truly sorry that I scared anybody and wasted the resources of BSU doing so.”

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## Washington Beat (from page 8)

aerial communications architecture strategies and unresolved issues.

“Findings will be shared with FEMA, the FAA and other federal partners to initiate discussions regarding next steps for possible pilot programs. Because aerial communications systems could have international ramifications when operated near borders, the PSHSB will work with the State Department and other federal agencies to determine appropriate next steps,” the online story said.

## ARRL Meets With National Security Staff On EmComm

Representatives of the American Radio Relay League briefed members of the National Security Staff in September on capabilities of the Amateur Radio Service to communicate in emergencies.

At the invitation of White House Cybersecurity Coordinator Howard A. Schmidt, W7HAS, the ARRL presentation focused on amateur radio’s “current and evolving capabilities to provide Internet messaging connectivity,” the League’s ARRL reported.

“The White House is looking for ways that the great work of amateur radio operators can continue to support emergencies in the future with particular attention to increased use and dependency on Internet-based technologies,” Schmidt said.

The League presentation was made by Emergency Preparedness Manager Mike Corey, W5MPC; with ARRL President Kay Craigie, N3KN; and Chief Executive Officer David Sumner, K1ZZ.

ing available receivers will display. Find a receiver of interest and click OK.

The Network Messages box will either inform you of a successful connection or a connection problem. If you see the message “connected to remote host” and the spectrum display is showing waveforms, it is time to start your remote listening session.

The Perseus software is very capable, and as a remote listener you are presented with exactly the same experience as if you were listening on a local receiver. You can customize the bandwidth and use DSP NR. However, the integrated recording feature of the Perseus is disabled while in Network mode.

If you’re not quite ready to install the Perseus software, but want to see a real-time map of available receivers, look at: <<http://www.microtelecom.it/map/PerseusServers.html>>.

## Remote Perseus Fun

It was a Sunday morning in spring. I had the Perseus client running and loaded the map of available receivers. There are not that many remote receivers covering North America, but a large number in Western Europe.

I picked a receiver in the Netherlands, which was connected to an active antenna up about 150 feet. It was an amazing experience.

I tuned around the medium wave band and observed a large number of strong signals during the European daylight hours. I also noticed some digital signals on the medium waves. They are easy to pick out based upon their “square” waveform (**Figure 4**).

I wondered if not only could I listen to a Perseus radio a few thousand miles away, but could I run DRM decoding software on my computer and decode the signals? Not so surprisingly, the answer turned out to be yes.

The Perseus client gets the full digital data stream from the remote receiver. I was able to load the Dream software, switch the Perseus client into DRM mode, and then decode a couple of interesting DRM signals from Europe.

On 1296 kHz, I received the BBC World Service with a 26 kHz DRM data stream (**Figure 5**). On 1593 kHz, I received an excellent-quality digital signal from WDR in Langenberg, Germany on 1593 kHz. Both DRM signals were in stereo. The experience was simply amazing.

On an early summer morning, I used the same radio in the Netherlands to hear a good signal from All India Radio on 9910 kHz — at a time of day when that frequency would not have propagated directly to my shack.

I also spent some time listening to *Echo Charlie*, a network of unlicensed HF hobby operations taking place on lower side-band and using spectrum around 6670 kHz, which is normally allocated for aeronautical purposes. Lots of English and Italian is heard here and, needless to say, this was quite a mystery to me when I first encountered it.

## Why go Remote?

The applications of remote receiver control, aside from just plain fun, are limited only by the imagination. Have a virtual DXpedition. Hear what your 20-meter SSB signal with 100 watts into a dipole actually sounds like 4,000 miles away when conditions are good. Hear and see what the MW and LW bands sound like half way around the world. Check propagation conditions around the world through first-hand observation. Or remote back into your radio when traveling to hear what’s going on close to home.

*If you have any other good uses for remote reception, I’d like to hear about them, via email to <[k2dls.rjbits@gmail.com](mailto:k2dls.rjbits@gmail.com)>.*

## A Transistorized Santa Letter, Assembly Required

by Shannon Huniwell  
<melodyfm@yahoo.com>

*“Dad describes the construction process as two steps backwards for every step forward, in that working with a printed circuit board was new to everyone . . .”*

Two weeks prior to Christmas 1955, a mysterious package accented with a colorful Canadian radio station promotional stamp arrived at my father's boyhood home. Making matters even more enigmatic was the fact that the parcel had been addressed to one of Dad's 16-year old classmates in care of the Huniwell's New Jersey address.

In order to avoid making this preface's chronology particularly confusing, I must mention that all of this took place long before Sid Huniwell knew the girl who'd become my mother. In fact, the adolescent who'd eventually grow up to be my dear old Dad and Ernie Terry, the fellow to whom the box was addressed, were only high school sophomores at the time.

Needless to say, the folks who would later turn into my favorite grandparents were rather suspicious about the mail delivery and figured it to be

a questionable component in one of their quirky son's kooky schemes. In part, this notion was based upon at least a dozen other such postal deliveries involving responses to those little classified ads in *Popular Science*, *Boat Sport* or *Radio-TV Experimenter* magazines.

According to family folklore, most every instance featured an unexpected — to my grandmother and grandfather, anyway — and immediate C-O-D (or Cash On Delivery) along with several cases of so-called “scientific novelties,” such as slightly-used outboard motor parts, or grab bags of electronic components apparently solely suitable for pre-World War I spark gap transmitters.

They also surmised that, because the latest arrival had been “ordered” by one of Dad's school chums, the contents were probably doubly questionable. Their disciplinary strategy was to hide the parcel and mention nothing of it until Dad's anticipation caused him to admit the entire plot, at which time, the unopened package would be promptly dispatched to the sender via return mail.

But the teenage version of my father never said a word . . . In fact it was my grandparents who became so incredibly curious about the box that they broke their silence during dinner on Christmas Eve. “Son, your mother and I have something to discuss with you,” my grandfather began. “We'd like to have the air cleared before the holiday festivities begin.”

“What'd'ya mean, Pop?”

When my Dad insisted he had no idea what his father was talking about, my grandmother fetched the package and, for emphasis, dropped it on the table. “Sidney, this is what your father is referring to. And we're especially disappointed because, after our last little talk, you promised us you'd stop sending away for such things unless your father and I agreed that they were a good idea and not just a waste of hard-earned money.”

“Gosh, Mom,” he protested, “I tell you I *didn't* mail off for anything — not recently, anyhow.”

While his parents pointed out his name, his friend's name, the “care-of” or C/O abbreviation, and their home address — plus the radio station sticker — on the parcel's brown paper wrapping, Dad noted that the evidence seemed plausibly circumstantial, but a surprise to him as well.

He suggested that in order to solve the mystery, a call should be placed to his buddy, Ernie,



Neatly pasted to the top of the Christmas letter from Ernie's mother was this rendering of jolly old St. Nick at the microphone. My guess is the image originated on a 1930s holiday card. Holly, instead of a callsign flag, adorned its stand. In blue fountain pen ink and by the same meticulous hand that had lovingly scribed the correspondence's main text, was the greeting, *HO, HO, HO, Ernie. I guess that by now you're much too old to believe in me, but your Mom wanted me to broadcast Merry Christmas wishes to you anyway! — Santa Claus.*

inviting him to stop by on his way home from their church's Christmas Eve service. "I'm sure Ernie will be glad to open the package for all to see," my Dad nodded. "He's a real clean cut kid who'd never do anything goofy. So, Mom and Dad, you don't have to worry that the box is full of racy movies of Betty Page or Marilyn Monroe in their underwear or something!"

"That certainly puts our minds at ease, Son," my grandfather said, shaking his head with a definite note of sarcasm.

"I hope you don't know much about such women and their intimate apparel — especially around Christmastime!" declared my grandmother, as she began clearing away the supper dishes and then disappearing into the kitchen. (VIDEO: *Marilyn Monroe sings "I Wanna Be Loved By You," in "Some Like It Hot."* Visit: <<http://bit.ly/nsHtJg>>. — Ed.)

### 'Please Let Me Leave It Here!'

Sure enough, not long before our church's candlelight service began. Dad's mother spotted Ernie's grandfather, the well-respected president of one of our local banks, and sent Dad to get permission for Ernie to come by the house for some hot cider and donuts decorated like holly wreaths.

Dad didn't know why his buddy lived with grandparents, or where Ernie's mother and father were, but his friend seemed copacetic enough being headquartered in the senior Terry's palatial home and never spoke of his actual folks.

The declaration about Ernie being "clean cut" had been formulated when Dad was looking through a car magazine in Ernie's room and noticed, wedged between the pages, a snap shot of a very pretty girl in an Army uniform. His query about her was immediately met with an uncharacteristically sharp directive that the subject be changed. Dad quickly returned to commentary on Chevy's newly released 6-cylinder Corvette. He made it a point to forego casual musing about females unless specifically asked.

My father's Christmas Eve invitation bloomed into acceptance by Ernie and his pish-posh grandparents, a result that made Dad's mother worry whether or not the Huniwell home was up to presidential standards. Reportedly, however, plied with spiced apple cider and those delicious holiday pastries, both socio-economic classes got along famously.

It was nearly midnight when the stately senior Terrys politely apologized that they'd probably overstayed their welcome, and then complimented Dad's folks on having raised *such an enthusiastic boy*. "Sidney always has some interesting story to share regarding radio or some new invention he's read about," Ernie's granddad indicated. "And he's so well mannered," his grandmother added. "You must be quite proud."

"Are we talking about the same Sidney Huniwell?" my grandfather quipped and then volunteered to round up the boys who'd gone to Dad's room to see the strange box that arrived in the mail.

An instant after Ernie read the return address, his easy-going mood darkened. In fact, my grandfather's knock on the door caused Ernie to shove the unopened package under the bed and make Dad pledge not to say anything about it to Ernie's grandparents. "Please," he begged forcefully. "Let me leave it here! I'll have to explain things later. I really want to see what's inside, but right now I can't. And I'm telling you truthfully, my Granddad will be angry if he ever finds out!"

On the afternoon of December 27, Dad's mom was relieved to see Ernie at the front door. She and my grandfather had listened to their incredulous son confide in them about Ernie's odd



Except for a Regency shirt pocket model some rich kid had brought to a school science fair the year before, this 1955 SONY kit was the first transistor radio my dad ever saw. And it was the first solid-state receiver he ever heard, as the science fair showoff could not get his father's Regency to do much more than squeal under the gymnasium-turned-exhibit-hall's hefty bank of fluorescent lighting. Clearing away interloping placemats and a coral colored *Fiesta Ware* vase centerpiece <<http://bit.ly/mOWyDv>>, his Pop, he and his buddy, Ernie, built the little SONY on the kitchen table and then took turns listening through the crystal earphone to several of New York's 50,000-watt flamethrowers transmitting about 10 miles from their New Jersey hometown. Dad recalls the radio's sensitivity as "not being too hot," but smiles at the thrilling memory of he and his friend successfully clicking the Japanese AM to life, moments after quickly installing the little printed circuit board into its plastic case. "Our kitchen still smelled of solder smoke," my father recollects with a smile. The pioneering experience with that modest SONY turned him into a lifelong loyal fan of the brand.

behavior connected to the package they'd all been anxious to see opened.

Of course Dad's mother and father weren't supposed to know anything about it, so they played along as if there were no such enigma within their walls. They were sure to give the boys sufficient privacy for Ernie to comfortably reveal details leading to the mystery's solution. Dad says Ernie smiled tentatively, took a deep breath, and then slowly opened the box.

"How did she know?" Ernie wondered barely audibly.

"Who? . . . Know what?" my father asked cautiously.

After sitting on the bed silently and staring into the box for a couple of minutes, Ernie turned it toward my Dad, revealing the obviously foreign goods. "It's one of those new kind of radios," he whispered as if he'd stolen the little thing. "No tubes, right? . . ."

"Wow, a kit!" Dad exclaimed. "Remember, last year, how our science teacher said he had escaped from the (Japanese in World War II) on some blown-to-smithereens island in the Pacific, and told us how clever they were at copying our technology? Remember he predicted they'd probably be selling our new ideas back to us in the form of all kinds of futuristic gadgets? I bet this is what he was talking about."

"Look," my father pointed, as Ernie gently broke the car-



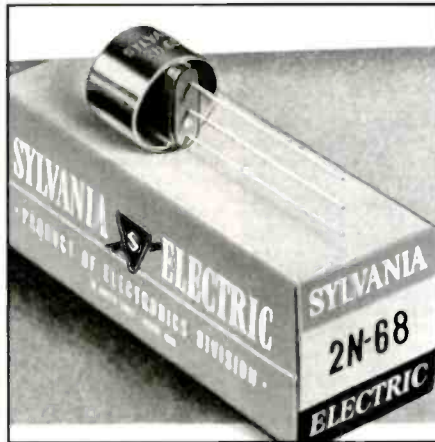
Dad isn't sure where Ernie's mother found this promo stamp, as Western Canada was a long way from where she was stationed in Japan and Korea. It might have been that somewhere during her Army hitch she ran into a Canadian serving with the UN who gave her the sticker after hearing of Ernie's fascination with radio. The image is probably from about 1947, not long before Manitoba Telephone System — the government monopoly owner of CKY (990 kc), Winnipeg; and CKX (1150 kc), Brandon — split up the combo by selling CKY to the Canadian Broadcasting Company (which immediately rebranded it CBW) and CKX to a private firm. Incidentally, a for-profit company with plans to get into broadcasting got government approval to use the classic CKY call on its new Winnipeg station. **(AUDIO: Listen to CKY today via live Internet streaming: <a href="http://bit.ly/pWep1p">http://bit.ly/pWep1p</a>. — Ed.)**

ton's perforations that turned it into a mini billboard-like display, "I bet that writing is Japanese."

There were two English words on the box — *Transistorized Radio*. Something else was printed in tiny, stylized but recognizable lettering — *SONY*. That term meant nothing to the boys. No matter, my Dad could barely contain his enthusiasm. "Neat!" he announced covetously. "Whataya say we put it together and hear what transistors sound like? I could ask my Pop if we can borrow his soldering iron! Wouldn't it be keen to see if it'll even pull in faraway stations?"

"How did she know?" Ernie repeated several times in a way that caused Dad to realize his friend was somewhere else.

"Who do you mean? Who is she?" Dad's query was followed by what he now recalls as approximately 10 minutes



Any explanation of an historical electronics picture like this one to a young person today would have to include the emphasis that most every transistor sister of pioneer semi-conductors such as the Sylvania 2N68 was made in the USA, a venue that the Japanese began to change with copycat innovations from companies the likes of SONY. These days, of course, the sight of a transistor radio marked *Made In Japan* brings back fond memories for generations who are accustomed to getting electronic stuff from China. **(PHOTOS: To see historic pictures of Sylvania transistors, visit: <a href="http://bit.ly/pYQUMD">http://bit.ly/pYQUMD</a>. — Ed.)**

of oppressive silence. "It was one of the few times in my life," he muses, "when I was truly at a loss for words. All I could do was look at my friend in concern and wait for him to snap out of it."

### ... She Wrote Me A Letter

When Ernie spoke again, his inflections revealed a broken heart. "Sid, sorry that I'm crummy company. I wish I could tell you what's buggin' me, but it's complicated and I really don't get it myself." Then Ernie began sifting through the wrapping paper and cardboard on the floor . . . Finding nothing but the wrapping paper and cardboard, he set his gaze upon the transistor radio kit box.

"I bet it's in there," Ernie whispered to himself, his lips slightly moving. He gently fingered open the kit's paperboard cutout liner that held the radio's components. Carefully taped inside was an envelope beautifully lettered in calligraphy: *To My Dear Ernie*.

After reading the enclosed letter, Ernie placed it back inside the kit, stood up, and slowly headed into the hallway. Dad followed him in hopes of being able to console him about whatever had been written in the letter. When my father reached the top of the staircase, Ernie, then near

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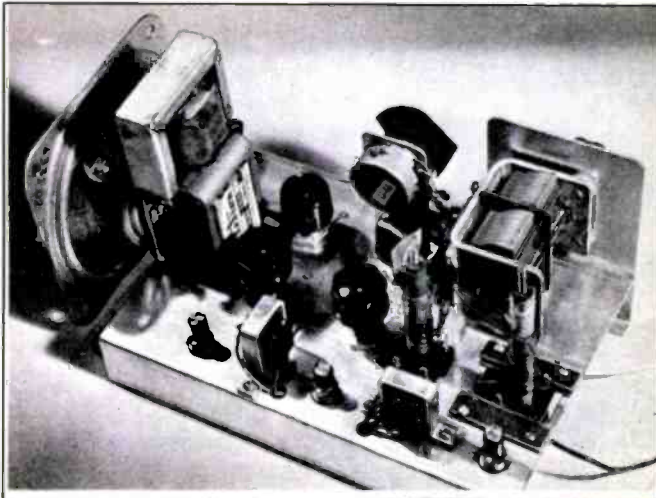


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PREVIEW OF SETS TO COME, this tubeless receiver gives good headphone reception with three transistors and even works a speaker on local stations. Comparison of matchbook with transistors (in foreground, right) shows size. Sockets are behind.

## Now You Can Build a Transistor Radio

"Pint-sized television sets and wrist-watch radios are likely to come when transistors take over," predicted an October 1952 *Popular Science* article outlining how to build an "experimental" solid-state AM receiver. Arguably, it hails as the first mainstream transistor radio plans for the trendy do-it-yourselfer. By the way, the magazine specified the use of a \$6.95 Western Electric model A-1698 transistor.

(PHOTOS: For *Western Electric transistor history*, visit: <http://bit.ly/rjvZrV>. — Ed.) The relatively low price of this early space-age component leads some to speculate that the radio supply source noted in the text had secured a stock of "seconds" recently rejected by some military procurement inspector.

the bottom, turned and suggested that Dad might better understand the situation if he'd look at the message.

Just before turning out the lights that night, my father felt that would be the only way he could start helping his good friend.

### 'Dearest Ernie,'

... the note began, "I hope you don't mind me mailing you this gift in care of the close friend you mentioned the last time we saw each other. I hope I remembered his name correctly.

"A very resourceful Army clerk on my base did a *best guess* trace on his folks' address and assured me this package would get to you. I also hope that it has arrived in time for Christmas and that it won't cause any trouble between you and your grandparents, should you choose to mention it to them.

"When I told one of the girls in my unit that you liked radio and electronic things, she asked a boyfriend of hers who is assigned to the Signal Corps to recommend an interesting gift. He assured me that this little radio kit from some new company here in Japan would be just the ticket. He says you'll like it because it'll be fun to put together — maybe sort of a puzzle — and runs on something new called *transistors*, whatever they are!

"Ernie, honey, please think of me every time you listen to

this little radio. Though I wish I could just come to you in an instant right through the airwaves, I am truly sorry that we can't be together. Don't ever blame yourself or anyone else for that. It's my fault and I want you to know that anytime you happen to think of me, I'll already be thinking of how very much I love you.

"Meanwhile, I'm always looking forward to the day when we can make up for all the time we've been apart. *Merry Christmas with All my love, Your Mom.*

"(P.S. If you'd care to write and let me know if the little plastic radio actually plays, use the address below. Even if I've been re-assigned, the Army will make sure your letter finds me. — *Hugs and Kisses!*")"

## The Mystery Deepens

My father admits he had to dab his eyes after entering just a corner of the sad world of Ernie and his mom. Tuning in a station featuring ballads by stars like Sinatra and Peggy Lee, he potted-down the volume to a bare minimum, and fell asleep trying to figure out how to best console his friend. Most of all, he wondered why Ernie and his mother were so far apart.

Dad nodded off resolved to ask his folks for advice and to somehow use the little *SONY* kit to build a big difference in the life of two people who obviously belong together.

Dad smiles that once his folks learned of his friend's plight, they each mobilized an action plan. Of course, in their own ways, they were also making amends for having accused their son of ordering what turned out to be a gift to a grieving teenager from a heartsick young woman.

For starters, my grandmother called in several favors from ladies in her various church and social groups in order to learn accurate details about Ernie's background — something his proud grandparents would never be comfortable divulging.

The pieces morphed into a biography in which Ernie was born to his grandparents' only son. A pretty high school sophomore would meet the 17-year-old boy, who was set to complete



Consumer electronics manufacturers wanting to be able to claim a "modern" portable in their mid-1950s lineups would do so even if their offerings were not quite ready for prime time and technically a hybrid of semiconductors and mini-tubes. Such a mix was the euphemistic province of Automatic Radio Corp's model TT-600. Dubbed the "Tom Thumb," its "TT" designation could have also meant *tubes* amplifying *transistors*. (PHOTOS: For more on the "Tom Thumb," visit: <http://bit.ly/pPOb2w>. — Ed.)



A YouTube video captures transistor radio assembly techniques of a bygone era during a look inside an Indiana factory producing the Regency TR-1. The footage, circa 1955, was taken the same year as this Shannon's drama took place. (VIDEO: Courtesy of YouTube. Visit: <<http://bit.ly/qA94EZ>>.)

studies at a hallowed Virginia-based military boarding school about three miles from her school.

She had met the northern bank president's son in town and was captivated by his good looks and charm. He'd get his roommate to cover for him after lights-out, and then sneak off campus to rendezvous with her wherever they could get some privacy.

Within a month of her being scared, certain she was pregnant, the couple found a country preacher to perform a simple wedding ceremony. But, when his parents found out, they pulled him out of Virginia, had the marriage annulled, and enrolled him in a private school closer to home.

After Ernie was born in mid-1939, his paternal grandparents made offers to bring the baby north and have him raised discretely by a lady who worked in the bank. These overtures intensified three years later when the youngster's dad was killed in a naval battle.

An attractive monetary settlement was tendered to the baby's mother's destitute parents, who convinced her to sign away all parental rights and "give your kid the

chance for a decent life." Perhaps to assuage any guilt after hearing that the teenage mom ended up with virtually none of the payout, Ernie's "new" grandmother used connections to have an influential female recruiter give the girl — who'd dropped out of 10th grade — an opportunity to become an Army nurse.

The enlistment, schooling, pay and travel seemed like a good way to, as an old song suggested, "pack up your troubles in your old kit bag and smile, smile, smile." And with all of the confusing upheaval of the war on the home front, fewer family logistics questions were being asked. (VIDEO: Judy Garland sings "Pack Up Your Troubles" in the movie classic "For Me and My Gal," 1942: <<http://bit.ly/rjNEne>> — Ed.)

Ernie's grandparents were able to quietly indicate that before their son had died for his country, he'd gotten married and had a son of his own, whom they were now lovingly raising.

They didn't want Ernie's mom confusing the issue by showing up. Consequently, she was seldom, if ever, mentioned in the Terry household or by friends. Dad's mother believed if she



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An RCA publicity photograph serves dual purposes for this month's story. It was shot by Radio Corporation of America to represent the *go-anyplace* portability factor of RCA's line of transistorized AMs, circa 1956. And the model looks like a blonde civilian version of the girl pictured wearing an Army nurse outfit in a snapshot that my Dad noticed in his friend Ernie's room.

could manage a heart-to-heart with Ernie's grandmother, and then write something heartwarming to Ernie's mom, a happy ending might appear.

## Getting Ernie's Little Sunny, SONY, Or Whatever You Call It, to Sing

My father's father didn't want to tangle with any taboo social scenarios, but enthusiastically volunteered to spearhead the SONY TR-2K project. It just so happened that a guy with an ear for languages in the next department at his plant had picked up sufficient Japanese during a post-war stint on a base near Tokyo to help with the radio kit's instructions — especially those mixed up by English idioms.

The plans predicted one could easily have the transistor receiver operating within about 4 or 5 hours after commencing construction. Instead, the guys commandeered the kitchen table for an entire block of weeknights, plus a Sunday afternoon on one end and a Saturday morning on the other. Dad describes the assembly process as two steps backwards for every step forward, in that working with a printed circuit board was even new to his dad, who otherwise knew his way around a radio chassis.

Adding to the challenge was the need to keep the semiconductors from getting too much "sun" from the soldering iron. And, those miniature transformers and miniscule lugs on the ON/OFF switch-volume control were no friends of adult American male fingers, either.

The tiny AM's moment of truth proved to be worth the aggravation. It fired right up and prompted Ernie, who had the honor of being the first to use the radio's required ear-phone, to wave his right hand with delight. He had one ear covered so practically yelled when Dad slowly started the dial's path from 550 kc upward. "Stop! It's WMCA 5-7-0 loud and clear!" Ernie bellowed.

In 1955, the \$16 kit was a remarkable breakthrough in solid-state price, as well as in technology. SONY had offered a \$55 transistor radio — the 1955 model TR-55 with a horizontal orientation, as opposed to a vertical "shirt-pocket" configuration <<http://bit.ly/pCb1Nt>> to compete with the pioneering U.S.-built Regency TR-1 <<http://www.regencytr1.com/>> marketed at about twice the cost. (VIDEO: Watch Regency employees assemble the TR-1 in archival footage posted on YouTube: <<http://bit.ly/qA94EZ>>. — Ed.)

Both retail values were a bit steep for something unproven, thus even those curious about the transistor's possibilities looked, but didn't buy. When introducing the decidedly-cheaper TR-2K on the heels of its ready-to-run TR-55, SONY hit a magic price point by appealing to the typically impecunious electronics hobbyist crowd, foregoing an amplification section, loudspeaker and then packaging the TR-2K in parts the way makers of plastic car, ship and airplane models sold thousands of such "educational kits" to do-it-yourself aficionados.

In any event, the modest project generated enough buzz — albeit mostly in *What's New?* *Popular Science*-style magazine featurettes rather than actual sales — to keep SONY in the minds of *someday* transistor radio owners until the fledgling company's seminal *Transistor-Six* hit stores in 1957.

This model TR-63 <<http://bit.ly/ou1Fjw>> was snapped up by more than 100,000 early adopters who paid \$39.99 to be the first in their neighborhood, school or office to own a so-called *shirt-pocket* radio. "Unfortunately though," admits the official SONY website, "the TR-63 was just barely larger than the pocket of a typical businessman's dress shirt. (So, a clever SONY executive) had shirts custom made for his (radio) salesmen featuring a slightly larger pocket."

Dad found one of these radios under the tree the year after they'd been originally introduced and SONY was prolifically adding new models to the growing company catalog. His folks had seen it and a literal armful of its transistor sisters boxed and stacked like space-age bricks in the window of a downtown Newark, New Jersey discount store. Recalling Ernie's little SONY kit and the amazing powers it had wielded, they agreed a SONY transistor set would make a worthy addition to Santa's delivery. But that's getting a couple of years ahead of our story . . .

Two days before Christmas 1956, an attractive Army nurse in her mid-30s ascended my parents' front porch steps, took a deep breath, and then rang the bell. My mother made sure Ernie answered the door. Laying eyes on her son for the first time in over a decade, the young woman looked for even the smallest sign of his acceptance. In the teen's right hand was the SONY transistor radio she'd sent with her greatest hopes some 12 months earlier.

While, to most observers, the green plastic portable might have seemed like a strange accouterment, I suppose there could not have been a more perfect *yellow ribbon* than that little bit of fledgling solid-state technology.

*And so ends another day of radio recollection at Pop' Comm*



## In Review: The Remarkable, Go-Anywhere Radiosport RS20S Headset

By Gordon West,  
WB6NOA

The Radiosport stereo dual-diversity RS20S over-the-head “listen only” headset is a solid performer for the SWL, scanner listener, or amateur radio CW operator. The RS20S provides “24-dB noise reduction when you’re digging out the weak ones,” according to ARLAN Communications.

*“Since the Radiosport RS20S headset has no internal electronics, there is nothing to rectify any errant signal trying to get in.”*

If you take your scanner down to the NASCAR track, chances are the little ear buds are not up to the task of overcoming the engine noises when trying to listen to pit crew-to-car communications.

Even the DSP (Digital Signal Processing) noise-canceling headphones have a hard time subtracting the roar as the race cars speed by. Why? Because the Doppler Effect constantly changes the pitch of the motor noise, not giving the DSP a steady noise source to cancel. (VIDEO: *How loud is it? Catch 32 seconds of sights and sound of NASCAR on YouTube:* <<http://bit.ly/pPPk5J>>. – Ed.)

“Our Radiosport headsets have been developed around very high-end commercial communications headsets that typically retail in the \$375 to \$500 range.” Dave Bottom, WI6R, of ARLAN Communications <<http://www.arlancommunications.com>>.

An avid amateur radio operator, Bottom was quick to appreciate the powerful 24-dB noise reduction by the headset earmuffs which surround each ear, keeping track noise to a minimum.

“Our headset is rugged enough to withstand the abuse of NASCAR Pit Road for many years of faultless operation,” he said. “Or the (roar of) the Porsche GT3 Cup race car.” (LISTEN: <<http://bit.ly/nuldvk>>. – Ed.)

“Our 40-ohm headset speakers provide a nicely matched output level, so moving from speaker to headset isn’t a painful experience to your ears, with the headset providing superior sound quality for maximum intelligibility.” Bottom said.

The headset-to-radio cable assemblies use fiber-reinforced wires “that provide unmatched flexibility and strength,” so if you snag your speakercord, it won’t tear out from the plug or headset, the company says.

For base station and amateur radio ARRL Field Day tests, we found the big benefit of this type of acoustic noise reduction headset is that there are no internal amplifier and DSP electronics that could get hammered with strong nearby ham transmissions.

During Field Day, many ham operators are on the air with antenna systems yards from one another, and amplified speakers and headsets immediately pick up these strong transmissions, overriding the audio they are trying to receive.

Since the Radiosport headset has no electronics on the inside, there is nothing to rectify any errant signal trying to get in.

**PRICE:** The Radiosport RS20S headset is \$85. Visit: <<http://bit.ly/qzefeK>>.

(In addition to the “listen only” RS20S, ARLAN Communications has a full line of receive and receive-transmit headsets for the radio amateur, scanner buff and SWL. Visit: <<http://www.arlancommunications.com>>. – Ed.)



“Our 40-ohm (RS20S) headset speakers provide a nicely matched output level, so moving from speaker to headset isn’t a painful experience to your ears, with the headset providing superior sound quality for maximum intelligibility.” – ARLAN Communications’ Dave Bottom, WI6R. (Courtesy of Radiosport)



The Radiosport RS20S headset’s earmuffs surround each ear, keeping NASCAR track noise to a minimum. The RS20S is measured at 24-dB noise reduction, ARLAN Communications says. (Courtesy of Radiosport)

## Despite Politics and Technology, Hams are Still Emergency Communicators

by Kirk Kleinschmidt, NTOZ  
<kirk@cloudnet.com>

*“FEMA Administrator Craig Fugate described amateur radio operators as ‘the ultimate backup — the originators of what we call social media.’”*

Maybe the ancient seers and sages were right. The year 2012 will be here before you know it, perhaps fulfilling the purported Mayan prophecy about the end of the world (or the beginning of a new, transformative era, depending on your perspective).

Maybe global warming is a myth, but maybe it's not. The current solar doldrums may be just a hiccup in the sun's internal processes, or conditions may indeed signal an impending return to 100 years of diminished sunspot activity, and associated poor high-frequency propagation.

Whatever the reasons, the atmosphere surrounding amateur radio — political, thermal, geophysical, financial and so on — is disturbed and dynamic. Even as our hobby is under attack from all sides, and despite advances in commercial communications infrastructure, the need for amateur radio and its pool of trained emergency communicators has never been greater.

A quick look at the headlines will tell all you need to know. In addition to the “usual” earthquakes, hurricanes, tsunamis, floods, famine, tornadoes, wildfires, draught, disease and political

upheaval, we can now add Japan's *nuclear disaster* to the list of emergency communications scenarios. I can't imagine that the need for trained emergency communicators will be diminishing anytime soon.

Despite the need and despite our ongoing good work, societal and governmental perspectives about ham radio are schizophrenic at best. From draconian homeowners associations to insane and inconsistent municipal zoning ordinances to out-of-touch political perspectives, it seems as though nobody wants hams around *except* during emergencies — when we become heroes and media darlings until normal communication channels are re-established, and then we become pariahs once more.

The pervasive global Internet, ubiquitous cell phone service, intelligent smart phones, miles of underground fiber-optic cables, and a wide variety of commercial communication systems haven't yet made ham radio obsolete. As recent disasters have shown, it can take days or even weeks to restore traditional infrastructure services after a major event.



If you want to be ready to handle a communications emergency in a jiffy, you'll need a “go kit” like this one, built by Diehl Martin, W4TI, of Guntersville, Alabama (now a Silent Key). Inside the sturdy plywood box is a Yaesu FT-857D (all modes, covering the high frequencies through 450 MHz); a Yaesu FT-2800 (dedicated to 2-meter FM); an LDG Z-11 Pro antenna tuner; an Astron SS-25M power supply; a Daiwa CN-410M power meter/SWR bridge; and a West Mountain RigRunner 4005 DC power distribution box (five outputs fitted with Anderson Powerpoles). Construction details and additional photos can be found at: <<http://w4ti.net>>. (Courtesy of W4TI)



"During the initial communications out of Haiti (following the January 2010 earthquake), amateur radio operator volunteers using their own equipment, their own money — nobody pays them — were the first ones oftentimes getting word out in the critical first hours and first days as the rest of the systems came back up." — FEMA Administrator Craig Fugate. (Courtesy of Master Sgt. Jeremy Lock, USAF)

That's not likely to change, because almost all of the new-fangled, whiz-bang communications and public-safety systems that are in place — and being designed and implemented — rely on the very infrastructures that get wiped out when they're needed the most!

When it comes to providing public safety and disaster communications in the most dire of circumstances, even though the deck is stacked against us, as licensed members of the Amateur Radio Service, we're still needed. *You're* still needed.

Thankfully, more and more people in the halls of politics and government are catching on to that fact. FEMA Administrator Craig Fugate is one of them. In a recent FCC forum on earthquake communications preparedness, Fugate described ham radio operators as "the ultimate backup, the originators of what we call social media."

The forum included officials from the White House, the Department of Homeland Security (DHS), the United States Geological Survey (USGS), FEMA, the FCC and the private sector.

"During the initial communications out of Haiti," said Fugate, "volunteers using their own equipment, their own money — nobody pays them — were the first ones oftentimes getting word out in the critical first hours and first days as the rest of the systems came back up."

"I think that there is a tendency because we have done so much to build infrastructure and resiliency in all our other systems, we have tended to dismiss that role. When everything else fails, amateur radio is our last line of defense."

Fugate went on to encourage attendees to recognize that their sophisticated communications systems will fail, and to integrate the amateur radio community into their contingency plans.

"When you need Amateur Radio, you *really* need them," said Fugate. Amen!

You can watch a video of the forum on YouTube at: <<http://bit.ly/o9HUSX>>. Fugate's remarks begin at 18:55.

## Start Locally, Act Globally

Unless you happen to be right in the middle of a disaster — when it's already too late for preparation and training — most cataclysmic events happen somewhere else (or on TV). That's perhaps why the best place to start learning about and preparing for emergency communication is your local ham club. The topic has undoubtedly come up before, and your club may be affiliated with local, regional and national emergency preparedness organizations, as well.

Local radio amateurs often provide non-emergency communications for community events, races, parades, walkathons and so on. While not critically important in the big picture, these local events provide excellent training and practice for real emergencies, and you can learn a lot from participating in them.

In addition to a willingness to volunteer your time and expertise, the only other thing required is often a VHF/UHF handheld transceiver. Once you've mastered the skills and training available locally, you'll be better prepared to get involved with regional and national emergency communication groups, most



With thousands of the Haitian people in tent cities — such as this one in Port-au-Prince — after their homes were destroyed, emergency communication both inside the country and to other regions of the world was a critical need. Amateur radio operators contributed significantly to that effort. (Courtesy of Master Sgt. Jeremy Lock, USAF)

of which are coordinated through your local ham club's affiliation with ARES® and RACES.

## What Are ARES® and RACES?

ARES® (Amateur Radio Emergency Service) and RACES (Radio Amateur Civil Emergency Service) are the two major amateur radio emergency communication organizations in the United States.

ARES® is coordinated by the American Radio Relay League at the national, regional and local levels. Although it has formal, nationwide agreements to provide communication support to FEMA, DHS, the Red Cross, the Salvation Army and many other organizations, ARES operation can be initiated locally for a variety of public service operations that don't necessarily involve large-scale "declared emergencies."

RACES is administered by local, county and state emergency management agencies and is supported by the Federal Emergency Management Agency (FEMA).

It provides radio communication only for civil-preparedness purposes — locally, regionally and nationally. Its operation is strictly limited to official civil-preparedness activity in the event of declared emergencies.

Most hams who are dedicated public service volunteers are members of both main organizations. They work, learn and train under local ARES® coordination, and when their services are needed for larger-scale emergency communications, they are activated and coordinated via RACES.

To learn more about each service, the distinctions between them and how you can get started, point your web browser to <http://bit.ly/prPddQ> and read the online version of the *Public Service Communications Manual*: <http://bit.ly/pfMVeJ>.

## Getting Down to EmComm Basics

**Operating Procedures:** During communication emergencies, keep QRM (interference to others) to a minimum. In a disaster, many field stations will be weak and other listening stations must remain silent unless asked to join in. Don't transmit unless you are sure you can help by doing so.

**Choosing Frequency and Mode:** Use bands and modes best suited to immediate needs (not necessarily your favorites). Traditionally, CW has excellent range for any given power level, requires the simplest transmitting equipment, and is relatively difficult for non-hams to intercept. Voice modes, on the other hand, are more practical for mobile and portable work, are faster for coordination and control purposes, and are accessible by a wider variety of operators and non-hams alike. Digital modes, now more popular in emergencies than ever before, offer automation, error-correction and the ability to send binary files and other non-text data.

**Be Smart:** Use all communications channels and resources intelligently. Our main goal is to save lives and property, but amateur radio is still secondary to the end result. If you can communicate in less time via telephone, text messaging or other "normal channels," put your radio down and do so!



Forget about old-style Molex and cinch connectors for your go kit because the Anderson Powerpole™ is the de facto amateur radio standard when it comes to mobile DC — especially when interoperability is concerned. Powerpoles are physically and electrically hermaphroditic (no need to worry about which end is the plug and which the socket) and provide reliable mechanical and electrical connections. (Courtesy of "4dtext" via Wikimedia Commons. Information via <[http://en.wikipedia.org/wiki/DC\\_connector](http://en.wikipedia.org/wiki/DC_connector)>.)

**Accuracy:** Don't spread erroneous information. During and after disasters you may hear rumors, misinformation or completely false statements. Don't get wrapped up in repeating and propagating them.

**Know Where To Go:** Monitor established disaster frequencies. Many localities and some geographical areas have established disaster frequencies where someone is always (or nearly always) monitoring for possible calls.

**Messages:** Every message that purports to be official should be written, signed and properly authenticated. Whenever possible, amateurs should

avoid initiating disaster or emergency traffic themselves. Hams do the communicating, while agency officials supply the content.

**Be Careful:** Take care of yourself. During the chaos of an emergency situation, resist the urge to occupy your station around the clock at the expense of your health and your efficiency. Work in shifts, if possible, at designated and well-equipped emergency stations. Cooperating with other qualified operators reduces interference and boosts effectiveness.

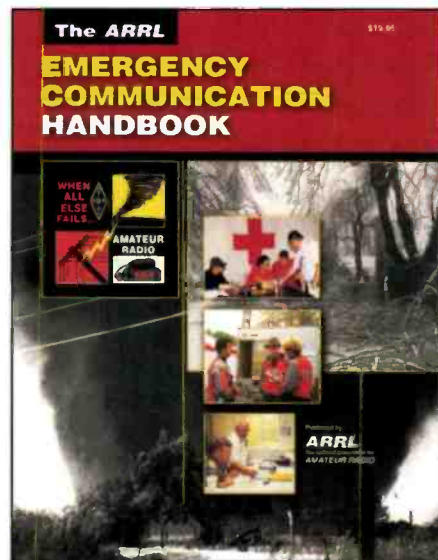
**Know Your Role:** Hams aren't "broadcasters" or "newscasters." Save

"commercial radio" techniques and practices for your day job! Although the general public may be listening, our transmissions are not intended to serve non-amateurs directly.

## See You in the Trenches

Thanks to a seemingly unending succession of natural and man-made disasters, 2012 — ominous prophecies aside — will undoubtedly provide plenty of opportunity for trained emergency communicators. And despite the fact that schizophrenic governments and polite society sometimes seem to be attacking ham radio on every front, we're still needed and we still need to be prepared.

Someday, the neighbor who is outraged by your backyard dipole may thank you profusely and marvel at the life-saving potential of its bifurcated beauty. Until then, as always, we carry on . . .



*The ARRL Emergency Communication Handbook* is the definitive reference for all hams who volunteer their skills as public service communicators. Topics include basic emergency communication skills, message handling, equipment, field work and much more. Now in its sixth printing, the *ECM* is available for \$19.95. On the lighter side, *The Road Home*, a 206-page novel by Andrew Baze, AB8L, is an exciting, non-stop action story about father and son hams who get caught up in the aftermath of a fictional Seattle-area earthquake. Aimed at youths and adults, the novel "teaches as it tells" and is filled with dozens of practical emergency preparedness tips that readers will find helpful in a variety of real-world situations. Price: \$12.99. (Courtesy of NTOZ)



Here are patches and logos for the U.S. and Canadian branches of the Amateur Radio Emergency Service®. ARES® is coordinated by the ARRL, and RACARES is coordinated by the League's sister society to the north, Radio Amateurs of Canada. (Courtesy of NTOZ)

## Bad News from Far East BC and UK's Rampisham Transmitter Site

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

*“Your shortwave broadcast station logs are always welcome . . . And how about sending a photo of you at your listening post?”*

**III** Here we go again! Another column having to deal with a couple of very negative “issues.”

**Part I:** There is word that the Far East Broadcasting Company (FEBC) plans to close its operation on Saipan (Northern Marianas) by the end of the year, after 27 years of broadcasting to Asia <<http://www.febc.org/>>. Time, technology and changes in audience habits have all contributed to the decision.

FEBC officially began operating 100-kilowatt transmitters from Marpi, Saipan, in 1984, feeding audiences in Russia, China and Southeast Asia. So, come the end of this month, that will be “it” for this longtime, large and valued organization’s activity from the Northern Marianas.

**Part II:** Babcock Engineering, the *newish* operator of several BBC transmitter sites and relay stations, has announced the coming closure of Britain’s Rampisham transmitting site <<http://www.drmradio.co.uk/rampisham.html>>.

This is a major depletion on the relay scene. This mammoth site not only carries BBC programming but is also farmed out to many of the U.S. BBG operations, as well as Deutsche Welle, KBS World Radio, Radio Nederland, Family Radio, Polish Radio, Radio Canada International, IBRA Radio and NHK World Radio Japan — all will have to scramble to find replacements for certain transmissions that were formerly carried by

Rampisham. (**AUDIO-VIDEO:** Watch and listen as an SWL in Germany listens to NHK via the Rampisham transmitter site in the UK: <<http://bit.ly/nqHgEu>>. — Ed.)

The announced closure date is “by Christmas,” which, again, leaves the affected broadcasters little time to take action. I’m assuming this is probably tied in with the BBC’s slow and deliberate self-destruction of its shortwave operations.

### . . . Around the Dial

Not that it matters to most of us, but the Bhutan Broadcasting Service has resumed activity after having been silent for nearly a year. It’s being heard in Sri Lanka on 6035 at 0100 and again at 1130. It’s almost never heard in the US, even on the West Coast. (**AUDIO:** Listen to BBS Radio via live streaming online: <<http://www.bbs.com.bt/bbs/#>>. — Ed.)

Another near-impossible DX catch is La Voz de Resistencia, the Colombian clandestine operated by FARC — the Revolutionary Armed Forces of Colombia (in reality the Narco guerillas), which has returned to action and now uses 6070 around 0130 to past 0200. Don’t expect CFRX to suffer much QRM from this source!

The Papua New Guinea station, Radio Fly, has reactivated its 3915 frequency, which had been silent for about six months. Best chance to log this one would in the spring or fall right around dawn’s crack.

A new one from Peru is Radio JPJ from Lima using one kilowatt on 3360. (**AUDIO:** Listen to Radio JPJ live streaming: <<http://www.radio-jpj.com/>>. — Ed.)

### Wanted: Your SWL Broadcast Station Logs, and More

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 (originating) country and include your last name and state abbreviation after each. Also needed are spare QSLs or good copies you don’t need returned, station schedules, brochures, pennants, station photos



Brazil's Radio Senado, Brasilia (5990) recently QSL'd by Rich D'Angelo.

and anything else you think would be of interest. And how about sending a photo of you at your listening post? It's your turn to grace these pages!

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

**ALASKA**—KNLS, Anchor Point, 11870 at 1200 poor, with ID, sign on IS and into *The Arts of Alaska*. (Sellers, BC)

**ALBANIA**—Radio Tirana, 9860-Shijak in AA at 0000. (Parker, PA) 13625 at 1430 aneng times and frequencies to different sections of the world. (Maxant, WV)

**ALGERIA**—Radio Algerienne, 7295 via Issoudun at 0511 with W speaking in AA. (Parker, PA) 7495 via Issoudun with Koran at 2230. (Brossell, WI)

**ANGUILLA**—Caribbean Beacon, 11775 with EE religious talks at 2120. (MacKenzie, CA)

**ARGENTINA**—Radio Argentina Exterior, 11710.5 at 0218 with tangos, news headlines in EE. (D'Angelo, PA) 15345 in SS at 0000. (MacKenzie, CA) 2335 with local ballads, SS talks, ID and IS at 2355. (Alexander, PA)

**ASCENSION ISLAND**—BBC South Atlantic Relay Station, 6005 at 0447 with *Network Africa*. (Sellers, BC) 15400 with world news at 2001. (Brossell, WI)

**AUSTRALIA**—Radio Australia, 5995-Brandon at 1141 with a sports roundup, 11945-Shepparton at 1208 on political prisoners worldwide and 15515-Shepparton with IS and world news at 0200. (Brossell, WI) 9580 with sports news at 1355 and 9590 with world news at 1301. (Maxant, WV) 13630 in EE at 2247, 15240-Shepparton at 0328 on judges rejecting appeals, 15515-Shepparton with news of Pacific Islands at 2205, 15560-Shepparton at 2253 with news items and 17795-Shepparton at 2335 on the World Cup. (MacKenzie, CA)

ABC Northern Territories Service, 2485-Katherine with play-by-play *football* at 1151. (Sellers, BC)

Radio Symban, 2368.5 with M in Greek and Greek music at 1159. (Sellers, BC)

**BAHRAIN**—Radio Bahrain, (t) 9745 at 0021 with ME music hosted by M in AA. Very poor. (D'Angelo, PA) 2357 with local Mideast-style music, local AA chants, talks and local pops after Romania signs off. (Alexander, PA)

**BELARUS**—Belarusian Radio, 11930-Minsk at 0412 with M/W in Byelorussian. (Parker, PA)

**BOLIVIA**—Radio Mosoj Chaski, Cochabamba, 3310 with a strong signal in SS at 0950. (Wilkner, FL)

Radio Eco, Reyes, 4409.8 in SS at 0030. (Wilkner, FL)

Radio Yura, Yura, 4716.2 in SS at 0030; also with seeming sign on at 1030. (Wilkner, FL)

Radio Logos, Santa Cruz, (t) 4865 as early as 0930, holding up as late as 1030 with apparent religious vocals. Best heard in ECSS-LSB. (Perry, IL)

Radio San Miguel, Riberalta, 4700 at 0920-0930 with tropical rhythms and SS anc. (Perry, IL) 0930 plus, with carrier on and LA pops. (Wilkner, FL)

Radio Pio Doce, Siglo Viente, 5952 at 0005 in SS with nice CP music. Best in ECSS-LSB. (Alexander, PA) 0036 in either Aymara or Quechua, M/W with possible religious talk, more local vocals at 0046. Best in LSB. (Coady, ON) 1100-1110 sign on. (Wilkner, FL)

Radio Santa Cruz, Santa Cruz, 6135 at 0009 with LA vocals, W in SS anc, ID at 0100, off at 0105. (D'Angelo, PA) 0049 with EZL music. (Ronda, OK) 0055-0108\* with SS ballads and anmts. (Alexander, PA) 1030. (Wilkner, FL)

**BONAIRE**—Radio Nederland, 6165 in SS at 1212. (Parker, PA) 0343 in SS. Also, 17605 in DD at 2310. (MacKenzie, CA)

**BOTSWANA**—Voice of America Relay, 4930 at 0431 with news and 15580 at 0524 with *Daybreak Africa*. (Sellers, BC) 9855 at 0427 ending a sports report. (Ronda, OK)

**BRAZIL**—(All in PP - gld)

Radio Municipal, Sao Gabriel da Cachoeira, 3375 at 1015-1055. (Wilkner, FL)

Radio Difusora Roraima, Boa Vista, 4875 at 0037 with distorted audio, also excellent at 0944. (Wilkner, FL) 0132 with lively Brazil pops, jingle ID, M with ID and more vocals. (D'Angelo, PA) 0335-0404 close with PP ballads with some US pops. (Alexander, PA)

Radio Brazil Central, Goiania, 4985 at 0008 with old US pops. //11815. (Brossell, WI) Poor at 1000. (Wilkner, FL)

## Help Wanted

We believe the Global Information Guide — month after month — offers more SWBC logs than any other monthly SW publication. (Nearly 450 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 Gerry Dexter, Global Information Guide, 213 Forest St., Lake Geneva, WI 53147 or email them to: <gdex@wi.rr.com>. See the column text for formatting suggestions.

*\*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.*



Time flies! Deutsche Welle marks 20 years of German unity. (Courtesy of Rich D'Angelo)



Radio Y'Abaganda, an opposition broadcaster beamed to Uganda, confirmed Rich D'Angelo's reception on 17725.



Radio Sadaye Zindagi beams to Afghanistan from Wertachtal on 11955. (Courtesy of Rich D'Angelo)

Radio Senado, Belo Horizonte, 5990 at 0859 sign on with Brazil pops. (Alexander, PA) 0900 with PP ad string. (Perry, IL)

Radio Inconfidencia, Belo Horizonte, 6010 at 0045 with local Brazilian ballads and talk. (Alexander, PA) 15190 at 2332 with soccer coverage, quick ads and IDs. (D'Angelo, PA)

Radio Bandeirantes, 6090 at 0115, //9645 at 0115 with *futbol* coverage 2320 with talk, //9645 and 11925. (Alexander, PA)

Radio Cancao Nova, Cachoeira Paulista, 6105 at 0355 with talks, music bridges. (Parker, PA)

Super Radio Deus e Amor, 9586 at 0324 with a PP preacher, better on //11765. (Alexander, PA)

Radio Nacional da Amazonia, 11780-Brasilia at 0340 with continuous music and ID. (MacKenzie, CA) 0439 with PP songs. (Brossell, WI)

**BULGARIA**—Radio Bulgaria, 7400 in SS at 2330. (Brossell, WI) 11700 at 2314 with comments on world events. (MacKenzie, CA)

**CANADA**—Radio Canada International, 15235 at 1941 in AA. (Brossell, WI) 0145 in FF, 15455 in SS at 2200 and 17735 in FF at 2119 (MacKenzie, CA)

CBC Northern Quebec Service, 9625 at 1330. (Maxant, WV)

CFRX, Toronto, 6070 at 0343 on daycare costs. (Parker, PA) 0547 with comedy pgm. (Sellers, BC) 1335 with call-ins on car repairs. (Maxant, WV)

CKZU, Vancouver, 6160 monitored at 0425 on terrorism in India. (Parker, PA)

Radio Dardasha 7/Bible Voice Network, 7319 at \*0300-0330 with AA anmts and ME music. (Alexander, PA)

**CHAD**—Radio National Tchadienne, 6165 at \*0428 with Balafon IS, NA and M in FF opening anmts and lively FF music. And at 2301 close on Saturdays. (Alexander, PA; D'Angelo, PA) 2231 close. (D'Angelo, PA)

**CHILE**—CVC-La Voz, 17680 in SS at 1231. (Brossell, WI) 2124. (MacKenzie, CA)

**CHINA**—China Radio international, 5985 in CC at 0325, 6020 via Albania in CC at 0330, 9690 via Spain in EE at 0348, 9740 via Cuba at 0238, 11840 via Canada at 2312 and 11895 in EE at 0330. (MacKenzie, CA) 6080 with *In the Spotlight* at 0432. (Sellers, BC) 6125-Beijing with M/W in Mandarin at 1227. (Ronda, OK) 6175 via Albania in SS at 2303, 9525-Shijiazhuang in CC at 1132 and 12110-Kunming in (I) Tagalog at 1214. (Brossell, WI) 9800-Kunming at 1215 with M/W conversation. (Ronda, OK) 15125-Urumqi with *The Link* at 1519. (Sellers, BC) 15665-Kashi with W in RR at 0430. (Parker, PA)

China National Radio: CNR-6, 15710-Kashi in Amoy at 0241. (Parker, PA) CPBS, 11630-Lingshi in CC at 2225. (Brossell, WI) 11750 in CC at 0002. (MacKenzie, CA)

Firedrake music jammer, 11540 at 1809. (MacKenzie, CA) 15670 at 1230. (Brossell, WI)

**COLOMBIA**—Radio Alcaravan, Puerto Lleras, 5910 at 0623 with M in SS. (Parker, PA) 0637 with SS ID and ballad. (Sellers, BC)

**CROATIA**—Croatian Radio/Voice of Croatia, 9925 via Germany in Croatian at 0430. (MacKenzie, CA) 2356 in Croatian with rock/pop. (Parker, PA)

**CUBA**—Radio Havana Cuba, 5040 in SS at 0437, 6000 at 0327, 6060 in SS at 0336, 13670 in SS at 2300, 15120 in CC at 0350, 15230 in SS at 0015, 15370 in PP at 2337 and 17650 in SS at 2136. (MacKenzie, CA) 6000 in EE at 0213. (Roberson, OK) 6050 at 0448 with *DX'ers Unlimited* pgm. (Sellers, BC) 11830 in SS at 1401 sign on. (Maxant, WV)

Radio Rebelde, 5025 in SS at 0435. (MacKenzie, CA)

**DJIBOUTI**—Radio Djibouti, 4780 at 0313 starting pgm (open carrier from 0300) with NA, rustic local flute, Koran at 0314 and AA talk at 0317. (Alexander, PA)

**DOMINICAN REPUBLIC**—Radio Amanecer, (t) Santo Domingo, 6025 at 0150 with SS, with religious music and anmts. (Alexander, PA)

**ENGLAND**—BBC, 6145 via South Africa at 0330 with *Network Africa*. (Coady, ON) 0321 via South Africa with promo anmts, ID and news. (D'Angelo, PA) 17895 at 1730. (MacKenzie, CA) 7310 via South Africa at 0409 on the Euro-zone debt crisis. (Ronda, OK) 17795-Skelton with world news at 1902. (Brossell, WI)

CVC Relay, 15640 heard at 2145 with a conversation in EE. (MacKenzie, CA)

Far East Broadcasting, 12025 via Dhabbaya (UAE), in (I) Kashmiri at 1445. (Parker, PA)

**EQUATORIAL GUINEA**—Radio Africa, 15190 at 2216 with a sermon alternating in PP and EE. (Brossell, WI)

**ERITREA**—Voice of the Broad Masses, 7110 at 0315 with HOA music and vernacular talk, 7180nf (ex 7175) at 0313 with HOA music and vernacular talk. Also, 7235 at \*0358 in vernacular and HOA music, 9730 at 0325, //7175. And 9830 at 0319 with HOA and vernacular. (Alexander, PA) 7205 at \*0247 with IS, opening ID in presumed Tigrinya. (D'Angelo, PA)

**ETHIOPIA**—Radio Ethiopia, 9705 at 2010 with continuous HOA music, Amharic anc, NA at 2059. (Alexander, PA)

Radio Oromiya, 6030 from \*0320 with IS, opening IS and opening anmt in Oromo, some HOA music. (D'Angelo, PA) \*0322 sign on with marimba and into listed Oromo. (Alexander, PA)

**FRANCE**—Radio France International, 9805 at 0425 with sports coverage. (Roberson, OK) 11615 in EE at 0610, //17800. Also, 11995 at 0444 with domestic news in EE. (Sellers, BC)

### 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>. 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 Wisconsin's **Mark Taylor**, who receives a Universal Radio t-shirt. Rely on Universal to for fast, friendly, reliable service on your entire radio hobby needs. Its website has a huge list of goodies you can browse through, as well as a near-endless list of used equipment and books: <<http://www.universal-radio.com/>>. You can also get a free copy of Universal's catalog by calling (614) 866-4267, or email your request to: <[dx@universal-radio.com](mailto:dx@universal-radio.com)>.





None of the cosmonauts on this QSL are announcers for the Voice of Russia. (Courtesy of Robert Fraser)



"Watch your step" could be the caption on this QSL from Bangladesh Betar. (Courtesy of Rich D'Angelo)

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**FRENCH GUIANA**—Radio France Intl Relay. 17690 in SS at 2125 to 2130 close. 21690 in FF at 2045. (MacKenzie, CA) 17690 in SS with news at 1403. (Sellers, BC)

**GERMANY**—Deutsche Welle, 7240 Rwanda Relay at 0440 with *Digital Europe* pgm.//6180 via Portugal, 9545 Portugal Relay at 0614 with EE business and sports news. (Sellers, BC) 7240 Rwanda at 0440 with an interview, 9845-Rampisham in GG at 0008, 11965-Rampisham at 0358 in Swahili to 0400\*. (Parker, PA) 15275 Rwanda in EE to 2200\* and 17820 via Cypress Creek in GG at 1732. (MacKenzie, CA) 15275 Rwanda in GG at 1844, 15510 Rwanda in RR at 1756, and off at 1758, also 17610 via England in GG at 1808. (Brossell, WI) 11865 Rwanda in EE and beginning GG at 2200. (D'Angelo, PA)

Deutschlandfunk, 6190 at 2344 with pop vocals and GG DJ; into a classical music pgm at 0006, after news in GG. (D'Angelo, PA)

**GREECE**—Voice of Greece, 7450 in Greek at 2226, 7475 at 2333, also 15630 at

1804. (Brossell, WI) 13630 in Greek at 2155. (MacKenzie, CA) 15620 in Greek at 1340. (Maxant, WV)

**GUATEMALA**—Radio Verdad, Chiquimula, 4055 as late as 0000 with religious music. (Wilkner, FL) 0105 in SS with hymns and apparent American preacher. (Coady, ON) 0455 in SS, American preacher in EE at 0513 recheck. (Sellers, BC)

**GUINEA**—Radio National, 7125 at 0552 with African hilithe and local Afropops, FF anmts and domestic chants. (Alexander, PA)

**GUYANA**—3290 at 0920 with old pop/rock number. (Wilkner, FL) 0930 with good morning pgm and religious, subcontinental music. (Wilkner, FL)

**INDIA**—All India Radio, 5010-Thiruvananthapuram at 0040 with subcontinental music. (Alexander, PA) 5015-New Delhi at 1310 with Hindi pop vocals. (Sellers, BC) 6155-Bangaluru in Urdu at 0410. (Parker, PA) 7240-Guwahati in (I) Bengali at 1137, 9870 Bangaluru in Hindi at 1132. (Brossell,

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These traditional rice cakes grace a KBS World Radio QSL. (I'll take chocolate any day! –Ed) (Courtesy of Rich D'Angelo)



Brrr! Come in from the cold and tune in Radio Japan. (Courtesy of Rich D'Angelo)

WI) 9690 at 1456 ending EE with QRM from CRI opening in Bengali. (Sellers, BC) 11570-Bangaluru with songs in Hindi. EE and ID at 2200. (Ronda, OK)

**INDONESIA**—Radio Republik Indonesia, 3345-Ternate (Malaku), at 1234 with Koran recitations. (Sellers, BC) 4750-Makassar (Sulawesi), at 1204 with W host, Islamic recitations and M with a variety of pop and jazz. Peaked around 1310. (Sellers, BC)

Voice of Indonesia, 9525 at 1301 with Indonesian songs and EE sign on anmts and news. (Sellers, BC)

**ITALY**—Italian Radio Relay Service (IRRS), 15610 via Romania monitored at 1301 carrying the Overcomer Ministry (Brother Stair). (Alexander, PA)

**ISRAEL**—Kol Israel, 13850 at 1400 with time pips, anthem, sign on in Farsi and into news. (Sellers, BC)

Galei Zahal, 9235 at 2300 with Hebrew talk and local pops, //15850. (Alexander, PA)

**JAPAN**—NHK World Radio Japan, 5960 via Canada in JJ at 0453, 9835 in JJ at 1802, 11935 via Bonaire in JJ at 0320, 13640 in JJ at 2136 and 15265 via Bonaire in JJ at 2342. (MacKenzie, CA) 11705 with *Easy Japanese* at 1416. (Sellers, BC) 15455 via Germany in JJ at 1756. (Sellers, BC)

Radio Nikkei, 3925 in JJ at 1050. (Brossell, WI) 6055 in JJ at 0334. (MacKenzie, CA)

**KUWAIT**—Radio Kuwait, 15540 with world news in EE at 1802. f/by *Under the Umbrella of Islam*. (Brossell, WI) 17550 in AA at 2341. (MacKenzie, CA)

**LIBYA**—Voice of Africa, 17725 at 1404 with EE news at 1405, local drums and African music. (Alexander, PA) 1425 ending *The Way to Freedom* and into a profile of Senegal. Faded out or went off by 1512 recheck. (Sellers, BC)

**MADAGASCAR**—Radio Madagasikara, 5010, 0259 with coral anthem and talk in Malagassy. f/by local Afropops. (Alexander, PA)

**MALAYSIA**—Klasik Nasional, 5965 at 1244 with Malaysian pops, 1244 Koran reading and Islamic call to prayer. (Sellers, BC)

Asyik FM, 6050 monitored at 1345 with Malay DJ and Malay pops. (Sellers, BC)

Traxx FM, 1335 with W DJ and pops, EE news and top 10 count-down. (Sellers, BC)

### Here's Your 'Blast From the Past' For This Month:

Lakeland Radio, Blantyre, Malawi, 9510 at 2043 on October 21, 1972. A privately-owned, U.S. commercial station.

**MALI**—RTV Malienne, 5995 at \*0555 sign on with guitar and flute IS, opening in FF, local chants at 0602, 9635 at \*0759 with abrupt sign on with vernacular talk and rustic music. Went off unexpectedly at 0807. (Alexander, PA)

**MAURITANIA**—Radio Mauritanie, 7245 at \*0552 with abrupt sign on and local chants. (Alexander, PA) 0529 already on due to Ramadan. (Sellers, BC)

**MICRONESIA**—The Cross, 4755 at 1044 with contemporary Christian songs under heavy QRM. Also at 1325. (Sellers, BC)

**MOLDOVA**—Radio PMR, 9655 at 2130 with time pips, ID and news. (Coady, ON)

**MOROCCO**—RTV Marocaine, 15345 in AA heard at 1905. (Brossell, WI)

Radio Medi Un, 9575 in FF at 2236. (Brossell, WI)

**MYANMAR**—Myanmar Radio, 7185 in Burmese at 1120. (Wilkner, FL)

**NETHERLANDS**—Radio Nederland, 7360 via Philippines in DD at 1124. (Brossell, WI)

**NEW ZEALAND**—Radio New Zealand International, 9655 at 1155; a frequency usually much weaker than their others, and 15720 on current movies at 0315. (Brossell, WI) 9655 with *Tradewinds Pacific* business news at 1129. (Coady, ON) 11725 with world and domestic news at 0646 and 15720 discussing a downed tree. (Sellers, BC) 0235 interviewing a movie producer. (Parker, PA) 2240 on one's body energy. (MacKenzie, CA) 9655 at 1230 on new homes being built and 15720 at 0110. (Maxant, WV)

**NORTH KOREA**—Voice of Korea, 9335 at 1511 with W and news, //11710. (Sellers, BC) 11710 in FF at 1155. (Brossell, WI)

Korean Central Broadcasting Station, 11710 in KK at 1745 with anthem at 1748 and off at 1750. (Brossell, WI) 11680 at 1501 with possible NA, W in KK and long segments of orchestral music. (Sellers, BC)

**NIGER**—La Voix du Sahel, 9705 from 2200 to 2258\* with vernacular talk, local chats, indigenous vocals and local tribal music, Koran at 2253. Short flute IS at 2256 f/by NA and off with five second test tone. (Alexander, PA) 2236-2256\* with local vocals, flute music and NA. (D'Angelo, PA)

**NIGERIA**—Voice of Nigeria, 15120 with M/W with news at 1512. (Sellers, BC)

**OPPOSITION**—Radio Republica (to Cuba), 5954.2 via Costa Rica at 1045 with numerous SS IDs over ineffective jamming. (Wilkner, FL)

Voice of Mesopotamia/Denge Mezopotamia (to Iran), 11530 at \*0400 with a NA, local Kurdish music and indigenous vocals. (Alexander, PA) 0427 with songs and talk in Kuridsh by W. (Ronda, OK)

# QSL



Think this Vatican Radio antenna would bring in Channel Four? (Courtesy of Rich D'Angelo)

Voice of the People (to North Korea), 4450 in KK at 1252. //3480. (Sellers, BC)

Hamada Radio International (to Nigeria), 11945 in Hausa at \*1939 with pgm of news, features, remotes and interviews. Off in mid-sentence at 1958 after contact information. (D'Angelo, PA) \*1930-2000\* in (I) Hausa. (Alexander, PA)

Radio Damal/Voice of Somali People, 11740 via Wooferton at \*1830-1929\* with Koran, local music, talk in (I) Somali, talk, local pops and AA-style music. (Alexander, PA) 15700 via UAE at 0420 with Somali talk. (Parker, PA)

Radio Y'Abadanga (to Uganda), 15410 at \*1700-1715\* with Africa music, talk in (I) Swahili. Saturdays only. (Alexander, PA)

**PALAU**—T8WH-Koror, 9930 at 1225 with W in JJ, short gospel song. (Ronda, OK)

**PAPUA NEW GUINEA**—Radio Sanduan, Vanimo (New Guinea), 3205 at 1020, improving until it peaks around 1040. (Wilkner, FL) 1217 with 80s pops, ID, song in Tok Pisin. (Sellers, BC)

Radio Burka, Burka, (Bougainville), 3325 in Tok Pisin at 1214 but not parallel to other PNGs. (Sellers, BC)

Radio Milne Bay, Alotau, (New Guinea), 3365 at 1229 with PNG pops. (Sellers, BC)

Radio East New Britain, Rabaul, (New Britain), 3385 at 1212 with W in Tok Pisin with national news, ID, music and time check. Gone by 1226 recheck. (Sellers, BC)

**PERU**—Ondas del Huallaga, Huanuco, 3330 at 0050 and 1020 in SS. (Wilkner, FL)

Radio Tarma, Tarma, 4775 with music and SS at 1045. (Wilkner, FL)

La Voz de la Selva, Iquitos, 4824.4 at 1050 and later with OA music. (Wilkner, FL)

Radio Libertad, Junín, 5039.2 at 1010 with Havana off. However, blocked by Cuba at 0000. (Wilkner, FL)

**PIRATES**—Captain Morgan Shortwave, 6934 at \*0031 with classic rock, Twilight Zone theme mixed in at times and closing at 0114\*. (Zeller, OH) 0129-0145 Mission Impossible theme, pop and rock. Distorted anmts. as usual. (Alexander, PA) 0255-0302\* with Twilight Zone theme, pop/rock. (D'Angelo, PA) 2200 60s numbers. Use <captainmorganshortwave@gmail.com> for reports. (Hassig, IL)

XFM, 6940 at 0404 with ID, rap/pop/rock. (Alexander, PA)

Rave On Radio, 6925u at \*0257 with largely Bob Dylan things. (Zeller, OH)

Radio Appalachia, 6934.8 at 0055 with bluegrass and old time country, promoting as "free voice of the Ohio valley broadcasting from a mountain top in West Virginia", and a 3 Stooges clip. (Hassig, IL)

WRNL-Radio Ronda International, 6925 at \*0145-0213\* with rock. The spelling of the station's name is slightly uncertain. (Zeller, OH)

Radio Ronin shortwave, 6930.1 at 0000-0015 with variety of country, blues oldies, pops and big band music. (Alexander, PA)

Northwoods Radio, 6925u, 0032-0105\* with pgm of classic rock and parody. <northwoodsradio@gmail.com> for reports. (Zeller, OH)

Radio Free Euphoria, 6925.1 at 0558 with pop, ID, talk about marijuana. (Alexander, PA)

**POLAND**—Polish Radio, 9770 via Austria with PP/EE IDs at 1700 and into Eurofile pgm. f/by Offside. (Coady, ON)

**ROMANIA**—Radio Romania International, 9745 in SS at 2335. (Brossell, WI) 11735 at 1722 on the EU's Agricultural and Rural Convention, then into *The Cooking Show*. (Coady, ON) 11920-Galbeni in Romanian at 0417. (Parker, PA)

**RUSSIA**—Voice of Russia, 9735 in SS at 0345 and 12040-Vladivostok with piano music and vocals at 0315. (MacKenzie, CA) 12065-Chita in (I) VV at 1220. (Brossell, WI) 13775-Petropavlosk at 0433 with two women discussing Russian nationalism. (Sellers, BC)

Radio Rossii (p) 6100 at 1410 with classical music or hymns. (Sellers, BC)

**SAO TOME**—Voice of America Relay, Pinheira at 0414 with news updates. (D'Angelo, PA) 6080 at 0347 with Obama clip. Also, 6100 at 0319 in Kinyarwanda with a telephone interview. (Parker, PA)

**SAUDI ARABIA**—Broadcasting Service of the Kingdom, 15234 at 1635 with two M in AA. (Parker, PA)

**SERBIA**—International Radio of Serbia, 9865 via Bijeljina (Bosnia), at 0033 with EE news, ID and features to 0059 close when requested letters and emails. (D'Angelo, PA)

**SEYCHELLES**—BBC Indian Ocean Relay, Mahe, 9410 with at 1835 and 11934 at 0407 with a financial talk. (Parker, PA) 9750 coming on at 0259 with time pips, ID and into news. (D'Angelo, PA)

**SINGAPORE**—BBC Far Eastern Relay, 9740 at 1412 on London riots. //6135, also Singapore. (Sellers, BC)

**SOLOMON ISLANDS**—Solomon Islands Broadcasting Corp., 5020 at 0950 with QRM from Cuba-5025. (Wilkner, FL) 1155 with a country song, devotion, NA to 1203 close. (Sellers, BC)

**SOUTH AFRICA**—Radio Sonder Grense, 7285 via Meyerton in Afrikaans at 0501. (Parker, PA)

**SOUTH KOREA**—KBS World Radio, 9650 at 1250 ancng times and frequencies. (Maxant, WV) 15360 via England in RR at 1804. (MacKenzie, CA)

**SPAIN**—Radio Exterior Espana, 15110 in SS at 2215, 9535 in SS at 0010, 9630 Costa Rica Relay in SS at 0354 and 17850 Costa Rica in SS at 2048. (MacKenzie, CA)

**SRI LANKA**—Sri Lanka Broadcasting Corp., 11905 at 0020 sign on with local drums, NA, opening Hindi anmts, religious recitations and Hindi chants. (Alexander, PA) 0037 with pgm of Hindi vocals hosted by W. (D'Angelo, PA) On suddenly at 1530 in mid-song, ID and lengthy obituaries. (Sellers, BC) 15745 at 0022 with M anc and 50s pops, religious program at 0230. (Parker, PA)

**SURINAME**—Radio Apinte, Paramaribo, (p) 4990 at 0930 in DD but faded by 0950. (Wilkner, FL)

**SWEDEN**—IBRA Radio, 11875 via Germany at 1922 with talks in an unlisted African language. (Brossell, WI)

**SWAZILAND**—Trans World Radio, Manzini, 4775 at 0426 with choir, W in GG and M with religious talk at 0430. (D'Angelo, PA)

**TAIWAN**—Radio Taiwan International, 5960 via Florida in CC at 0450. (MacKenzie, CA) 7460 at 1125 with talks in CC. (Brossell, WI) 9680 with news at 0300. (Roberson, OK)

**TAKJIKISTAN**—Voice of Tajik, Dushanbe, 7245 at 0444 in (I) Farsi with W phoning people, brief carrier dump at 0449. (Parker, PA)

**THAILAND**—Radio Thailand, 7260 in (I) Khmer at 1125. (Brossell, WI)

**TUNISIA**—Radio TV Tunisienne, 7245 in AA at 0500 and 12005 in AA at 0352 (Parker, PA) 7345 with Koran recitations at 2220. (Brossell, WI) 2302-2310\* W with AA news, brief music fanfare and then off. (D'Angelo, PA)

**TURKEY**—Voice of Turkey, 9460-Ermirler in TT at 1848 with Turkish pops and 11980-Ermirler in TT at 0353. (Parker, PA) 15450 at 1235 discussing earliest civilization. (Maxant, WV)

**UNITED STATES**—Voice of America, 7460 Sri Lanka Relay in Urdu at 0117 and 12130 Sri Lanka in Pashto at 1149. (Ronda, OK) 9855 Sri Lanka in Tibetan at 0004 11990-Novosibirsk in CC at 1410, 12015-Sri Lanka in Pashto with Deewa Radio at 0215. (Parker, PA) 11785 in CC at 1209, 11990 Northern Marianas Relay at 1215 in CC. (Brossell, WI) 12150 Philippine Relay with *International Edition* at 1453. (Sellers, BC) 15385 Philippines in CC at 0005. (MacKenzie, CA)  
 Radio Free Asia, 15430 Northern Marianas Relay in CC at 2330 and 15585 Northern Marianas in CC at 2326. (MacKenzie, CA)

Radio Free Europe/Radio Liberty, 12005 Biblis Relay in Uzbek at 1402 with W talking. (Parker, PA)  
 Radio Marti, 11930 in SS to Cuba at 1816. (MacKenzie, CA)  
 Radio Farda (to Iran), 15680 in Farsi at 1652. (Brossell, WI)  
 Afia Dufar Radio, 9815 via Nauen at 0321 with an interview in AA and later a phone interview. (Coady, ON)  
 Armed Forces Radio/AFRTS, 5765-Guam with *AFN News* at 1346. (Sellers, BC) 12133-Florida at 2228. (MacKenzie, CA)  
 Family Radio/WYFR, 9365 via Kazakhstan at 1358 with IS, ID and address

in CC, 1400 open in EE and into Bible reading. (Sellers, BC) 11725 at 1157 in (I) Mandarin. (Brossell, WI) 17725-Florida in SS at 2304. (MacKenzie, CA)  
 WWCW, Tennessee, 3215 at 0425, 4840 at 0430, 5890 at 0445, 5935 at 0446, 12160 at 1822 and 13845 at 1831. (MacKenzie, CA)  
 KJES, New Mexico, 7555 at 1225. (Maxant, WV) 11715 at 1402. (D'Angelo, PA) 1353. (Sellers, BC)  
 WRMI, Florida, 9955 at 0245 suffering from a Cuban jammer. (Maxant, WV)  
 WWRB, Tennessee, 3185 at 0420. (MacKenzie, CA) 5051 at 0252, slightly off nominal. (D'Angelo, PA)

Adventist World Radio, 9800 via "Monaco" with IS at 0568, EE sign on at 0800. (Sellers, BC) 9815 via Germany in Amharic at 0345. (MacKenzie, CA) 9910 in CC at 1123 and 15220 in FF at 1955. Off at 1959. (Brossell, WI)

WEWN, Alabama, 11870 in SS at 0427. (Maxant, WV) 15610 at 1410. (Maxant, WV)  
 WTWN, Tennessee, 5755 at 0437 and 12100 in SS at 0310. (MacKenzie, CA)

WINB, Pennsylvania, 9265 at 1255. (Maxant, WV)

Sudan Radio Service, D.C., 15500 via Rampisham in AA at 1645. (Brossell, WI)

**VANUATU**—Radio Vanuatu.(p) 3945 at 1210 ending transmission with "God bless", music, anmts to 1217 anthem and close. (Sellers, BC)

**VATICAN**—Vatican Radio, 7250 in FF at 0457. (Parker, PA) 7305 at 0305 with Pope Benedict and 9660 in African Service at 0325. (Maxant, WV) 15570 in FF at 1756. (MacKenzie, CA)

**VIETNAM**—Voice of Vietnam, 6175 via Canada in possible SS at 0400. (Roberson, OK) 12020-Sontay at 1354 but impossible to ID language used. (Parker, PA)

**ZAMBIA**—Zambia National Broadcasting Service/Radio One, 5915 at \*0241 sign on with the Fish Eagle IS, choral anthem. (Alexander, PA)

CVC-One Africa, 9505.1 at 2021 answering questions and Christian pops. (Coady, ON)

And that's a wrap! High fives to the following good guys who did the positive thing this time: Brian Alexander, Mechanicsburg, PA; Mark Coady, Peterborough, ON; Stewart MacKenzie, Huntington Beach, CA; Rich D'Angelo, Wyomissing, PA; Harold Sellers, Vernon, BC; Robert Wilkner, Pompano Beach, FL; Robert Brossell, Pewaukee, WI; Gary Roberson, Broken Arrow, OK; Richard Parker, Pennsburg, PA; James Ronda, Tulsa, OK; William Hassig, Mt. Prospect, IL; Ralph Perry, Wheaton, IL and Charles Maxant, Hinton, WV. Thanks to each of you and, until next month — good listening!

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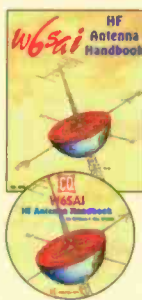


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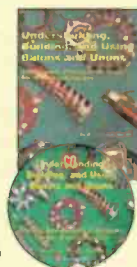


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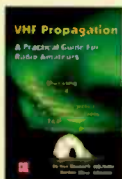
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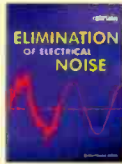


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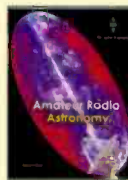


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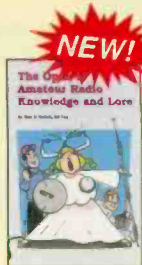
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A pulse charger, battery and test gear help tell the story during testing. (Courtesy of WB6NOA)

## Energized By Gordo's Big Battery Maintenance Article

Editor, *Pop'Comm*,

That was a fascinating article about the new pulse technology for charging batteries. (*"Charging Ahead: Eyes On Big Battery Maintenance,"* by Gordon West, WB6NOA, August 2011 *Pop'Comm*, page 28. – Ed.) Thanks for sharing what certainly seems to be a breakthrough in this area.

I run my ham stuff at home sitting on a battery. I use an A&A Engineering "smart charger" to maintain the charge, which varies down to zero if the battery's fully charged — no constant battery-killing trickle.

My question is whether the pulse charger can be used the same way, or are the pulses higher in voltage than the constantly-connected equipment could handle. And do you think the pulsing's square-wave harmonics would show up in the equipment's output?

Thanks again, and keep up your fine work for ham radio!

– Jim Perry, KJ3P  
Schwenksville, Pennsylvania

*(Jim: The pulse technique has worked well for me on a single battery at my shack — without overcharging. On high-frequencies — 2 through 30 MHz — the pulse charger can be noisy, so if you plan to do a lot of HF work, I'd suggest not to bring in a pulse charger until any sweeping noise has been cleaned up! On 2 meters and VHF/UHF scanning, it is no problem. On HF, though, you can hear the microprocessor doing its square-wave thing. – Gordon West, WB6NOA)*

## Still Not Getting the DTV Channels I Need: Help!

Editor, *Pop'Comm*,

I'm in one of those signal depressed areas mentioned in the digital television antenna articles appearing in *Pop'Comm*. (In August 2011's edition: *"To A Neighbor's Rescue: Now She Can See Her DTV,"* by Phil Karras, KE3FL; and *"Seeing is Believing: Build A Simple DTV Antenna,"* by Richard Fisher, KI6SN; and in September, *"A Made-for-DTV Mystery [Continued],"* by KE3FL; and *Sending a Homemade DTV Antenna Outside,* by KI6SN. – Ed.)

I have an industrial complex across the street from me while I'm also in a low-lying area. In a valley.

I built the DTV antenna — actually, two of them — and while only using one on a TV set, I have only been able to pick up between zero and two signals or stations. My buddy picks up to four stations on his antenna upstairs.

The RCA DTV converter box, which is brand new, has a scale of strength for the antenna signal of from 0 to 100 percent. I'm only able to pick up from 0 to 20 or 22 percent of the scale in signal strength. That's a weak signal — with the DTV antenna featured in August's *Pop'Comm* and a cheap commercial antenna connected in series as well.

Is there a stronger (more efficient) indoor antenna model or diagram available that I can build or buy cheaply?

I put a lot of work into the antenna boards, including staining and varnishing the one for the TV room! Can you help please? I'm in western Pennsylvania.

– Randall Wilinski,  
Natrona Heights, Pennsylvania

*(Randall: Congratulations on building your DTV antennas. Two issues come to mind: Your buddy is probably picking up more stations than you because he lives upstairs. Getting your DTV antenna as high as possible is one of the keys to success. And if there is a way to get it outside, even better. Having the "cheap commercial antenna connected in series" will not likely help. If anything, it is likely to degrade the incoming signal. Google "Homemade DTV Antennas" and you will find dozens of plans — both in written form and via video. Here's a YouTube video that claims to improve on the design you are now using: <<http://bit.ly/ozdmcg>>. Please keep us posted on how things work out. – Richard Fisher, KI6SN)*

# Remember the Alamo? San Antonio's Full of Scanner Activity Today

by Ken Reiss  
<radioken@earthlink.net>

**S**an Antonio is known nationwide for the Alamo and the River Walk, not necessarily in that order. But did you know it is a sprawling metropolis in the heart of Texas with lots of scanning activity?

While most of the action is on digital EDACS, which can be a reception challenge for many scanner users, there is conventional scanner traffic, as well. Many surrounding municipalities are still on conventional frequencies.

By the way, the San Antonio you might remember from the movie westerns is a far cry

from what you'll find today. It's the Lone Star State's second largest city with more than a million people living in it, according to Internet sources.

You can bet there are a lot of scanner signals coursing through the air.

## Bexar County

Most of the county agencies are served by the Bexar County EDACS system that operates in EDACS Pro-Voice Digital most of the time.

Site	Name	Frequencies				
13	Cagnon	856.23750	856.73750	857.23750	857.73750	851.05000
		851.57500	852.05000	852.55000	851.25000	852.76250
		853.13750	853.81250			
14	Grey Forest	858.23750	858.73750	859.23750	859.73750	851.15000
		852.30000	852.81250	853.43750	851.70000	852.07500
		853.03750	853.72500			
15	Hill Country	858.46250	858.96250	854.58750	856.66250	851.30000
		851.97500	852.47500	852.97500	851.07500	851.65000
		852.20000	852.73750	853.21250	853.63750	
16	American Tower	856.46250	856.96250	857.46250	857.96250	851.43750
		852.43750	853.07500	853.60000	851.75000	853.86250
		854.98750	855.71250	854.61250		
17	Topperwein	859.46250	859.96250	857.08750	857.66250	851.47500
		852.37500	853.30000	853.97500	852.67500	852.12500
		851.17500	854.96250	855.48750	854.71250	
18	Hallmark	851.80000	852.32500	852.83750	853.18750	853.70000
		851.22500	854.06250	854.56250		
21	BLUE Simulcast	856.43750	56.71250	856.76250	856.98750	857.43750
		857.76250	857.98750	858.21250	858.43750	858.76250
		858.98750	859.21250	859.43750	859.76250	859.98750
		854.21250	854.66250			
22	GOLD Simulcast	856.26250	856.48750	856.93750	857.26250	857.48750
		857.71250	857.93750	858.26250	858.48750	858.71250
		858.93750	859.26250	859.48750	859.71250	859.93750
		854.01250	854.11250			

### San Antonio Police Department PTRL Talkgroups

DEC	AFS	Description
256	02-000	SAPD FLEETWIDE (E-TONES)
273	02-021	SAPD 1-A NORTH PATROL
274	02-022	SAPD 1-B NORTH OPEN
275	02-023	SAPD 1-C WEST PATROL
276	02-024	SAPD 1-D WEST OPEN
277	02-025	SAPD 1-E SOUTH PATROL
278	02-026	SAPD 1-F SOUTH OPEN
279	02-027	SAPD 1-G CENTRAL PATROL
280	02-030	SAPD 1-H CENTRAL OPEN
281	02-031	SAPD 1-I EAST PATROL



San Antonio is now a sprawling urban metropolis with all the benefits and challenges of a big city. There is plenty of scanner traffic in the air.  
*(Photographs by Ken Kinder)*

282	02-032	SAPD 1-J EAST OPEN
283	02-033	SAPD 1-K PRUE PATROL
284	02-034	SAPD 1-L PRUE OPEN
285	02-035	SAPD 1-M INFO
286	02-036	SAPD 1-N TRU/GANG (dedicated nighttime dispatcher)
287	02-037	SAPD 1-P RAU

**San Antonio Police Department TRF Talkgroups**

DEC	AFS	Description
289	02-041	SAPD 2-A TRAFFIC-1 PATROL
290	02-042	SAPD 2-B TRAFFIC-2 OPEN/EVENTS
291	02-043	APD 2-C DFU/BIKE UNITS
292	02-044	SAPD 2-D TRAFFIC OPEN
293	02-045	SAPD 2-E TAC-1
294	02-046	SAPD 2-F TAC-2
295	02-047	SAPD 2-G METRO (GANGS/TAC)
296	02-050	SAPD 2-H SPECIAL EVENTS-1
297	02-051	SAPD 2-I SPECIAL EVENTS-2
298	02-052	SAPD 2-J SPECIAL EVENTS-3
299	02-053	SAPD 2-K
300	02-054	SAPD 2-L
301	02-055	SAPD 2-M
302	02-056	SAPD 2-N 3
03	02-057	SAPD 2-O TRAFFIC/OPEN
334	02-096	BLANK

**San Antonio Police Department CID Talkgroups**

DEC	AFS	Description
305	02-061	SAPD 3-A Intelligence
306	02-062	SAPD 3-B Vice Operations
307	02-063	SAPD 3-C Narcotics
308	02-064	SAPD 3-D Detectives
309	02-065	SAPD 3-E ROPE (Repeat Offenders Team)
310	02-066	SAPD 3-F CID
311	02-067	SAPD 3-G TACTICAL/SWAT
312	02-070	SAPD 3-H Homicide / Sex Crimes
313	02-071	SAPD 3-I Auto Theft Team
314	02-072	SAPD 3-J COSA
315	02-073	SAPD 3-K OPEN
316	02-074	SAPD 3-L Narcotics Open
317	02-075	SAPD 3-M ASET
318	02-076	SAPD 3-N PDST
319	02-077	SAPD 3-O CIA
335	02-097	BLANK

**San Antonio Police Department Training Talkgroups**

DEC	AFS	Description
321	02-081	SAPD TRAINING-1
322	02-082	SAPD TRAINING-2

**San Antonio Park Police Talkgroups**

DEC	AFS	Description
385	03-001	Park Police Dispatch
386	03-002	Park Police River Operations
387	03-003	Park Police Operations
388	03-004	Park Police Events

**San Antonio Police Department DIR Talkgroups**

DEC	AFS	Description
337	02-101	SAPD 5-A NORTH DIR PATROL
338	02-102	SAPD 5-B NORTH DIR PATROL OPEN
339	02-103	SAPD 5-C WEST DIR PATROL
340	02-104	SAPD 5-D WEST DIR PATROL OPEN
341	02-105	SAPD 5-E SOUTH DIR PATROL
342	02-106	SAPD 5-F SOUTH DIR PATROL OPEN
343	02-107	SAPD 5-G CENTRAL DIR PATROL
344	02-110	SAPD 5-H CENTRAL OPEN DIR PATROL
345	02-111	SAPD 5-I EAST DIR PATROL
346	02-112	SAPD 5-J EAST DIR PATROL OPEN
347	02-113	SAPD 5-K PRUE DIR PATROL
348	02-114	SAPD 5-L PRUE DIR PATROL OPEN
349	02-115	SAPD 5-M
350	02-116	SAPD 5-N
351	02-117	SAPD 5-O

**San Antonio Police Department Encrypted Talkgroups**

DEC	AFS	Description
369	02-141	SAPD ENCRYPTED 1
370	2-142	SAPD ENCRYPTED 2
371	02-143	SAPD ENCRYPTED 3
372	02-144	SAPD ENCRYPTED 4
373	02-145	SAPD ENCRYPTED 5
374	02-146	SAPD ENCRYPTED 6
375	02-147	SAPD ENCRYPTED 7
376	02-150	SAPD ENCRYPTED 8
377	02-151	SAPD ENCRYPTED 9
378	02-152	SAPD ENCRYPTED 10
379	02-153	SAPD ENCRYPTED 11
380	02-154	SAPD ENCRYPTED 12
381	02-155	SAPD ENCRYPTED 13
382	02-156	SAPD ENCRYPTED 14
383 0	2-157	SAPD ENCRYPTED 15

**San Antonio Fire Department Talkgroups**

DEC	AFS	Description
529	04-021	SAFD DISPATCH
532	04-024	SA Fire TAC-16
543	04-037	SAFD Link to CPS Energy
545	04-041	SAFD 2-A SHOP
546	04-042	SAFD 2-B



Probably the most famous mission in Texas, the Alamo is a park open to the public and receives 2.5 million visitors a year. It is not far from the other famous San Antonio landmark — the River Walk, a great example of urban renewal done correctly.

547	04-043	SAFD 2-C SPEC EVT
548	04-044	SAFD 2-D SPEC OPS
549	04-045	SAFD 2-E PREVENTION
550	04-046	SAFD 2-F TAC-1
551	04-047	SAFD 2-G TAC-2
552	04-050	SAFD 2-H TAC-3
553	04-051	SAFD 2-I ARSON
554	04-052	SAFD 2-J
555	04-053	SAFD 2-K HAZMAT
556	04-054	SAFD 2-L
557	4-055	SAFD 2-M EOC
558	04-056	SAFD 2-N County Fire Alarm
559	04-057	SAFD 2-O Radio Shop
564	04-064	SAFD 1-P AIRLIFE
609	04-121	SA Fire TAC-1
610	04-122	SA Fire TAC-2
611	04-123	SA Fire TAC-3
612	04-124	SA Fire TAC-4
613	04-125	SA Fire TAC-5
614	04-126	SA Fire TAC-6
615	04-127	SA Fire TAC-7
616	04-130	SA Fire TAC-8
617	04-131	SA Fire TAC-9
618	04-132	SA Fire TAC-10
619	04-133	SA Fire TAC-11
620	04-134	SA Fire TAC-12
621	04-135	SA Fire TAC-13
622	04-136	SA Fire TAC-14
623	04-137	SA Fire TAC-15
625	04-141	SA Fire D-1
626	04-142	SA Fire D-2
627	04-143	SA Fire D-3
628	04-144	SA Fire D-4
629	04-145	SA Fire D-5
630	04-146	SA Fire D-6
631	04-147	SA Fire D-7
1856	14-080	Fire Disaster Federal Operations Fleet
1857	14-081	Fire Disaster Federal Operations
1858	14-082	Fire Disaster Federal Operations
1859	14-083	Fire Disaster Federal Operations
1860	14-084	Fire Disaster Federal Operations

1861	14-085	Fire Disaster Federal Operations
1862	14-086	Fire Disaster Federal Operations
1863	14-087	Fire Disaster Federal Operations
1864	14-090	Fire Disaster Federal Operations
1865	14-091	Fire Disaster Federal Operations
1866	14-092	Fire Disaster Federal Operations
1867	14-093	Fire Disaster Federal Operations

**San Antonio Fire Department Patches Talkgroups**

DEC	AFS	Description
513	04-001	Fire/EMS Access Patch
514	04-002	Fire/EMS Access Patch

**San Antonio EMS Talkgroups**

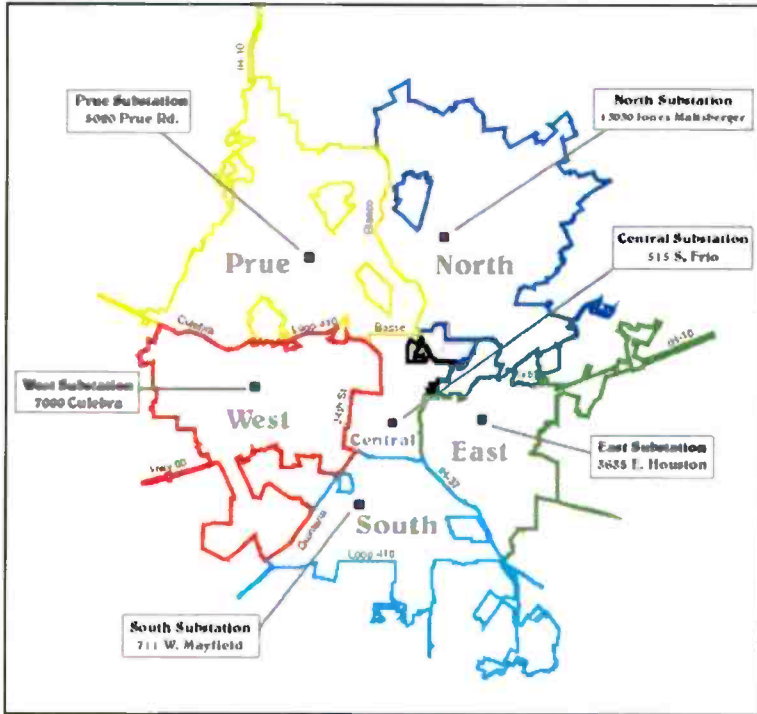
DEC	AFS	Description
561	04-061	SA EMS 3-A DISPATCH
562	04-062	SA EMS 3-B TAC or ACCESS/INFO
563	04-063	SA EMS 3-D COMMAND
564	04-064	SA EMS 3-E AIRLIFE
565	04-065	SA EMS 3-F FIRE/EMS Response
566	04-066	SA EMS 3-G FIRE/EMS Response
567	04-067	SA EMS 3-H FIRE/EMS Response
568	04-070	SA EMS 3-I FIRE/EMS Response
599	04-107	SA EMS 3-C COMMAND (patched to SAFD 1-C)

**Interoperability Talkgroups**

DEC	AFS	Description
1808	14-020	Fleet
1809	14-021	Hailing San Antonio Police 1-M INFO
1810	14-022	Hailing San Antonio Fire 1-A ALERT
1811	14-023	Hailing Bexar County Sheriff's Office INFO
1812	14-024	Hailing San Antonio Public Works STREETS
1818	14-032	Hailing Airport

**San Antonio EMS Hospitals Talkgroups**

DEC	AFS	Description
576	04-080	Fleet
577	04-081	Brooke Army Medical Center



This map shows San Antonio police districts and the location of their substations.



On out-of-state assignment, the San Antonio Police and Public Safety Team presents a wreath at The Tomb of the Unknown in Arlington National Cemetery. (Courtesy of Wikimedia Commons)

578	04-082	Downtown Baptist	1055	08-037	Bexar County SO Hostage Negotiation
579	04-083	Methodist Specialty Transplant	1056	08-040	BCSO Fleet-2 Fleetwide
580	04-084	Methodist Children's	1057	08-041	SO CID
581	04-085	University Hospital	1058	08-042	SO CID 1
582	04-086	Methodist Hospital	1059	08-043	SO Intelligence
583	04-087	Downtown Metro	1060	08-044	SO Narcotics
584	04-090	Northeast Baptist	1061	08-045	PROFESSIONAL-STANDARDS
585	04-091	Nix Specialty	1062	08-046	DA INVESTIGATIONS
586	04-092	Southeast Baptist	1063	08-047	DA TAC
587	04-093	St. Luke's Baptist	1072	08-060	BCSO Fleet 3 Fleetwide
588	04-094	Santa Rosa Adult Downtown	1073	08-061	Training
589	04-095	Santa Rosa Children's Downtown	1074	08-062	Special Events-1
590	04-096	Santa Rosa Northwest	1075	08-063	Special Events-2
591	04-097	Southwest General	1076	08-064	Admin Operations
593	04-101	Veterans Affairs	1077	08-065	DISTRICT ADMIN
594	04-102	Northeast Main	1078	08-066	BCIS ADM
595	04-103	Wilford Hall	1079	08-067	BCIS OPS
596	04-104	North Central Baptist			
597	04-105	North Central Baptist Children's			
598	04-106	Texan Heart Hospital			
600	04-110	MOC			
601	04-111	Methodist Stone Oak			

**Bexar County Sheriff's Office Talkgroups**

DEC	AFS	Description
1024	08-000	BC Countywide (Fleet)
1040	08-020	BCSO Fleet-1 Fleetwide
1041	08-021	Bexar County SO East Dispatch
1042	08-022	Bexar County SO East Open
1043	08-023	Bexar County SO West Dispatch
1044	08-024	Bexar County SO West Open
1045	08-025	Bexar County SO Central Dispatch
1046	08-026	Bexar County SO Central Open
1047	08-027	Bexar County SO Info/Records
1048	08-030	Bexar County SO Operations (Warrants & Civil)
1049	08-031	Bexar County SO TAC-1
1050	08-032	Bexar County SO TAC-2
1051	08-033	Bexar County SO TAC-3
1052	08-034	Bexar County SO TAC-4
1053	08-035	Bexar County SO Admin
1054	08-036	Bexar County SO Traffic Channel

**Bexar County Constables Talkgroups**

DEC	AFS	Description
1089	08-081	Constable Court Operations
1090	08-082	Justice Center TAC
1091	08-083	Adult Detention Center Operations
1092	08-084	Constables Precinct-1
1093	08-085	Constables Precinct-2
1094	08-086	Constables Precinct-3
1095	08-087	Constables Precinct-4
1096	08-090	Constables Open
1097	08-091	Constables Supervisors
1099	08-093	Bexar Juvenile Detention Center (Cindy Taylor Krier/Farm Road)
1100	08-094	Bexar Juvenile Probation (Cindy Taylor Krier/Farm Road)
1101	08-095	Bexar Juvenile Tactical (Cindy Taylor Krier/Farm Road)

**Bexar County Fire Talkgroups**

DEC	AFS	Description
1105	08-101	Fire Marshal Administration
1106	08-102	Fire Marshal Investigations



The San Antonio Park Police have a boat to handle incidents in surrounding waters. (Courtesy of Wikimedia Commons)

1107	08-103	Fire Marshal Inspections
1108	08-104	Fire Marshal County EOC Coordination 1
1109	08-105	Fire Marshal County EOC Coordination 2
1110	08-106	Bexar County Fire
1111	08-107	Bexar County Fire Ops (Tac 3 Patch)
1112	08-110	Bexar County Fire FG 1
1113	08-111	Bexar County Fire FG 2
1114	08-112	Bexar County Fire FG 3
1115	08-113	Bexar County Fire FG 4
1814	14-026	Bexar County Fire Alarm Patch to 154.250
1815	14-027	Acadian Ambulance Dispatch

**University of Texas San Antonio Talkgroups**

DEC	AFS	Description
1573	12-045	Link to 159.105 MHz UTSA Downtown Police

**Aviation Department Talkgroups**

DEC	AFS	Description
817	06-061	AIRPORT 1-A FIRE/RESCUE
818	06-062	AIRPORT 1-B POLICE
819	06-063	AIRPORT 1-C EMERGENCY
820	06-064	AIRPORT 1-D OPERATIONS
821	06-065	AIRPORT 1-E MAINT
822	06-066	AIRPORT 1-F ADMIN
823	06-067	AIRPORT 1-G GND TRANSPORTATION AND PARKING
824	06-070	AIRPORT 1-I INQUIRY
825	06-071	AIRPORT ALERTING
826	06-072	AIRPORT 1-J STINSON MAINT
827	06-073	AIRPORT 1-K OPS 8
829	06-075	AIRPORT 1-M Traffic

**Bexar County Ops Fleet Talkgroups**

DEC	AFS	Description
1297	10-021	Bexar County Infra Adm
1298	10-022	Bexar County Public Works Ops
1299	10-023	Bexar County Parks Operations
1300	10-024	Bexar County Maintenance Ops
1301	10-025	Bexar County Public Works
1302	10-026	Bexar County Public Works Ops
1303	10-027	Bexar County Public Works

**Alamo Dome Talkgroups**

DEC	AFS	Description
833	06-081	Alamo Dome/SBC Operations
834	06-082	Alamo Dome/SBC Operations
835	06-083	Alamo Dome/SBC Operations Video
836	06-084	Alamo Dome/SBC Operations Security
850	06-102	Alamo Dome/SBC Cleaning Crew

**Convention Center Talkgroups**

DEC	AFS	Description
848	06-100	Fleetwide
849	06-101	Primary

850	06-102	Operations
851	06-103	Maintenance
852	06-104	Security
853	06-105	Audio Video
854	06-106	Municipal Auditorium Operations

**San Antonio Public Works Talkgroups**

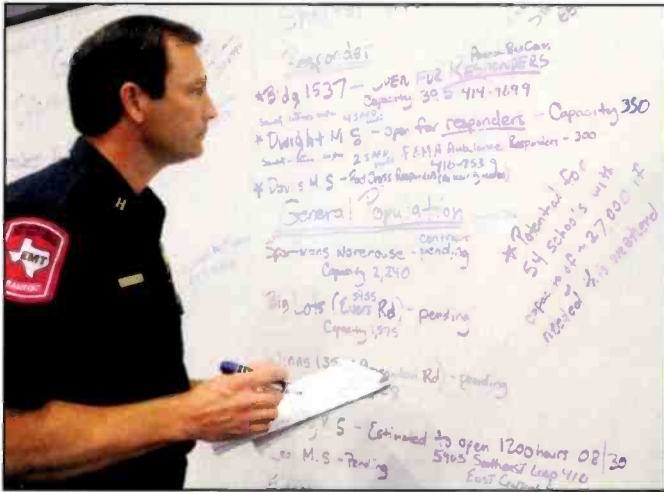
DEC	AFS	Description
784	06-020	City Public Works Fleetwide
785	06-021	Building Maintenance
786	06-022	Capital Projects
787	06-023	Parking
788	06-024	Streets/Signs
789	06-025	Permits
790	06-026	Streets Water Crews
791	06-027	Street Signs and Signals
792	06-030	Streets Traffic
793	06-031	Public Works Coordination
794	06-032	Public Works As Assigned
795	06-033	Public Works As Assigned
796	06-034	Public Works As Assigned
797	06-035	Public Works As Assigned
798	06-036	Public Works As Assigned
799	06-037	Parking Enforcement
929	07-041	Heavy Equipment

**Bexar County Parks Talkgroups**

DEC	AFS	Description
1313	10-041	Parks CC
1314	10-042	Comanche Park
1315	10-043	MacArthur Park
1316	10-044	Mission Park
1317	10-045	ORS Park
1318	10-046	PLET Park
1319	10-047	BCP RODR
1320	10-050	BCP RUSS
1321	10-051	Parks Dept

**Interagency Talkgroups**

DEC	AFS	Description
1825	14-041	Citywide PD-1
1826	14-042	Citywide PD-2
1827	14-043	Citywide PD-3
1828	14-044	Citywide PD-4
1829	14-045	Citywide PD-5
1830	14-046	Citywide FIRE-1
1831	14-047	Citywide FIRE-2
1832	14-050	Citywide FIRE-3
1833	14-051	Citywide SO-1
1834	14-052	Citywide SO-2
1835	14-053	Citywide SO-3
1836	14-054	Citywide SA LG-1
1837	14-055	Citywide SA LG-2
1838	14-056	Citywide County LG-1
1839	14-057	Citywide County LG-2



San Antonio Fire Chief and Emergency Operations liaison, Steve Reuthner looks at an operations board in the Alamo Command Center in San Antonio in August 2008. FEMA was working with state, local and federal agencies in a joint operation in preparation for Hurricane Gustav's landfall. (Courtesy of FEMA)



In September 2008, San Antonio firefighters help move coolers in a warehouse in the Port of San Antonio in anticipation of needs for evacuees impacted by Hurricane Ike. (Courtesy of FEMA)

### 800 Mhz Talk Around:

You would think that talk around frequencies (Frequencies that can be used simplex without going through the controller or a repeater) would be more common on trunked systems after the New Orleans Katrina disaster, but they are, in fact, still quite rare. San Antonio does have a few and they're used for tactical operations (or most certainly in a system wide emergency)

Frequency	Tone	Description
868.05000		Fire Talk-Around (ProVoice)
868.35000		Police Talk-Around (ProVoice)
862.11250	431 DPL	Police Talk-Around (Old)
853.48750	431 DPL	Park Rangers Talk-Around (Old)

### Bexar County Fire Alarm Dispatches Many of the Volunteer Fire Departments in Bexar County

#### Bexar County Fire Alarm

Frequency	Tone	Description
155.22000	218.1 PL	Juvenile Detention Center San Antonio/Bexar County EDACS ProVoice 1
	107.2 PL	Juvenile Detention Center (3621 Farm Road)

#### EDACS Networked Standard w/ESK

Frequency	Tone	Description
154.25000	156.7 PL	Bexar County Fire Alarm Dispatch
153.77000	156.7 PL	Bexar County Fire Alarm Tactical 3
154.28000	CSQ	Bexar County Fire Alarm Interagency
156.18000		Bexar County Fire Alarm Dispatch (Repeater in Fair Oaks)
154.28000	203.5 PL	Bexar Bulverde VFD Talkaround
153.83000		Camelot Fire - Talkaround

#### Bexar County Sheriff's Office

Frequency	Tone	Description
866.55000		Bexar County Talk-Around (ProVoice)

155.98500		Bexar County Sheriff East Units VHF
853.48750		Bexar County Sheriff Talk-Around (Old STX Portables)

#### Bexar County Hospital District

Frequency	Tone	Description
155.86500	192.8 PL	Security, Maintenance
155.16000	103.5 PL	Inter-facility Patient Transfers

### Other Municipalities in Bexar County

#### Alamo Heights, City of

San Antonio/Bexar County EDACS ProVoice Alamo Heights PD is dispatched on this system now

Frequency	Tone	Description
154.37000	203.5 PL	Fire/EMS Primary (includes Olmos Park, Terrell Hills)
155.43000	032 DPL	Police

#### Balcones Heights, City of

Frequency	Tone	Description
152.54000	546 DPL	Police Dispatch Ch-1
155.53500	156.7 PL	Police Ch-2
154.99500	192.8 PL	Fire
154.20500	156.7 PL	Fire Back-up (aid Leon Valley/Castle Hills)

#### Castle Hills, City of

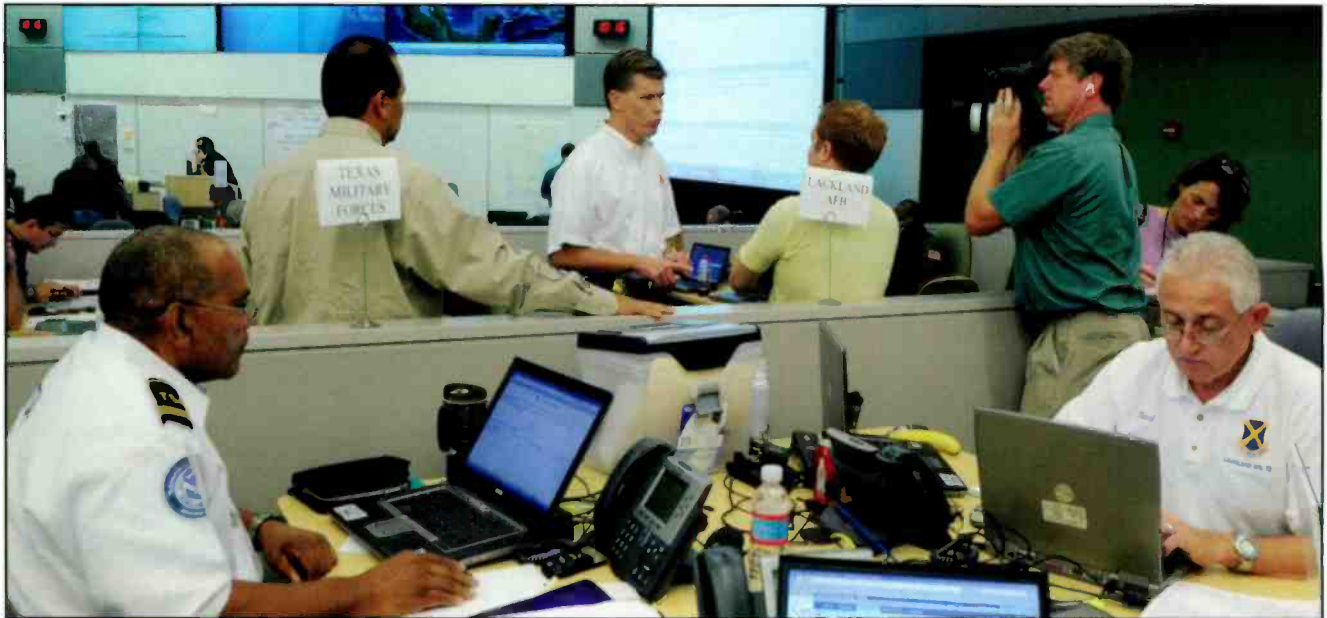
Frequency	Tone	Description
154.86000	351 DPL	Fire
155.74500	136.5 PL	Police (sometimes encrypted)
154.83500	136.5 PL	Police Tactical

#### Cibolo, City of

Frequency	Tone	Description
159.06000	047 DPL	Fire Dispatch/Fireground (Dispatched by Schertz)

#### Converse, City of

Frequency	Tone	Description
155.25000	167.9 PL	Fire/EMS Dispatch (patched with Live Oak TRS)



The Emergency Operations Center can be a very busy place during disaster preparation drills — or the real thing. (Courtesy of FEMA)

**Grey Forest, City of**

See Balcones Heights for police frequency.

Frequency	Tone	Description
155.83500		Police Dispatch for Helotes, Grey Forest, & Shavano Park
156.15000	136.5 PL	Police Dispatch (old)

**Helotes, City of**

Fire is dispatched by Bexar County Fire Alarm. See Grey Forest for police frequency.

Frequency	Tone	Description
154.25000	203.5 PL	Helotes Fire Rptr
154.02500		
156.7	PL	Fire Response Tactical 7
155.83500		Police Dispatch for Helotes, Grey Forest, & Shavano Park

**Hill Country Village, City of**

Police are dispatched by the Bexar County Sheriff's Office. It is operating on the Bexar County Sheriff EDACS ProVoice system. However, it still uses its VHF tactical channels listed below for car-to-car communications.

Frequency	Tone	Description
159.46500	203.5 PL	Police Tactical

**Hollywood Park, Town of**

Fire dispatched by Bexar County Fire Alarm. Hollywood Park Police operates on the Bexar County trunked radio system.

Frequency	Tone	Description
155.76000	114 DPL	Hollywood Park PD TAC

**Kirby, City of**

It has been reported that the City of Kirby has moved to the San Antonio/Bexar County EDACS trunked system. Talkgroups have not been identified.

Frequency	Tone	Description
154.07000	203.5 PL	Fire Dispatch
154.86000	412 DPL	Police
155.72250	712 DPL	New Police Channel
154.98000		Public Works

**Leon Valley, City of**

Frequency	Tone	Description
154.14500	203.5 PL	Fire Dispatch
154.72500	203.5 PL	Police Dispatch
153.87500	203.5 PL	Police
156.19500		Public Works

**Live Oak, City of**

Live Oak, Converse, Selma EDACS Standard

Frequency	Tone	Description
154.17500	203.5 PL	LO/Selma Fire/EMS Dispatch
155.56500	186.2 PL	Live Oak PD Tac

**Olmos Park, City of**

Fire/EMS dispatched by Alamo Heights.

Frequency	Tone	Description
154.23500		Police

**Schertz, City of**

Frequency	Tone	Description
156.01500	203.5 PL	EMS Dispatch Mutual Aid

**Shavano Park, City of**

Shavano Park PD has moved to Castle Hills for dispatching services.

Frequency	Tone	Description
155.97750	074 DPL	Fire Dispatch
153.77000		Fire Operations
155.95500		Fire Operations
155.83500		Police Dispatch for Helotes, Grey Forest, & Shavano Park

**Terrell Hills, City of**

Fire/EMS dispatched by Alamo Heights.

Frequency	Tone	Description
155.43000	032 DPL	Terrell Hills PD-1
155.04000	203.5 PL T	Terrell Hills PD-2

**Universal City, City of**

Universal City uses the Live Oak TRS for public safety communications. Live Oak, Converse, Selma EDACS Standard

Frequency	Tone	Description
154.32500	203.5 PL	Fire (Simulcast from Live Oak TRS)
158.74500		Public Works



## readers' market

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## Darth Penguin Is Alive and Well

by Bill Price, N3AVY  
<chrodoc@gmail.com>

*“Why would I want to be a garbage man? As I told my uncle: ‘Because they get to ride on the back of the truck!’”*

**M**erry Holidays to all my reader friends. Here’s wishing that you all end up with a nice HPJIE,\* or keep the one you’ve got and get a raise.

I remember the jobs I wanted when I was young. The first job I ever wanted was that of a garbage man. When my uncle — a lawyer — looked at me and asked why I would want to be a garbage man, I told him, “Because they get to ride on the back of the truck!”

I also wanted to be a woodworker. My dad got me a *Handy Andy* workbench and some tools, but I used the adult tools for all my projects. I was an abject failure. I’m better at it now, but don’t expect to see any of my furniture in a fancy gallery.

While I was still in the “single-digit” ages, the first magazines I ever got were radio and electronics magazines, because at a very early age I was hooked on radios. I wore out the pages of the Allied catalogs the way other kids wore out their toy catalogs. (*For a look at a gallery of pages from the 1969 Allied Radio “Electronics for Everyone” catalog, visit: <<http://bit.ly/om4WHB>>. — Ed.*)

That’s where I discovered the HPJIE.\* I don’t remember the name of the correspondence school, but I sure remember that evil Mr. Bemis (Norm remembers him as Mr. Bemish) and it wasn’t so long ago that I found an old radio magazine with the original correspondence school ad. Mr. Bemis was docking a man’s pay by one hour for being two-minutes late for work. In the follow-up frames, the man told Mr. Bemis to “stuff it” (in so many words), because he had studied electronics, earned his diploma, and now had been offered a “High-Paying Job in Electronics.”

And that’s what I wanted. I remember my first very clunky 99-cent soldering iron and some plumbing solder that I bought at a surplus store — and more vividly, I remember how I could not solder two pieces of wire together if my life depended on it. One of the best lessons my dad ever gave me was in the art of soldering.

Just last night, I spent two hours digging out the “potting” goop (used to fill up the insides of an electronic device) from a mil-spec connector which would have cost almost \$200 to replace, so that I could solder fresh wires into it for today’s job — having some antenna installers pull a 550-

foot run of control wire through a lot of nooks and crannies of a huge building. My dad would have been proud of my solder job. This is the kind of solder job that you do in the shop — not on a rooftop in rainy weather.

This cable installation has been the finishing touch of the replacement of a microwave link — transmitter and receiver — sending a television signal a couple miles across a major metropolis for further distribution.

Of all the miserable aspects of a HPJIE, none compares with aligning microwave transmit and receive dishes in the rain. Over a three-day period of reinstalling the overhauled equipment and attempting to align them, not one minute was spent in dry weather — and we had a deadline. I should add that although some microwave dishes have lovely precision mounts with threaded adjustments for such alignment procedures, these did *not*.

My new black raincoat — similar to what the police wear when directing traffic in bad weather — made me look like a cross between Darth Vader and an emperor penguin. And although the weather is brisk now as you read this issue, it was sweltering and rainy, much like the tropics back when I did this particular job. I was just as wet from sweating inside the raincoat as I would have been if I’d left it off — but somehow I just felt better about wearing it.

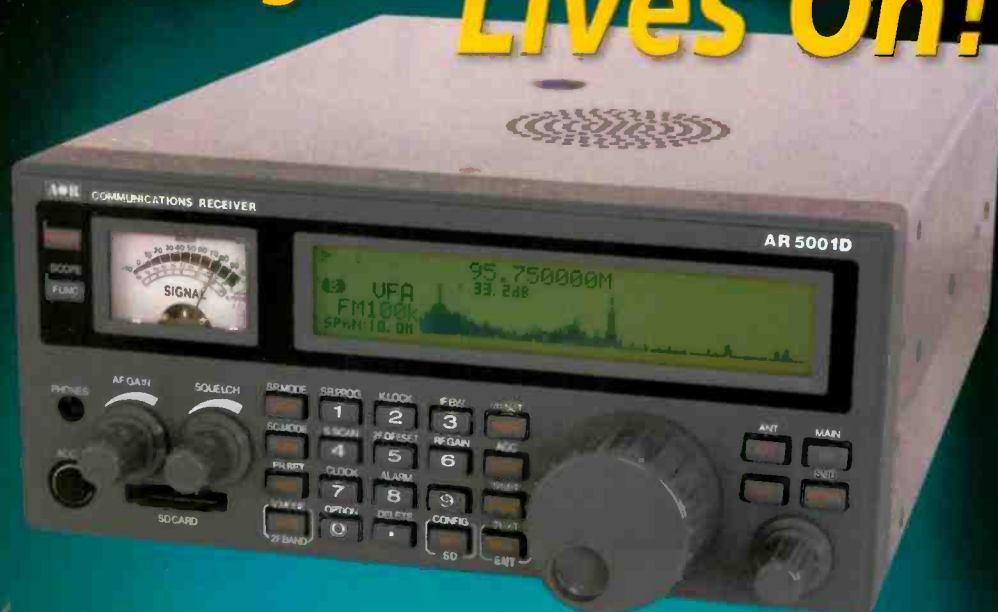
Those of you who have spent any time working from a ladder will understand the term, “parrot feet,” a condition which develops after standing on a rung for hours at a time, bumping a microwave receive dish ever-so-slightly. The boss, at the other end, keeps calling out voltage levels as you *bump*. Then it is “lather-rinse-repeat,” until you get them both aimed precisely at each other.

Add to this the rain, the lousy cell-phone reception which you get in an RF-intense area, and the difficulty of obtaining roof access in today’s security-conscious world, and you will see why being a woodworker might have been a better idea. Maybe even a garbage man. At least they get free raincoats.

\*High-Paying Job in Electronics

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<sup>1</sup>Note that certain frequencies are unavailable. <sup>2</sup>5W output



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