

# POPULAR DECEMBER 2009 COMMUNICATIONS

Shortwave Listening • Scanning • AM & FM • Radio History

## A Gift For All Seasons World Band Radios Help Teach Third World School Children



**Powering The Radios That Empower People, p. 22**

**A Goodie Bag Of Holiday Hobby Delights, p. 24**

**PLUS: Scanning In Florida • Broadcast Technology's Wish List • Shop Talk: More Proven Techniques For Your Workbench**

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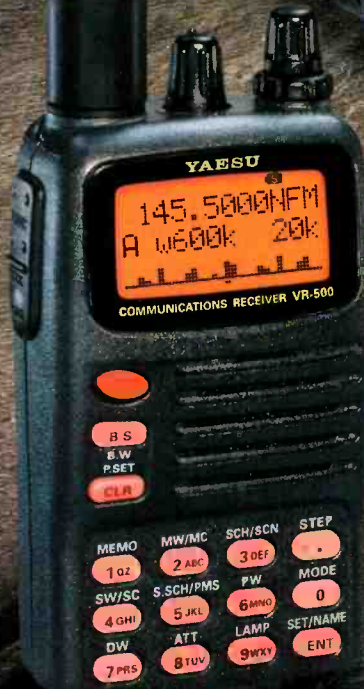
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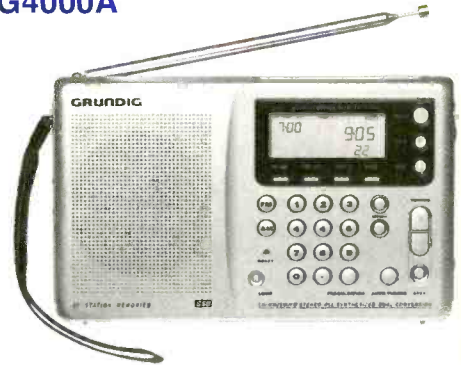
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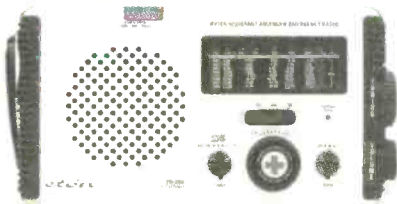
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The Grundig G4000A, historically has been our best selling radio here at Universal. We think the reason is value. Dollar for dollar no other radio offers this much performance and so many features. Coverage is complete, including long wave, AM band and shortwave from 1711 to 30000 kHz. FM stereo is provided to the head-phone jack. A thumb wheel knob on the side of the radio provides smooth single sideband (SSB) tuning. The illuminated digital display provides tuning resolution at 1 or 5 kHz on shortwave. Two bandwidths are featured (narrow for maximum selectivity, or wide position for best audio fidelity). The keypad will quickly get you to any frequency or store up to 40 of your favorite stations in the presets. The presets may be accessed directly or you can scan through them by using the radio's second set of Up/Down buttons. The G4000A can also frequency search. The dual digital clock is visible while the radio is playing. Other refinements include: snooze and sleep buttons, lock, High/Low tone switch, Local/DX switch, and 9/10 kHz MW scan selection. Jacks for: earphone (3.5 mm), antenna (3.5 mm) and 9 VDC input. The G4000A comes with: AC adapter, stereo earbuds, wind-up antenna, and *Owners Manual*. Requires six AA cells (not supplied). The cabinet has a stunning titanium colored finish. 8"Wx5"Hx1.5"D. 1 Lb. 5 oz. One year limited warranty. **Grundig G4000A**      Order #4000      Regular Price \$429.95      **SALE \$99.99**



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The Grundig Satellit 750 is an exciting portable that brings you the world of long wave, AM and shortwave reception as well as FM and the VHF aeronautical band. Your complete shortwave coverage includes the S.S.B. mode allowing the reception of ham radio operators, maritime and shortwave aeronautical stations. Tune your favorite stations by the conventional tuning knob, quick keypad entry or via the 1000 memories. Enjoy the fidelity you have come to expect from Grundig enhanced by separate bass and treble controls. Other features include: backlit LCD, wide/narrow selectivity, signal strength meter, rotatable AM ferrite antenna, earphone jack, external antenna jack, line output jack plus a 24 hour clock with dual alarm and sleep feature. 14.65 x 7.24 x 5.75". **Grundig Satellit 750**      Order #0750      List Price \$400.00      \$299.95



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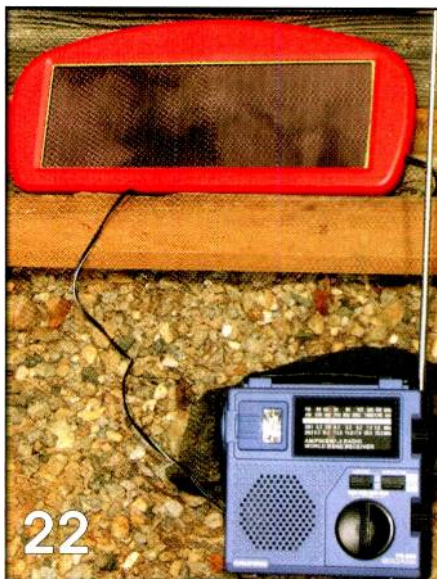
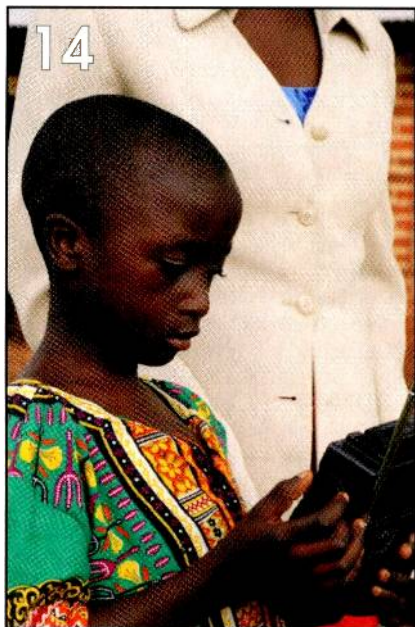
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# POPULAR COMMUNICATIONS CONTENTS

DECEMBER 2009  
VOLUME 28, NUMBER 4



## COLUMNS

- 12 Horizons**  
Communications Transformations  
*by Rob de Santos*
- 29 Global Information Guide**  
Adios—And Gracias—  
HCJB Ecuador, Plus Other News  
*by Gerry L. Dexter*
- 39 Ham Discoveries**  
The Dipole Destroyer:  
This Simple Antenna Beats  
That Ham Staple Hands Down!  
*by Kirk Kleinschmidt, NTØZ*
- 42 World Band Tuning Tips**  
World News, Commentary, Music,  
Sports, And Drama At Your Fingertips
- 44 The Wireless Connection**  
Shop Talk—More Proven Techniques  
For Cheap And Easy Problem Solving  
*by Peter J. Bertini*
- 60 The Propagation Corner**  
A Welcome Burst Of Solar Activity  
*by Tomas Hood, NW7US*
- 70 Homeland Security**  
Border Monitoring And  
The 2010 Olympics  
*by Mitch Gill, NA7US*
- 74 Military Radio Monitoring**  
Sheppard Air Force Base—Training  
Forces For The USAF And NATO  
*by Mark Meece, N8ICW*
- 79 Utility Communications Digest**  
Monitoring The USAF High-Frequency  
Global Communications System (HF-GCS)  
*by John Kasupski, KC2HMZ*
- 84 The Loose Connection**  
Life As A Southpaw  
*by Bill Price, N3AVY*

## FEATURES

- 14 Listen And Learn—Shortwave Radio Outreach Helps Teach Children**  
Non-profit *Ears To Our World* Distributes Self-Powered Shortwave Radios To Teachers In The Third World  
*by Thomas Witherspoon, KF4TZK*
- 22 Powering The Sounds Of Shortwave Around The Globe**  
Connecting Solar Panels To World Band Receivers Makes Helps Ears To Our World Make Important Connections  
*by Gregory Majewski*
- 24 Gordo's Goodie Grab Bag**  
Naughty Or Nice, You Still Deserve A Treat! And This Suggestion Sampler Makes A Convenient Checklist For Santa, Too (Wink, Wink!)  
*by Gordon West, WB6NOA*

## FEATURED COLUMNS

- 54 ScanTech**  
Focus On Florida  
*by Ken Reiss*
- 65 Broadcast Technology**  
Holiday Wish List  
*by Bruce A. Conti*

## ON THE COVER

Don't believe all the gloomy talk: Shortwave radio still connects people to—and from—the farthest reaches of the globe as no other medium can. The non-profit organization *Ears To Our World (ETOW)* is dedicated to making that connection work for the betterment of children in some of the poorest and most remote regions of the world by putting shortwave radios in schools. Read "Listen And Learn—Shortwave Radio Outreach Helps Teach Children," starting on page 14, to see how an idea, a mission, and a simple radio can combine to improve lives. (Cover: photo by Thomas Witherspoon, ETOW; Cover inset: teacher and students at the Bigodi Parent's Primary Progressive School in Uganda listen to a shortwave radio donated by ETOW, photo courtesy of The Empower Campaign)

## DEPARTMENTS

- 4 Tuning In**  
An Editorial
- 6 Newsworthy**  
Unwired, InfoCentral, And Washington Beat
- 53 Radio Fun**  
Trivia And Toons

# MFJ Triple Trunking Handheld Scanner

Your best value . . . 1000 Channel, 25-1300 MHz Analog Police/Fire Scanner

Hear the inner secrets of your community!

**MFJ-8322** Analog Trunking Scanner tunes 800 MHz public service bands and trunks analog Motorola (type I, II and hybrid), EDACS Wide and LTR systems. Most city and county Police/Fire/Emergency services have moved from conventional VHF and UHF frequencies to 800 MHz multi-frequency trunked systems. Monitoring them today requires a scanner that can change the receive frequency with each transmission -- just like the police radios!

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**MFJ-8322** stores up to 1,000 frequencies, 10 trunked systems and 1,500 total TID's. Decodes CTCSS and DCS. Enter *your* county FIPS code and hear *only* NOAA SAME

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MFJ-8322  
**\$199<sup>95</sup>**



severe weather alerts for *your* county.

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[www.RadioReference.com](http://www.RadioReference.com) gives you frequencies for both conventional and trunked systems. There may be hundreds of interesting frequencies for your local area. They are all organized complete with descriptions. It couldn't be easier to select what you want to listen to.

It's free to print lists for your city, county or state and it's easy to manually program the MFJ-8322.

**Most** people prefer to program a scanner this powerful using a computer and readily available third party software. By upgrading your *RadioReference.com* membership to premium and download the *Radio Reference* database directly to your MFJ-8322!

**MFJ-5432, \$29.95**, USB Cable lets you connect your scanner to your computer.

**MFJ-8322 Frequency coverage:**  
25-54; 108-137; 137-174; 216-225;  
225-512; 764-960; 1240-1300 MHz.

**Includes** flex antenna, AC adapter/charger. Uses 4 AA Alkaline or NiMH (charges in scanner) batteries. On/off/volume, squelch controls, 3.5mm phone jack. 5<sup>3</sup>/<sub>4</sub>"Hx2<sup>9</sup>/<sub>16</sub>"Wx1<sup>1</sup>/<sub>8</sub>"D in. 8.5 oz.

### MFJ Long-Ranger Gain Antenna

**MFJ-1811, \$14.95.** Greatly extends receiving range! Telescopes, swivels, folds over -- place scanner horizontally. 24" extended, 7" collapsed. 1.8-1800 MHz.



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Set a *Priority Frequency* and MFJ-8310

**New!**

MFJ-8310 **\$99<sup>95</sup>**



will switch there whenever it goes active so you'll never miss an important transmission.

**Scan Delay** delays scanning for 2 seconds before moving to another channel so you can hear more replies that are transmitted on the same channel.

A one-touch *Skywarn* button lets you instantly hear advanced Skywarn weather observer reports minutes *before* they are rebroadcasted by NOAA, radio and TV stations. This can literally be a life saver during life threatening weather. You can enter your county FIPS code and the MFJ-8310 will *only* alert you when severe weather is for *your* county.

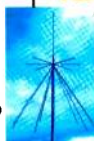
**Patented Zeromatic Tuning** continuously adjusts for best signal clarity.

**Includes** telescoping antenna, 120VAC to 9 VDC adapter. Has bright backlit LCD display, large 3 inch *HighClarity™* speaker, on/off switch, volume and squelch controls, 3.5mm headphone jack, BNC antenna connector. 8<sup>1</sup>/<sub>4</sub>"Wx6<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>8</sub>" inches. 1<sup>1</sup>/<sub>2</sub> lb.

### MFJ 25-1300 MHz Discone Antenna

**MFJ-1868, \$59.95.** Ultra wide-band scanner antenna receives 25-1300 MHz. Mount outside in the clear for *super long-range* and weak-signal reception. Includes 50-foot, 50 Ohm coax with PL-259 connector, stainless steel elements and mounting hardware.

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# POPULAR COMMUNICATIONS

## EDITORIAL STAFF

**Edith Lennon, N2ZRW**, Editor

(E-mail: [editor@popular-communications.com](mailto:editor@popular-communications.com))

**Richard S. Moseson, W2VU**, Editorial Director

(E-mail: [w2vu@popular-communications.com](mailto:w2vu@popular-communications.com))

## CONTRIBUTING EDITORS

**Peter J. Bertini, K1ZJH**, Restoration/Electronics

**Kent Britain, WA5VJB**, Antennas And Accessories

**Bruce A. Conti**, AM/FM Broadcasts

**Rob de Santos**, Trends In Technology

**Gerry L. Dexter**, Shortwave Broadcast

**Richard Fisher K16SN**, Capitol Hill News

**Mitch Gill, NA7US**, Homeland Security

**Tomas Hood, NW7US**, Propagation

**Shannon Huniwell**, Classic Radio

**John Kasupski, KC2HMZ**, UtilityComm/EmComm

**Kirk Kleinschmidt, NT0Z**, Amateur Radio

**Mark Meece, N8ICW**, Military Monitoring

**D. Prabakaran**, News

**Bill Price, N3AVY**, Humor/Communications

**Ken Reiss**, Technical/Scanning

**Dan Srebniak, K2DLS**, Computers And Radio

**Bob Sturtevant, AD7IL**, Puzzles And Trivia

**Tom Swisher, WA8PYR**, Civil Aviation

**Jason Togger, KB3CNM**, Cartoons

**Gordon West, WB6NOA**, General Radio Comm.

## BUSINESS STAFF

**Richard A. Ross, K2MGA**, Publisher

**Arnold Sposato, N2IQO**, Advertising Manager

**Emily Leary**, Sales Coordinator

**Sal Del Grosso**, Accounting Manager

**Doris Watts**, Accounting Department

## CIRCULATION STAFF

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**Cheryl DiLorenzo**, Customer Service Manager

**Ann Marie Auer**, Customer Service

## PRODUCTION STAFF

**Elizabeth Ryan**, Art Director

**Barbara McGowan**, Associate Art Director

**Dorothy Kehrwieler**, Production Director

**Emily Leary**, Production Manager/Webmaster

**Hal Keith**, Technical Illustrator

**Larry Mulvehill, WB2ZPI**, Photographer

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25 Newbridge Road  
Hicksville, NY 11801-2953 USA

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## EDITORIAL

### Tuning In

# The Best Gift

by Edith Lennon, N2ZRW

[editor@popular-communications.com](mailto:editor@popular-communications.com)

**D**espite the deeper meaning of “the Season,” it can be extremely difficult at this time of year to find inspiration. Crowded shopping malls, chaotic parking lots, and what can only charitably be described as competitive driving on streets festooned with plastic bells and candy canes make it hard enough just to keep one’s cool. Underscoring it all is a pressure born of—I hate to use such an overused word, but it *is* the correct one—the commercialism we’ve let creep in. For most of us, times being what they are, I’m guessing the pressure’s going to be a bit worse this year. So, more than ever, we’re going to need a little shot of inspiration, which is why I love our cover story this month, “Listen And Learn—Shortwave Radio Outreach Helps Teach Children,” by Thomas Witherspoon, KF4TZK, and the companion piece, “Powering The Sounds Of Shortwave Around The Globe,” by Gregory Majewski.

I met Thomas earlier this year at the 2009 SWL Winterfest in Kulpsville, Pennsylvania. I was taken right away by the compelling story of his efforts to get world band radios into the hands of school children in some of the world’s poorest and farthest flung corners, and I asked for a feature on the subject. I’d also spent some time with Greg during the Winterfest, but didn’t know of his own efforts to help Thomas’ humanitarian organization, Ears To Our World, until much later; I then asked him for an article as well. With their accounts of donating, volunteering, and giving, of course the perfect time to run these pieces was December when, hopefully, we all take some time out from the madding bustle to reflect on that larger meaning. Ready to reflect this issue, with these articles, helped me do just that.

One thing that coalesced in my quieter mind is just how many people I’ve now met in the hobby who do volunteer in one way or another (usually in more than one way), who give freely of their expertise, their time, and what funds they can afford.

In fact, I can honestly say, *most* of the hobbyists I’ve come to know donate/volunteer/teach/give/share. I truly can’t come up with anything else like it—and I’ve been trying to.

Think about it. Hobbyists donate their skills, time, and equipment for everything from local parades on a summer afternoon to days of hardship to provide the sole communications during a disaster. They run community outreaches, administer licensing tests, staff meetings and fests, organize neighborhood watches, help connect families to loved ones in far off and dangerous lands. They join the Red Cross, RACES/ARES, REACT, Courage HANDI-HAM, MARS, SKYWARN, police, fire, and marine auxiliaries, and countless other organizations, or on their own, act as “Elmers” to a single, maybe lonely, neighborhood kid. And there’s that innovative vein that runs through the community and pulses with creative approaches to the giving instinct, leading to solutions like Ears To Our World. It’s all done with a desire to help others, none of it with an eye toward tangible rewards.

I’m happy, yet humbled, to say I found *a lot* of inspiration for this Holiday Season right in these pages, and I’m confident it will see me through when the car horns blare. Thomas and Greg convinced me to finally place a few phone calls I’ve been “meaning to make,” and I’ve volunteered as a literacy tutor. I’d like to thank them for that.

I’d touched on this point last year on this same page, but it bears revisiting. It’s been a tough year, probably for most of us, but remember at this Season that you have a greater capacity to give than most, and a greater gift to give: Yourself. I encourage you to give generously.

(Oh, and for those who did great this year, check out “Gordo’s Goodie Grab Bag” by Gordon West, WB6NOA—it’s terrific stuff, too! Come on, we still need the gear, guys!)

Happy Holidays to you and yours from all of us at *Popular Communications*.

# GRUNDIG ENGINEERING EXCELLENCE



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- FM-Stereo; AM; Full-Shortwave (1711-29999 KHz)
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# The Weirder Side Of Wireless

by Staff

## Un-Popular Communications

With help from Homeland Security grants, police departments looking to subdue unruly crowds and protesters are purchasing a high-tech device originally used by the military to repel battlefield insurgents and Somali pirates with piercing noise capable of damaging hearing, the *Washington Times* reports. Police acknowledged that they deployed Long Range Acoustic Devices (LRADs), procured from San Diego-based American Technology Corp., as a safeguard at recent political conventions, international summit meetings, and this summer's town-hall meetings on health care. Officers were captured on video using the devices against protesters at the Group of 20 summit in Pittsburgh. Health and civil rights advocates are concerned that if improperly used LRADs could cause permanent physical harm. The American Tinnitus Association said summit protesters were exposed to over 140 decibels, which it described as similar to the sound pressure members of the armed forces might face from an Improvised Explosive Device (IED). *Navy News* has described the devices as being louder than a jet engine, saying they overwhelm their targets with sound so loud they hear it inside their heads.

LRADs have been used by cruise ships and freighters to repel attacking pirates off the coast of Somalia, using narrow-beam sound waves with great clarity at 150 decibels—over the human threshold of pain—and short bursts of intense acoustic energy that can incapacitate people within 1,000 feet of the device. The devices can also broadcast sound files containing warning messages or can be used with electronic translating devices for what amounts to narrowcasting, in which specific groups are targeted. If crowds or potential foes don't respond to the verbal messages, company records show that the LRADs can direct a high-pitched, piercing tone with a tight beam, the report continued.

American Technology spokesman Robert Putnam said the company's LRAD system was successfully deployed by Pittsburgh law enforcement agencies to support their peacekeeping efforts at the G-20 summit, but denied that the devices are weapons. "There's no truth to the claims that these devices are 'death guns' or 'sonic cannons,'" the *Washington Times* quoted Putnam as saying. "They are communication devices and their point is to communicate with people who are not interested in complying with lawful orders."

## Karma Gone Awry

According to a report in *The Morning Sun* (Kansas), Paul Lyle, 63, of Pittsburg, Kansas, pled

guilty on October 1 to felony theft for stealing money from KKOW radio. Lyle, the chief operating officer/president of American Media Investments, which does business as KKOW, admitted to stealing approximately \$86,000 from the company from January 2008 to May 2009. Lyle told police investigators that he stole the money to help support his addiction to a scratch-off lottery game, the report continued. Lyle was charged July 21. On September 20, his name was drawn at the Kansas State Fair in a "second-chance drawing" for losing scratch-off tickets. He won a 2009 Cobalt 230 boat, including trailer, accessories, cash and tickets to the Kansas Speedway, valued at about \$96,000, less taxes and some fees. Lyle was still eligible for the prize because the state could not prove that he had specifically used illegally obtained money to purchase that particular lottery ticket. As part of a plea bargain, the entire lottery winnings will be used to pay restitution, but Lyle could still face civil liability. He is no longer the president/COO of AMI.

## Oh No, Radio-"O"

From the aggregate music news website The Daily Swarm, we learn that a radio station in Athens, Georgia, is drumming up publicity by calling itself "Obama Government-Controlled Radio." Bulldog WPUP (103.7 FM), a classic rock station, changed formats on September 30 to an "All-Obama Format"—a mix of "Obama's iPod, Hawaiian music, and clips of the President's speeches."

"Some people think the government's done such a great job with everything from banking to the auto industry, maybe they want to give the government a shot at radio," said Steve Sinicropi, a VP at Cox Radio. The musical selections, that we assume reputedly come from the "First iPod," included "Play That Funky Music," by Wild Cherry, "Superfly" by Curtis Mayfield, and Hawaiian pop tunes. Between songs listeners hear messages such as, "Why let highly paid consultants pick the music when you can let the government do it for you?"

The radio station's promo tag line, "Athens Georgia, the new home of Obama Government-Controlled Radio" has provoked both Obama supporters and conspiracy theorists, though the station has admitted the format change was made for publicity. "Yes, it is a stunt," the station's program director, Kevin Steele, said. "Our online streaming listeners have doubled in the last 24 hours." But not everyone's happy. WPUP's receptionist told The Daily Swarm that she was having a rough day, saying, "there's some mean people out there and they're not very happy. This is a college town and they want their rock station."



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

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

The handheld BCD396T scanner was designed for National Security/Emergency Preparedness (NS/EP) and homeland security use with new features such as **Fire Tone Out Decoder**. This feature lets you set the BCD396T to alert if your selected two-tone sequential paging tones are received. Ideal for on-call firefighters, emergency response staff and for activating individual scanners used for incident management and population attack warning. **Close Call Radio Frequency Capture** - Bearcat exclusive technology locks onto nearby radio transmissions, even if you haven't programmed anything into your scanner. Useful for intelligence agencies for use at events where you don't have advance notice or knowledge of the radio communications systems and assets you need to intercept. The BCD396T scanner is designed to track Motorola Type I, Type II, Hybrid, SMARTNET, PRIVACY PLUS, LTR and EDACS® analog trunking systems on any band. Now, follow UHF High Band, UHF 800/900 MHz trunked public safety and public service systems just as if conventional two-way communications were used. **Dynamically Allocated Channel Memory** - The BCD396T scanner's memory is

organized so that it more closely matches how radio systems actually work. Organize channels any way you want, using Uniden's exclusive dynamic memory management system. 3,000 channels are typical but **over 6,000 channels are possible** depending on the scanner features used. You can also easily determine how much memory you have used and how much memory you have left. **Preprogrammed Systems** - The BCD396T is preprogrammed with over 400 channels covering police, fire and ambulance operations in the 25 most populated counties in the United States, plus the most popular digital systems. **3 AA NiMH or Alkaline battery operation and Charger** - 3 AA battery operation - The BCD396T includes 3 premium 2,300 mAh Nickel Metal Hydride AA batteries to give you the most economical power option available. You may also operate the BCD396T using 3 AA alkaline batteries. **Unique Data Skip** - Allows your scanner to skip unwanted data transmissions and reduces unwanted birdies. **Memory Backup** - If the battery completely discharges or if power is disconnected, the frequencies programmed in the BCD396T scanner are retained in memory. **Manual Channel Access** - Go directly to any channel. **LCD Back Light** - A blue LCD light remains on when the back light key is pressed. **Autolight** - Automatically turns the blue LCD backlight on when your scanner stops on a transmission. **Battery Save** - In manual mode, the BCD396T automatically reduces its power requirements to extend the battery's charge. **Attenuator** - Reduces the signal strength to help prevent signal overload. The BCD396T also works as a conventional scanner to continuously monitor many radio conversations even though the message is switching frequencies. The BCD396T comes with AC adapter, 3 AA nickel metal hydride batteries, belt clip, flexible rubber antenna, wrist strap, SMA/BNC adapter, RS232C cable, Trunk Tracker frequency guide, owner's manual and one year limited Uniden warranty. Not compatible with AGEIS, ASTRO or ESAS systems. Order on-line at [www.usascan.com](http://www.usascan.com) or call 1-800-USA-SCAN.

## More Radio Products

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  - Bearcat 796DGV Digital 1,000 ch. TrunkTracker IV base/mobile...\$195.95
  - Bearcat BCD396T APCO 25 Digital scanner with Fire Tone Out...\$519.95
  - Bearcat 246T up to 2,500 ch. TrunkTracker III handheld scanner...\$214.95
  - Bearcat Sportcat 230 alpha display handheld sports scanner.....\$184.95
  - Bearcat 278CLT 100 channel AM/FM/SAME WX alert scanner...\$129.95
  - Bearcat 248CLT 50 channel base AM/FM/weather alert scanner...\$104.95
  - Bearcat 244CLT 30 channel base AM/FM/weather alert scanner...\$94.95
  - Bearcat 92XLT 200 channel handheld scanner.....\$105.95
  - Bearcat 72XLT 100 channel handheld scanner.....\$89.95
  - Bearcat BR330T handheld shortwave/scanner with Fire Tone out...\$274.95
  - Bearcat BCT8 250 channel information mobile scanner.....\$169.95
  - Bearcat 350C 50 channel desktop/mobile scanner.....\$96.95
  - AOR AR16BQ Wide Band scanner with quick charger.....\$199.95
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Suggested list price \$399.95/CEI price \$214.95  
 Compact professional handheld TrunkTracker III scanner featuring Close Call and Dynamically Allocated Channel Memory (up to 2,500 channels), SAME Weather Alert, CTCSS/DCS, Alpha Tagging.  
**Size: 2.72" Wide x 1.26" Deep x 4.6" High**

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

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



ID, custom search range, and S.A.M.E. group using 16 characters per name. **Memory Backup** - When power is lost or disconnected, your BC246T retains the frequencies that were programmed in memory. **Unique Data Skip** - Allows the BC246T to skip over unwanted data transmissions and birdies. **Attenuator** - You can set the BC246T attenuator to reduce the input strength of strong signals by as little as 18 dB. **Duplicate Frequency Alert** - Alerts you if you try to enter a duplicate name or frequency already stored in the scanner. **22 Bands** - with aircraft and 800 MHz. The BC246T comes with AC adapter, 2 AA 1,800 mAh nickel metal hydride batteries, belt clip, flexible rubber antenna, wrist strap, RS232C cable, Trunk Tracker frequency guide, owner's manual and one year limited Uniden warranty. For more fun, order our optional deluxe racing headset part #HF24RS for \$29.95. Order now at [www.usascan.com](http://www.usascan.com) or call 1-800-USA-SCAN.

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## News, Trends, And Short Takes

by D. Prabakaran

### **Sirius FM-5 Satellite Has Been Placed Into Service**

Sirius XM Radio announced that Sirius FM-5, the newest addition to the Sirius XM satellite fleet, was recently placed into service on the Sirius network. The new satellite, which was manufactured by Space Systems/Loral, provides improved signal penetration and reception to millions of Sirius subscribers in North America. The satellite, launched on June 30, was guided to its final orbit position and has successfully completed all post-launch testing.

Sirius FM-5 is one of the world's most powerful communications satellites and is the first geostationary Sirius satellite, complementing the Sirius fleet of three non-geostationary satellites. Sirius FM-5 is designed to provide more focused power in areas of peak population, such as metropolitan areas on the east and west coast, as well as significantly improving reception when driving under heavy foliage. Its location in a geostationary orbit position over North America at 96 degrees west longitude assures that home receivers can aim at a fixed point in the southern sky to receive a signal on a constant basis.

The satellite was launched from the Baikonur Cosmodrome in Kazakhstan aboard an International Launch Services (ILS) Proton.

*(Source: Sirius XM Radio)*

### **blinkx Partners With Canadian Broadcasting Corporation**

blinkx, a video search engine, announced a new partnership with the Canadian Broadcasting Corporation (CBC), Canada's national public radio and television broadcast network. Clips from the station's online video library are now easily available at [www.blinkx.com](http://www.blinkx.com). blinkx will also place contextually relevant advertising against these videos and share resulting advertising revenue with CBC. blinkx has made more than 530 partners and indexed over 35 million hours of video and audio content to date.

*(Source: blinkx)*

### **Global Certification Standard Announced For Internet Radios**

The Internet Media Device Alliance (IMDA) has announced a baseline certification standard for standalone Internet radio players. Called IMDA Profile 1, the standard aims to protect consumers by aligning competing technologies and future-proofing Internet radio product design. Major Internet

radio manufacturers and broadcasters are backing the IMDA certification standard to ensure that new products will access the majority of streamed audio broadcasts, available now and in the future. It is estimated that certified radios will receive around 90 percent of the world's radio stations currently broadcasting over the Internet.

*(Source: IMDA)*

### **DRM Receiver Profiles Released At IBC 2009**

The DRM Digital Radio Receiver Profiles, which define minimum functionality for different classes of digital radio receivers, were released in Amsterdam at IBC2009. The Profiles aim to help manufacturers build stand-alone DRM or multi-standard receivers and stimulate digital radio markets across the world. The Receiver Profiles offer significant benefits to all stakeholders in the radio market: For broadcasters they provide assurance that their services will be receivable; for manufacturers that their technology investments will be supported by a wide choice of services; and for consumers that the products they purchase have the necessary features to offer consistent quality and assured levels of interoperability across their region and beyond. The Profiles were developed by the DRM Consortium with the aid of its member experts representing silicon chip manufacturers, consumer device manufacturers, radio broadcasters and other experts from across the industry. The development of the Receiver Profiles has taken into account important market considerations including the consumer experience, manufacturing issues, and broadcaster requirements.

*(Source: DRM Consortium)*

### **Egypt Boosts Digital AM Radio Signals**

The Egyptian Radio and Television Union (ERTU) has placed an order with Grass Valley for two Thomson TMW 2050D 50 kW mediumwave digital transmitters and complementary antenna systems to upgrade its existing AM radio broadcast network and ensure reliable regional coverage. The new Thomson DRM transmitters and antenna systems, which are now being installed in Cairo, Egypt, will be on the air in October 2009. By installing the new technology, ERTU will realize a significant reduction in operational and maintenance costs.

*(Source: Grass Valley)*

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# Capitol Hill And FCC Actions Affecting Communications

by Richard Fisher, K16SN

## FCC Chairman Names New Head Of Enforcement Bureau

P. Michele Ellison, who for more than a decade has served as deputy general counsel, has been named Federal Communications Commission Enforcement Bureau Chief by Chairman Julius Genachowski, taking on new duties in September. Most recently, Ellison had been the Commission's Acting General Counsel and was named transition counsel to newly named Commissioner Mignon Clyburn. She became part of the General Counsel's Office in 1995.

"[Ellison] has had a rich and varied practice at the agency, from her initial years of handling complex FCC litigation before the federal courts to her current focus on competition policy in the context of mergers and acquisitions and on spectrum and fraud matters involving billions in auctions and universal service funds," according to an FCC press release.

According to the American Radio Relay League's *ARRL Letter*, "Ellison also has provided leadership in other policy areas, including co-chairing the Commission's Localism Task Force, leading a task force on expanding communications opportunities to small businesses and developing countries, as well as serving as senior advisor to former Chairman William Kennard (who was Chairman from October 1997 to January 2001)."

## New Commercial Radio License Questions Effective This Month

Commercial radio examination managers are being required to switch to new examination questions for Elements 1, 3 and 8 effective December 26 as a "long overdue" test updating takes effect. The changes impact the General Radiotelephone Operator License (GROL) and Radar Endorsement.

According to published reports, Larry Pollock, head of the National Radio Examiners Commercial Operator Licensing Examination Managers (COLEM), said "the commercial exams have not changed since 1995. These new pools reflect all the current changes to commercial radio operation, technology and radio maintenance." The reorganization of the exam questions by topics "makes test preparation study much more logical," he said, adding that the three-pool update "was long overdue."

The FCC in June announced adoption of the new pools, covering "basic radio law and operating practice, electronic fundamentals and techniques required to adjust, repair, and maintain radio transmitters and ship radar equipment."

## Grant From Oregon Governor Paves Way For New Winlink System

A \$250,000 grant from Oregon Governor Ted Kulongoski has paved the way for completion of a statewide emergency communications system known as Winlink. Area members of the Amateur Radio Emergency Service (ARES) completed the installation in September.

Governor Kulongoski in 2007 "was impressed by the hams' ability to handle emergency communications when severe winter storms wreaked havoc on Oregon's North Coast and flooded the City of Vernonia, knocking out 911 services, Internet and phone service for an extended period of time," according to published reports. "The Oregon Office of Emergency Management said that during the storms, the radio operators were 'tireless in their efforts to keep the systems connected.' When even state police had difficulty reaching some of their own troops, ham radio worked, setting up networks so emergency officials could communicate and relaying lists of supplies needed in stricken areas."

The equipment was slated for installation in the Emergency Operating Center in each of Oregon's 36 counties, according to reports. "Once the monies were distributed, ARES members researched and purchased the equipment that would be needed, formalized and signed contracts between the state, counties and ARES, and allocated space to install the antennas and equipment within each EOC," according to the ARRL.

## California "Monkey Man" Hit With \$10,000 Fine By FCC

A San Francisco businessman who illegally operated "Pirate Cat Radio" in the city on 87.9 MHz has been issued a Notice of Apparent Liability by the FCC and fined \$10,000 for "willfully and repeatedly" violating communication law. Ironically, the station was recently honored for its "outstanding service" to the community by San Francisco's board of supervisors. Daniel K. "Monkey Man" Roberts, who the FCC describes as the "executive of the Pirate Cat Café and Studio located at 2781 21st Street," had been "issued numerous warnings and Notices of Unlicensed Operation (NOUOs)" and cautioned of "potential penalties for operating an unlicensed radio station and for further violations of the Communications Act and FCC rules."

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

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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.

## 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.

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Plug this MFJ-1022 compact MFJ all

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



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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.

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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.

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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.

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# Communications Transformations

by Rob de Santos  
commhorizons@gmail.com

*“The deeper point, though, is that the subsequent development of the automobile, airplane, not to mention that thing called radio, were accelerated by the creation of the ‘Victorian Internet.’”*

The Internet has transformed communications, both hobby-related and in the wider society, and that transformation is continuing. But it isn't the first time in recent history we've seen a change in communications transform society. Your great-grandparents may well have lived through such a shift, too.

The term “Victorian Internet” was coined a little over 10 years ago and served as the title of a book by journalist and author Tom Standage. The heart of Standage's argument is that the means of transport of information is more fundamental than how it is received; thus the changes wrought by the Internet don't represent the first such communications revolution. In Victorian times, it was the electronic telegraph that “changed everything.” The telegraph allowed instant communications over large distances and led to changes across society and governments around the world.

More recently other writers, such as David Weinberger, have made some interesting arguments that the Internet is simply a set of narratives connected by the technology. This thesis is complementary to Standage's as it emphasizes that the means by which information is delivered is the most transformative characteristic. In Victorian times, the narrative was the exchange of telegrams. In our time, it could be anything from Web pages with comments, to “tweets” from the Twitter masses.

For readers of this magazine, communications of many different forms is of interest, and use of the Internet is mentioned in some way in virtually every article in every issue. For example, you can contact the writers via email or go to a Web page to get further details on the subject of the column. Yes, hobby communications have been transformed. But where are we in that “transformation”? What can we expect in the future?

In Victorian times it would have been easy to dismiss telegrams as trivial, impersonal, and “short” communications lacking the substance of a well-thought out letter. The same arguments are made today about text messages versus email or email versus hand-written letters. More significantly, though, it is not the specific tool itself (telegram or tweet) that ultimately matters, but what developments the new communication enabled in society.

With telegrams allowing “instant” communication, it became possible to affect the actions of distant family members, employees, suppliers, or the government. The “tyranny of distance” was altered and other aspects of society that previously could not be managed remotely now could be. Whether what was sent was news of a sick relative or a request for some critical piece of equipment, being able to do so rapidly altered how life and business was conducted. Manufacturing, government, personal relations, and more changed and continued to do so for decades after the initial surge of public fascination with the telegraph had dissipated. And most of that change occurred without those affected even giving a thought to how the advances had come about. The deeper point, though, is that the subsequent development of the automobile, airplane, not to mention that thing called radio, were all accelerated by the creation of the “Victorian Internet.”

It's reasonable then to ask if our society is caught up in the fascination of the modern Internet itself and therefore missing the real impact that it's going to have on our future. I suspect that's the case, but of course, it's too early to tell. If the Internet was made possible by the invention of the transistor decades before, then the Internet will simply be the enabling technology for much greater creative efforts.

More than likely, if we fast-forward a century, the “invention” of the Internet by Vint Cerf and many associates will be noted as a major historical event, just as the invention of the telegraph by Samuel Morse. What will really fill up the history books, however, will be the explosion of inventions and technology that followed over the subsequent decades and transformed society in ways that could not have been anticipated.

Of course we can't know what those technological innovations will be or how they will, in turn, revolutionize life later in the 21st Century. But history has given us a guide to that future, and I think that any aficionado of communications can only be excited by what it indicates.

What do you think will be the most likely inventions made possible by the Internet? Drop me an “email” using that Internet thingy and let me know what you think.

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A student holds one of the radios donated to the Bigodi Parent's Primary Progressive School in Uganda while a teacher looks on. Ears To Our World's partner in the region, the Empower Campaign, is currently raising money to build Bigodi a new school, and their operation is doing great things.

# Listen And Learn— Shortwave Radio Outreach Helps Teach Children

**Non-profit *Ears To Our World* Distributes Self-Powered Shortwave Radios To Teachers In The Third World**

by Thomas Witherspoon, KF4TZK

Imagine that you're a teacher in one of the most remote corners of the Earth, in a dimly lit hut. As you walked home from school earlier this evening you heard rumors that your country is on the brink of civil war. You can't be sure of this, as rumors abound, but you're concerned about it nonetheless: food is often scarce in your region, and a war will make it even harder to come by. You're worried about your pupils, some of whom have

Thomas Witherspoon, KF4TZK, is the Founder and Executive Director of Ears To Our World. He has been a shortwave radio listener since he was eight years old and passionately promotes the hobby. He is justly proud of the fact that one of the first words his twin daughters learned was "radio."

been recently orphaned by disease. If only you could determine whether the rumors are true. Or at least, read and prepare for tomorrow's classes. But there's no more gas in the lamp. Yet you are expected to get up at dawn—in just a few hours—and walk to a small school where nearly 60 pupils will crowd under the roof with knowledge-hungry eyes upon you, expecting you to teach them everything you know about the world they live in. But at the moment, what do you know?

As a teacher, you have some knowledge of literature, science, and math, but what of current events, politics, or world news? Such knowledge is easy to come by if you have access to libraries, the Internet, newspapers and journals, television, and local radio stations. What if your school not only has no





Etón's Grundig FR200 shortwave receiver was chosen for the project because of its coverage range, rugged durability, and hand-crank power option. An important added bonus was its bright built-in flashlight.

library, but also has no walls? What if the nearest computer with Internet is more than a day's journey away? What if you actually do have a pocket radio, but the batteries to run it cost several days' wages? These are some of the daily challenges facing thousands upon thousands of teachers all over the world, tasked with the job of educating their countries' next generation of citizens.

Now imagine that we could just put into these teachers' hands, shortwave radios—self-powered radios, with LED reading lamps? Election results, local, regional, international news, as well as weather events and immunization programs are no longer unknowns with a radio. Even reading in the dark is suddenly possible. Imagine what it would be like for such a teacher to hear VOA or BBC news coming in clear and strong, dispelling rumors and myths and prejudices, and enlightening their young students about the world in which we live?

By providing resource-starved teachers direct access to a radio and basic knowledge about shortwave, Ears to Our World (ETOW) gives them a means to expand the often limited perspective of the children and young people they teach. In remote, impoverished, or war-torn regions, opportunities and futures are often written on the airwaves. Through radio, borders dissolve and impressionable minds soar. That's what ETOW is all about.

ETOW is a new grass-roots humanitarian organization specializing in the distribution of self-powered world band radios to teachers in the developing world, for the benefit of their students, schools, and communities.

## An Idea Is Born

The idea behind ETOW began to evolve in 2008 after I became a father of premature twin daughters and quit my full-time job to care for them. One morning, as I held one of my swaddled daughters, I reached for a magazine and starting reading about an organization that worked in a rural school in

## Building The Infrastructure For Ears To Our World

Ears to Our World is newly formed, but we are privileged to have established the following partnerships:

- *World Corps Kenya*—We partner with World Corps to serve rural schools throughout Kenya. We are currently working with Saint Catherine School in Kibera, Kenya (a pilot project), and have several other schools earmarked for radio distribution.

- *Friends of Kakamega*—Through the Friends of Kakamega, we are working with pilot groups of teachers who serve local children. Kakamega is located in Western Kenya.

- *Empower Campaign*—Through the Empower Campaign, we have recently sent radios to every teacher at Bigodi Parent's Primary Progressive School in Uganda. The Empower Campaign is currently building this new school, which previously had been constructed of nothing more than tin sheets and poles.

- *EduCare Africa*—We have managed to get a couple of radios into rural Cameroon via EduCare this year. We are currently working closely with EduCare representatives in Cameroon and the U.S., raising money to pay for logistical support and seeking assistance to send our radios to teachers throughout rural Cameroon. EduCare does not have the financial resources to pay for this project, but we believe we can have a strong impact there and so are seeking funding sources now.

- *American Haitian Foundation*—The AHF supports a large K-12 boarding school in Petite Rivière de Nippes. This facility is located in a very rural, isolated part of Haiti, but has developed into much more than just a school: it is also a local employer, a community center, and a hurricane shelter when required (a frequent need in Haiti). The AHF operates its school strictly off solar and renewable energy. It also runs three local radio transmitters that broadcast community information and weather advisories. ETOW is proud to have distributed radios, with AHF's assistance, to all 38 of its teachers, who may have access to power at school, but have none at home. We were able to get radios there in time for this year's hurricane season.

- *Books For Kids, Africa*—This new organization, based in Mozambique, will give radios to teachers who graduate from their teacher training program and move to remote parts of the country. ETOW's radios will allow them to keep up with current events in places where the Internet is still a thing of the future.

- *Project Education Sudan*—ETOW is very excited about this partnership. The country is war-torn and in a state of rebuilding. PES builds schools in an area of Southern Sudan so remote that resources often have to be flown in on chartered planes. The diverse programming available to these teachers, via shortwave radio, is nonetheless staggering and these teachers have much to gain from our radios. Our shipment, which will supply all four school's teachers with radios, will arrive in January of 2010.

Southeast Asia. The school originally had no electricity, hence, no lighting—but had solved the problem by installing a small solar panel on the roof of the school building and a simple LED lighting system inside. Teachers could then plug in basic DC devices, such as radios, to catch up on the news. I was filled with admiration for their resourcefulness. Here is a school, I thought, proud of the technology that we take for granted here in North America.

I wondered how useful it might be for teachers of that school to have access to power and information at home, too—perhaps where they spend the bulk of their time, and where they may do their class preparation? Specifically, I wondered how helpful it might be for these teachers to have access to a portable self-powered radio, with a built-in reading lamp? *Which radio?* I found myself wondering. *And how can I get one there?*

I couldn't stop thinking about it. What if I could send shortwave radios to other schools, too—to lots of teachers in schools without electricity throughout the world? Later that morning, I casually asked the question of my wife, who's often my sounding board. She looked at me, brows raised, and said "That is one of *the best* ideas you've ever had." We knew we were onto something. What, specifically, we didn't know, but *something*. With my wife's continued encouragement ("We may be poor for the rest of our lives, but what the heck, let's do it anyway")—and her suggestion of a name, Ears To Our World—I continued exploring the idea. But I'd need help.

I had recently been fortunate enough to meet a shortwave radio guru who I believed would have the answer. It was at this crucial point that I picked up the phone and called Fred Osterman, President of Universal Radio, Inc. Swallowing my hesitancy, I began to describe to Fred what I was considering doing; I explained that though I knew technology had advanced in this particular line of radio products, conditions in these regions would warrant a durable, reliable, time-tested device with good general coverage over the shortwave bands. Did he think there was such a product? More importantly, did he think my plan was nuts?

"Thomas," Fred said to me, "I think this is a *great* idea, and I would like to support you."

Instantly, I felt it was no longer just a pipe dream, that this could really happen. Fred offered some suggestions of self-



Serah Mucha (back row, wearing eyeglasses) of World Corps Kenya poses with staff members and the student class of the St. Catherine School, Kibera, Kenya.

powered radios that he thought might serve the purpose, and in short order had shipped to me several of the radios we'd discussed, noting that they were complimentary and that we could abuse them as we saw fit. I was grateful, and vowed to give them the full test. With the arrival of those radios, ETOW came into being.

### Which Radio?

The choice of radio for our project was challenging. Each day, over a period of several months, we thoroughly tested the

array of radios Fred had sent, representing various manufacturers' products; we checked longevity of charge, radio sensitivity/selectivity on all bands, audio fidelity, ease of use, and ruggedness. Ultimately, a clear winner emerged: Etón's Grundig FR200. The FR200 had the features we sought: shortwave coverage down to 3.2 MHz to cover the tropics; FM and AM (mediumwave) coverage; an LED reading lamp; and a sturdy chassis. Plus, in our view, it offered the best sensitivity and selectivity of radios in its class. And, of course, it was self-



EduCare-Africa's Pavla Zakova-Laney (left) hands Ndomi Patrick Ndi (right), a teacher at G.S.S. Mbu-Warr in Cameroon, his school's first ETOW radio.

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powered by hand crank—two minutes of cranking delivered approximately 40 to 60 minutes of radio listening at a reasonable volume.

One of the most significant deciding factors in our decision was the FR200's indications of longevity. We were impressed, moreover, with all of the Etón radios that we tested in this respect. Being able to supply not only a quality but also a *lasting* product to our classrooms and teachers made sense to me then, and is consistent with our current mission now, in that we endeavor to maintain the relationships we build with our schools, so these radios really must last. The FR200, we believed, could roll with the punches.

When we told Fred of our decision, he recommended that I contact his good friend Esmail Amid-Hozour, CEO of Etón Corporation. In the process of testing radios, I had investigated Etón Corporation and was thoroughly impressed with its mission—which, perhaps not so oddly, is very similar to our own. So, on Fred's advice, I wrote him a quick letter describing our plans, and asked for Etón's help. I'll admit, I was nervous about doing so, but need not have been; Mr. Hozour responded with enthu-

siasm and overwhelming support. Before I knew it, an enormous truck bearing two pallets filled with hundreds of FR200 radios arrived at my door.

I was gobsmacked. Here were two gentlemen who barely knew me, yet who put enough faith in this organization I had just formed to fuel it with thousands of dollars of their resources, asking nothing in return, and neither Fred nor Esmail ever *hinted* that they should receive even recognition. Their incredible injection of support powered the formation of our board of directors and our incorporation of this non-profit that I now direct.

## ETOW's First Steps

Meanwhile, I had created a website and we were beginning to receive requests to partner with organizations serving various parts of the world. We quickly realized that we needed specific criteria to define where our resources should go, and we kept it simple: Ears To Our World, we determined, will work in *any* region of the world where electricity and Internet access are severely limited or non-existent in schools or for teachers and their students. This meant very rural, sometimes

politically charged or war-torn areas of the world, where the inhabitants often live on less than \$1 U.S. per day.

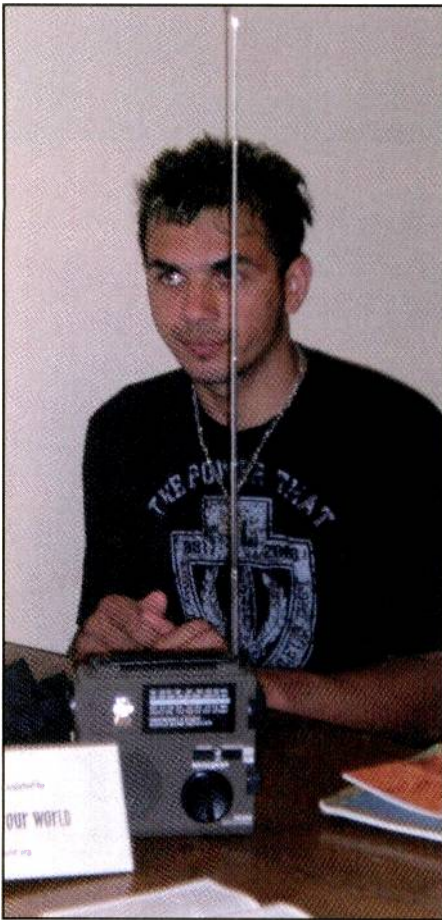
Knowing that I would need help getting this project off the ground, I enlisted the expertise of some people I already knew—several of whom now serve on ETOW's board of directors. One such individual, who became an instant friend—Dr. Nyaga Mwaniki, Professor of Anthropology at Western Carolina University—put me in touch with Serah Mucha of World Corps Kenya. I quickly made contact with Serah, and as luck would have it, shortly thereafter Dr. Mwaniki's professional research led him to Kenya for six months. Thus, he was personally able to deliver a radio to Serah at World Corps, who in turn placed it in the hands of a deserving teacher in a pilot Kenyan school.

I received this communication from Ms. Mucha shortly afterwards:

Hallo Thomas,

Hope today was good for you...

The school [where the radio was placed] is situated in Kibera, which is the biggest slum in Africa; it has 145 children and only 5 teachers, so this radio could be counted as the sixth. The buildings are dilapidated but what caught



ETOW partners with the Pleasant Ridge Church in Morganton, North Carolina, which sponsors a school in Hirip, Romania, that educates local Gypsy children. These children do not have access to electricity (or running water) at home, or at the school. Here, a student named Levi is shown using the radio as an aid in learning current events and English.

me was the eagerness for the children to learn and the excitement of a new method of learning in the classroom...

Thanks; it was so wonderful to give the radio away and see the smiles...

Regards  
Serah Mucha

I shared this wonderful missive with my mentor Fred Osterman, who had already donated enough radios for several pilot schools' teachers. ETOW was officially up and running.

## Power Through Partnership

From our inception, ETOW set about building strong partnerships with other reputable established non-profit agencies that *already* help struggling schools throughout the world—and who believe, as we do, in free access to information.



American Haitian Foundation Board Member Emmanuel "Manolo" Eressoir, explains radio distribution to teachers at their school in Petite Rivière de Nippes. Radios are shown in their protective carrying cases.

This was an important move. By the very nature of the remote regions we serve, extending our assistance demands persistence, financial resources, and logistical support. And often a lot of patience. Shipping radios to other countries usually involves detailed arrangements with national and regional governmental authorities (for example, to waive duties or taxes); once the radios arrive, distributing them to these remote areas can also be very costly and complex. Our existing partner organizations have often laid the groundwork in these regions, and have established reliable connections with communities in them. Their need is for resources—like radios.

By working cooperatively with other established organizations, we find we're able to distribute radios much more cost-effectively, too. In other words, we operate on a shoestring budget so that donations to ETOW are used wisely and to their fullest extent. For example, because of our strong partnerships, money otherwise spent on travel can be put into shipping costs instead, thus getting more radios to more areas of the world with less donated funds. Though I'm reluctant to admit it (as I love to travel), this is a better use of our resources. Our established partners can help us get the radios there faster, more safely, and more strategically than we could manage as a new organization.

But our partners are never just a means to an end. These hard-working organiza-

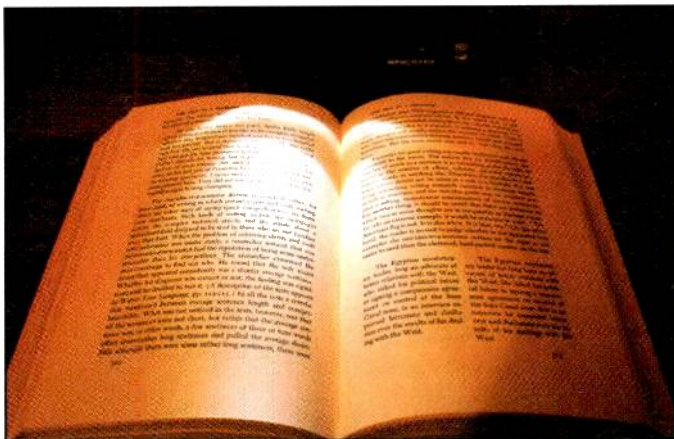
tions center around incredible, inspiring people, whom I've been privileged to get to know. These leaders, activists, and compassionate visionaries have taught me a great deal, and I'm grateful that we're able to work synergistically with them on a regular basis.

## Where We Are Now

Since our inception in February 2009, we have placed radios in schools in Africa, Eastern Europe, and the Caribbean; so far, our scope is limited only by our financial resources.

Currently, we are working in Kenya, Uganda, Cameroon, Romania, and Haiti. By the time of this article's publication, we will have also sent radios to Mozambique and started others on their way to a very remote region of Sudan. But unlike some other aid organizations, rather than simply focusing on expansion, ETOW is establishing strong, lasting bonds with our schools and teachers so as to better serve their needs long term.

What can ETOW expect in the months and years to follow? We're not sure, but we know this: While there are many worthy non-profit and non-governmental organizations working all over the world today, providing food, shelter, medicine, and other necessities, ETOW wants to feed the *mind* through the use of short-wave radio. We believe this to be an equally great need, because feeding the mind, we believe, offers hope for the future. So



Another tremendously useful feature of the FR200 is its built-in LED that's bright enough to read by. With the turning of a hand crank, it can illuminate text books in remote regions that may never have received electrification. It's also better for the environment than burning kerosene or wood for a light source.

we will continue distributing radios for as long as we can, repairing and replacing broken ones, and listening to the feedback we receive from teachers and students.

*Listen and learn.* It's a simple idea, but to some young people, it can mean the world. We'll do it, too.

## ETOW's Lessons

The whole process of forming and promoting ETOW has taught me two things.

The first is that the radio listening community is cohesive, supportive, and incredibly active—from SWLers to broadcasters, manufacturers, and retailers, we are all connected by a shared passion for a remarkable technology. Based on the incredible moral and financial support we received just at this year's Winter SWL Festival, sponsored by the North American Shortwave Association and held each year in Kulpville, Pennsylvania (see "Come One, Come All," *Pop'Comm*, February 2009), I realized the radio community can truly make a difference to causes like ETOW's. At the Winterfest, we attracted support from skilled radio enthusiasts like Greg Majewski (see his article elsewhere in this issue), as well as many others who have been helping us both financially and through networking with media broadcasters and organizations in other countries. The outpouring of support has been both humbling and inspiring.

## How You Can Help

In the western world, we often take our access to information for granted. In the countries where ETOW works, the people *don't* take it for granted. Indeed, in these areas, information is truly power. A shortwave radio empowers children and their teachers to receive educational support programming, local and international news, emergency information, and music. It's power that broadens minds and creates futures. This year, please join us in giving the gift of radio to those who need it most.

*Contributions (in any amount) may be sent to EARS TO OUR WORLD, P.O. BOX 3230, CULLOWHEE, NC 28723, USA or made online at <http://earstoourworld.org>.*

The second thing has to do with the talk about the decline of shortwave. I suppose that I, too, once believed that this technology was endangered. *No longer.* Nor is it just devoted hobbyists who keep it on life support; shortwave radio is vital and very much alive in places that we scarcely knew existed. Doubt me? Just ask any of our teacher partners, or their students—they listen and learn via shortwave, each and every day. Following is a note we recently received that sums up this vivid lesson:

## TO EARS TO OUR WORLD

Dear Friends,

I received with great joy the radio donated to me by you. This radio is going to help me, my students, the staff and the entire community...

I hope...many students will work very hard to become teachers in order to receive such a [radio].

I thank you very much for the concern you have [for] us by donating this radio, which is a most precious gift.

Yours,  
Ndomi Patrick Ndi  
GSS Mbu-Warr  
Cameroon

*I would like to end on a personal note, saying that none of this would be possible without my sponsors, my partners, my board, my mentors, my friends, and my family. Thank you all.*

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# Powering The Sounds Of Shortwave Around The Globe

## **Connecting Solar Panels To World Band Receivers Helps Ears To Our World Make Important Connections**

by Gregory Majewski

I first became acquainted with Ears To Our World (ETOW), the non-governmental organization that provides shortwave radio receivers to teachers and their students in third world countries (see “Listen And Learn—Shortwave Radio Outreach Helps Teach Children” elsewhere in this issue) at the 2009 Winter SWL Festival in Kulpville, Pennsylvania.

Thomas Witherspoon, founder and executive director of ETOW, was in attendance at the Winterfest and introduced both himself and his organization to the community of shortwave listeners, broadcasters, scanner monitors, and hams who were there as well. He explained how ETOW was formed to provide shortwave radios to individuals, village leaders, and schools in isolated areas so people could learn about important events, both local and international. Because the places ETOW served were remote, frequently in harsh environments, and typically without power and other elements of modern infrastructure, the type of radio that could be used was limited. At the Winterfest, Thomas showed the Etón's Grundig FR200, ETOW's radio of choice.

### **The Radio Behind ETOW: The Etón Grundig FR200**

The FR200 is a simple radio and flashlight combination that can be powered in three ways: by an external 4.5 VDC source, by three AA batteries, or by an internal NiMH battery, which is charged by a hand-cranked dynamo. The radio covers the medium AM (530 to 1710 kHz), shortwave AM (two bands, 3.2 to 7.6 MHz and 9.2 to 22.9 MHz) and VHF FM (88 to 108 MHz). The flashlight also operates from any of the three power sources. It's a simple and robust product, and the ability to operate without batteries or external power makes it suitable for third world locations.

Gregory Majewski has been an electronics engineer for 37 years, 35 of which were spent in the Navy working on submarine electro-magnetic systems. He has been a licensed amateur radio operator for 29 years, and has been married for 36 years.



A modified solar panel charger and the Etón Grundig FR200. This combination in the field will help the teachers and students served by non-profit Ears To Our World stay connected to the world via shortwave.



*“Radios with the solar panels are to be shipped to the country of Sudan where the solar panel performance will be evaluated under actual user conditions.”*

Thomas gave the Saturday Winterfest luncheon speech, during which he presented the goals and approach of ETOW. In the speech, he mentioned one thing he wished the FR200 had: solar cells to keep the radio operating during daylight hours. During extended classroom use the radio could stop operating, requiring the teacher to crank the dynamo to recharge the batteries. I was at the luncheon and had an idea for using solar power to keep the internal battery charged. I approached Thomas after the luncheon with the idea and we exchanged contact information.

## Powering The FR200 With Sunlight

I had purchased a small solar panel that was rated 1.5 watts for keeping the 12-volt battery of an automobile in outside storage charged, but found that the solar panel wasn't up to the task. Instead of the rated 100 mA, the solar panel in full sunlight only produced about 22 mA of current. The panel could not keep an auto battery charged, especially if the automobile's computers were on. However, the 22 mA of current would be enough to operate the FR200 and charge its internal battery.

There was one problem, however: the solar panel's output voltage was much too high for the FR200 radio. The solar panel in full sunlight produced about 15 to 22 volts—not the 4.5 volts needed. It would need to be adapted.

At the time I was conducting experiments with the solar panel, I hadn't yet obtained an FR200. I did have access to a C. Crane Observer, which is very similar to the FR200, and it provided a good stand-in. I made a simple voltage regulator and installed it in the solar panel. (You can read about the modifications I made to the solar panel and its use with the C. Crane Observer in “A Solar Charger For Emergency Radios,” published in the September 2009 issue of *Pop'Comm*.)

Now the solar panel, placed in full sunlight in New England, can operate the radio without any batteries present. If the internal batteries are given an initial charge with the dynamo, the solar panel

will maintain the charge, allowing for much longer operation.

## Field Testing

A total of six modified solar panels for the FR200 have been provided to ETOW. Radios with the solar panels are to be shipped to the country of Sudan where the solar panel performance will be evaluated under actual user conditions. If the solar pane operation is suitable, it's hoped that a donation of a large number of panels can be made. The addition of the panels will mean that the users won't have to crank the dynamo during daylight, making the radios even more effective in connecting isolated locations.

## Radio Tweaks

ETOW has some radios in the field that are an older version of the FR200. These use an incandescent flashlight instead of an LED, and the incandescent bulb draws more power for less light than the LED. The teachers often use the FR200's flashlight for reading and other planning activities for the next day's activities, so brighter light and longer operation is desirable. Fortunately, a suitable LED has been found to replace the incandescent bulb, and because it is a direct substitution the conversion is easy. An added benefit is that the swap-out gives some of the students the opportunity to get involved with ETOW in the upgrade process.

Another field enhancement for the FR200 is the addition of a simple five-foot wire with a loop and alligator clip. The wire clipped to the FR200 extended whip antenna enhances the shortwave reception of medium and weak signals. The five-foot length has been found to be optimum; a longer length causes the radio to overload on strong local signals. These spurious products make tuning more difficult.

## Looking Ahead

One of the goals of ETOW is to provide a solar panel charger with each radio going to locations where the panel will be effective, although in some countries, the import tariffs/duties may prevent the sending of the solar charger at all. But, where possible, adding this powering system is extremely beneficial.

The unmodified solar panel costs between \$15 and \$25. The parts for the regulator are about \$5 when purchased in small quantities. The assembly of the regulator, installation, and testing take about one hour. The plan, if a large number of solar panels and parts can be obtained, is to enlist a local technical school (either a

high school or college) and have the students do the modifications needed. This would give students an opportunity to develop and hone their skills.

For instance, the present regulator uses the “thru hole” printed circuit technology, and students could use their skills and knowledge to make a surface-mounted technology version or design and produce a “thru hole” printed circuit board specific to the regulator. It may be possible for the students to produce the circuit board. It may also be possible to associate the project with a community service effort.

The main issue at present is getting a sufficient number of solar panels. It's hoped the solar panels could be obtained either at reduced price or even donated. One importer/retailer of the panels in California has been contacted, but at this time the company cannot help. Perhaps sources may be found.

ETOW is not only helping the people of the third world make connections with the larger world around them, but its efforts in this area are also connecting people who want to help it achieve its goals. Everyone involved benefits. We urge you to find your own connection.

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## Gordo's Goodie Grab Bag

***Naughty Or Nice, You Still Deserve A Treat! And This Suggestion Sampler Makes A Convenient Checklist For Santa, Too (Wink, Wink!)***

by Gordon West, WB6NOA

It's that time of year again, and you're not sure you've dropped enough hints, right? OK, here's the plan: put a check mark in the box next to what you'd like to see under your tree (check all that apply!), "forgetfully" leave this magazine lying around—open to the proper page, of course—and let Santa come through with your radio wish list!

### For The Antenna Fiddler



For most SWLs, a longwire will do, but if you're serious about the importance of antenna resonance for shortwave listening, an antenna SWR analyzer may be one of the most useful meters you can have with you the next time you're up on your roof.

MFJ ([www.mfjenterprises.com](http://www.mfjenterprises.com)) is the undisputed leader in SWR devices, with a complete line of SWR analyzers. Sure, the \$389 twin meter and LCD readout box will get you from 1.8 MHz to 470 MHz, or for \$100 less, you can skip the 470-MHz capability and tune from 1.8 MHz to 170 MHz. Still expensive, and a bit bulky up on the roof.

Gordon West, WB6NOA, writes *Pop'Comm's* "Gordon West's Radio Ways" column. A prolific writer and teacher, he is a highly regarded "guru" in many aspects of the radio hobby.

The inexpensive battery-operated MFJ SWR Analyzer economy model (MFJ-207) is small enough for a back pocket. New it sells for under \$99



My favorite SWR analyzer sells for under \$99. It's the model MFJ-207, and it covers 1.8 MHz through 30 MHz. If you're into high-frequency ham or short-wave listening, you'll appreciate this SWR analyzer's five range scales and simple SWR meter readout that takes a big, no-mistaking dip at antenna resonance. If your companion receiver, without any antenna connected, is turned on nearby, on frequency, the hefty signal from this SWR analyzer can easily be heard when you sweep by the desired frequency. So, even though the analog dial is not close enough for government work, your companion receiver lets you know exactly where you are on the radio dial.

If you need just VHF, it's the model 208 that's for you; and for UHF, the model 219 is your baby. Both cost around \$100 and are small enough to stick in your pocket when you next climb the tower. And, yes, they're internal-battery-operated.

## DSP For Soothing Sounds



The West Mountain Radio ([www.westmountainradio.com](http://www.westmountainradio.com)) CLRspkr is a digital signal processing, 12-volt DC external speaker and a favorite of mine because it's totally self-contained. There are connections to 12 volts and the speaker jack on your equipment, but all the controls are right on the face of the CLRspkr. There are four levels of DSP, with two bright LEDs that signal incoming audio for speaker clipping, in case you accidentally turn your radio's volume too high. You won't need much volume from your radio, either, because the CLRspkr has a small audio amp built in, driving the relatively large full-fidelity 3-inch speaker.

I think the speaker may have a mind of its own. Or, transmit, it goes absolutely silent, with excellent filtering to make sure your transmitter does not end up coming out the speaker. But as soon as you un-key, the speaker snaps into action, and slowly builds up to your selected DSP setting. This build-up phase gives you a second or so to hear the natural background noise before the DSP magically cancels out ignition noise and power line static. For base use, you could even drive an additional bookshelf speaker system, too, thanks to the external speaker jack located on the back. The CLRspkr is priced around \$200 from leading ham radio dealers.

GAP Antenna Products ([gapantenna.com](http://gapantenna.com)) offers two DSP devices that I've used a lot here at my ham station. Incorporating bhi Ltd.'s noise canceling

technology inside, the GAP HEAR IT in-line module goes in between my Kenwood 950 and a big hi-fi speaker and offers adjustment pots for level in, level out, DSP filter levels, and plenty of LEDs to signal that you have your pots set correctly. For mobile applications, I preset the HEAR IT dip switches to a level 3 DSP action, and I enjoy smooth-sounding audio from this compact GAP speaker with its internal bhi module. There's also a DSP module that can be installed very nicely in the tiny FT-817 from Yaesu. W4RT is your source for this fabulous module.

GAP/bhi markets a variety of DSP noise reduction products for ham and shortwave use. I see check them out every year at Dayton in the W4RT booth, but you can check them out right now on the Web.

## Higher Than Your Microwave Oven



In August and September, the American Radio Relay League sponsors a fun 10,000-MHz-and-up operating event. Hams head to the hills with their dish antennas and make contacts at 1 watt of power that may span a 500 mile path!

So how do you get all the way up to 10,000 MHz on both transmit and receive? You use a transverter. The transverter goes in between any multimode 2-meter, 432-MHz, or 10-meter transceiver and takes your rig's low power and "transverts" this signal up to X-band microwave frequencies; it also takes incoming X-band SSB, CW, and digital signals and drops them back down to your local multimode equipment frequency. On 2 meters, 144.100 MHz comes out 10,368.100 MHz.

The transverter is nearly plug-and-play. All it needs is 12 volts and the keying circuit from your local 2-meter, 10-meter, or 70-cm multimode transceiver. It wasn't long ago that you needed to do the internal transverter "plumbing" yourself, but the demand for a simple plug-and-play system now brings everything in one nice neat box, ready for a simple wire-up.

Popular transverters are manufactured in Europe by DB6NT and brought over by SSB Electronics ([www.SSBUSA.com/ham.html](http://www.SSBUSA.com/ham.html)). You don't need more than a few hundred milliwatts out on the X-band to get started, but there are higher power output versions of the popular DB6NT transverters, as well. You work with Jerry at SSB Electronics to get the right one for your particular multimode ham rig. SSB

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- 6-inch TFT color panel can display received video signals or depict spectrum activity over a wide choice of bandwidths including a

"waterfall" function to show signal activity over a specified time period

### With New I/Q Control Software!

AOR proudly presents the AR-ALPHA, the first in a new class of professional monitoring receivers! Designed to cover 10KHz to 3.3GHz continuous, with no interruptions\*, this receiver features sophisticated I/Q control software that enables it to perform unattended datalogging for extended periods. It boasts a 6-inch color TFT display, five VFOs, 2000 alphanumeric memories that can be computer programmed as 40 banks of 50 channels, 40 search banks, a "select memory" bank of 100 frequencies, and a user designated priority channel. It also includes APCO-25 digital capability and a DVR with six channels that can record up to a total of 52 minutes of audio. Monitoring professionals will appreciate the world class engineering and attention to detail that makes the AR-ALPHA such an amazing instrument.

- Composite video output on the rear panel of the unit
- Selectable IF bandwidths: 200 Hz, 500 Hz, 1 KHz, 3 KHz, 6 KHz, 15 KHz, 30 KHz, 100 KHz, 200 KHz and 300 KHz along with the ability to shift the IF
- CTCSS and DCS selectable squelch functions; DTMF tone decode
- Built-in voice-inversion descrambling\*\*
- CW pitch control, AGC, AFC
- Auto-notch feature
- User selectable spectrum display function from 250 KHz through 10 MHz in 1 KHz increments. Above 10 MHz bandwidth, it can display 20 MHz, 50 MHz, 100 MHz or 1 GHz, but above 20 MHz bandwidth, no audio will be available
- Resolution bandwidth is also user-selectable in increments of 1 KHz, 4 KHz, 32 KHz, 64 KHz, and 128 KHz
- Fast Fourier Transform (FFT)
- Rear panel connections include 12 VDC power, RS-232C, USB 2.0, I/Q output with 1 MHz bandwidth, two antenna ports (one SO-239 and one Type N) and up to four antennas may be selected through the receiver's controls with the optional AS5000 antenna relay selector
- Use desktop or with 19" rack mount

*The AR-ALPHA redefines excellence in professional monitoring receivers. No wonder so many monitoring professionals including government, newsrooms, laboratories, military users and more, rely on AOR.*



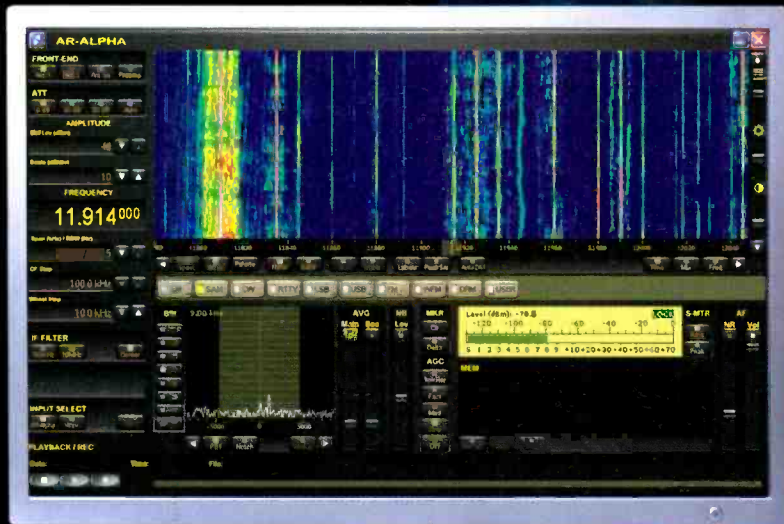
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Signal searching is easy with playback capabilities through a PC



PC screen displays waterfall function to capture signal bursts

AOR has brought a new level of receiver control to the AR-ALPHA with the addition of AR-IQ software. This free software enables the AR-ALPHA to store and playback a full 1MHz of bandwidth activity without any loss of quality. Raw data can be easily transferred from the AR-ALPHA to the hard drive of almost any computer\*\*\* for later analysis and review.

It is even possible to listen to a frequency off-line by recording

data and storing it on a PC. Operators can also create loops to cover a particular time frame so that no signal is missed. Signal bursts are easily seen with the full color waterfall display function.

Using the control panel of the AR-ALPHA through a PC monitor, operators are able to enjoy added capabilities. You can perform unattended datalogging for extended periods of time depending on storage capacity. So, for hours, days or even weeks, you can capture up to 1MHz bandwidth between 10kHz and 3.3 GHz for later playback and analysis. You

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

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

- Up to 1MHz bandwidth can be recorded for later evaluation
- High recovered audio quality with no deterioration of recorded data
- Can be used to perform unattended datalogging
- Spectrum display, full color waterfall and averaging functions support signal evaluation and analysis
- Easy to use. No training required.

**The AR-ALPHA with AR-IQ software sets a new standard for professional grade multimode monitoring receivers! To order, contact your AOR dealer today.**

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



Gordo testing the Yaesu FT-450 during a ham class in the back yard. It put out over 130 watts on a whistle.

is the most popular method of working DX. Yes, FM will work, too, but it's discouraged, because SSB is the mode of choice for nearly everyone on the X-band. Try these websites to find an X-band group near you for help getting started:

- www.NTMS.org
- www.newsVHF.com
- www.IJ.net/packrats
- www.dubus.org
- www.svhf.org
- www.csvhfs.org

Your dish antenna may be as simple as a satellite TV antenna, but better yet is a hand-me-down when you join the local X-band club. Microwave operators are continuously up-sizing their antenna systems and would be happy to help you "plumb" yours to the transverter and give you some local signals to get you on the air.

If you have around \$800, there's some summertime excitement on microwave frequencies.

### Little Radio Powerhouse



One of the least expensive 100-watt high-frequency transceivers is the Yaesu FT-450 with a built-in automatic antenna tuner. It covers 160 meters through 6 meters, and is an ideal "field" rig. The LCD is 100 percent sunlight, daylight, bright light viewable. The receiver offers full HF tuning, and the transmitter belts out an impres-

sive 140 watts. It's only 3.3 x 9 x 8.5 inches (HWD), and weighs less than 8 pounds. Check out this rig at your local ham radio store. It's priced well under \$999.

### Great Reads On Dipoles And More



It's easy to build your own. The dipole half wavelength formula is  $468 \div \text{fre-}$

quency in MHz, for the end-to-end length, in feet. Cut it in the center, with coax braid going to one side, and center conductor to the other side. Coil up some coax neatly at the feed point, and you're on the air on that particular band. On 7 MHz, the simple dipole will also work on 21 MHz. The cost is only about \$5!

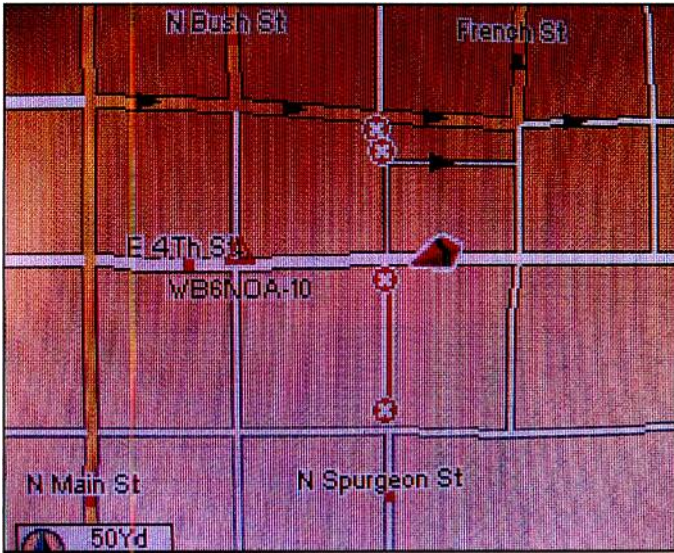
During recent tests with commercial dipoles and the expensive \$300 Barker and Williamson dipole, my simple \$5 homebrew outdid them all on a single band. There's plenty of reading material at the local radio store about wire antennas, and the dipole is always used as the dBd model for unity gain.

The American Radio Relay League has several publications on home brewing some simple dipole antennas yourself. But their ultimate book, *The ARRL Antenna Book*, 21<sup>st</sup> edition (\$44.95), includes a fully searchable CD-ROM and can take you through building a single band dipole all the way up to multiband beams. And the League's *Basic Antennas* book, priced at under \$30, gives you all the directions you need to roll your own. Look at all of their offerings at [www.arrl.org/shop](http://www.arrl.org/shop).

Also checkout our own CQ Communications antenna book offerings at [www.CQ-amateur-radio.com](http://www.CQ-amateur-radio.com). *Backyard Antennas*, *Practical Wire Antennas*, and the *HF Antenna Collection* are some of the many books that we have in the library, available through this magazine's publisher, CQ.



Gordo compared the B & W folded dipole (white spreaders) to a simple homebrew dipole. The dipole won on transmit, but the B & W did a lot better on receive.



The Yaesu VX-8R squawking out Gordo's callsign and "-10" as he heads down the street, received on a Kenwood 710 into the AvMap GPS mapper.

### Walker Squawker



If a GPS engine is small enough to fit inside a cell phone, and if Garmin can put GPS capability in a tiny FRS radio, when would the ham radio market see a dual band handheld with built-in GPS? Yaesu did it, and it's about time!

Kenwood may have one next year, too, but the honor today goes to Yaesu and its model VX-8R, a quad-band HT, submersible for water warriors, with the optional GPS engine built into a large-stamp sized panel that either fits on top of the HT or affixes within the optional speaker microphone. I figured the mic, worn on the shoulder, would give great GPS reception (which it did), but what about that little GPS receiver sticking out of the top of the HT strapped to your belt? Guess what? It provides great GPS reception, even indoors.

Check it out. Just dial in your callsign, set the B band to 144.390 simplex, choose your squawk interval, and take a walk along your Holiday parade route, automatically squawking your GPS-derived position, your current speed, and direction of travel.

It gets better yet! Fellow hams with the new Kenwood 710, running 2.01 software within the receiver, can also take this position information and output it to the companion AvMap G5 GPS mapper ([www.youtube.com/w6gps](http://www.youtube.com/w6gps)). You can watch everyone squawking around you. It's around \$500 when you add everything up, but if APRS is your thing, Yaesu is first with a ham radio all-in-one APRS sender with screen graphics to see other units all around.

### The Switcher Report



When lightweight transformer-less switchers came on the market several years ago, many hobby radio users were concerned about RF interference leaking out and causing noise on receive. I'm happy to report, however, that the switchers I've tested from MFJ, Samlex, Daiwa, and Astron are quiet as clams. Sure, hold a portable shortwave receiver right next to one and you'll get interference, but any good receiver, on an outside antenna, will do quite nicely on the modern-day switcher power supply.

A noisy storage battery "reconditioner," using high-frequency pulses that theoretically rid the plates of sulphation, is *very* noisy on the shortwave radio dial. Let's hope your neighbor doesn't get one for the holiday season.

You can track down any high-frequency VHF/UHF noise source by using a portable receiver and walking the walk. I don't mean *sloowly* moving the shortwave or scanner receiver around the shack, but rapidly going from room to room, waving your receiver around like a mad hatter, until you discover common noise sources:

- Light dimmer/chopper
- Pulse-type battery conditioner/charger
- FAX and printer VHF/UHF discreet frequency "birdies"
- Small "portable" automobile and home refrigerator systems
- Older red LED segment clocks
- Leaky cable drops

So treat yourself to an inexpensive shortwave receiver and use it as your DF machine. Jump on the Web for a quick Google search, or head into your local RadioShack or other dealer.

### Gordo GROL Commercial Radio Study Manual



Remember the old first, second, and third class radiotelephone licenses? The third class is now the Marine Radio Operator Permit, and the first and second classes are now the General Radiotelephone Operator license. Radar Endorsement remains the same. At long last, the question pools have been completely revised for all three commercial radio licensing tests. The tests remain multiple choice, and getting the Marine Radio Operator permit is a snap.

The Rules and Regs are no big deal, but Element 3, the technical side of the Commercial license, requires some serious study (like the Extra class ham radio license). The entire Element 3 question pool has been reduced dramatically in size, so your multiple choice 100 test questions come from a pool of new 600 questions, nicely arranged by subject matter. If a specific subject is a brain buster, you can skip it entirely, and know there might be only one or two questions on the test that you may hop over. But *why* hop when you have every question detailed with a thorough explanation and some fun photos, and my easy style of getting you through the math? This new book makes it straightforward, so no surprises when the new tests hit on December 26.

My large format 320-page book also contains a CD-ROM of all the pertinent FCC Rules and Regulations. It's an entire study course in one nice neat package for under \$50 from the W5YI Group ([www.w5yi.org](http://www.w5yi.org); 800-669-9594) or at your local ham radio store. There's software available, too.

### Advice For Santas

These days it's especially important to buy wisely. If you deal with a regular radio store, it will usually have a next-day exchange program for any device you bring home DOA in the box. However, if you get your holiday goodie "new in the box," from a private non-ham party, with suspicious packing tape on the outside; you might be buying defects which close-out houses love to sell "as is." If you buy from a reputable dealer, you have a back-up policy in case the goodie is defective from the get-go. Pay a little more by buying new, and you won't be disappointed at holiday time.

# Adios—And Gracias— HCJB Ecuador, Plus Other News

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

*“...no more will budding DXers and SWLs count HCJB as their first shortwave log.”*

HCJB Global has reached the end of its long, long road. HCJB's broadcasts from Ecuador were due to end no later than November of this year as the last remaining antennas at the Pifo transmitter site were brought down. So, no more will budding DXers and SWLs count HCJB as their first shortwave log. The radio missionary efforts will continue through local churches and FM outlets throughout Latin America, in addition to broadcast efforts via satellite, the Internet, and podcasting. With the loss of HCJB your chances to log Ecuador have shrunk like a cheap shirt in the wash. All that's left are La Voz de Napo/Radio Maria on 3280 and Radio Buen Pastor on 4815 or the standard frequency/time station HD110A on 3810. There are some others listed but they are very rarely heard, or are believed to be inactive.

It looks as if Radio Havana Cuba is about to become an even greater irritant than it already is. China plans to send the island huge rotatable antennas, which are expected to be used either by RHC or Cuba's shortwave jammers against Radio Marti, Radio Republica, and the several opposition programs aired over WRMI.

That new Trans World Radio relay station scheduled for Malawi will use 4870, but unfortunately with only 1 kW. It's supposed to be on the air before the calendar turns over to 2010.

It seems that the U.S. is about to get yet another commercial religious shortwave station. Leap of Faith (call letters as yet unassigned) will operate from near Nashville with at least two transmitters. The broadcast time on the first has already been sold out. If all goes smoothly this one could be on the air any time. But wait, there's more! If you call now we'll include a *second* new religious broadcaster—absolutely free! Hill Radio International has the go-ahead to build a station, near Milton, Florida, which should be on the air in the coming months. Don't miss out on this amazing once-in-a-lifetime chance! Act now! This very minute...!

Meanwhile, WBOH in North Carolina is making announcements to the effect that it may have to cut back its broadcast hours—or perhaps even go silent. Are they having trouble selling airtime?

Someone recently asked about the status of the proposed in-country transmitter of Radio Nacional de Venezuela. Apparently little or nothing has been done so far, but there are indications now that the project may be on the air to North America in about a year and a half and fully completed in yet another



Radio Ukraine International. (Thanks Rich D'Angelo, PA)

er year, beaming to the rest of the Americas. So the RNV signal you hear now continues to be broadcast from Cuba, not Venezuela.

## Reader Logs

Remember, your shortwave broadcast station logs are always welcome. But *please* be sure to double or triple space between the items, list each logging according to its home country, and include your last name and state abbreviation after each. Also needed are spare QSLs or good copies you don't need returned, station schedules, brochures, pennants, station photos, and anything else you think would be of interest. And, again, I beg for your shack photo!

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, 7355 in CC heard at 1510. (MacKenzie, CA) 7370 in RR at 1146. (Brossell, WI)

**ALBANIA**—Radio Tirana, 13625 with newscast by a W at 1430. (Fraser, ME) 13640 at 2005 with news and program preview. (Maxant, WV)

**ANGUILLA**—Caribbean Beacon, 11775 with Melissa Scott at 1745. (MacKenzie, CA)

**ARGENTINA**—Radio Argentina al Exterior, 11710.7 in FF at 0308, news at 0311. (D'Angelo, PA) 15345 in SS at 2150. (MacKenzie, CA)

**ASCENSION IS.**—BBC South Atlantic Relay, English Bay, 5940 in PP at 0410 and 15400 at 2023. (Parker, PA)

**AUSTRALIA**—Radio Australia, 5995-Shepparton at 1423, //6080, 7240.7240-Shepparton with pop vocals at 1552, //5995, 13630-Shepparton at 2213, 13690 at



0407, 15230-Shepparton at 2200 //15515, 15515 at 2155. (MacKenzie, CA) 9745 at 1120, 11660 at 2105, 12080 at 0110, 15560 at 2345 and 21725 at 0340. (Maxant, WV) 9710-Shepparton at 0850. (Ng, Malaysia) 1035. (Buck, NZ) 15249-Shepparton at 0343 and 15560-Shepparton to 0000 close. (Parker, PA) 15515 at 0353. (Brossell, WI)

ABC Northern Territories Service: VL8A, Alice Springs, 3210 at 1000-1100, VL8K, Katherine, 2485 at 1000. (Wilkner, FL) VL8T, Tennant Creek, 4910 at 0806 to 0834 close. (Brossell, WI)

HCJB-Australia, 15400 heard at 0245. (Maxant, WV)

**AUSTRIA**—Adventist World Radio, 6155-Moosbrunn at 0443 in FF to 0500 close. Radio Austria International opened immediately after. (Taylor, WI)

**BELGIUM**—RTBF International, 9970 with pop tunes heard at 0325. (Brossell, WI)

**BOLIVIA** (All in SS)—Radio Mosoj Chaski, Cochabamba, 3310 with W and music at 1000. (Wilkner, FL)

## Help Wanted

We believe the "Global Information Guide" offers more logs than any other monthly SW publication (470\* shortwave broadcast station logs were processed this month!). Why not join the fun and add your name to the list of "GIG" reporters? Send your logs to "Global Information Guide," 213 Forest St., Lake Geneva, WI 53147. Or you can email them to [gdex@wi.rr.com](mailto:gdex@wi.rr.com). Please note that attachment files do not always go through. See the column text for formatting tips.

*\*Not all logs get used. There are usually a few which are obviously inaccurate, unclear, or lack a time or frequency. Also discounted are unidentifieds, duplicate items (same broadcaster, same frequency, same site), and questionable logs.*

Radio Eco, Reyes, 4409.7 at 0010 with M talk and vocals. (Wilkner, FL)

Radio Santa Ana, Santa Ana de Yacuma, 4451.1 at 2330 with vocal, drums, flute and percussion, ID. (Wilkner, FL)

Radio Yura, Yura, 4716 at 1030, but seems to be irregular. (Wilkner, FL)

Radio Tacana, Tumpasa, 4781.5 at 2320. (Wilkner, FL)

Radio Lipez, Uyuni, 4796.4 at 1030, but beginning to fade. (Wilkner, FL)

Radio Pio XII, Siglo, 5952.5 with sign on at 1100, occasionally at 1030. (Wilkner, FL)

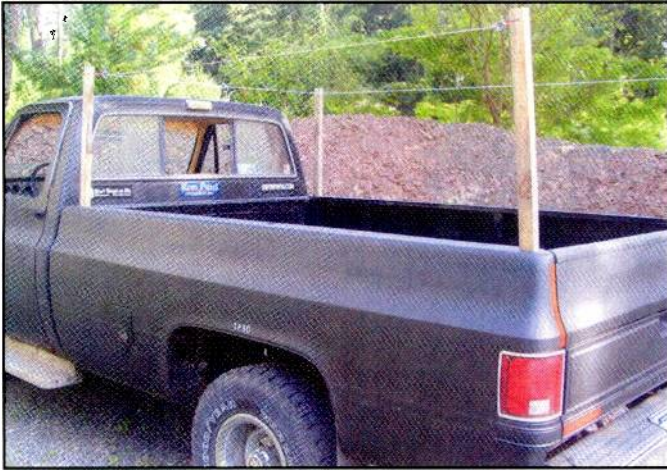
Radio Kawsachun Coca, Lauka, 6075 at 1000 with M/W and piano music. (Wilkner, FL)

Radio Fides, La Paz, 6155.2 at 0140 with talk and pops, closing anmts at 0200 and off at 0202. (Alexander, PA)

## A Guide To "GIG-Speak"

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

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



Rich Parker takes his shortwave "on the road" using a U-shaped dipole in the back of his truck so he can pull off to the side and do some DXing.

**BONAIRE**—Radio Nederland Relay, 6165 in DD at 0510, 6190 in DD at 0355, 15540 in DD at 2224 and 17605 in DD at 2201. (MacKenzie, CA)

**BOTSWANA**—VOA Relay, 4930 in an African language at 0403 and 15225 in FF at 1652. The lists don't show them opening until 1830/2030. (Parker, PA)

**BRAZIL** (All in PP)—Radio Educadora, Limeira, (p) 2380.6 with faint traces of M talking at 0909. (Parker, PA) Very weak at 0940. (Wilkner, FL)

Radio Municipal, Sao Gabriel da Cachoeira, 3375v at 1000 with slight transmitter drift. (Wilkner, FL)

Radio Imaculada Conceicao, Campo Grande, 4755 at 0322 with two M, music bridges, station jingles, slow songs and call-ins. (Parker, PA)

Radio Difusora, Londrina, 4815 at 0049 with M anc and vocal with flute. (Parker, PA)

Radio Alvorada, Londrina, 4865 heard at 0240 with W anc. Poor level. (Parker, PA)

Radio Clube de Para, Belem, 4885 with talk, commercials heard at 0155. (Parker, PA)

Radio Difusora Acreana, Belem, 4885 heard at 0108 with apparent religious talk. (Taylor, WI)

Radio Novo Tempo, Campo Grande, 4895 at 0232 with M talk and music. (Parker, PA). Weak at 2350. (Wilkner, FL)

Radio Anhanguera, Araguania, 4905 heard at 0205 with romantic vocals and W anc, M with ID and closedown anmt, music to 0304. (D'Angelo, PA) Noted at 1000, the first Brazilian to fade out here. (Wilkner, FL)

Radio Difusora, Macapa, 4915 at 0119 with Brazilian type music, and a long, seeming religious talk by man, //4885 so apparently a Difusora network pgm. (Taylor, WI) 0249 with M talk over music. (Parker, PA)

Radio Educacao Rural, Tefe, 4925.2 heard at 0130 with M and male crooner. (Parker, PA)

Radio Brazil Central, Goiania, 4985 at 0150 with M and pops, reverb effect. (Parker, PA) 0307 with non-stop talk, ID, anmts and more rapid talk. Music segment at 0329. (D'Angelo, PA)

Radio Aparecida, Aparecida, 5035 at 0320 with M anc and string music. (Wilkner, FL) 0414 with M and short music bridges. (Parker, PA)

Radio Senado, Brasilia, 5990 at \*0921 sign on with light Brazilian music and talk. (Alexander, PA)

Radio Nacional Amazonia, Brasilia, 6185 at 0152 with live-sounding folk music concert, barely audible ID, then splashed by DW sign on at 0159. (Taylor, WI) 11780 at 0217 with variety of music. (Parker, PA) 0334 with talks. (Brossell, WI)

Radio Super Deus e Amor, Curitiba, 9565 with impassioned preacher heard at 1045. (Parker, PA)

**BULGARIA**—Radio Bulgaria, 9700 in BB at 0006. (Brossell, WI) 11700 discussing weather at 2310. (Maxant, WV)

**CANADA**—Radio Canada International, 6100 in CC at 0150, 9515 in CC at 2132 and 15330 in FF monitored at 2130, //17735. (MacKenzie, CA)

CBC Northern Quebec Service, 9625 at 0410 with interview. (Parker, PA) 1315 on a high-tech subject, modulation problems. (Maxant, WV)

CFRX, Toronto, 6070 heard at 0140 on refunds from Toronto's mayor. (Maxant, WV)

CKZN, St. Johns (Newfoundland), 6160 at 0150 with current movie reviews. (Brossell, WI) 0158 with program teasers and ID for CBC Radio One, news. (Taylor, WI)

CHU, Ottawa, 3330 with time signals at 0135, 7850 at 0136. (Maxant, WV) 0257. (MacKenzie, CA)

**CHAD**—Radidifusion Nacional Tchadienne, N'Djamena, 4905 at 0203 with W and EZL pops. Low audio and heavy QRN made it impossible to ID the language. (Parker, PA)

**CHILE**—CVC-La Voz, 17680 in SS at 2245. (MacKenzie, CA)

**CHINA**—5840 at 0437 with talk on paper cuttings. (Parker, PA) 5965 in CC at 1420, 6020 via Canada at 0500, 9690 via Spain at 0346, 9735 via Brazil in SS at 0433, 9790 via Cuba in CC at 0426, 9790 via Cuba in CC at 0415 and 11840 via Canada at 2323. (MacKenzie, CA) 9725-Hohhot in RR at 1145. (Taylor, WI) 11790 at 1128. (Buck, NZ) 11935-Shijiazhuang in RR at 1233. (Brossell, WI) 13740 via Cuba at 1428. (Fraser, ME)

China National Radio/CPBS: 6030 (site?) in CC at 1425. (MacKenzie, CA) 7620-Beijing in CC at 1148 and Xizang PBS, 9490-Lhasa (Tibet) in (I) TT at 1235. (Brossell, WI) 11800-Beijing in CC at 0900. (Ng, Malaysia)

Firedrake Music Jammer, 15600 at 1220, apparently against Sound of Hope. (Brossell, WI)

**COLOMBIA**—Marfil Estereo, Puerto Lleras, 5910 at 0337 with SS talk. (Parker, PA) 0723 with local SS pops, SS anmts. (Alexander, PA)

**CROATIA**—Voice of Croatia/Croatian Radio, 9925 via Nauen at 0413 to WCNA. (Parker, PA) 0420 in Croatian. (MacKenzie, CA)

**CUBA**—Radio Havana Cuba, 6120 in SS at 0400, 11760 in SS at 2147, 11960 in SS at 0413 and 13790 at 2345. (MacKenzie, CA)

Radio Rebelde, 5025 in SS with Cuban vocals heard at 0305. (MacKenzie, CA)

**CZECH REPUBLIC**—Radio Prague, 9955 via WRMI at 0407 on illegal aliens. (Parker, PA)

**DJIBOUTI**—Radio Djibouti, 4780 at \*0300 sign on with anthem, Koran and long AA talk. (D'Angelo, PA; Anderson, PA) 0310 in AA with Koran recitations. (Parker, PA)

**ECUADOR**—HCJB, 3220 at 1014 in local language, fading quickly. (D'Angelo, PA) 3220 in Quechua with M/W talk at 0918 and 9745 in SS at 0259. (Parker, PA) 9745 in SS at 0428, 11290 in PP at 2328 and 12040 in GG at 2330. (MacKenzie, CA) (*All moot now.—gld*)

HD2IOA, Guayaquil, 3810 time signals heard at 0942. (Parker, PA) 1050. (Wood, TN)

**EGYPT**—Radio Cairo/Egyptian Radio, 6290 in AA at 0352. (MacKenzie, CA) 7540 at 0325 with program info, anthem and off at 0326. Also 11590 in AA at 0330. (Brossell, WI) 7540 at 0205 and 11590 with low modulation at 2301 sign on. (Maxant, WV) 9915-Abis in SS at 0105. (Parker, PA)

**ENGLAND**—BBC, 3225 South Africa Relay at 0415 and 9410 Cyprus Relay to Western Asia with *Politics UK* at 0432 and 12095 Cyprus Relay to East Africa at 1947. (Parker, PA) 5875 at 1413, 6005 South Africa Relay at 2215 and 6095 via South Korea in CC at 1430. (MacKenzie, CA) 6005 South Africa Relay at 2212 with ID and news.

### In Times Past...

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

**MEXICO**—Radio Morelia, Morelia, XEKW, in SS on 6030 at 0410 on April 8, 1955. (Dexter, IA)



The Voice of the Robots QSLed Rich D'Angelo, warning that "the invasion has begun."

(D'Angelo, PA) 9740 Singapore Relay at 1135 (Buck, NZ) 11750 Thailand Relay on infectious diseases at 1227. (Brossell, WI) 11810 at 2055 and 15720 at 0115 on elections in Ghana. (Maxant, WV)

Bible Voice Network, 9490 via Wertachtal at 0045 in Hindi. EE ID and postal address in Canada and off at 0100. (Taylor, WI) 13590 via Wertachtal in EE at 11740. (MacKenzie, CA)

**EQUATORIAL GUINEA**—Radio Nacional, Bata, 5005 with Afro-pops and SS anmts at 0530. 6250 unheard. (Alexander, PA)

**ERITREA**—Voice of the Broad Masses, 7175 with sign on at \*0354. M/W alternating ID, opening anmts in Tigrinya. (D'Angelo, PA)

**ETHIOPIA**—Radio Ethiopia, 7110 with



Radio New Zealand marks 60 years on the air with this QSL card. (Thanks Rich D'Angelo)

HOA music at 0309. (Brossell, WI) 0349 in Amharic, M with apparent Koran prayers, commentary, jazz. (Wood, TN) 2035 with wide variety of Euro-pop, Amharic talk. Off with anthem at 2100. (Alexander, PA)

Voice of Peace and Democracy, 7165 with O/C, instl music at 0356, periodic IDs by M, open at 0400 with ID and anmts. drums and M with news in Amharic. (D'Angelo, PA; Alexander, PA) Also 9559.7 at 0412 with talks in (p) Tigrinya. (D'Angelo, PA)

Radio Fana, 6110 at \*0257 open with IS. W with anmt and M with news in Amharic. (D'Angelo, PA) 0305 with great domestic music. (Strawman, IA)

Voice of the Tigray Revolution, 6170 at \*0257 with IS, vernacular talk at 0300, HOA music at 0303. Poor with strong adjacent channel splatter, //5950 weak under Okeechobee. (Alexander, PA)

**GERMANY**—Deutsche Welle, 5905 via Bonaire in GG at 1015, 5915 via Rampisham in RR at 0454. (Parker, PA) 9825 Portugal Relay in GG at 0329, 15205 Rwanda Relay at 2155 and suddenly off at 2157, 15275 Rwanda Relay in GG at 1755, 17610 Portugal Relay in FF at 1717 and 17860 Rwanda Relay in AA at 1712. (MacKenzie, CA) 15450 Sri Lanka Relay in RR at 0350 and 15445 Rwanda Relay in AA heard at 2047. (Brossell, WI)

**GREECE**—Voice of Greece, 15630 in Greek at 1852. (Brossell, WI) 15650 in Greek to Mideast and Australasia at 2335. (Parker, PA)

Radio Makedonias, 7450 in Greek at 2230. (Maxant, WV)

**GUINEA**—Radio Guinea, Conakry (t), 7125 at 2315 in FF with local pops. Weak and lost in ham QRM at 2335. (Alexander, PA)

**HONDURAS**—Radio Misiones Intl, Comayaguera, 3340 in EE at 0820 with contemporary Christian music and several EE IDs. (Alexander, PA) 0924 with M anc and SS vocals. (Parker, PA) 1038 with M in SS and inspirational music. (Wood, TN)

Radio Luz y Vida, San Luis, 3250 at 1035 with test tones or perhaps transmitter problems. (Wilkner, FL)

**INDONESIA**—Voice of Indonesia, 9524.9 at 1250 with Asian music and tabla-like percussion, ID heard at 1300, dead air, several EE IDs and news. (Strawman, IA)

**INDIA**—9445 at 2210 on the Indian parliament and 11620 at 1935 with local vocals. (Maxant, WV) 9595 in Urdu at 1158 with mel-

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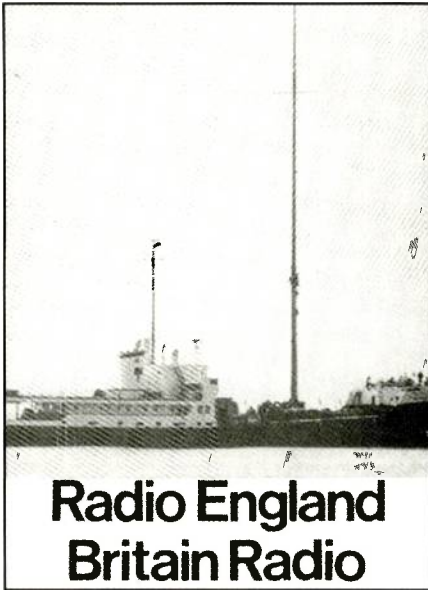
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This British pirate QSL dates back to 1966. (Thanks Bob Combs, NM)

low South Asian music and equally mellow anc. Also 9870-Bangaluru. Vivdh Bharati service, mixing with Voice of Turkey at 0125; India in Hindi. Turkey in SS. (Taylor, WI)

**IRAN**—Islamic Republic of Iran Broadcasting, 7205 with EE news at 1940, //6205. (Fraser, ME) 7235 at 0138 with "Voice of Justice" ID. (Taylor, WI) 9495 in EE at 0135. (Maxant, WV) 11665 with Koran recitations in AA at 0338. (Brossell, WI)

**ISRAEL**—Galei Zahal, 6973 in HH at 0312 with MOR pops. (Wood, TN) 15785 in HH at 2051. (Brossell, WI) 2115. (Alexander, PA)

**ITALY**—Nexus, 7290 (via Slovakia—*gld*) on the European Union heard at 1940. (Maxant, WV)

**JAPAN**—NHK World Radio Japan, 5960 via Canada in JJ at 0455, 6110 via Canada at 0505, 9535 in JJ at 1603, 13650 in Thai at 2338 and 15265 via Bonaire in JJ at 2220. (MacKenzie, CA) 5960 via Canada at 0306 and 5975 via Rampisham at 0537. (Parker, PA) 9625 at 1200. (Barton, AZ) 9625 with news at 1205. (Buck, NZ) 11705 at 1417. (Brossell, WI) 11705 via Canada with *Learn Japanese* at 1425. (Fraser, ME)

Radio Nikkei (p) 3925 in JJ with classical music at 1115. (Taylor, WI)

**KUWAIT**—Radio Kuwait, 11990 at 1920 with old American pop songs. (Maxant, WV) 1940 with area news, local music and pops. (Strawman, IA)

**MADAGASCAR**—Radio Madagasikara, 5010 at 0327 with vocals, M with ID, music, fanfare and news in Malagasy at 0330. (D'Angelo, PA)

**MALI**—Radio Diffusion Malienne, 5995 at 2336 with highlife vocals hosted by W, "Radio Mali" ID at 2329 and into a pgm of FF talks, more highlife vocals, anthem and close-down. (D'Angelo, PA) 9635 at \*0801 sign on with lute IS and into vernacular talk. (Alexander, PA)

**MAURITANIA**—Radio Mauritanie, 4845 at 0003 with talks in AA. (Brossell, WI) 0758 with M/W talk in vernacular and domestic music. (Parker, PA)

**MEXICO**—4800 Radio Transcontinental de America, Mexico City, weak carrier at 1040 one morning after it had been silent for several days. (Wilkner, FL)

Radio Mil, Mexico City, 6010 at 0740 with SS pops and SS versions of U.S. pops. Several IDs. (Alexander, PA)

XEQM, 6105v, Merida, in SS at 1000 most days. (Wilkner, FL)

Radio Educacion, Mexico City, 6185 monitored at 0645 with local pops and anmts. (Alexander, PA)

**MOLDOVA**—Radio PMR, Pridnestrovie, 9665-Grigoriopol, at 2225 on improving teacher training. (Fraser, ME)

**MOROCCO**—Radio Medi Un, 9575-Nador, at 2155 with AA pops, into news at TOH. (Wood, TN)

**NETHERLANDS**—Radio Nederland, 5955 via Portugal in DD to Europe at 0415. (Parker, PA) 6130 via Singapore in Indonesian at 2335. (Ng, Malaysia) 7235 via France in DD at 1140. (Brossell, WI) 7325 via French Guiana in SS at 0140. (MacKenzie, CA) 11610 on Somalia at 2008. (Maxant, WV) 11660 via Okeechobee at 1930 on rebels in Nigeria. (Fraser, ME)

The Mighty KBC, 6055 via Lithuania at 2152 with rock and EE anc. to 2230 close and 6110 via Lithuania heard at 0244 with pops hosted by EE M anc. (D'Angelo, PA)

**NEW ZEALAND**—Radio New Zealand Intl, 6170 at 1440 and 15720 at 2216 with W and news. (MacKenzie, CA) 11725 at 0511. (Wood, TN) 11725 opening with BBC news at 2001 and 15720 on Fiji unrest at 0255. (Maxant, WV) 15720 at 2230 on abortion. (Parker, PA) 0144 with Pacific basin news. (Brossell, WI)

**NIGERIA**—Radio Nigeria, Kaduna, 4770 at 0533 with M hosting hip-hop vocals, mentions of Nigeria, more pops. Voice modulation was very weak. (D'Angelo, PA) 6090 at 2145 with vernacular talk, IDs, mentions of Kaduna, local vocals. Covered by Anguilla at \*2204. (Alexander, PA)

Voice of Nigeria, 15120 at 1930 with instls and talk about medical practices in Nigeria. (Maxant, WV) 2015 with EE talks. (Parker, PA)

**NORTH KOREA**—Voice of Korea, 11710 in FF at 1107. (Brossell, WI) M/W with

EE news at 1304. (Strawman, IA) 13760 in SS at 0105. (Maxant, WV)

Korea Central Broadcasting Station, 7140 with W in KK at 1045. (Ng, Malaysia)

**NORTHERN MARIANAS**—KFBS, Saipan (p), 11580 in Mandarin at 1228 with contemporary Christian music and M anc. and 11650 (p) in RR at 1237. (Taylor, WI)

**OPPOSITION**—Radio Free Afghanistan, 15680 at 0935 with talk in Pashto. (Ng, Malaysia)

Radio Voice of the People (to Zimbabwe), 9895 heard at \*0400 with Afro-pops, multi-lingual ID anmts and vernacular talk, short breaks of African music, into EE at 0441. Off at 0455. (Alexander, PA)

Radio Nacional de la RASD (to Morocco), 6300 at 2157 with music, 5+1 time pips at 2200, ID and W with news in AA. (D'Angelo, PA)

**PAPUA NEW GUINEA**—Radio West Sepik, Vanimo, (New Guinea), 3205 at 1045. (Wilkner, FL)

Radio Madang, Madang, (NG), 3260 at 1030. (Wilkner, FL)

Radio Southern Highlands, Mendi, (Papua), 3275 at 1050. (Wilkner, FL)

Radio East Sepik, Wewak, (NG), at 1040. (Wilkner, FL)

Radio Northern (p) Popondetta, (NG), 3345 weak at 1000. (Wilkner, FL)

Radio East New Britain, Rabaul, (NB), 3385 heard at 0927. Faint traces of audio. (Parker, PA)

**PERU** (All in SS)—Ondas del Hualluga, Huano, 3329.5 heard at 1030 with W in SS. Now seems irregular. (Wilkner, FL)

Radio Vision, Chiclayo, 4790 at 1000 and 2300 daily. (Wilkner, FL)

La Voz de la Selva, Iquitos, 4824.5 after 1000 and also noted around 0000. (Wilkner, FL)

Radio Maranon, Cajamarca, 4835.5 heard at 0955 with W vocal, M/W anc. mentioned "Buenos dais" at 0958. (Parker, PA)

Radio La Hora, Cusco, 4857.5 with exotic music and M anc. at 2310. (Wilkner, FL)

**PHILIPPINES**—Radio Veritas Asia, Palauig, 9615 at 1153 in Mandarin, W with brief comments, RVA theme heard at 1153, closing anmts and off at 1155. (Taylor, WI)

**PIRATES**—Northwoods Radio, 6925u at \*0022-0053\*, \*0132-0226, 1258-1397\*, 1327-1403\*, 1535-1602, 1616-1644, \*2022-2033, \*2315-2351 with rock things, loon call IS, email: northwoodsradio@

### This Month's Winner

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

This month's prize winner is **Bob Fraser of Belfast, Maine**, who is standing by to receive a 2010 edition of the *World Radio TV Handbook*, which continues to be a huge source of information about world broadcasting, including our favorite form: shortwave! This essential volume will be showing up at local and Web bookstores—and certainly radio hobby dealerships soon. Be smart and place your order for this valuable book now!



Hot rod in Prague? Nope, this is a 1947 model "rail car" used by railroad workers until the 1970s. (Thanks Paul Gager, Austria)



This Radio Tirana QSL pictures an orthodox cathedral in Korca. (Thanks Paul Gager)

yahoo.com, some folk and rap, slogan "broadcasting freedom from the Great Lakes." Also some SSTV. (Zeller, OH)

MAC-6850.7 at 0001-0050 with Ultraman Show IS with lots of talk and rock/pop and TV show themes. Email: macshortwaveradio@gmail.com. Also 0428 to 0503 with ancr Crazy Hans and many German cover versions of U.S. pops. (Zeller, OH)

WBNY, 6925u at 1837-1852 with a Beatles number, Commander Bunny and the Rodent Revolution, clear ID at 1850. Also 2355-0035 with rock oldies and Beatles. (Zeller, OH) Also WBNY at 2228-2258 with a new radio serial "The Strangler." WBNY talent contest. (Balint, OH)

Radio Free Euphoria, 6925u at 0158-0234 with Captain Ganja, canned IDs, some Christmas parody music, apparently a replay of a holiday broadcast. (D'Angelo, PA)

WEAK (t) 6925u at 0210 poor with C/W, mention of Chet Atkins, bluegrass. I don't think this was the original WEAK in Chicago. (Hassig, IL)

Numbers station spoof, 6925u with W and continuous string of numbers. M at 0344 with bleating goat and "I Guess I should be Going." (Wood, TN)

Radio Gaga, 6925u at 2310-2323\* with rock and an anti-war slant. Digital SSTV transmission for the last two minutes. (Zeller, OH)

KUSA, 6925u at 2239-2312 with rock oldies and classics. Email believed announced as kusanorthamerica@gmail.com. (Zeller,

OH) 2322-2336 with song parodies. IDs at 2324 and 2334, off at 1336. (Balint, OH)

Pirates Week Relay, 6925u at 2335-0001 and \*2338-0017\* with relay of a Pirates Week pgm from Ragnar Daneskjold with some rock and a DX pgm. Mentioned Outhouse Radio at close so that might have been the source of the relay. Also mentioned WBNY and Allan Weiner of WBCQ. (Zeller, OH)

Wolverine Radio, 6925u at 0024-0033\* with mostly jazz and big band music, one song that included the *Woody Woodpecker* theme. Also 0246-0330 with pgm of classic rock. No address ancd. (Zeller, OH) 0335-0347 with non-stop rock, f/by M with ID at closedown. (D'Angelo, PA)

Outhouse Radio, 6925u at 0010-0026\* and 2350-0025 with classic rock. (Zeller, OH) 0316-0412\* with M hosting classic rock. Closed with the Hendrix version of the "Star Spangled Banner." (D'Angelo, PA)

Captain Morgan, 6925.8u at 2338-0011 with "Captain Morgan on 6925 upper sideband," ID, *Twilight Zone* numbers, old rock/pop. Email as: captainmorganshortwave@gmail.com. Off at 0011. (Balint, OH)

Barnyard Radio, 6930u heard at 0153-0240 with rock things, ID at 0207, but by 0240 the signal was almost nothing. (Balint, OH)

Voice of the Robots, 6925u at \*0113-0143 with mix of rock and instls from the robots who have taken over the planet. Some discussion of Dr. Smith from *Lost in Space*. Email as voiceoftherobots@gmail.com for reports. (Zeller, OH) 0119-0126\* with rock, mechanical-sounding ID and gmail address. (D'Angelo, PA)

Thinking Man Radio, 6925u at 0115-0139\* with classic rock, multiple IDs and thinkingmanradio@gmail.com for reports. (Zeller, OH)

Radio Casablanca, 6930 at 0252-0332 nice pgm of big band music from the 40s. ID at 0330. (Wood, TN)

Radio Azteca (Euro) (p), 7550 at 0445 with light pops and a few anmts in Italian. (Alexander, PA)

Radio Playback Intl, (Euro) (p), 6870 at 2350-0015 with pop/rock and anmts. Poor in QRN. (Alexander, PA)

**PORTUGAL**—RDP Intl, 15285 at 2020 with fast-paced sporting event coverage. (Parker, PA) 15560 at 1356 with pops, ID at 1400 and news in PP. (D'Angelo, PA) 1839 with live sports coverage. (Brossell, WI)

**ROMANIA**—Radio Romania Intl, 5975-Tiganesti, at 0250-0257\* in SS with folk and instl, IS colliding with Voice of Turkey's IS and EE anmt at 0257. Also 9645-Tiganesti at 0332 in EE with W and Transylvanian folk songs, ID at 0357 and off. (Parker, PA) 6200 in SS at 2315. (Ng, Malaysia) 6150 with world news at 0305 and 11810 with news at 2036. (Brossell, WI) 9675-Galbeni, with sports at 2212. (Wood, TN) 11810 on flooding there at 2045. (Maxant, WV)

**RUSSIA**—Voice of Russia, 6045 in CC closing at 1359. (Ng, Malaysia) 9665 via Pridnestrovia/Moldavia with *Science Club*

pgm at 2215. (Fraser, ME) 9735 via French Guiana in SS at 0338, 13775 in EE at 0405 and 15425-Petropavlovsk in EE at 0317. (MacKenzie, CA) 9880-Krasnador in SS at 0153. //9810 via French Guiana. (Taylor, WI) 9800-Moscow at 2221. (Wood, TN) 12065-Chita with classical music at 1237. 13590-Novosibirsk in CC at 1242. Also 15425-Petropavlovsk-Kamchatka with classical music at 0350. (Brossell, WI) 12000-Khabarovsk in CC at 1324, 12040-Moscow at 1658 with IS to TOH and EE ID, into news. Also 12065-Chita at 1250 ending listed VV, ID and into EE. (Strawman, IA) 12040 with *The Christian Message* at 1930 and 12055-St. Petersburg in RR at 1941. (Parker, PA)

Russian International Radio, 9890-Armavir in RR at 0330 and 15500-Samara in RR at 0400. (Brossell, WI)

Magadan Radio, 5940 in RR at 1150. (Brossell, WI)

**SAUDI ARABIA**—BSKSA, 11820 with Holy Koran service at 2050. (Maxant, WV) 17615 in AA talk at 1120. (Ng, Malaysia)

**SERBIA**—Intl Radio of Serbia, 9675 monitored at 0010 on Serbian architecture. (Brossell, WI) 0125 on universalities there and into closing anmts. (Maxant, WV)

**SLOVAKIA**—Radio Slovakia International, 9440 at 0110 on a festival cancellation. (Maxant, WV)

**SOUTH AFRICA**—Channel Africa, 3345 at 0313 in vernacular with M/W talks. (Parker, PA) 7230 at 0510 with something about Tanzania. Also 9625 heard at 1110 on bike races in France. (Maxant, WV)

Radio Sondergrense, 3220 in Afrikaans at 0422. (Parker, PA)

**SOUTH KOREA**—KBS World Radio, 9570 at 1320 on higher learning there. (Maxant, WV)

**SPAIN**—Radio Exterior de Espana, 3350, Cariari de Pococi, Costa Rica Relay at 0418 with short interviews, features and remote reports with brief music. (D'Angelo, PA) 0426 in SS, 15110 in SS at 2010. (Parker, PA) 0256 in SS, 6055 in SS at 0152, 9630 in SS at 0426, 11815 Costa Rica in SS at 2148, 15110 in SS at 2215, 17850 Costa Rica at 2148 and 17595 in SS at 1730. (MacKenzie, CA) 5970 Costa Rica in SS at 1200. (Brossell, WI) 6126 in SS at 0201. This was exactly 1 kHz higher. //6055 and 3350. (Taylor, WI) 11680 in SS at 0055, closing at TOH. (Barton, AZ)

**SUDAN**—SRTC/Radio Omdurman, 7200 at \*0232 abrupt sign on with Koran, AA talk, local pops and "Huna Omdurman" IDs, chirping birds. (Alexander, PA) 0404 with M and news in AA. Cut in mid-sentence at 0428. (D'Angelo, PA)

Radio Peace, 4750 at 0330 fading in about this time. (Wilkner, FL) 0342 with music selection. M in seeming AA, continuous with no break at TOH. (D'Angelo, PA)

**SWAZILAND**—Trans World Radio, 3200 at 0300 with local programs. (Wilkner, FL) 4775 at 0416 with M in GG, choir, W with ID. Change to EE at 0430. (D'Angelo, PA)

**SWEDEN**—Radio Sweden Intl, 5840-Horby in AA at 0217. (Taylor, WI) 7395 at



This is the rarely published back of the usual Voice of Vietnam map card. (Thanks Peter Ng, Malaysia)



Another colorful QSL from Radio Damascus. (Thanks Paul Gager)



This multi-band radio would challenge your DXing skills. It's in the Radio Tirana museum. (Thanks Paul Gager)

2035 with domestic items. And 6010 via Canada at 0250 on medical problems in later life. (Maxant, WV)

**SYRIA**—Radio Damascus, 12085 at 2117 with EE talk, local pops. Modulation was too low to understand anything. (Alexander, PA)

**TAIWAN**—Radio Taiwan International, 5950 via Florida in CC at 0452. (MacKenzie, CA) 5950 via Okeechobee at 0313 and 9840 via French Guiana in SS at 0247 (Parker, PA) 0210 with Pacific region weather. Also 7130 with an open carrier at 1245, muting an unidentified Asian language station underneath. (Barton, AZ)

**TANZANIA** (Zanzibar)—11735 at 2040–2100 with ME music, Swahili talk, off with anthem at 2100. (Alexander, PA)

**THAILAND**—Radio Thailand, 12120 at 0030 on the royal family there. (Maxant, WV) 15275 at \*0000 with EE ID and anmtns, national news, tourism promo. Fair level but it dropped to a threshold level at 0029 when they switched from an ECNA beam to WCNA.

(Alexander, PA) 0000 sudden opening with "This is Radio Thailand's World Service broadcasting from Bangkok." over time pips and instl music f/by M with EE news. (D'Angelo, PA) 0010 with news by W. (Strawman, IA) 0016 with news and tourism promo. (Parker, PA)

**TUNISIA**—RT Tunisienne, 7275-Sfax at 0306 with M in AA, music bridges. (Parker, PA) 0429 with a clear but faint signal. (Wood, TN)

**TURKEY**—Voice of Turkey, 5975-Emirler at 0259 with "This transmission of the Voice of Turkey has been pre-recorded." (Parker, PA) 7325 at 0325 on flowers in Turkey. Also 15635 at 1244 with a live sporting event in TT. (Brossell, WI) 9830 at 2220 with *The Middle East Through Turkey's Window*. (Fraser, ME) 15450 at 1310 on Thailand's politics. (Maxant, WV)

**UGANDA**—Radio Uganda, 4976 at 0320 battling high band noise. (Wilkner, FL) 0345 with extended talk by M, weak in t-storm noise. (Strawman, IA)

**UNITED STATES**—Voice of America, 7225-Northern Marianas Relay in (I) KK at 1210, 9760 Philippines Relay with news at 1210, 11805 Northern Marianas Relay at 1230 opening in and news in CC and 12110 via Germany in (I) Somali at 0447. (Brossell, WI) 9325 Philippines Relay in Burmese at 0015, 11925 Philippine Relay in CC/EE lesson at 0150 and 12010 Philippines Relay in II at 1150. (Ng, Malaysia) 9515 with news heard at 1211. (Buck, NZ) 9695 via Wertachtal in Farsi at 0320, 9885-Greenville at 0433 and 15385 Philippines Relay in CC at 0005. (Parker, PA) 9760 Philippines Relay at 1250 and 12040 Philippines Relay in Mandarin at 1322. (Strawman, IA)

Radio Free Europe/Radio Liberty, 5925 via Lampertheim in RR at 0327. (Parker, PA) 6105 via Lampertheim at 0420 in unid Lang at 0420. (D'Angelo, PA) 6120 via Biblis in Belorussian at 0452. (Taylor, WI) 7290 via Lampertheim in (I) Avar at 0318 and 9760 via Germany in (I) Tajik at 0320. Also 11700 Philippines Relay in RR at 1225. (Brossell, WI)

Radio Free Asia, 9490 via (p) Ulbroka in Uighur at 0106. (Taylor, WI) 11590 via Kuwait in (I) Pashto/Dari at 1215. (Brossell, WI) 12140 via Northern Marianas in (I) Khmer at 1328. Poorer under RTTY-like UTE. (Strawman, IA) 13735 via Northern Marianas in CC at 0322. (Mackenzie, CA)

Radio Marti, 7405-Greenville in SS at 0453 and 11930-Greenville in SS at 2152. (MacKenzie, CA)

AFN/AFRTS, 5446.5u-Key West at 1028. (Wilkner, FL) 10320u Pearl Harbor at 0320. (Parker, PA) 1020. (Wilkner, FL)

Radio Farda, 7375 via Biblis in Farsi at 0147. (Taylor, WI)

Adventist World Radio, 6065 via Wertachtal in (p) Tigrinya at 0314 to 0330\*. (D'Angelo, PA)

WBOH, North Carolina 5920 at 0318. (Mackenzie, CA)

WRNO, Louisiana, 7455 at 0335. (Maxant, WV) 0349. (MacKenzie, CA)

WWCR, Tennessee, 3215 at 0435, 5070 at 0445, 5890 at 0315 and 9980 at 2140. (MacKenzie, CA) 7490 at 1145. (Buck, NZ)

Family Radio, 9280 via Yunlin in Mandarin at 1131. (Taylor, WI) 9460 via Irkutsk at 1144, 11640 in CC at 1235 and 12060 via Armivar heard at 2042. (Brossell, WI)

WEWN, Alabama, 11520 at 0305 aneng they'd be off the air for a week for maintenance. Also 1640 at 0030 and 12050 in SS at 1210. (Maxant, WV)

WWRB, Tennessee, 3185 at 0140, 5050 at 0307 and 5890 at 0447. (MacKenzie, CA)

WRMI, Florida, 9955 at 1326 suffering from Cuban jamming. (Maxant, WV) 2322 carrying World Radio Network. (D'Angelo, PA) KJES, New Mexico, 11715 at 1320. (Maxant, WV)

WTJC, North Carolina, 9370 at 0346. (MacKenzie, CA)

Sound of Hope, 7280 via Taiwan at 1240 in CC. (Brossell, WI)

Gospel for Asia, 9435 via Wertachtal in VV at 0051. (Taylor, WI)

**UZBEKISTAN**—CVC, The Voice-Asia, 11800 at 0040 on public radio. (Maxant, WV) 15555 with Christian pops at 0405. (Brossell, WI)

**VATICAN**—Vatican Radio, 7305 at 0255 on how visitors to the Vatican should dress. (Maxant, WV) 11625 in Swahili at 0350. (Parker, PA)

**VENEZUELA** (via Cuba)—Radio Nacional, 11670 in SS at 2204, 13680 in SS at 2341 and 17705 in SS at 2249. (MacKenzie, CA) 13680 in SS at 2227. //15250. (Fraser, ME)

**VIETNAM**—Voice of Vietnam, 6175 via Canada in VV at 0145. (MacKenzie, CA) 9840 in EE at 1150. Open carrier at TOH and then into JJ. (Barton, AZ)

**ZIMBABWE**—Voice of Zimbabwe, 3396 in vernacular at 0430 and 4828 at 0045 with just traces of M talk under CODAR. (Parker, PA)

**ZAMBIA**—CVC, The Voice-Africa, 4965 at 2240 on the world economy and 13590 with gospel music at 1330. (Maxant, WV) 4965 in EE with gospel songs at 0250. (Parker, PA)

And, once again, order is restored! Hats off, high fives, and resounding huzzahs to the following folks who checked in with logs this month: Jerry Strawman, Des Moines, IA; David Buck, Wellington, New Zealand; Brian Alexander, Mechanicsburg, PA; Stewart MacKenzie, Huntington Beach, CA; Rich D'Angelo, Wyomissing, PA; Richard Parker, Pennsburg, PA; Joe Wood, Greenback, TN; Rick Barton, Phoenix, AZ; Peter Ng, Jahor Bahru, Malaysia; George Zeller, Cleveland, OH; William Hassig, Mt. Prospect, IL; Charles Maxant, Hinton, WV; Robert Wilkner, Pompano Beach, FL; Robert Brossell, Pewaukee, WI; Dave Balint, Mentor, OH; Mark Taylor, Madison, WI; and Robert Fraser, Belfast, ME. Thanks to each of you.

Until next month, good listening—and Happy Holidays!

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# Shop Talk—More Proven Techniques For Cheap And Easy Problem Solving

by Peter J. Bertini  
radioconnection@juno.com

*“...here’s a  
potpourri of  
suggestions and  
tips that will make  
shop life a little  
easier.”*

**F**or your Holiday Enjoyment here’s a special little Shop Talk column, along the lines of the first Shop Talk column that appeared a year ago, in the December 2008 issue. This will be a bit shorter than our usual column, but if you enjoy these quick tips please let us know—perhaps we’ll continue the tradition in future December columns. So, without further ado, here’s a potpourri of suggestions and tips that will make shop life a little easier.

## Desoldering Wick

I go through a lot of desoldering braid. While costly, it is very effective at removing old solder from terminal strips and tube sockets. Un-

fortunately, the wick loses its ability to wick up molten solder as it ages, in part due to the copper braid becoming oxidized once the container is opened and the braid is exposed to air. To prevent this, store open spools in a sealed zip-type sandwich or freezer bag. This will keep the braid in shiny, like-new condition.

And here’s another neat tip: Don’t discard the old solder wick spools. At one time I’d buy small tubes of solder to be kept with my tool kit and portable gas soldering irons. All too often the plastic tubes would open, allowing the several feet of solder to spill from the tube, and getting it back inside is like trying to get toothpaste back into the toothpaste tube. Here’s a better, and much cheaper alternative! Wrap several feet of solder around



Photo A. Store unsealed solder wick spools in airtight sandwich or freezer bags to reduce oxidation on the copper braid. This will keep the wick working as good as new. Empty spools will hold several feet of solder for use with portable gas soldering irons.



Photo B. The small dimple embossed on the metal tube base indicates the direction for releasing the socket-to-base locking mechanism. The tube is tilted in the direction of the dimple for removal.



an empty solder wick spool. It will stay where it belongs until needed. The larger size spools can be used as wire spools for small-diameter enamel or bus bar wire.

## Removing Locktal Tubes

Locktal tubes were introduced by Sylvania in 1935. The special tube base and socket system worked together to mechanically lock the tube firmly to the socket for use in high vibration applications, such as automotive radios. The name is probably a play on the octal (eight pin) lock-in tube base. Locktal tubes have an undeserved bad reputation, probably due in part to very few folks knowing the secret behind getting the tube to release from the socket without inadvertently damaging the socket in the process. Here's the trick: In line with the metal key on the tube base you'll find a small dimple (metal bump) embossed on the metal shell at the tube base. To remove a locktal tube from the socket, locate the dimple, and gently tilt the tube toward the chassis in the same direction the dimple faces. The tube will then release from the socket.

## Dial Cord Springs

Old VCRs are a good source for odd hardware. For instance, a replacement for a missing dial cord tensioning spring can be found in discarded device. Besides providing a recoverable horde of various sized springs VCRs are also a good source for metric hardware. I keep a few baby food jars of salvaged metric hardware on hand as I commonly find missing or damaged metric hardware on the imported equipment that I service.

## Bending Resistor Leads

Many of us are guilty of this. Whenever a sharp radius bend is needed on a part lead we reach for the shop's needle nose pliers

to make the bend. Not good! What happens is that the sharp bend stresses the wire, causing it to fracture at the bend. Instead, use a 1/8 inch drill bit shank as a mandrel to make a gentler, wider radius bend angle. This trick also goes for mounting silicon power supply diodes to terminal strips. Instead of doing a sharp radius bend, make a full 180-degree pigtail loop on the diode leads. The pigtails allow for thermal expansion, and prevent damage to the fragile diode bodies.

## Carbon Composition Resistors

Old habits die hard. For many years I preferred using NOS (new old stock) carbon composition resistors in my restorations. They looked authentic and had nice long leads that were easy to work with. But here's the rub: Carbon composition resistors are not stable and will change value as they age. It's not uncommon to find new carbon resistors that have drifted high in value well beyond their tolerance rating, so those coffee cans of new resistors at the local hamfest may not be the bargain they appear to be.

A second caveat is that carbon resistors might also have an unusually high failure rate in high-voltage applications. I've read comments from restorers who have found screen-dropping resistors in communications receivers that have gone to very high values, causing a dramatic loss of sensitivity. These failures were attributed to the voltage drop across the resistor; the resistors showed no signs of overheating or other damage. A modern metal-oxide resistor would be the preferred alternative.

## Drilling Rivets

Have you ever had to drill out the rivets holding a damaged tube socket on a

chassis? Often the drill bit will grab the rivet, and the rivet will spin preventing its removal. When this happens, hold the drill at an angle to the chassis; this will help keep the rivet from spinning in place.

## Save Old Credit

Don't discard old credit cards! They make dandy applicators for spreading in grain fillers, spackling compound, etc. They're also great for scraping off excess grain filler after it has been allowed to set.

## Till Next Time...

I hope you find these tips useful. Drop me a line to let me know how they work for you, and I invite you to send in the proven techniques you've discovered working in your own "shop."

Keep those soldering irons warm and old tubes glowing until we meet again.

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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	9700	Radio Bulgaria	BB	0300	7110	Radio Ethiopia	Amharic
0000	9675	International Radio of Serbia		0300	6290	Radio Cairo, Egypt	AA
0000	15275	Radio Thailand		0300	5960	NHK World Radio Japan	
0000	9490	Democratic Voice of Burma, via Germany	BB	0300	4828	Zimbabwe Broadcasting Corp.	
0030	1800	CVC-The Voice-Asia, Uzbekistan		0300	6150	Radio Romania Intl.	
0030	9905	Islamic Republic of Iran Broadcasting	SS	0300	3345	Channel Africa, South Africa	
0030	9345	Radio Tirana, Albania		0300	7200	Sudan RTV Corporation	AA
0100	4985	Radio Brazil Central	PP	0300	5950	Radio Taiwan Intl, via Florida	
0100	4915	Radio Difusora Macapa, Brazil	PP	0300	9725	RT Tunisienne, Tunisia	AA
0100	15720	Radio New Zealand		0300	5890	WWCR, Tennessee	
0100	7325	Radio Nederland, via French Guinea	SS	0300	5070	WWCR, Tennessee	
0100	13760	Voice of Korea, North Korea	SS	0300	10320	Armed Forces Radio, Hawaii	
0100	4856	Radio La Hora, Peru	SS	0300	5920	WBOH, North Carolina	
0100	6175	Voice of Vietnam, via Canada	VV/EE	0300	7290	Radio Liberty, USA, via Germany	Avar
0100	9440	Radio Slovakia Intl		0300	4976	Radio Uganda	
0100	7375	Radio Farda, USA	Farsi	0300	9760	Radio Liberty, USA, via Germany	Tajik
0120	6155	Radio Fides, Bolivia	SS	0300	12110	Voice of America, via Germany	Somali
0130	6130	Radio Havana Cuba		0300	3280	La Voz del Napo, Ecuador	SS
0130	9495	Islamic Republic of Iran Broadcasting		0330	9825	Deutsch Welle, Germany	GG
0130	7235	Islamic Republic of Iran Broadcasting		0330	5010	Radio Madagasikara, Madagascar	Malagasy
0200	5975	Voice of Turkey		0330	9735	Voice of Russia, via French Guiana	
0200	15400	HCJB-Australia		0330	7505	WRNO, Louisiana	
0200	4905	Radio Anhanguera, Brazil	PP	0400	4930	Voice of America, Botswana Relay	
0200	11780	Radio Nacional Amazonia	PP	0400	9925	Voice of Croatia, via Germany	Croatian
0200	7540	Radio Cairo, Egypt		0400	6070	CFRX, Canada	
0200	5840	Radio Canada International, via Sweden	AA	0400	9955	Radio Prague, Czech Republic, via WRMI	
0200	9370	WTJC, North Carolina		0400	5940	BBC, Ascension Is. Relay	PP
0200	11855	BBC Relay, Oman		0400	3340	Radio Misiones Intl, Honduras	SS
0200	5035	Radio Aparecida, Brazil	PP	0400	7165	Voice of Peace and Democracy, Ethiopia	Tigrinya
0200	3255	BBC, South Africa Relay		0400	9895	Radio Voice of the People, to Zimbabwe	EE/vernacular
0230	6110	The Mighty KBC, Netherlands, via Lithuania		0400	4775	Trans World Radio, Swaziland	GG
0230	7305	Vatican Radio		0400	3320	Radio Sondergrense, South Africa	Afrikaans
0230	6010	Radio Sweden Intl, via Canada		0400	7405	Radio Marti, USA	SS
0300	11710	Radio Argentina al Exterior	FF	0400	4960	Voice of America Relay, Sao Tome	
0300	6190	Radio Nederland Relay, Bonaire	DD	0400	2100	Trans World Radio. Swaziland	GG
0300	9970	RTBF, Belgium	FF	0400	3396	Zimbabwe Broadcasting Corp..	
0300	5025	Radio Rebelde, Cuba	SS	0400	9805	Radio France International	
0300	5910	Marfil Estereo, Colombia	SS	0430	4905	Radiodiffusion Nationale Tchadienne, Chad	FF
0300	4780	Radio Djibouti	AA	0430	7275	RT Tunisienne, Tunisia	AA
0300	9790	China Radio Intl, via Cuba	CC	0430	6155	Adventist World Radio, via Austria	FF
0300	86973	Galei Zahal, Israel	HH (USB)	0500	6155	Radio Austria Intl.	
0300	6110	Radio Fana, Ethiopia	Amharic				

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0500	6160	CHNX, Canada		1330	938	Voice of America Relay, Thailand	Pashto
0500	6020	China Radio Intl, via Canada		<b>1400</b>	5995	Radio Australia	
0500	5975	NHK World Radio Japan		1400	13614	Radio Tirana, Albania	
0500	5005	Radio Nacional, Equatorial Guinea	SS	1400	15560	RDP Intl, Portugal	PP
0500	11725	Radio New Zealand Intl.		1400	13630	NHK World Radio Japan, via England	
0500	7250	Vatican Radio		<b>1430</b>	11705	NHK World Radio Japan, via Canada	
0500	7230	Channel Africa, South Africa		1430	13730	Radio Dabanga, Sudan, via Germany	vernacular
0500	5446.5	Armed Forces Radio, Florida	usb	<b>1500</b>	1560	Mirada 101 FM, Slovakia	
<b>0530</b>	4770	Radio Nigeria		<b>1700</b>	17610	Deutsche Welle, Germany, Portugal Relay	FF
<b>0600</b>	6185	Radio Educacion, Mexico	SS	1700	17595	Radio Exterior de Espana, Spain	SS
0600	6250	Radio Nacional, Equatorial Guinea	SS	<b>1730</b>	13590	Bible Voice Network, via Germany	
<b>0800</b>	7125	RT Guinee, Guinea	FF	<b>1800</b>	11775	Caribbean Beacon (University Network), Anguilla	
0800	6010	Radio Mil, Mexico	SS	1800	9830	Voice of Turkey	
<b>0900</b>	6010	La Voz de su Concencia, Colombia	SS	<b>1900</b>	15630	Voice of Greece	Greek
1200	7280	Sound of Hope, via Taiwan	CC	1900	11990	Radio Kuwait	
<b>1000</b>	3250	Radio Luz y Vida, Honduras	SS	<b>1930</b>	12040	Voice of Russia	
1000	4835	Radio Maranon, Peru	SS	<b>2000</b>	15445	Deutsche Welle, Rwanda Relay	AA
1000	4790	Radio Vision, Peru	SS	2000	11620	All India Radio	
1000	6105	RASA, Mexico	SS	2000	11810	BBC, England	
1000	2485	VL8K, Australia		2000	15285	RDP Intl, Portugal	PP
1000	3310	Radio Mosoj Chaski, Bolivia	SS	2000	15120	Voice of Nigeria	
<b>1030</b>	3335	Radio East Sepik, Papua New Guinea		2000	11610	Radio Nederland	
1030	7140	Korea Central Broadcasting Station, North Korea	KK	2000	11820	Broadcasting Service of the Kingdom, Saudi Arabia	AA
1030	4800	Radio Transcontinental, Mexico	SS	2000	15110	Radio Exterior de Espana, Spain	SS
<b>1100</b>	7370	KNLS, Alaska	RR	2000	11735	Radio Tanzania-Zanzibar	Swahili
1100	3925	Radio Nikkei, Japan	JJ	<b>2100</b>	17850	Radio Exterior de Espana, Spain, Costa Rica Relay	SS
1100	7450	RS Makedonias, Greece	Greek	2100	11760	Radio Havana Cuba	SS
1100	9615	Radio Veritas Asia, Philippines	Mandarin	2100	11680	Christian Voice, Chile	SS
1100	9840	Voice of Vietnam		2100	9515	Radio Canada Intl	CC
1100	9625	Channel Africa, South Africa		2100	15330	Radio Canada Intl	FF
1100	7280	Voice of the Strait, China	CC	2100	12085	Radio Damascus, Syria	
<b>1130</b>	7620	China National Radio	CC	2100	11930	Radio Marti, USA	SS
1130	7235	Radio Nederland, via France	DD	2100	9705	La Voix du Sahel, Niger	FF
<b>1200</b>	9490	Xizang PBS, Tibet (China)	TT	2100	7210	Radio Belarus	Byelorussian
1200	11750	BBC Relay, Thailand		<b>2200</b>	9445	All India Radio	
1200	9625	NHK World Radio, Japan		2200	6005	BBC, South Africa Relay	
1200	13590	Voice of Russia	CC	2200	9665	Radio PMR, Pridnestrovia/Moldavia	
1200	9760	Voice of America Relay, Philippines		2200	6300	Radio Nacional de la RASD, Algeria, to Morocco	SS/AA
1200	11805	Voice of America Relay, Northern Marianas	CC	2200	11670	Radio Nacional Venezuela, via Cuba	SS
1200	11590	Radio Free Asia, USA, Kuwait Relay	Pashto/Dari	2200	9665	Voice of Russia, via Moldova	
1200	9410	Fu Hsing Broadcasting, Taiwan	CC	2200	9890	Voice of Russia	
1200	7575	Radio Free Asia, via Thailand		2200	9830	Voice of Turkey	
1200	7200	Radio Rossii, Russia	RR	2200	9675	Radio Romania Intl.	
1200	3280	Voice of Pujang, China	CC	2200	9415	Radio Prague, Czech Republic	
1200	5765	Armed Forces Network, Guam	usb	2200	9505	Radio Record, Brazil	PP
1200	7330	Polish Radio, via Germany		<b>2230</b>	4845	Radio Mauritania, Mauritania	FF/vernacular
1200	9525	Polish Radio, via Germany		<b>2300</b>	15560	Radio Australia	
<b>1230</b>	11650	KFBS, Northern Marianas	RR	2300	11700	Radio Bulgaria	
<b>1300</b>	9625	CBC Northern Quebec Service, Canada		2300	11590	Radio Cairo, Egypt	
1300	9525	Voice of Indonesia		2300	9575	Radio Medi Un, Morocco	AA
1300	11710	Voice of Korea, North Korea		2300	13680	Radio Nacional Venezuela, via Cuba	SS
1300	13590	The Voice-Africa, Zambia		2300	6100	Radio Romania Intl.	SS
1300	12000	Voice of Russia	CC	2300	15345	Radio Argentina al Exterior	SS
1300	9570	Korean Broadcasting System, South Korea		2300	7225	Voice of Russia	
1300	15450	Voice of Turkey		2300	9420	Voice of Greece	Greek
1300	9955	WRMI, Florida		<b>2330</b>	5995	Radiodiffusion Malienne, Mali	FF
1300	12140	Radio Free Asia, Northern Marianas Relay Khmer					
1300	11715	KJES, New Mexico					
1300	9520	Radio Veritas Asia, Philippines	Tamil				

## The Dipole Destroyer: This Simple Antenna Beats That Ham Staple Hands Down!

by Kirk Kleinschmidt, NT0Z  
kirk@cloudnet.com

*“Every ham I’ve ever known who has bothered to put up a loop has become a believer—some have even sold their rotatable beams after experimenting with big horizontal loops.”*

**B**eginning hams can be very entertaining to anyone who resembles a mentor or Elmer. Despite their different introductions to the hobby and their personal backgrounds, new hams tend to make amazingly similar choices in first antennas. (I imagine it’s a lot like being a parent of multiple children. When Child #1 touches a hot burner on the stove, it’s an event! When Child #2 does it, the sting is eased by the knowledge that Child #1 survived the experience. When Child #3 gets burned, a pattern is starting to emerge!)

The VHF and Up hams get “beam crazy,” if only because rotatable antennas at those frequencies are relatively tiny and gain figures relatively large. The HF hams get “dipole crazy,” probably because the antennas are universally described in ham radio books, because almost every ham has at least one, and because the antennas are so simple to build and get working.

But the friendly, universal dipole antenna—functional though it is—is almost universally bested by another simple wire antenna that, in many ways, is even easier to build, tune, and use. That antenna is the horizontal loop. It’s a true Dipole Destroyer, especially for multiband operation.

This weekend is a good illustration. In several hours of “messing around” in the CQ World Wide RTTY Contest, I managed to work dozens of stations on every continent except Oceania (I didn’t hear a single op from Down Under). I did, however, work stations from Japan and Hawaii, several in the Caribbean, a bunch in South and Central America, every Canadian call district except VE8, a couple Europeans, and even several juicy stations in Africa, including one in Morocco!

Was it because I was running high power? Hardly. I was running just 5 watts output. Did I have a Super Secret radio? Nope. Just an entry-level HF rig that doesn’t even have a narrow filter. Special software? Naw. I used WinWarbler, a freeware package that’s part of the free DXLab

suite, and an old laptop PC. A sexy callsign, perhaps? Unfortunately, no. Same old callsign from my boring, landlocked Southern Minnesota QTH. Was I relying on years of experience as a slick RTTY operator? Not even close. I even laughed at myself while I was trying to figure out how to use the software and get the timing of the contest exchanges down pat. Before you think that I have a 100-foot tower, let me say that my wire antenna is 23 feet off the ground...and *inside my attic!*

So, what’s my secret weapon? My horizontal loop, of course! OK, it was during a contest, so lots of stations were on from just about everywhere, but anyone can take advantage of that “QSO booster,” so it’s not really a factor.

Having used horizontal full-wave loops for more than 25 years now (yikes!), I’ve heard all kinds of malarkey from hams who have never used them telling me why horizontal loops are “cloud warmers” that are good only for short-range comms, how they have ridiculously high-angle radiation patterns, etc. Many even cite technical references and point to charts and graphs. I just laugh and point to my logbook! And you should, too!

Every ham I’ve ever known who *has* bothered to put up a loop has become a believer—some have even sold their rotatable beams after experimenting with big horizontal loops.

As my RTTY contest experience illustrates perfectly, antenna performance makes or breaks your experience of ham radio. You can have a pile of radio goodies, a \$10,000 transceiver, and even an imposing amplifier or two, but if you don’t have a good antenna, you’ll never know what you’ve been missing.

If you’re fortunate enough to have a bunch of towers and several stacks of HF beams you may not want, or need, to check out the performance of a simple horizontal loop antenna. But if you’re like most of us and can have only a single wire antenna on a less-than-ideal chunk of suburban

real estate, the "lazy loop" may very well be your Death Ray Antenna.

So, why not consider a dipole, an end-fed wire, or a vertical antenna? Each of these venerable designs is worthy of mention and can be made to perform well (especially on one or two bands), but when it comes to making a single antenna perform well over a wide frequency range, the horizontal loop is King.

## The "Laid Over" Loop

A horizontal loop is a quad loop laying on its side. It has some *huge advantages* in this configuration:

- Horizontal loops work well for close-in ragchews and faraway DX pile-ups. The fact that they do everything well is also their greatest weakness, though! Because these loops receive well in every direction, copying weaker DX stations through throngs of strong stateside stations can be frustrating. Of course, the fact that you can actually hear and work the DX stations — which you may not be able to do with a dipole — is ultimately soothing!

- Horizontal loops tune up easily on all bands *at or above their fundamental frequencies*, and can be made to work well on lower frequencies in most cases (hint: use open-wire, balanced feed lines). Dipoles and even vertical loops can't do that, and even if they could, the impedance matching required is much more complex.

- Loops are quiet on receive. They usually suffer less from static and man-made noise when compared to dipole- and vertical-type antennas. If fed with balanced or open-wire feed lines they can also exhibit impressive immunity from locally generated noise — even pesky noise from your shack computer.

- Horizontal loops *destroy* dipole-type antennas when mounted close to the ground (as evidenced by my attic loop). Read the fine print in your favorite antenna book: Dipoles and inverted vees don't perform anywhere near their full potential unless they're at least a half-wavelength above RF ground. That's 60 feet at 40 meters and a whopping 120 feet on 80.

- A horizontal loop makes an awesome SWL receiving antenna for all the reasons mentioned above. If you're using an entry level receiver, however, be sure to use an attenuator to *decrease* the received signal. Big loops can easily overload a receiver's front end, resulting in images,

birdies, distortion, and a host of other unwanted side effects.

## Easy To Build, Easy On The Wallet

The horizontal loop is simply a full-wavelength loop that's "laying on its side," supported at various points some 15 to 60 feet above the ground. Mathematically, loops are circular, but erecting a horizontal loop that's perfectly circular is needlessly tedious. Four strategically placed supports gives us a "square loop" (an ideal shape), while three supports provides a "triangle loop" (pretty much the limit in what you can get away with). A slightly rectangular shape is OK, but an elongated rectangular shape starts to lose its loop-like qualities.

The formula for designing a loop has been published in antenna books for years. It's 1005 divided by the frequency (in megahertz). That's  $1005 / f$ . For 80 meters, that's a circumference of 287 feet, with about 72 feet on each "side." A 40-meter loop is 144 feet, with 20 meters weighing in at 72 feet.

These lengths are simply for reference. When it comes to building horizontal loops in your backyard, just put up as much wire as possible (keeping it as circular or as square as possible) and let your antenna tuner handle the impedance tweaking.

At my last QTH before the dreaded condo, I had more than enough real estate for 40 meters, but not enough for 80. So I split the difference. My loop was resonant at 5 MHz. It worked outrageously well on 40 meters and up, and very nicely on 80 and 160. Not bad for a single wire. It's definitely not a compromise!

So, to make a killer multiband antenna with a single wire, put up a horizontal loop sized to match your available space (shoot for a 40-meter loop size or larger, if possible, for best all-around performance), feed it with 50-ohm coax through a standard antenna tuner and operate with glee on all bands at or above the loop's resonant frequency. Feel free to feed the loop anywhere along its circumference — corner or side.

You can operate the loop on frequencies below the design frequency, but because of coax losses (SWR-related), performance usually decreases the lower you go in frequency (in relation to the resonant frequency of the loop).

If you're looking to enhance the operating flexibility of your horizontal loop and improve its performance on all fre-

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quencies—especially those below the design frequency—replace your conventional shack-mounted antenna tuner with an autotuner mounted at the loop's feed point. This will give you lightning-fast band changes and low SWR on the coax that runs from the autotuner to your radio. These handy devices used to be somewhat pricey, but they're now coming into the "affordability zone." If you have the chance to pick one up, you won't regret it!

If you can't acquire an autotuner, try replacing your coax with 450-ohm open-wire line fed through a conventional tuner with a tuner-output balun. Using a balanced tuner such as those sold by MFJ (or an old Johnson Matchbox) would be a better choice. You can also build your own balanced tuners.

Switching to an open-wire feeder will essentially negate the

effects of high SWR values on the feed line and help you to put out a greatly improved signal on bands below the antenna's design frequency.

## Can't Argue With Success

With my above-mentioned 5-MHz horizontal loop, I regularly worked European stations with 100 mW on 40 meters, worked 34 states and four DX countries on 160 meters in one night of casual contesting (100 watts), and regularly destroyed pileups on 30-meter CW with ease while running 5 watts. Other "loopy hams" have done the same and more.

Whatever its shape, however you feed it, a horizontal loop antenna is your best bet for an all-wire multiband HF antenna. Try one and it will destroy your dipole, too!

## Taking The Party On The Road

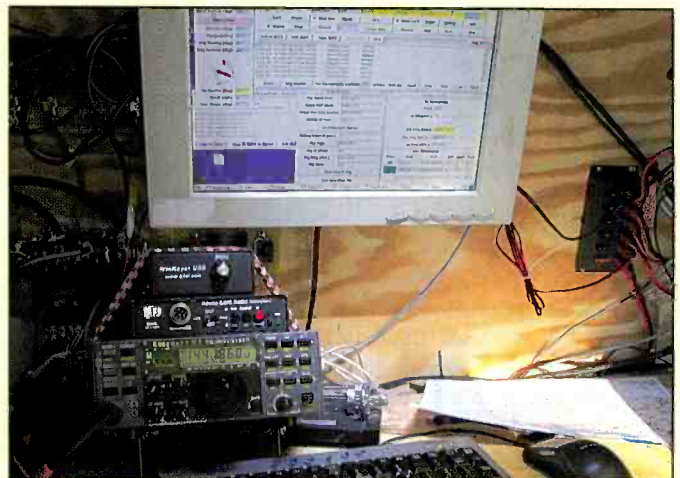
If deed restrictions and neighborhood covenants are cramping your ham radio style, you can always pack it up and head for the hills! Andy, K1RA, and John,

W1RT, did just that for the 2009 ARRL September VHF QSO Party. The two teamed up to put W1RT's "rover"-class mobile contest station on the air (see pho-

tos). The pair traveled to several strategically scouted locations to hand out contest QSOs from a variety of grid squares. The two days of the contest were a constant blur: Set up at one location, work as many other contest ops as possible on as many bands as possible, then pack up and drive to the next grid to do it all again! Lather, rinse, repeat.

John's 2000 Safari AWD van—paneled inside with ham-friendly plywood and officially dubbed the Intergalactic Roving Battle Jitney!—gets a meager 12 MPG when portaging two masts (a 10-footer in the front and a 20-foot crank-up in the rear), antennas, transverters and amplifiers for 10 bands from 50 MHz through 10 GHz, four bulldozer-size deep cycle batteries, computers, monitors, food and other goodies, plus the two operators! Two Elecraft K2 transceivers, which drive the transverter stacks, are probably the lightest-weight items in the inventory!

A detailed write-up, with many more of K1RA's excellent photos, can be found at [www.k1ra.us](http://www.k1ra.us). On the menu, click on "Roving."—NTØZ



# Trivia And Toons

by R.B. Sturtevant, AD7IL **Q.** What was the impetus for the development of vacuum tubes?

**A.** You can thank Marconi for that, though he wasn't doing tube research. Marconi's business was based, in the early days, on supplying wireless sets and operators to ocean-going ships, but he would not sell his equipment. Even after he started showing his wireless equipment to the various navies around the world, he still tried to maintain his monopoly on owning it all.

The American Navy, however, refused to have Marconi-owned wireless equipment aboard its ships, manned by its sailors. Rear Admiral Henry B. Manney, Chief of the Bureau of Equipment, wanted radio equipment under the Navy's control and able to meet the Navy's needs, rather than let Marconi decide how and when the Navy's needs would be met. Admiral Manney set up a radio research laboratory for the Navy to develop its own equipment. Equipment was also purchased from Europe before American's manufacturers got up to speed with their production. All equipment in those pre-World War I days was short-range and tuned to a very wide bandwidth. The signals were so wide that two-way communications were impossible.

The development of tubes led to improvements in the radios. At first tubes cost as much as \$50 and would last only about 70 hours. The systems worked, but weren't very economical. To stimulate the researchers in the field the Navy put out specifications for a tube that would last 5,000 hours and cost no more than \$5 each, and it then asked for bids. There were other elements involved, of course, but that's what really got things going.

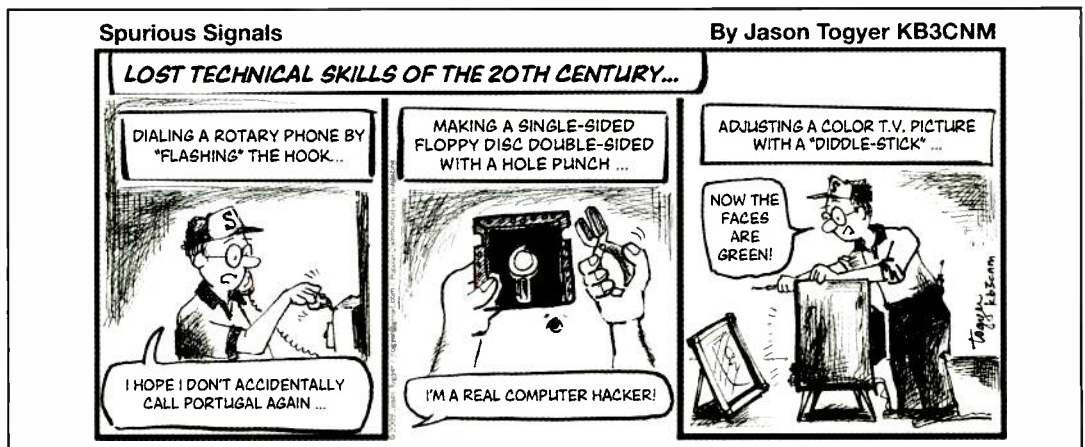
**Q.** What is the latest thing in antenna design?

**A.** Don't look for it at your next Hamfest, but the Air Force is working on an interesting idea. Airships and balloons have been used as observation posts since the Civil War. Now they're being used as antennas for signals work, and not just antenna supports. Up to now the problem has been getting the antenna to be flexible, light, and fit perfectly onto the blimps hull. Now the folks at Whiz Bang Corners have come up with a paint that is based on polymer dielectrics and highly conductive. It will allow them to paint antennas onto balloons or airships and create an electrical field that can absorb or reflect radio signals and radar.

**Q.** When did NBC start using its three-chime signature sound tag. Why did it start using it, and does it still have a purpose?

**A.** The NBC chimes are kind of a sound logo for the network. But they did have a definite purpose when they got started. NBC was started by GE, Westinghouse, and RCA in November 1926. It started with 19 affiliates and 3,500 miles of telephone lines connecting the scattered circuit.

In time the affiliates grew in number and things got confusing when shifting back and forth from the network to the local affiliate. In 1927 and 1928 the network experimented with several ways to alert the stations of the upcoming station break. Breaks were always at the top of the hour and at the half hour. At first a seven-chime series was tried (G-C-F-E-G-C-E), but it proved difficult for the announcers to strike consistently. Then a four-note series was tried (G-C-F-E). In November 1929 the chimes were reduced further to (G-E-C) sounded at 59 minutes and 30 seconds or at 29 minutes and 30 seconds.



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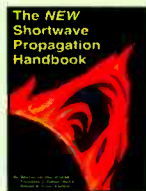
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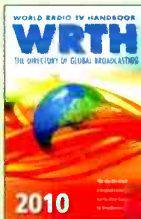


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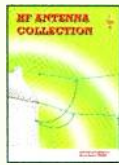
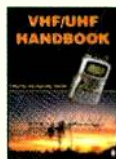


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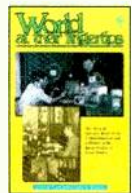
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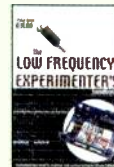
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Edited by Roger Balister, G3KMA. 2007 Ed.

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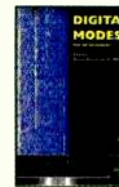


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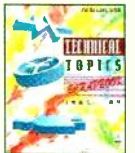
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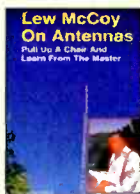
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## Focus On Florida

by Ken Reiss  
radioken@earthlink.net

*“The year 1939 also saw the introduction of ‘special autos’ used for patrol duty...Since there were no radios, the officers were expected to stop once in a while during their patrol routes to call in for assignments.”*

With the Holidays approaching and family visits being planned, it’s a good time to look at one of the more popular winter destinations: Florida. Like any large state, Florida has way too much happening of interest the scanner listener for us to be able to cover in a single column, so instead we’ll just bite off a morsel and focus on the statewide law enforcement system and the highway patrol.

### A Short History

In 1931, the state recognized that the roads were going to need some regulating and maintenance, so it placed the State Road Department in charge. Officials hired 12 weight inspectors to enforce the rules and regulations for the state—the whole state!

That lasted until 1934 when a Traffic Division

was formed within the Roads department. For economic reasons, a new governor abolished that agency, but in 1939 a new Public Safety department was formed to administer drivers licenses and law enforcement. The Highway Patrol was official. Sixty Officers were approved statewide with a starting salary (in case you were wondering) of \$1,500 per year.

The year 1939 also saw the introduction of “special autos” used for patrol duty. There were no radios of any kind in these vehicles, though they were equipped with sirens and bulletproof windshields. Since there were no radios, the officers were expected to stop once in a while during their patrol routes to call in for assignments. It wasn’t a terribly efficient operation, but it is pretty much what most state police departments were doing in those days.



State Road A1A is the main road through most oceanfront towns in Florida and runs from Callahan, just south of Georgia, all the way down to Key West. This scenic highway signage is from a stretch in North Peninsula State Park. (Photo by Gamweb via Wikimedia Commons)



In 2002, Florida began deploying Chevrolet Camaros because of their high speed and great handling. Each trooper issued a high-performance car must complete a five-hour training course on handling and braking. The Camaro can reach a top speed of 159 and can hit 100 in under 14 seconds. By contrast, the Crown Victoria Police Interceptor (a staple police car all over the country) takes just under 25 seconds to reach 100. (Photo by Roger at elaws)

Radios arrived right in the middle of World War II. As a test, a Motorola dispatch system was installed in the headquarters division in 1943. By the end of 1944, there were 13 dispatch stations statewide and mobile units in all the patrol cars.

An 800-MHz statewide system, or rather a group of systems deployed throughout the state from what I can tell, was started in 1992. The system reached

16 counties, but was never expanded statewide. In 2006 a new, truly statewide EDACS digital system was begun and is what is currently in place. It also carries traffic for many state agencies besides the Highway Patrol.

If live in or intend to visit the Sunshine Start, program in some of the frequencies from the accompanying tables and see what you find. Until next month, good listening and safe driving!

### Frequency Of The Month

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

Our frequency this month will be **853.9625**. Have a listen and let me know if you hear anything. If you're in Florida, it's part of the statewide dispatch system, but depending on your location you still might not hear much. Send your submissions to [radioken@earthlink.net](mailto:radioken@earthlink.net) or via more traditional methods to Ken Reiss, 9051 Watson Rd. #309, St. Louis, MO 63126. Be sure to put the frequency on the outside of the envelope or in the subject line of the email and we'll enter you into our drawing for a free one year subscription. Don't forget to include your address!

The most recent winner of a free subscription or extension to *Pop'Comm* is Steve Rakczynski of Ludington, Michigan, who writes in that he hasn't yet heard anything on 163.7125, but is still trying. Thanks and congratulations, Steve!

## WorldRadio

is now part of the CQ family!

**Here's a peek at a few of the columns scheduled for the December issue of WorldRadio Online**

- **Field-Friendly Radio**
- **DX World**
- **Rules & Reg**
- **Propagation**
- **Aerials**



*WorldRadio Online is only available online, in PDF format. You can view or download the issue and sign up for our e-mail alerts at: <[www.cq-amateur-radio.com](http://www.cq-amateur-radio.com)>*

### WorldRadio Online

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## Select Florida Frequencies

### Common VHF Frequencies

Frequency	Description
154.92	Air-to-Car/Emergency
154.695	Dispatch
154.68	Dispatch
155.49	Florida Highway Patrol
154.655	Florida Highway Patrol
154.905	Mobile 1
154.935	Mobile 2
155.37	Statewide Net

### Dispatch

Frequency	Description
154.68	Dispatch - Putnam (on 800 MHz now?)
154.815	Dispatch - Lake City (on 800 MHz now?)

### De Soto County

Frequency	Description
154.68	Highway Patrol
154.695	Highway Patrol
154.92	Highway Patrol

### Leon County

Frequency	Description
45.06	Intersystem
154.665	Repeater
154.92	Car-to-Car/Car-to-Air
465.1625	Mobile Repeater

### St. Johns County

Frequency	Tone	Description
154.695	123.0 PL	FHP Car (Bunnell)

### Statewide Law Enforcement Trunked system

#### Statewide Law Enforcement Radio System

System Type: EDACS Networked Standard w/ESK  
 System Voice: ProVoice and Analog

The new state system is DES ProVoice with ESK and Extended Addressing. Plain EDACS can uniquely identify at most 16382 radios and just over 2000 talkgroups. Extended addressing provides unique IDs for over 65000 talkgroups and half a million radios. Although the control channel format is recognized by newer scanner models, most talkgroups are reported to use full-time encryption. The infrastructure is completely IP based from console to base station.

The system reports an ID (most EDACS only use a 0 or a 1) of 32491. In FL it appears that this is the only ID reported by SLERS sites.

All sites with the suffix "AIR" are for Aircraft Use.

#### System Frequencies

Red (c) are primary control channels | Blue (a) are alternate control channels | Site Map(s): FCC Callsigns RR Locations

Site	Name	01	02	03	04	05	06
11	St. Johns County	01 854.03750	02 854.06250c	03 854.18750	04 854.22500	05 854.27500	06 856.56250
		07 856.58750					
22	Unid	01 853.92500	02 853.95000	03 854.07500c	04 854.10000		
29	Orlando	01 N/A	02 N/A	03 866.96250c			
35	Unid	01 854.22500c					
46	Unid	01 853.83750c					
48	Unid	01 866.45000c					
63	Franklin	01 860.93750	02 859.93750	03 858.93750c	04 857.93750a	05 857.23750	06 856.93750
		07 856.43750					
101	Levy	01 853.85000	02 854.06250	03 854.18750	04 857.26250		
108	Tampa	01 N/A	02 853.96250	03 854.08750	04 854.11250	05 867.45000c	06 867.95000a
		07 N/A					
109	Pinellas	01 867.95000	02 868.45000	03 853.93750	04 853.96250	05 854.08750	06 854.11250
110	Sumter/Hernando	01 866.48750	02 866.98750	03 868.47500	04 853.86250	05 853.88750	
114	Orange	01 854.25000	02 854.30000				
118	Lakecity	01 853.83750					
121	Shlsboro	01 N/A	02 N/A	03 867.47500c	04 867.97500a		
122	Cocoa	01 853.98750c					
126	Okeechobee	01 855.96250c					
139	Scottsmoor	01 N/A	02 853.88750c				
145	Naples	01 853.83750c	02 853.97500	03 854.12500	04 N/A	06 854.07500	
149	Palmetto	01 853.83750	02 866.47500	03 866.97500	04 868.48750	05 868.98750	

150	Fruitville	01 N/A 07 856.53750	02 N/A 08 856.58750	03 867.93750c	04 868.43750a	05 868.46250a	06 N/A
151	Venice	01 853.88750 07 867.48750	02 854.05000	03 N/A	04 854.01250	05 N/A	06 866.95000
152	Hudson	01 N/A	02 853.00000c	03 868.97500a			
153	Citrus	01 866.45000c					
154	Hardee	01 854.31250	02 854.02500	03 868.47500	04 868.97500		
155	Lakeland	01 854.01250c	02 854.03750a	03 N/A	04 854.16250a		
157	Dundee	01 N/A	02 854.18750c				
158	Fort Meade	01 857.97500 07 858.47500c	02 853.95000	03 N/A	04 N/A	05 856.45000	06 856.47500
160	De Soto	01 853.97500c	02 854.12500a	03 855.48750	04 867.43750		
161	Bonitasp	01 854.00000c	02 854.16250a	03 854.98750	04 868.48750	05 868.98750	
164	Labelle	01 858.48750	02 868.43750c	03 868.46250	04 868.93750		
210	Ft Myers	01 853.90000c	02 854.06250a	03 866.43750	04 866.93750	05 867.93750	
214	Marco Is	01 853.87500c					
215	Englewood	01 N/A	02 856.95000c	03 857.95000a	04 858.95000a	05 859.95000a	06 867.95000
217	Frostproof	01 N/A	02 N/A	03 868.95000c			
218	Glades	01 853.75000c	02 854.17500a	03 866.96250	04 867.96250		
225	Venicair	01 854.22500c	02 854.25000a	03 854.28750a			
233	Pinellas	01 853.87500c 07 854.06250	02 854.15000a	03 854.17500a	04 854.02500	05 866.45000	06 853.90000a
401	Duval - 1	01 854.20000 07 854.17500	02 853.87500c	03 853.90000c	04 854.02500	05 854.05000	06 854.15000
402	Duval - Simulcast	01 853.83750c 07 868.98750	02 854.00000c	03 866.48750	04 866.98750	05 867.46250	06 867.96250
931	Pinellas	01 853.93750 07 868.45000	02 853.96250	03 854.08750	04 854.11250	05 867.45000	06 867.95000
932	Pinellas	01 853.93750	02 853.96250	03 854.08750	04 867.45000	05 867.95000	06 868.45000
938	Pasco	01 853.91250	02 853.98750	03 854.05000	04 866.95000	05 868.97500	
942	Polk	01 854.01250	02 854.03750	03 854.13750	04 854.16250	05 866.43750	06 868.96250
943	Polk	01 853.85000	02 855.98750	03 866.47500	04 866.97500		
944	Polk	01 856.45000	02 857.47500	03 857.97500	04 858.47500		
945	Polk	01 853.87500	02 854.18750c	03 N/A	04 853.90000c	05 866.95000c	

### System Talkgroups

#### Florida Highway Partol Talkgroups

DEC	Description
289	Brooksville Patrol 1
577	Tampa Patrol 1
578	Tampa Patrol 2
609	Lakeland Patrol-1
610	Lakeland Patrol-2

#### FWC Talkgroups

DEC	Alpha Tag	Description	Tag
290	W1 LKLD	Fish & Wildlife Lakeland	Federal

#### Radio Shop Talkgroups

DEC	Alpha Tag	Description	Tag
75	MA/COM1	MA/COM1	Other
76	MA/COM2	MA/COM2	Other
77	MA/COM3	MA/COM3	Other

#### Miami-Dade County

At the south end of Florida, Miami Dade is a unique challenge for law enforcement. Surrounded by water, and the closed point to drug traffic coming from the Caribbean, as well as immigration (legal and otherwise) Dade County has their hands full.

Dade County actually has 3 separate systems in use for countywide communications, plus a fourth system for special operations and events. These include a 6 site 20 channel simulcast EDACS system for all public safety operations and a 6 site 20 channel simulcast EDACS system for all county services. The emergency system is a 5 channel EDACS mounted in a trailer for deployment as needed. All Dade County public safety operations except the fire department use one of these systems.

Site	Name					
<b>System 1</b>	<b>LG and Fire</b>	01 866.11250	02 866.36250	03 866.61250	04 866.86250	05 867.13750
		06 867.38750	07 867.66250	08 867.91250	09 868.26250	10 868.51250
		11 866.13750	12 866.38750	13 866.63750	14 866.88750	15 867.28750
		16 867.53750	17 868.11250	18 868.36250	19 868.61250	20 868.86250
<b>System 2</b>	<b>Public Safety</b>	01 866.03750	02 866.28750	03 866.76250	04 867.06250	05 867.41250
		06 867.78750	07 868.13750	08 868.38750	09 868.63750	10 868.88750
		11 866.06250	12 866.31250	13 866.56250	14 866.81250	15 867.11250
		16 867.36250	17 867.56250	18 867.81250	19 868.16250	20 868.41250
<b>System 3</b>	<b>Remote Everglades</b>	01 866.73750	02 867.23750	03 867.68750	04 868.23750	05 868.73750
<b>System 4</b>	<b>Remote Trailer</b>	01 866.13750	02 866.38750	03 866.63750	04 866.06250	05 866.31250

<b>System Talkgroups</b>		300	Special Operations 1	359	Staff
<b>Countywide Talkgroups</b>		301	Special Operations 2	360	EMS Captains
<b>ID</b>	<b>Description</b>	304	Training	368	HOSPITAL NET
1585	Countywide 1B	305	Training 1	369	HOSPITAL NET
1586	Countywide 2B	306	Training 2	370	HOSPITAL NET
1587	Countywide 3B	307	Training 3	371	HOSPITAL NET
1588	Countywide 4B	308	Training 4	372	HOSPITAL NET
1589	Countywide 5B	309	Training 5	373	HOSPITAL NET
1590	Countywide 6B	310	Training 6	374	HOSPITAL NET
1591	Countywide 7B	320	Administration	375	HOSPITAL NET
<b>Fire Talkgroups</b>		321	Executive Staff	376	HOSPITAL NET
<b>ID</b>	<b>Description</b>	322	Division Chief 3	377	HOSPITAL NET
256	All Call	323	EMS Staff	378	HOSPITAL NET
272	Dispatch	324	Batallion Chiefs	379	HOSPITAL NET
273	Dispatch North (Future)	325	Public Information Officer	380	HOSPITAL NET
274	Dispatch Central (Future)	326	Staff	381	HOSPITAL NET
275	Dispatch South (Future)	336	Fire Prevention	382	HOSPITAL NET
276	Dispatch Airport (Future)	337	Inspections? 1	384	HOSPITAL NET
288	Tactical	338	Inspections? 2	385	HOSPITAL NET
289	Tactical 1	339	Investigations? 1	386	HOSPITAL NET
290	Tactical 2	340	Investigations? 2	387	HOSPITAL NET
291	Tactical 3	341	Staff	388	HOSPITAL NET
292	Tactical 4	342	Staff	389	HOSPITAL NET
293	Tactical 5	343	Special Events 1	390	HOSPITAL NET
294	Tactical 6	344	Special Events 2	391	HOSPITAL NET
295	Tactical 7	345	Special Events 3	392	HOSPITAL NET
296	Tactical 8	352	MED COM LINK 800 to 400	393	HOSPITAL NET
297	Tactical 9	353	MED COM LINK 800 to 400	394	HOSPITAL NET
298	Tactical 10	354	MED COM LINK 800 to 400	395	HOSPITAL NET
299	Tactical 11	355	MED COM LINK 800 to 400	396	HOSPITAL NET
		356	MED COM LINK 800 to 400	397	HOSPITAL NET
		357	MED COM LINK 800 to 400	398	HOSPITAL NET
		358	Staff	399	HOSPITAL NET

<b>Police Talkgroups</b>		535	PD Dispatch - Kendal Municipal (34xx Units )
<b>ID</b>	<b>Description</b>	536	PD DISPATCH - HAMMOCKS
512	All Call	537	PD DISPATCH - CAROL CITY
529	PD Dispatch - Miami Lakes & Opa-Locka	538	PD DISPATCH - HEADQUARTERS
530	PD DISPATCH - NORTHSIDE	539	PD DISPATCH - INFO NORTH
531	PD DISPATCH - DORAL	540	PD DISPATCH - INFO SOUTH
532	PD DISPATCH - CUTLER RIDGE	545	PD TACTICAL - MIAMI LAKES
533	PD DISPATCH - KENDALL	546	PD TACTICAL - NORTHSIDE
534	PD DISPATCH - INTRACOASTAL	547	PD TACTICAL - DORAL
		548	PD TACTICAL - CUTLER RIDGE



549 PD TACTICAL - KENDALL  
550 PD TACTICAL - INTRACOASTAL  
551 PD TACTICAL - MUNICIPAL  
552 PD TACTICAL - HAMMOCKS  
553 PD TACTICAL - CAROL CTY  
554 PD TACTICAL - AIRPORT  
555 PD HQ - CANINE  
561 PD CAR - MIAMI LAKES  
562 PD CAR - NORTHSIDE  
563 PD CAR - DORAL  
564 PD CAR - CUTLER RIDGE  
565 PD CAR - KENDALL  
566 PD CAR - INTRACOASTAL  
567 PD Dispatch - Key Biscayne  
568 PD Dispatch - North Bay Village  
569 PD Dispatch - Bal Harbour, Bay Harbor, Golden Beach, Sunny Isles, Surfside  
570 PD Dispatch - Florida City, W Miami, N Miami  
571 PD CAR - HAMMOCKS  
572 PD CAR - CAROL CITY  
573 PD CAR - AIRPORT  
574 PD CAR - COUNTYWIDE  
577 PD HQ - HEADQUARTERS TAC  
578 PD HQ - HEADQUARTERS CAR  
579 PD HQ - SRT 1  
580 PD HQ - SRT 2  
581 PD HQ - NARC 1  
582 PD HQ - NARC 2  
583 PD HQ - TNT 1  
584 PD HQ - TASK FORCE 1  
585 PD HQ - TASK FORCE 2  
586 PD HQ - TASK FORCE 3  
587 PD HQ - CIB 1  
588 PD HQ - CIB 2  
589 PD HQ - COURT SERVICES BUREAU  
590 PD HQ - COURT SERVICES BUREAU  
593 PD HQ - PCB 1  
594 PD HQ - PCB 2  
597 PD HQ - AUTO 1  
598 PD HQ - AUTO 2  
599 PD HQ - SRT CAR 1  
609 PD MISC - TRAINING 1  
610 PD MISC - TRAINING 2  
625 PD HQ - SPECIAL EVENTS 1  
626 PD HQ - SPECIAL EVENTS 2  
627 PD HQ - SPECIAL EVENTS 3  
628 PD HQ - SPECIAL EVENTS 4  
641 PD TACTICAL - COUNTYWIDE TAC 1  
642 PD TACTICAL - COUNTYWIDE TAC 2  
643 PD TACTICAL - COUNTYWIDE TAC 3  
644 PD TACTICAL - COUNTYWIDE TAC 4  
645 PD TACTICAL - COUNTYWIDE TAC 5  
649 Tactical 11  
650 Pd Dispatch - Virginia Gardens, Hialeah Gardens,  
657 PD MISC - MAINTENCE  
668 PD Dispatch - Miami Gardens  
705 PD MISC - PUBLIC SAFETY 1  
706 PD MISC - PUBLIC SAFETY 2  
707 PD MISC - PUBLIC SAFETY 3  
737 School Police

### Miami Gardens Talkgroups

ID	Description
668	Police Dispatch
669	Car to Car/ Info
670	Tactical (Dual-mode A/D)

### Information Technology Talkgroups

ID	Description
1609	ITD 1 - CONTROL POINT 1
1610	ITD 1 - CONTROL POINT 2
1611	ITD 1 - RADIO ENGINEERING
1612	ITD 1 - RADIO SHOP
1613	ITD 1 - DEPOT
1614	ITD 1 - TEL ENG1
1615	ITD-COM1
1672	ITD2
1673	ITD-OPS
1674	ITDCOM2
1736	ERICSSON
1737	GE-TEST
1738	SVC CTR
1739	ERIC-COM
1740	GE-TEST 2
1741	GE-TEST 3
1742	CALLING

### Seaport Department Talkgroups

ID	Description
1640	Seaport 1
1641	Seaport Engineering
1642	Seaport Cargo
1643	Seaport Cruise Ops
1644	Seaport Facilities
1645	Seaport Housekeeping
1646	Seaport Management
1647	Seaport Comm-1
1649	Seaport Security Supervisor
1650	Seaport Security-1
1651	Seaport Security-2
1652	Seaport Comm-2

# A Welcome Burst Of Solar Activity

by Tomas Hood,  
NW7US, nw7us@arrl.net

August 2009 was a dismal month, in terms of solar activity. For the entire month, not one sunspot was observed. This places August as the month with the lowest sunspot activity between Sunspot Cycles 23 and 24. This fact will move the statistical solar minimum later than December of 2008. However, this does not mean that Cycle 24 has not started; because the majority of sunspots observed during 2009 are oriented with a magnetic polarity consistent with the new solar cycle, there is no doubt about Solar Cycle 24's existence.

During September 2009, while most days were spotless, two significant sunspot regions developed and lasted for days (Figures 1, 2, 3). One of the regions even produced a moderate solar flare on September 25. All this activity started on September 21 as the first sunspot region rotated into view. The next day a second region appeared. Both sunspots grew larger, causing the 10.7-cm flux to peak at 76 on September 23. This resulted in very good propagation on the middle high

*“The autumn DX season is in full swing! Listeners throughout the Northern Hemisphere are actively chasing mediumwave DX of AM broadcast stations from all over North, Central, and South America, and from Europe and Asia.”*

frequencies and also caused some paths to open on higher shortwave bands. With such strong activity lasting through the end of September, DXers enjoyed significant improvement in shortwave propagation.

Will we see this kind of solar activity more often now? With what science currently knows, we cannot predict reliably, but we certainly hope that this is a positive trend. “Tune in” to this column each month as the drama unfolds!

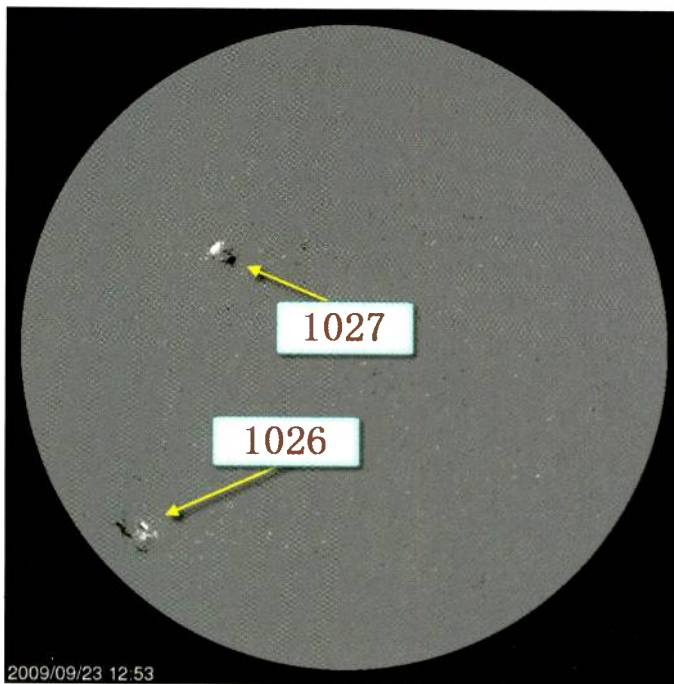


Figure 1. The magnetogram of the sun using the Michelson Doppler Imager (MDI) on September 23, 2009, showing two sunspot regions. These active regions resulted in a rise in 10.7-cm flux readings as high as 76 during the end of September. DXers enjoyed the improvement on shortwave propagation. (Source: SOHO, the Solar & Heliospheric Observatory)

## HF Propagation

The autumn DX season is in full swing! Listeners throughout the Northern Hemisphere are actively chasing mediumwave DX of AM broadcast stations from all over North, Central, and South America, and from Europe and Asia. This is the season when it's easier to catch such difficult signals, because it's during this season when conditions are most favorable to propagation of this spectrum of the radio frequencies. 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.

December 21 marks the start of winter, with the sun sitting at its yearly southern-most point in the sky at 1747 UTC. This is the Winter Solstice, the day with the shortest daylight period of the year for observers situated north of the equator.

Long hours of darkness make for a less-energized ionosphere. Since the D layer of the ionosphere is less ionized during the winter, mediumwave and the lower shortwave frequencies are generally less absorbed by the D layer than during the summer season. Because of this, mediumwave frequencies are propagated by the E and F layers better during the winter than during the summer. Additionally, the seasonal decrease in weather-related noise makes it easier to hear the weaker DX signals on the lower frequencies. With thunder-

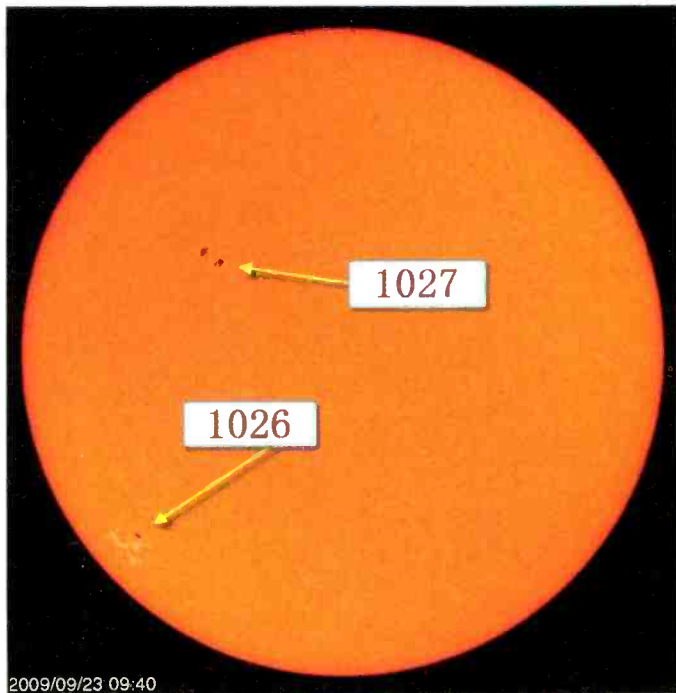


Figure 2. The "intensitygram" of the sun using the Michelson Doppler Imager (MDI) on September 23, 2009, showing the two active sunspot regions, 1026 and 1027. These active regions gave life to the high frequencies by energizing the ionosphere during the end of September. (Source: SOHO, the Solar & Heliospheric Observatory)

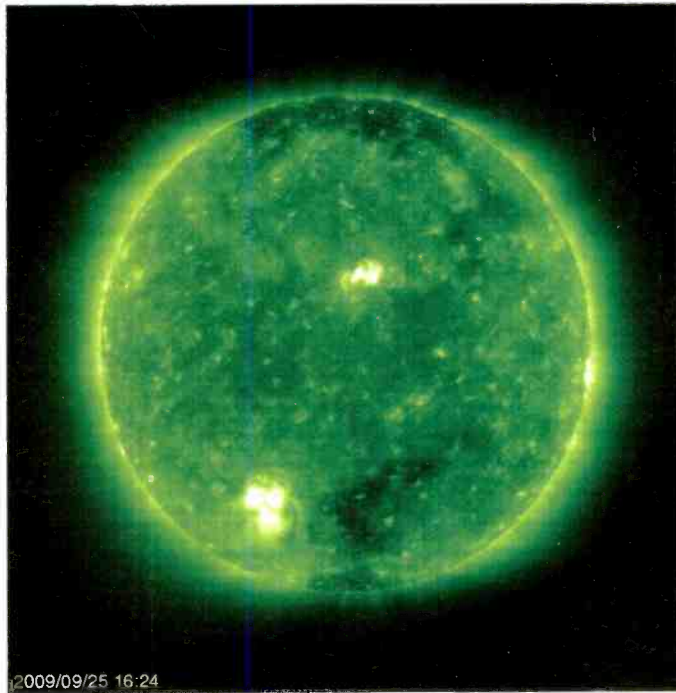


Figure 3. The Extreme ultraviolet Imaging Telescope view at 195 angstrom of the two sunspot groups (1026 and 1027) on September 25, 2009. Notice the magnetic field lines carrying solar plasma. (Source: SOHO, the Solar & Heliospheric Observatory)

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Optimum Working Frequencies (MHz) - For December 2009 - Flux = 70, Created by NW7US

UTC TO/FROM US WEST COAST	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CARIBBEAN	17	13	11	10	10	9	9	9	9	9	8	8	8	8	13	16	18	19	19	20	20	20	19	18
NORTHERN SOUTH AMERICA	24	22	17	14	13	13	12	12	12	11	11	11	11	11	15	21	24	25	26	27	27	27	26	25
CENTRAL SOUTH AMERICA	23	21	15	14	13	13	12	12	12	12	11	11	11	11	16	22	24	25	26	27	27	27	26	25
SOUTHERN SOUTH AMERICA	25	23	20	15	14	13	13	12	12	12	12	11	11	11	11	20	24	25	26	26	27	27	27	27
WESTERN EUROPE	8	8	8	8	8	8	7	7	7	7	8	8	8	8	8	10	10	10	9	8	8	8	8	
EASTERN EUROPE	8	8	8	8	8	8	8	8	7	7	8	8	8	7	7	9	9	9	9	8	8	8	8	
EASTERN NORTH AMERICA	18	15	12	11	11	11	10	10	10	10	10	9	9	9	13	17	19	20	21	21	21	21	20	
CENTRAL NORTH AMERICA	11	10	8	6	6	6	6	6	5	5	5	5	5	5	5	8	10	11	11	12	12	12	11	
WESTERN NORTH AMERICA	6	5	5	3	3	3	3	3	2	2	2	2	2	2	2	4	5	6	6	6	6	6	6	
SOUTHERN NORTH AMERICA	18	17	14	11	10	10	10	9	9	9	9	9	9	8	8	15	17	19	20	20	20	20	19	
HAWAII	17	17	16	15	13	10	9	9	8	8	8	8	8	7	7	7	7	12	15	16	17	17	18	
NORTHERN AFRICA	8	8	8	8	8	8	8	8	8	8	8	8	8	8	11	13	14	14	11	10	9	9	9	
CENTRAL AFRICA	10	9	9	8	8	8	8	8	8	8	8	8	8	8	10	12	13	13	12	12	11	11	10	
SOUTH AFRICA	16	12	11	11	10	10	10	9	9	9	9	9	9	9	13	16	18	19	19	20	19	19	18	
MIDDLE EAST	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	10	10	9	9	9	8	8	8	
JAPAN	16	15	15	14	12	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	11	14	15
CENTRAL ASIA	16	15	15	14	12	9	9	9	8	8	8	8	8	8	8	8	8	10	10	9	9	10	16	
INDIA	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
THAILAND	15	15	14	13	10	9	9	8	8	8	8	8	8	8	8	8	8	10	10	10	10	9	9	
AUSTRALIA	24	25	25	23	20	15	14	13	13	12	12	12	11	11	11	11	15	14	14	16	18	20	22	
CHINA	13	14	13	12	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
SOUTH PACIFIC	26	26	25	23	19	15	14	13	13	12	12	12	12	11	11	13	15	16	19	21	22	23	25	

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

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

storms 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. We are also in the very bottom of the current solar cycle, and that means very few flares occur, and therefore, very few if any shortwave fadeouts. This results in more stable and reliable propagation on the shortwave spectrum, especially on the lower frequencies.

December is well enough past the autumnal equinox and the associated peak auroral activity to support transpolar propagation. With this overall reduction of geomagnetic activity and the decrease of radio signal absorption comes more stable high-latitude propagation. Mediumwave DXers enjoy catching broadcast station transmissions from over the North Pole. Shortwave DXing over high-latitude paths becomes exciting, even if the higher frequency bands might be dead.

Fairly good DX openings are expected on 19 and 16 meters, remaining open towards 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 towards the south and west from early evening until about midnight.

The best bands 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) likely possible for an hour or two 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 short-skip openings 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 distances 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 towards the south, the Far East, Australasia, and the South Pacific from the western half of the country. Ninety meters should peak towards Europe and in a generally easterly direction around midnight, and then open in a generally western direction with a peak just after sunrise. The band should remain open towards the south throughout most of the night.

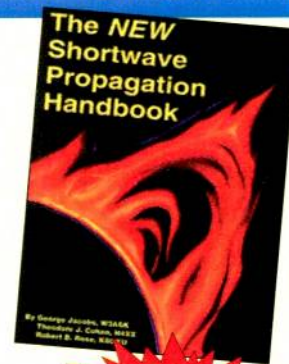
## Mediumwave DX Season

This is also the time of year when we experience an improvement in radio wave propagation below 500 kHz and the mediumwave broadcast band. The mediumwave broadcast band is refers to the frequencies between 530 kHz and 1750 kHz. The Low-Frequency (LF) range is the band of frequencies between 30 kHz and 300 kHz. Very Long Frequencies (VLF) are those ranging between 3 kHz and 30 kHz, though the practical lower edge of the VLF band starts at 10 kHz. Medium Frequencies (MF) range from 300 kHz to 3000 kHz. Radio waves in the Low and Very Low Frequency (LF and VLF) spectrum propagate differently than those of MF and above.

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Between 300 kHz and 520 kHz, the lowest part of the MF range and just below the mediumwave broadcast band, the characteristics of propagation comprise a mix between those of the lower HF spectrum and those of LF. The VLF and LF bands are usually referred to as the longwave (one word) bands. The VLF band goes from 10 to 30 kHz, and the LF from 30 to 300 kHz. During the winter season, mediumwave transmissions can be heard over much greater distances than during the summer season.

When is the best time to look for mediumwave DX? The general rule is to start in the early evening and continue through the night and into the early daylight hours. As sunset approaches, the ionosphere starts to change. The *D* layer recombines and signals begin to punch through to the *E* and *F* layers, 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. Thus, 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, they have significant night power and no deep null antenna pattern aimed at you) is a potential sunrise target. *D*-layer absorption increases rapidly when in direct sunlight, and east of you begins to ionize, while west of you is still dark and free of *D*-layer ionization. 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 underneath.

On rare and exciting occasions, this period will last long enough for some western stations to go to their higher power and daytime pattern. Here, as with sunset, the time of month can also be critical, as the more darkness on the path, the better. As sunrise times get later in the fall, the end of the month is preferable. In the spring, the beginning of the month is better. The longest hours of darkness fall toward the end of December, on the 21st.

However, 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.

## 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 the ionized trail much like they would off of the ionosphere. The annual Geminids meteor shower, which will appear from December 7 to December 17, will peak on December 14. The maximum hourly rate may reach 120 this year.

The Geminids is a great shower for those trying the meteor-scatter mode of propagation, since one doesn't have to wait until after midnight to catch this shower. 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 a meteor trail. For a complete list of meteor showers in December, point your Web browser to the International Meteor Organization's calendar at [www.imo.net/calendar/2009](http://www.imo.net/calendar/2009).

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 transequatorial 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 and 11 p.m. local time.

## Current Solar Cycle 24 Progress

The Dominion Radio Astrophysical Observatory at Penticton, BC, Canada, reports a 10.7-cm observed monthly mean solar flux of 67.3 for August 2009. The 12-month smoothed 10.7-cm flux centered on February 2009 is 68.9. The predicted smoothed 10.7-cm solar flux for December 2009 is 70, give or take about 5 points.

The Royal Observatory of Belgium reports that the monthly mean observed sunspot number for August 2009 is 0.0. This now has become the lowest point during the current solar cycle minimum between sunspot cycles 23 and 24. The lowest daily sunspot value recorded was zero (0), during the entire month of August. The 12-month running smoothed sunspot number centered on February 2009 is 1.9. A smoothed sunspot count of 6, give or take about 5 points, is expected for December 2009.

The observed monthly mean planetary A-Index ( $A_p$ ) for August 2009 is 6. The 12-month smoothed  $A_p$  index centered on February 2009 is 4.7. Expect the overall geomagnetic activity to be varying greatly between quiet to disturbed during December due mostly to recurring coronal holes.

## I'd Like To Hear From You

Would you like to hear a weekly podcast about space weather and radio propagation? Check out <http://podcast.hfradio.org> for the "NW7US Space Weather and Radio Propagation Podcast," which I produce. Additionally, if you're on Facebook, check out the Radio Propagation and Space Weather Group at <http://tinyurl.com/fb-spacewx>. As usual, I also invite you to visit my online propagation resource at <http://propagation.hfradio.org/>, where you can get the latest space data, forecasts, and more, all in an organized manner. If you have a cell phone with Internet capabilities, try <http://wap.hfradio.org/>.

Do you have a question that you'd like me to tackle in this column? Drop me an email or send me a letter, and I'll be sure to cover it. I'd love to hear any feedback you might have on what I have written.

Until next month, 73 de NW7US

## Holiday Wish List

by Bruce A. Conti  
BAConti@aol.com

*It's wish list time again at "Broadcast Technology"—and this year there's plenty to wish for.*

It's shopping season once again for hobbyists, and in case you're lacking for inspiration "Broadcast Technology" has some suggestions to fit every budget. You might want to check out the pocket radios that are making a comeback of sorts, thanks to the minimalist ultralight DX movement...or the HD receivers that represent the latest technology for FM broadcast DXing or any FM listener within range of HD digital radio signals...or the computer-controlled software-defined radios setting new standards for hardcore AM broadcast DXing...or broadcasting as documented in books and photos. If so, read on: selections in all those categories are included here in our annual holiday wish list—and this year there's plenty to wish for.

### CCRadio-SWPocket

The CCRadio-SWPocket (or SWP) AM/SW/FM radio is top rated among the handheld analog receivers in use today by ultralight AM broadcast DXers. AM broadcast band tuning is continuous from 520 to 1710 kHz, while shortwave is divided into two bands: 2300 to 7500 kHz and 9200 to 22000 kHz. Additional features include FM stereo through the headphone jack, alarm clock, and memory for 200 presets. The SWP is powered by two AA batteries or an optional external AC adapter. The SWP is the ultralight radio by which all others are inevitably compared. It lists for \$49.95 from C.Crane ([www.ccrane.com](http://www.ccrane.com)). Visit [www.dxe.ca](http://www.dxe.ca) online to see how ultralight DXers have hopped-up the SWP with an external "slider" ferrite loopstick antenna.

### Grundig G8

The Grundig G8 LW/MW/SW/FM pocket radio, or Chinese equivalent Tecsun PL-300WT, is simply amazing for its size. It's the first of its kind to implement true DSP technology, providing exceptional AM selectivity with the ability to separate DX signals from strong adjacent interference. The FM performance is also said to be unprecedented for a pocket-sized radio, but longwave reception is marginal as would be expected with a small internal antenna. Surprisingly the

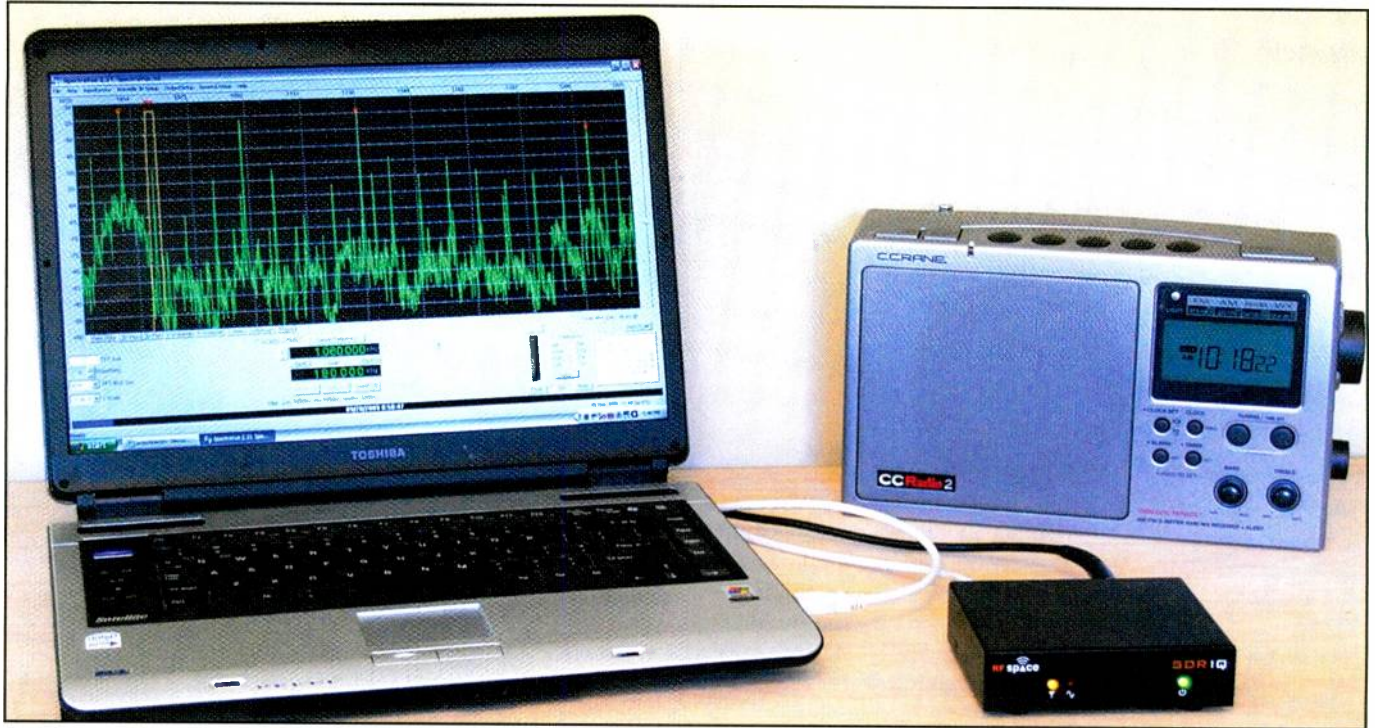


The DSP-enhanced Grundig G8 ultralight radio ([www.etoncorp.com](http://www.etoncorp.com)).

shortwave performance is also reported to be subpar, limited to 12 non-continuous bands. Regardless, the G8 will impress novice and expert broadcast DXers with its DSP enhancement. Additional features include selectable 9- or 10-kHz step tuning, 24-hour clock, and enough memory for storage of up to 100 longwave, 100 mediumwave, 200 shortwave, and 100 FM preset frequencies. The G8 is powered by three AA-cell batteries or an external AC adapter, not included. It sells for \$49.95 from Universal Radio ([www.universal-radio.com](http://www.universal-radio.com)).

### CCRadio-2

The new CCRadio-2 is the latest in the line of CCRadio full-size portables. This retro-styled lunchbox-sized radio features improved AM reception with an internal eight-inch Twin-Coil Ferrite loopstick, plus FM, NOAA radio with weather alert, and 2-meter amateur radio reception, which replaced the VHF analog TV band in previous models. Five preset pushbuttons are conveniently located on top for quick access to favorite stations, just like on a car radio. A multi-function alarm clock can be set to wake you up in the morning or it can act as a timer to record programs to an external mp3 or audio recording device. A stereo line input makes the CCRadio-



The RFSpace SDR IQ powered by a laptop and paired with the CCRadio-2 as an external speaker.

2 a good portable amplified external speaker for a laptop or mp3 player, too. The CCRadio-2 is powered directly by 120 VAC or four D-cell batteries. It lists for \$159.95 from C.Crane. Only one question remains: Will there ever be a DTV audio radio?

## AM/FM HD Tuners

FM HD digital is hot, but AM is not! An AM HD digital signal requires a carrier-to-noise ratio of at least 60 dB to be reliable—a spec that’s nearly impossible to meet for nighttime reception over any appreciable distance due to skywave interference. RF noise generated by a variety of home electronics, including computers and digital televisions, can make AM HD reception a challenge during the day as well. To overcome these limitations many AM radio broadcasts are now available on FM sister station HD channels. Most FM HD stations are multicasting, broadcasting separate programming on multiple channels via one digital signal. For example, your favorite analog FM rock music station may provide the same program on its primary FM HD digital channel while also broadcasting classic rock on a second channel and simulcasting a sister AM news/talk radio program on a third channel. To hear it all you’ll need an HD receiver.

The Sony component system AM/FM HD digital radio tuner model XDRF-HD1 is a favorite among FM broadcast DXers. It’s the first HD receiver to break below the \$200 price point without sacrificing performance, and the HD1’s rivals that of vintage analog FM DX receivers like the Kenwood KT-6040, Onkyo T-9090, and Yamaha T-85. It lists for \$99.95 from C.Crane. External amplifier and speakers are required, and an outdoor FM antenna is recommended to receive the most HD signals reliably.

The Sangean AM/FM HD digital radio tuner model HDT-1X is a studio monitor-quality component system receiver. The HDT-1X has many advanced features, including S/PDIF optical digital output and a split analog/digital reception mode for



Sangean HDT-1X display of KRSW Minnesota RDS info during FM DX reception in New Hampshire.

radio station monitor applications. HD/RDS data, artist/song title in large font, an audio spectrum bar graph, and a digital clock can be selected on a bright multi-function display. Analog/mono-only modes to prevent mode switching of a weak signal are great for long-distance FM reception. The HDT-1X comes with an IR remote control. Like the Sony, the HDT-1X’s performance rivals the classics. It sells for \$249.99 from Universal Radio. External amplifier and speakers required, and like the Sony an outdoor FM antenna is recommended.

## RFSpace SDR IQ

The RFSpace SDR IQ is the “entry level” software-defined radio (SDR). The IQ delivers performance rivaling thousand-dollar desktop general coverage communications receivers. High-resolution 500-Hz to 30-MHz continuous coverage in all standard modes, infinitely adjustable brick-wall bandwidth filtering, spectrum analyzer display using SpectraVue software, and 190 kHz wide RF recording capability give the IQ the advantage over old-fashioned conventional analog receivers. The IQ is a compact black box, the largest dimension measuring less



than five inches, and is powered solely by USB, no batteries or other external power supply required, making it very portable with a laptop computer and external antenna. Though SDR technology isn't for everyone because operation is by computer interface, once you get beyond the initial shock of keyboard and mouse-click control without any knobs you'll wonder how you could've ever survived DXing without it. It sells for \$499.95 from Universal Radio. A minimum Windows 2000 PC with a USB interface is required.

### Microtelecom Perseus SDR

The Microtelecom Perseus is the ultimate black-box SDR, designed by DXers for DXers. Most impressive is the 1600-kHz-wide recording capability that allows for the capture of every AM broadcast signal across the band simultaneously, each of which can later be tuned in from a saved computer file using spectrum analyzer software, just like live DXing. The Perseus user interface is better designed for DX applications than that of the RFSpace SDR IQ. For example, the Perseus IF bandwidth filter can be adjusted directly on the spectrum analyzer screen by mouse pointer. The IQ requires opening a separate window to adjust bandwidth, and then the window must be closed to return to normal operations on the main spectrum analyzer screen. However, the Perseus requires an included separate external power supply, making it less portable than the USB-powered IQ. Nevertheless Perseus sets a new standard for performance by which all others will be compared. It sells for \$1,199.95 from Universal Radio. System requirements: Minimum 2-GHz Pentium IV with 512 MB RAM, or preferably 2.5-GHz Dual Core CPU with 512 MB RAM, with minimum Windows 2000 OS, 16-bit AC-97 audio, USB 2.0 high-speed port, and 10-GB internal hard drive.

### Baseball Broadcasting

"Someone should write a book on the history of baseball radio broadcasting, maybe into the early TV era," wrote Chuck Sexton in response to the July 2009 "Broadcast Technology" story about baseball on AM radio.

While a perfect match couldn't be found in the Amazon.com database, a number of related titles are available. *Voices of Summer: Ranking Baseball's 101 All-Time Best Announcers* by Curt Smith (Carroll & Graf, 2005) seems most

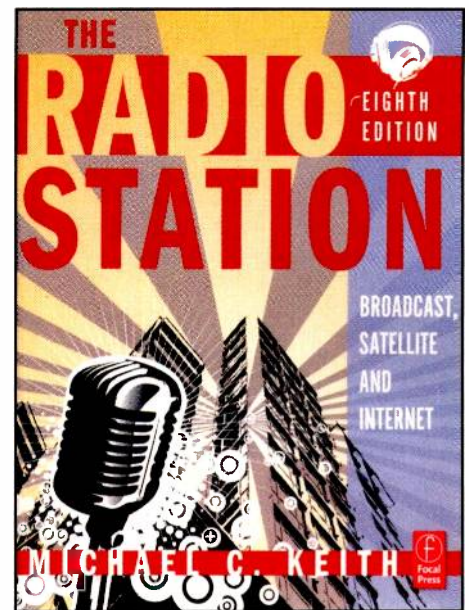
intriguing, a one-of-a-kind comparison of baseball broadcasters based upon the author's own extensive research. From the early days of radio to the network announcers of today, *Voices of Summer* attempts to pack it all into a single paperback reference. The book is truly unique because nothing else like it has ever been published. It's sure to please any fan of baseball and radio, at least until someone takes on the challenge of writing the concise history of baseball radio broadcasting. It sells for \$35.00 from Amazon.com.

### The Radio Station Book

*The Radio Station, Eighth Edition: Broadcast, Satellite, and Internet* by Michael C. Keith (Focal Press, 2009) is the most comprehensive overview of radio station operations available. The current state of radio, station management, programming, sales, production, ratings, engineering, and syndication are all covered. New to this edition are expanded discussions about digital platforms including satellite and Internet radio, the impact of station clustering, new and evolving formats, portable people meter ratings research, and digital studio tools. Supplementing the book is a companion website accessed by a unique code found on the inside back cover. Broadcast enthusiasts, journalism students, and professionals alike will appreciate this synopsis of radio in all its modern-day forms. It sells for \$47.75 from Amazon.com.

### NRC AM Radio Log

The venerable *NRC AM Radio Log* carries on the tradition of classics like *Radex Magazine*, the Newark News Radio Club log, and *White's Radio Log*. Published annually by the National Radio Club (NRC), the *Log* contains all the



*The Radio Station* by Michael C. Keith is a comprehensive overview of radio broadcast operations.

information a DXer might need for help in identifying long-distance reception of AM stations located in the U.S. and Canada. Station listings are sorted by frequency, and include day/night power, format, network affiliations, slogans, simulcasting AM/FM stations, hours of operation, address, and phone number. Known QSL addresses provided by DXers are listed, which in many cases differ from the FCC online database. Listings are cross referenced by city and callsign. National networks and the shows they carry, regional station groups, and HD digital broadcasters are broken down in separate lists as well. The wealth of information packed into the *Log* cannot be found in any other single source. It sells for \$23.90 from Universal Radio. The NRC has been serving AM broadcast

### This Month In Broadcast History

**75 Years Ago (1934)**—Radio station KYW completed relocation from Chicago to Philadelphia on 1020 kHz and joined the NBC Red Network. *Let's Dance* with the Benny Goodman Orchestra premiered on NBC radio.

**50 Years Ago (1959)**—"Heartaches by the Number" by Guy Mitchell topped the *Sensational Sixty* music survey on 1130 CKWX Vancouver. Meanwhile 1320 CHQM signed on as Vancouver's newest station, broadcasting *Canada's Highest Quality Music*.

**25 Years Ago (1984)**—A re-examination of technical regulations resulted in an FCC Report & Order deleting quality of broadcast regulations that were not related to interference control.





The ubiquitous 2010 Tower Site Calendar will be posted on the walls of broadcast engineering offices and DX shacks across America.

DXers since 1933. Visit [www.nrcdxas.org](http://www.nrcdxas.org) for club membership info.

## Tower Site Calendar

The 2010 Tower Site Calendar by Scott Fybush features 8 x 11-inch color photos of broadcast transmitter sites and highlights significant dates in broadcast history each month. This edition includes stunning mountain photos of the Mount Mansfield, Vermont, transmitter site, the XEWW antenna south of Rosarito, Mexico, and the Deer Point site rising 4,200 feet above Boise, Idaho, plus significant engineering marvels like the former home to WTBS Atlanta (one of the tallest self-supporting towers in the country), WBT North Carolina (one of the oldest antenna sites still in use), and a unique horizontal antenna perched atop the Odd Fellows Hall south of downtown Los Angeles. Of course, the calendar wouldn't be complete without a hometown AM station photo; namely, 1230 WCLO Janesville, Wisconsin. The calendar, in its ninth year, continues to be nearly ubiquitous among broadcast engineers and enthusiasts. It's available for \$18.00 exclusively from Fybush Media ([www.fybush.com](http://www.fybush.com)). While ordering online, be sure to check out the Tower Site of the Week. Will there ever be a tower site coffee table book?

## Broadcast Loggings

AM DX is hot in the northeastern U.S. with the return of the Faroe Islands and other transatlantic signals from northern latitudes due to continued quiet solar conditions. All times are UTC.

**530 Radio Visión Cristiana, Turks & Caicos**, monitored at 0000 religious music then full ID in Spanish followed by woman in English giving U.S. parallels 1330 WWRV New York and 1310 WRVP Mount Kisco; fair to good signal. (Black-MA)

**531 Kringvarp Føroya Útvarpid, Akraberg, Faroe Islands**, heard last few nights with low K and A indices, tonight at 0053 good at times with pop music, no ID on the hour. (Barstow-MA)

**594 BSKSA Duba, Saudi Arabia**, at 0158 a huge pre-sign-on open carrier noted through the hour. At 0240–0248 loud test tone over presumed Portugal. 0250 talk parallel 1521 kHz. (Conti-NH)

**690 KCEE Tucson, Arizona**, at 1556 Olivia Newton John, Dean Martin, and other "adult standards" tunes, "690 KCEE"

and reference to "kcee.com," my first log of KCEE on this frequency after they traded their former 1030 kHz frequency with KBUI. (Barton-AZ)

**702 IRIB Kiashar-Rasht, Iran**, at 0000 a male choral vocal, then an announcement in Azeri that became lost in propagational fading, "...mübar?k ramazan ayinin." Translation, "...of the Holy month of Ramadan," thanks to Dmitry Mezin at RealDX. Azerbaijan is a primary target of 702 kHz broadcasts. (Conti-NH) At 0030 "Radyosidan" ID then a man and woman in presumed Uzbek (did not sound Arabic). Per Mauno Ritola at RealDX this is local programming from Tabritz studios near Rasht in Gilan province. (Black-MA)

**740 KCBS San Francisco, California**, at 1113 news with time check, "KCBS newstime 4:13." Heard by nulling out local KIDR with "wavemagnet" loop. (Barton-AZ)

**783 Radio Syria 1, Tartus, Syria**, at 0158 fair with Koran, announcement, and unequivocal interval signal. (Conti-NH)

**864 Hayastani Azgain Radio, Gavar, Armenia**, at 0200 presumed over France Bleu; pipe organ instrumental music and a man in an Eastern European language. (Conti-NH)

**890 HJPM Radio Galeón, Santa Marta, Colombia**, at 2359 Latin news, fanfare, "Radio Galeón" and Santa Marta ID, then station promos with Radio Galeón and Santa Marta mentions. (Black-MA)

**909 BBC Radio 5 Live, United Kingdom**, at 0000 signal 10 dB stronger than 910 domestics and no problem getting past local 900 WGHM; "On digital and online, this is BBC Radio Five Live." (Conti-NH) At 0100 talk about a "garden guru" show, URL "bbc.co.uk," ID, "On BBC Digital Radio, Digital TV, Downloads, and BBC I-Player" (no mention of MW interestingly), into Five Live news. (Connelly-MA)

**945 France Info, Toulouse, France**, at 0000 a good signal with fanfare into news, "...France Info, Le Journal." (Conti-NH) At 0052 parallel 837 kHz with smooth jazz; fair to good. 0100 news intro music, French news by a woman; best on USB to dodge WGIN HD interference. (Connelly-MA)

**954 QBS Al Arish, Qatar**, at 0055 possibly this with Arabic talk by a man; to fair peak. 0129 Arabic news with emphasis music "stingers" between items. 0201 man in Arabic; over Spain most of the time. (Connelly-MA)

**980 KSVC Richfield, Utah**, at 0829 ID, "You've got KSVC," into news on the half hour. (Barton-AZ)

**1026 IRIB Tabriz, Iran**, at 0039 good with chanting parallel 702 kHz. New log. (Barstow-MA)

**1062 Danmarks Radio, Kalundborg, Denmark**, at 0340 an excellent signal; alternating between two cycles of interval signal and announcement, then 0345 weather, pop music leading up to the hour. (Conti-NH) At 0358 Elvis "Blue Suede Shoes," then announcer in Danish into top of the hour news with man and woman; very good. (Black-MA)

**1062 IRIB Kerman, Iran**, heard at 0020 fair with a monotone speaker followed by a Koranic vocal parallel 1188 kHz. (Conti-NH)

**1089 TalkSport, United Kingdom**, at 0000 good; "From the Sky News Center, TalkSport News." (Conti-NH) At 0032 an advert for *Race to Witch Mountain* DVD at Blockbuster, "Rent 4 movies for 4 nights for 10 pounds." Good, slight 1088 Angola het. (Connelly-MA)

**1089 Radio Rossi/Voice of Russia, Sodrozhestvo, Russia**, at 0158 a series tones, then Morse code "V;" top of the hour announcement and a woman in Russian, under co-channel TalkSport UK. Re-check at 0300 also had the same code "V" and woman in Russian. A 1088 kHz carrier was visible

from presumed Angola, but no audio. (Black-MA)

**1107.12 RNE5 Caceres, Spain,** at 0200 "Radio Nacional de España...informativos" ID; sliceable on USB from the rest of the parallel RNE synchronized stations on 1107.0 kHz. At this time the 1107.0 and 1107.12 signals were equal strength on the Perseus spectrum analysis display. (Connelly-MA)

**1110 YVQT Radio Carúpano, Carúpano, Venezuela,** at 0200 Spanish-language cover version of the Beatles "You're Gonna Lose That Girl," then ID, "En Venezuela, Carúpano," timecheck, "nueve...treinte minutos"; loud, demolishing co-channel WBT. (Connelly-MA)

**1134 Glas Hrvatske, Zadar, Croatia,** at 0053 a Slavic folk male vocal; good, now way over co-channel Spain. 0200 English service, "You're listening to Croatia today." (Connelly-MA)

**1152 România Actualitatea, Cluj, Romania,** at 0201 parallel 1593 kHz with chanting monks type vocal; mixed with Spain. (Connelly-MA)

**1170 Radio Sawa, Al Dhabiya, United Arab Emirates,** at 0053 pop Mideast male vocal and strings; to good peak, way over WWVA, best on USB to dodge WHAM HD interference. (Connelly-MA)

**1290 XEAP Ciudad Obregón, Mexico,** at 1045 noted mixing with "AM 1290, The Sport," KCUB Tucson. (Barton-AZ)

**1310 KABL San Antonio, Texas,** at 0655 "middle of the road" music with Glenn Campbell "Midnight Cowboy" into local spots for San Antonio area, then ID, "This is KABL 1300." Logged due to the departure of KXAM from adjacent 1310 kHz. (Barton-AZ)

**1320 WBOB Jacksonville, Florida,** monitored at 0200 with a full scale signal on the CCrane SW, heard the *Dr. Laura Show*, a "WBOB" ID and promo with several Jacksonville area restaurants, motels mentioned, then Glenn Beck, Dennis Prager, and Miller promos. Signal came across as a 50 kWer as it may well have been. NRC AM Log lists this one with a CP for 50 kW daytime, so maybe a test or after hours "asleep-at-the-switch" because I haven't heard it since. (Baitzel-DE)

**1323 BBC World Service, Zyyi, Cyprus,** at 0327 a man and woman in English with world news; fair mixing with presumed Germany. New log. Cyprus previously heard on 639 kHz some 50 years ago. Audio clip online at WTFDA Forums. (Barstow-MA)

**1330 KCKM Monahans, Texas,** at 1143 weather "...from the KCKM Weather Center" into country music, heard while scanning between 1310 and 1340 kHz. Just moments before, KGAK New Mexico was alone on the frequency. This one, a new log for me, was dominant, with KGAK just barely heard underneath. (Barton-AZ)

**1440 BSKSA Damman, Saudi Arabia,** at 0053 parallel 1521 kHz with fast Arabic talk by a man; momentarily over co-channel WRED Maine. (Connelly-MA)

**1530 Radio Vaticana, Vatican City,** at 0340 one cycle of interval signal, brief announcement, and religious vocal heard

in co-channel WCKY null. (Conti-NH)

**1550 RASD Tindouf-Rabouni, Algeria,** at 2359 Spanish talk including ID, "Radio Nacional Saharaui," sign-off with "tubby" anthem; to good peak. (Connelly-MA)

**1620 Radio Progreso, Cuba,** monitored at 0202 instead of typical WDHP, noted ID of "Radio Progreso de Habana" topping the channel. Audio was somewhat compressed and tinny-sounding. (Connelly-MA)

Thanks to George Baitzel, Roy Barstow, Rick Barton, Chris Black, N1CP, and Mark Connelly WA1ION.

Until next time, 73 and Good DX!

For 45 years  
our volunteers have  
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and tough  
working conditions  
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## Border Monitoring And The 2010 Winter Olympics

by Mitch Gill, NA7US,  
NA7US@yahoo.com

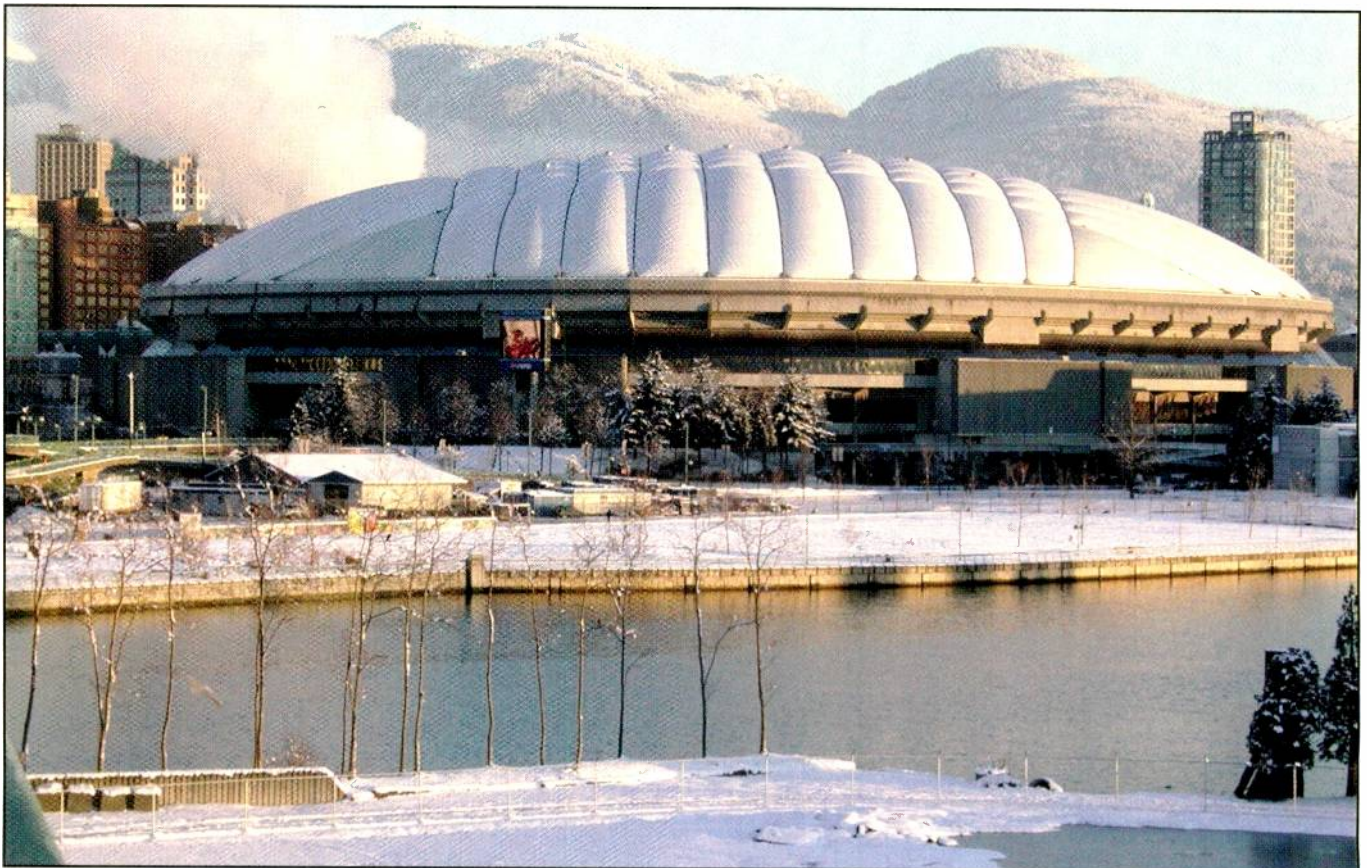
The upcoming Winter Olympics will be held in Vancouver, Canada, beginning in mid-February. These obviously high-profile events will no doubt be under even heavier security in light of the recent arrest of Najibullah Zazi and others in connection to an alleged plot to bomb New York City targets on the anniversary of 9/11. The fact that the games' venue is only a few short miles from the U.S. border in Blaine, Washington, means that border communications traffic in the area will be unusually high as well.

Olympics or not, however, monitoring along any of our borders is never dull. In Blaine, the appropriately named Smugglers Inn B&B has motion sensors around the property and even

*"Olympics or not, however, monitoring along any of our borders is never dull... [the Smugglers Inn B&B] even lends guests night-vision goggles."*

lends guests night-vision goggles. There you can watch, as well as listen, for border agents as they look for people trying to enter the U.S. illegally, track down drug mules, and possibly even thwart would-be terrorists.

We'll likely never know just how many people have been captured or turned away, as the government doesn't exactly advertise this informa-



Vancouver 2010 Olympic Stadium, just a few miles across the border from Blaine, Washington. (Source VANOC)

## Border Frequencies

### Whatcom County Communications

VHF User	RX	TX	TX PL Tone
Fire 1	154.430	154.430	114.800
Fire 2	154.220	154.220	114.800
Fire 3	154.340	154.340	114.800
Fire 4	154.325	154.325	114.800
HEAR	155.340	155.340	173.800
RED NET	153.830	153.830	
WCSO	155.610	155.610	100.000
BPD	155.070	155.070	114.800
Border Patrol	163.625	162.825	c/s-100.0
State LERN	155.370	155.370	
NLEEC	155.475	155.475	
Search & Rescue	155.160	155.160	100.000
BMRC	155.205	155.205	
WCPW	150.995	150.995	
WCPW Repeater	150.995	156.180	100.000
OSCCR	156.135	156.135	
Coast Guard CH 16	156.800	156.800	
Coast Guard CH 21A	157.050	157.050	
Coast Guard CH 22A	157.100	157.100	
D.N.R.	151.415	151.415	
State Parks	151.280	151.280	
NCNP	166.750	166.750	
USFS	169.925	169.925	146.200
Skagit S.O.	155.310	155.310	100.000
Skagit S.O. Repeater	155.310	155.730	100.000
Skagit DEM (P/Ws)	151.055	156.060	
NOAA Wx	162.550		

UHF User	RX	RX Tone	TX	TX Tone
WCSO (Sumas)	453.325	85.4 YA	458.325	100.0 IZ
WCSO (Simplex)	453.325	85.4 YA	458.325	85.4 YA
WCSO (Connie)	453.325	85.4 YA	458.325	85.4 YA
WCSO (Toad)	453.325	85.4 YA	458.325	107.2 1B
WCSO (Lookout)	453.325	85.4 YA	458.325	110.9 2Z
BHAM (Sehome)	453.225	91.5 ZZ	458.225	91.5 ZZ
SKSO (Connie)	453.500	118.8 2B	458.400	118.8 2B
WTA	453.425	151.4 5Z	458.425	151.4 5Z
WC Jail	453.975	023	453.975	023
PORT of BHAM	453.875	123.0 3Z	458.875	123.0 3Z
SUDDEN VALLEY	464.425	118.8 2B	469.425	118.8 2B
BHAM TAC	458.3625	612	458.3625	612
Drug TF	453.2125	612	453.2125	612
WCSO TAC 1	453.625	118.8 2B	453.625	118.8 2B
WCSO TAC 2	453.0875	612	458.0875	612
WCSO TAC 3	453.9625	612	453.9625	612
BHAM (Simplex)	453.225	91.5 ZZ	453.225	91.5 ZZ
SKSO (Anacortes)	453.400	107.2 1B	458.400	107.2 1B
ICSO (Connie)	453.675	118.8 2B	458.675	118.8 2B
ICSO (Devils)	453.675	100.0 IZ	458.675	100.0 IZ
EAS (Connie)	450.0625	100.0 IZ	455.0625	100.0
ICSO (Manard)	453.675	123.0 3Z	458.675	123.0 3Z
ICSO (Simplex)	453.625	118.8 2B	453.675	118.8 2B
SJCSO	453.250	100.0	458.250	118.8 2B
SJCSO (Simplex)	453.250	c/s	453.250	118.8 2B
WWU (Police)	453.550	100.0 IZ	458.550	118.8 2B
WWU (Simplex)	453.550	c/s	453.550	100.0 IZ
Seattle City Light	451.150	c/s	456.150	156.2 5A
WCSO (Newhalem)	453.325	118.8 2B	458.325	107.2 1B
MED 2	463.025	156.2 5A	468.025	156.2 5A
MED 4	463.075	156.2 5A	468.075	156.2 5A
KGMI	450.350	c/s	455.350	c/s

#### Other

User	Frequency
Sheriff (high band)	453.325
Bellingham Police	453.225

B'ham Public Works	453.750						
Port of Bellingham	453.875						
Whatcom Transit (WTA)	453.425						
Medic/Hospital	463.125						
MED 4 (Medflite)	463.075						
KGMI/EBS	450.350						
CEMNET Western & Eastern	45.20						
CEMNET SW & Central	45.36						
CEMNET Olympia	45.48						
CEMNET Repeater option	45.74						
Bellingham School Bus	47.66						
<b>Island County</b>							
<b>Org.</b>	<b>VHF</b>	<b>220</b>	<b>UHF</b>	<b>6 Meters</b>	<b>Simplex</b>	<b>HF</b>	<b>Comments</b>
ARES/RACES	146.860 T=127.3						Coupeville
ARES/RACES	147.220 T=127.3						Classic Rd - South of Greenbank
ARES/RACES	147.360 T=127.3						Camano-Stanwood
ARES/RACES			441.050 T=103.5				Camano-Stanwood
ARES/RACES							Primary Simplex
ARES/RACES							Secondary Simplex
ARES/RACES							S Whidbey Simplex-Primary
ARES/RACES							S Whidbey Simplex-Secondary
Hospital Net		223.860 T=103.5					Region 1 Hospital Control
Region 1 Ops Net							Lyman Mountain
Path to PSE EOC							Buck Mountain
<b>Snohomish County</b>							
<b>Org.</b>	<b>VHF</b>	<b>220</b>	<b>UHF</b>	<b>6 Meters</b>	<b>Simplex</b>	<b>HF</b>	<b>Comments</b>
RACES	146.920 T=123.0	224.380 T=103.5	442.975 T=103.5		52.450		
RACES					144.460		
RACES					446.500		
RACES					224.640		
ARES	145.390 T=123.0	223.940 T=110.9	442.500 T=123.0		147.420		Primary Repeaters and Simplex
ARES	146.800 T=136.5	224.240 T=103.5	443.875 T=127.3		146.520		
ARES		224.660 T=103.5	441.875 T=103.5		223.520		
ARES		223.860 T=103.5	444.975 T=114.8		223.500		
ARES			442.800 T=123.0		441.950		
ARES					446.000		
ARES	147.360 T=127.3		441.050 T=103.5		147.570		
<b>San Juan County</b>							
<b>VHF</b>							
<b>FREQ</b>	<b>OPS</b>	<b>ID</b>	<b>CALL</b>	<b>TONE</b>	<b>QTH / NOTES</b>		
145.250	-	RPT-1	N7JN	PL-131.8	SJCARS REPEATER		
144.650	+	REV-1	N7JN	PL-131.8	SJCARS REVERSE		
145.250		DIR-1		PL-131.8	SJCARS DIRECT (SIMPLEX)		
145.250		CALLUP	N7JN	PL-131.8	SJCARS CALLUP		
146.520		TAC-10		PL-131.8	NATIONAL SIMPLEX		
144.310		TAC-11		PL-131.8	SIMPLEX		
146.500		TAC-12		PL-131.8	SIMPLEX		
146.500		TAC-13		PL-131.8	SIMPLEX		
<b>220 MHz</b>							
<b>FREQ</b>	<b>OPS</b>	<b>ID</b>	<b>CALL</b>	<b>TONE</b>	<b>QTH / NOTES</b>		
224.540	-	RPT-2	WA6MPG	PL-67	ORCAS REPEATER		
222.940	+	REV-2	WA6MPG	PL-67	REVERSE		
224.540		DIR-2		PL-67	DIRECT (SIMPLEX)		
223.500		TAC-20		PL-67	BATUIBAK SUNOKEX		
223.480		TAC-21		PL-67	SIMPLEX		
223.520		TAC-22		PL-67	N7JN REMOTE BASE		
<b>UHF</b>							
<b>FREQ</b>	<b>OPS</b>	<b>ID</b>	<b>CALL</b>	<b>TONE</b>	<b>QTH / NOTES</b>		
443.450	+						
448.450	-						
443.450							
446.000							
446.500							
441.000							
441.500							



Olympic festivities showcasing the new emblem. (Source VANOC)

tion. In one famous incident, however, which occurred on the Washington border two years before 9/11, Ahmed Ressam was caught with a vehicle full of explosives and other bomb-making material. Since that time, there have been incidents on the Vermont, Texas, and Michigan borders. Again, that's just what we know of; there have been many more unpublicized incidents, no doubt.

Even though we expect nothing to happen to mar the Olympic celebration, the authorities must prepare for the worst. Even if nothing goes seriously wrong, there's still monitoring action associated with any big event. So, if you'll be in the area, bring your scanner and check out the

frequencies we've listed here. If you live or travel near another border, give a listen there, too. Drop us a line and let us know what you heard.

### Keep It Up

It's been eight years since that eventful day in September when our world changed, and thankfully nothing has happened within our borders since then. The probe into the actions of Najibullah Zazi and a possible wider conspiracy is continuing, and who knows far far it will lead. This serves as an sobering reminder that we mustn't become complacent. We need to keep monitoring; it makes would-be terrorists nervous, and for good reason!

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

**READY**

**WWW.READY.GOV**

**1-800-BE-READY**



### Pop'Comm Salute

This issue I would like to salute my brothers and sisters in the National Guard and the Reserves who have served in Iraq and Afghanistan. I especially want to salute the 81st Brigade of the Washington Army National Guard who will have returned to the states by the time you read this. Thank you all!



## Sheppard Air Force Base— Training Forces For The USAF And NATO

by Mark Meece, N8ICW  
ohioscan@gmail.com

**I**n a small corner of North Texas...no scratch that—there’s no such thing as “small” in Texas—in North Texas, we find a city with the nickname “The City That Faith Built.” On the map it goes by the name Wichita Falls.

Wichita Falls lies 15 miles south of the border with Oklahoma, and is 115 miles northwest of Fort Worth. In 1886 a flood destroyed the original falls on the Wichita River, after which the city and county had originally taken its name. The city, weary of years of visitors trying to find the non-existent falls, actually created an artificial waterfall near the river in Lucy Park.

Five miles north of the central business district of Wichita Falls, along the east side of Interstate 44, is the location of Sheppard Air Force Base.

### From Cattle Fields To Runways

Sheppard Air Force Base is named in honor of former Texas Senator John Morris Shepard who

*“A local cattleman named J.S. Birdwell offered three hundred acres south of Kell Field to the government for \$1, and in February 1941 the Army Air Corp approved the plans for the building of the school.”*

supported the United States military preparations for World War II as chairman of the Senate Military Affairs Committee. The facility officially opened in October 1941 as an Army Air Corps training base. However it can trace its beginnings back to November of 1940 when Major General Rush B. Lincoln, Commandant of the U.S. Army Air Corps Technical Schools, surveyed the area around the city of Wichita Falls for a possible training school.



Two Columbus AFB T-38s Fly in formation. (Photo Courtesy Staff Sgt. Steve Thurow)





A Sheppard AFB T-38 Talon used by the Air Education and Training Command. (Photo Courtesy USAF/Steve White)

A local cattleman named J.S. Birdwell offered three hundred acres south of Kell Field to the government for \$1, and in February 1941 the Army Air Corp approved the plans for the building of the school. When the first class of 22 aviation mechanics entered training that October, the facilities were well enough along to begin; they graduated on February 23, 1942. As World War II progressed, basic flying training was given at Sheppard,

along with the training of glider mechanics, B-29 engineers, and other technical and flying training instruction. More advanced pilot training was provided to ground officers as well as helicopter pilots.

From September to November 1945 the base served as a separation center for troops being discharged following the end of the war. It was during this time that the base hit its peak strength of 46,340 people.

On August 31, 1946, Sheppard Field was deactivated and declared as surplus to the War Department. Control of the facilities was handed over to the Corps of Engineers on April 30, 1947. On August 1, 1948, control and accountability for the field was again transferred, this time to the newly created Department of the Air Force. Two weeks later the base was reactivated to provide basic training as a supplement to Lackland Air Force Base. It was then renamed Sheppard Air Force Base.

The following June, basic training was discontinued for about a year, resuming from July 1950 to May 1952. In April 1949, the aircraft mechanics school was transferred to Sheppard from Kessler Air Force Base so that electronic training at Keesler could be expanded. Throughout the 1950s, training functions were moved to Sheppard from other facilities. Perhaps the most notable of these were the training for comptroller, transportation, and intelligence which moved to Sheppard from Lowry AFB, Colorado in late 1954.

In 1959, communications, refrigeration, air conditioning, and power production operator and repairman training were transferred from F.E. Warren AFB, Wyoming. From 1957 until 1985 training for certain missile systems was conducted at Sheppard.

Also in 1959, the 3950th Technical Training Wing was designated as the



Two U.S. Air Force Northrop AT-38B Talon aircraft and a USAF Cessna T-37B Tweet aircraft assigned to the 88th and 89th Fighter Training Squadrons, 80th Tactical Fighter Wing, Air Education and Training Command, fly a three ship formation over Sheppard Air Force Base to mark the 20th anniversary of the European North Atlantic Treaty Organization Joint Jet Pilot Training (ENJJPT) School. (Photo courtesy U.S. DefenseLink/Tom Steele CIV USAF)

Sheppard Technical Training Center. After two other name changes in the intervening years, today it is the 82nd Training Wing (TRW), a non-flying unit that conducts all technical training at the base.

In October 1965, helicopter pilot train-

ing transferred from Stead Air Force Base in Nevada, including training on H-19, H-43, CH-3C, and HH-3E helicopters under the 3630th Flying Training Wing. Helicopter training was discontinued in 1971 when that asset was transferred to

the U.S. Army at Fort Rucker, Alabama. In August 1966, the 3630th began providing training in the T-37 and T-38 for the then-West German Air Force. In 1973 the wing designation changed to the 80th Flying Training Wing. In 1981 the 80th

### Listening To Sheppard Air Force Base

UNIT/NAME	AIRCRAFT	TAIL CODE/ COLOR	261.1000	80th FTW Command Post
80th FTW			292.9000	80th FTW Command Post
88th FTS/Lucky Devils	AT-38B	EN	317.4500	Operations
89th FTS/Banshees	T-37, T-6A	EN/red,white	323.0000	Arrival
90th FTS/Boxing Bears	T-38A	EN	335.9000	Operations
			359.3000	Operations
			385.4500	Operations
340th FTG (AFRC)			380.1000	Operations
97th FTS/Madcats	T-38B/C	EN		

#### KNOWN CALLSIGNS

89th FTS; ALLY, DICEY,  
90th FTS; ENJEP, FOXY

#### SHEPPARD AFB, TX (KSPS)

##### Aeronautical Operations

118.200	Sheppard Approach
119.750	Sheppard Tower
120.400	Sheppard Departure
121.200	Clearance Delivery
122.950	Unicom
125.500	Ground
126.700	Radar
132.050	ATIS
236.825	Sheppard Approach/Departure
261.700	Radar
269.025	Sheppard Approach/Departure
269.900	ATIS
279.525	Sheppard Tower
282.225	Clearance Delivery
289.400	Ground
292.300	Sheppard Departure
298.900	Washita MOA
316.075	Sheppard Approach/Departure
339.650	METRO
372.200	PTD

##### 80th FTW Operations

149.4000	Air to Air
148.8750	Air to Air
138.7500	Air to Air
140.1750	Air to Air
229.0500	80th FTW Command Post
234.8000	Supervisor of Flying
257.7750	Operations

#### SHEPPARD AFB TRUNKED RADIO SYSTEM

SYSTEM: Sheppard AFB  
TYPE: Motorola Type II Smartzone  
VOICE: APCO-25 Common Air Interface Exclusive  
SYSID: 7628

#### CUSTOM TABLE:

BASE 406.000  
SPACING: 12.5 kHz  
OFFSET: 380

#### FREQUENCIES:

406.36250c	407.76250c	408.16250c
408.96250c	409.56250	410.23750
410.36250	410.63750	410.76250

C - denotes control channel

#### TALKGROUPS:

ID	MODE	USE
528	D	Aircraft Maintenance 1
529	D	Aircraft Maintenance 2
560	D	Aircraft Maintenance 3
592	D	Aircraft Maintenance 4
656	D	Ramp Net
816	D	Sheppard AFB Police Dispatch
848	D	Air Police
1104	D	Fire/EMS Dispatch
1264	D	unknown ops ?
2064	D	Aircraft Maintenance
2384	D	Transportation
2448	D	Aircraft Maintenance
2736	D	Public Works?
2768	D	Building Maintenance
2800	D	Public Works?
2832	D	Building Maintenance
3280	D	Public Works?



Euro/NATO Joint Jet Pilot Training program emblem. (Public domain image)

FTW expanded its training to the Euro-NATO Joint Jet Pilot Training Program. This includes participation of 13 NATO countries: Belgium, Canada, Denmark, Germany, Greece, Italy, the Netherlands, Norway, Portugal, Spain, Turkey, the United Kingdom, and the United States. During a short period in the 1960s, the Strategic Air Command's 494th Bombardment Wing was based at Sheppard, flying the B-52 Stratofortress and KC-135A Stratotanker. This wing was inactivated in April 1966.

The Base Realignment and Closure committee of 2005 proposed a major realignment of Sheppard Air Force Base and relocated a number of training programs to Eglin Air Force Base in Florida. A significant number of front-line and instructor-qualified maintenance technicians and logistics personnel were needed to support the Air Force's portion of the F-35 Lightning II Joint Strike Fighter Initial Joint Training site, so the program was shifted to Eglin.

## The Sheppard Of Today

Today Sheppard Air Force Base is a major USAF training facility with the 80th Flying Training Wing (80 FTW) continuing the Euro-NATO Joint Jet Pilot Training (ENJJPT) program. This is the world's only multinationally manned and managed flying training program chartered to produce combat pilots for both USAF and NATO. It is the largest training base in the Air Education and Training Command (AETC).

Physically, Sheppard occupies 6,158 acres and operates four runways: 15R/33L, 15C/33C, 17/35, and 15L/33R. It shares its runways and taxiways with Wichita Falls Municipal Airport in a joint



Artificially created waterfall located inside Lucy Park in Wichita Falls, Texas. (Public domain image)

civilian/military use agreement. American Eagle is the only commercial airline using Wichita Falls Municipal.

See "Listening To Sheppard Air Force Base" for listings of units and aircraft based at Sheppard Air Force Base, along with operational frequencies you'll need to monitor the activity there. Sheppard AFB employs an analog Motorola trunked radio system using digital voice, so a digital scanner is in order to hear the transmissions.

## Reader Logs

Our mainstay contributor, Doug Bell of Ontario, Canada, checks in again with his military intercepts. Doug is using a Sony ICF-2010 and a 50-foot longwire. If you'd like to add your intercepts, whether from HF, VHF, or UHF, you can send them to the email address listed in the column header. Please follow the format you see here and we'll include them in a future issue.

**5616:** USB 0158Z REACH 495 (C-17A #94-0068/437th AW, Charleston AFB, SC) wkg Gander Radio with a SEL-CAL check.

0542Z REACH 120 (C-17A #07-7171/436th AW, 3rd AS, Dover AFB, DE) wkg Gander Radio with a position of 45N 030W and fl 300.

0111Z REACH 700 (C-5A #70-0451/433rd AW, 68th AS, Kelly AFB, TX) wkg Gander Radio with a position of 55N 050W and fl 320.

2315Z REACH 9710 (KC-10A #79-1710/305th AMW, McGuire AFB, NJ) wkg Gander Radio with a position of 49N 040W and fl 340. Flight data relayed to HILDA.

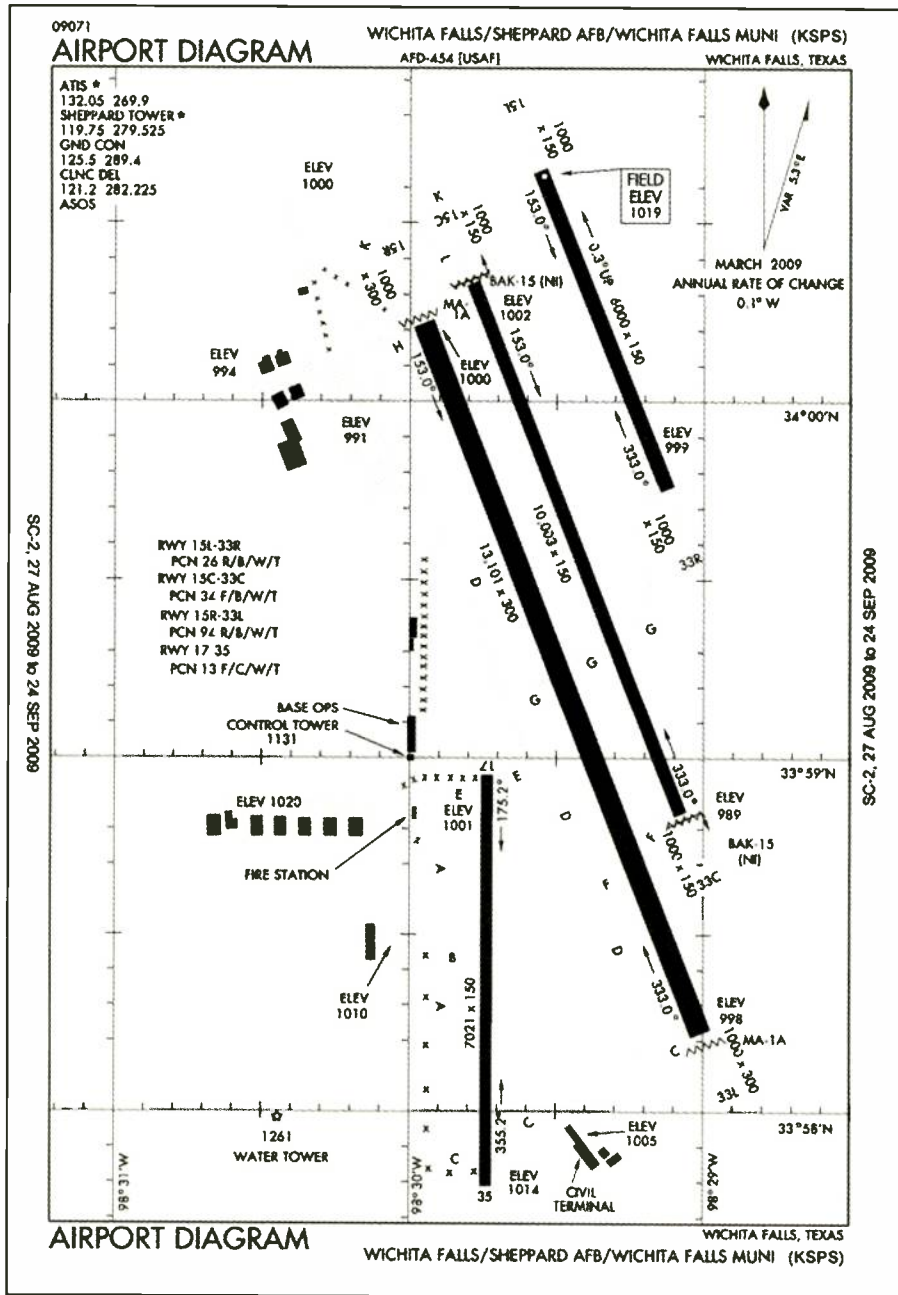
**5696:** USB 1443Z RESCUE 2006 (HC-130J/CGAS Elizabeth City) wkg CAMSLANT-Chesapeake and reporting a position of 39.14N 072.58W and "operations normal."

**5717:** USB 0357Z RESCUE 324 (CC-130E #130324/8 WG, 436 SQN, CFB Trenton, Ontario) wkg HALIFAX MILITARY with a phone patch to TRENTON OPS. SAR data passed.

**8864:** USB 1220Z REACH 888 (C-130E #72-1299/86th AW, 37th AS, Ramstein AB, Germany) wkg Gander Radio and passing an ETA for its arrival in Gander, Newfoundland.

1149Z SKIER 91 (LC-130/109th AW, 139th AS, NY-ANG, Schenectady, NY) wkg Gander Radio and reporting fl 200. Flight instructed to contact Montreal Center on 135.100.

**8983:** USB 1930Z USCG 2001 (HC-130J/CGAS Elizabeth City) wkg CAMSLANT-Chesapeake with flight data passed.



Airport diagram of Sheppard Air Force Base. (Courtesy of FAA)

**8992:** USB 0208Z REACH 5146 (C-17A #05-5146/15th AW, 535th AS, Hickam AFB, HI) wkg HF-GCS Station OFFUTT with a phone patch and weather passed for Gander, Newfoundland.

**2017Z** ARCTIC 99 (C-17A #00-0173/3rd WG, 517th AS, Elmendorf AFB, AK) wkg HF-GCS Station OFFUTT with a phone patch and flight data passed.

**11153:** USB 2230Z REACH 267 (C-5B #83-1285/436th AW, Dover AFB, DE) wkg HF-GCS LAJES with a failed phone patch due to a poor signal.

**11220:** USB 2234Z REACH 267 (C-

5B #83-1285/436th AW, Dover AFB, DE) wkg HF-GCS Station LAJES with a phone patch and flight data passed.

**11175:** USB 1327Z DECEE 51 (KC-135R/459th ARW, 456th ARS, Andrews AFB, MD) repeatedly calling HF-GCS Station ANDREWS with no response.

**1554Z** SNOOP 55 (RC-135W #62-4143/55th Wing, OFFUTT AFB, NE) repeatedly calling "any station" with no response.

**1505Z** TEAL 62 (C-130J/53rd WRS, Keesler AFB, MS) wkg HF-GCS Station OFFUTT with coded message traffic passed.

**1720Z** GOOSE 99 (MC-130E/ 711th SOS, Duke Field, FL) wkg HF-GCS Station OFFUTT with a phone patch top TRAVIS COMMAND POST and flight data passed.

**1436Z** NAVY JU 121 (C-9B/"Globemasters," VR-56, NAS Oceana, VA) wkg HF-GCS Station OFFUTT with a phone patch and flight data passed.

**1524Z** JAKE 11 (KC-135R 186th ARW, 153rd ARS, Key Field, MS) wkg HF-GCS OFFUTT with latest message traffic passed.

**1633Z** KILO 92 (C-130/314th AW, Little Rock, AR) calling "mainsail" w/ HF-GCS Station MCCLELLAN responding, however the aircraft was unable to copy. HF-GCS Station OFFUTT intervened and handled a phone patch with flight data passed.

**1443Z** DECEE 85 (KC-135R/459th ARS, ANDREWS AFB, MD) wkg HF-GCS Station ANDREWS with a phone patch and coded message traffic passed.

**11232:** USB 2001Z KING 74 (C-130P #65-0974/106th RQW, 102nd RQS, Gabreski Airport, NY) repeatedly calling TRENTON MILITARY with no response.

**1430Z** CANFORCE 4078 (CC-177 #177701/8 WG, 429 SQN, CFB Trenton, Ontario) wkg TRENTON MILITARY with weather passed.

**2059Z** USCG 2006 (HC-130J/CGAS Elizabeth City) wkg TRENTON MILITARY with a check for latest message traffic.

**1348Z** SENTRY 61 (E-3B AWACS/ 552nd ACW, Tinker AFB, OK) wkg TRENTON MILITARY with several phone patches and a technical problem discussed.

**1354Z** CANFORCE 4035 (CC-177 #177701/8 WG, 429 SQN, CFB Trenton, Ontario) with a phone patch and mission data passed.

**1410Z** CANFORCE 3245 (CC-150 #155005/8 WG, 437 SQN, CFB Trenton, Ontario) wkg TRENTON MILITARY with a phone patch and flight data passed.

**857Z** RESCUE 313 (CC-130E #130313/14 WG, 413 SQN, CFB Greenwood, Nova Scotia) wkg TRENTON MILITARY with a phone patch to RCC (Rescue Coordination Center) and SAR data passed.

**13200:** USB 1350Z SKIER 91 (LC-130/109th AW, 139th AS, NY-ANG, Schenectady, NY) wkg HF-GCS ANDREWS with weather passed for Wheeler-Sack AAF, Fort Drum, NY.

# Monitoring The USAF High-Frequency Global Communications System (HF-GCS)

by John Kasupski,  
KC2HMZ,  
kc2hmz@verizon.net

*“...the ongoing communications [on the High-Frequency Global Communications System] might be interrupted for the transmission of higher priority traffic, such as an Emergency Action Message...”*

When your humble columnist was first beginning to investigate the world of utility communications monitoring, one of my first listening targets was a worldwide HF radio system that was at the time known simply as the GHFS (Global HF System). Operated by the United States Air Force, this network is used to provide a variety of services to U.S. military aircraft, naval vessels, and ground stations, as well as aircraft and vessels of numerous U.S. allies. Today, the Air Force calls this network the HF-GCS (High-Frequency Global Communications System), and it is, of course, well known to veteran utility listeners. Owing to the worldwide distribution of ground station locations and the wide variety of frequencies and users, it makes for an excellent listening target for beginning UTE monitors.

The primary purpose of the HF-GCS is to provide command and control communications between ground agencies and U.S. military aircraft and ships. However, it's not specifically dedicated to any military service branch, and thus, other Department of Defense (DoD) authorized users are provided services on a traffic precedence/priority basis. These services include, but

are not limited to, general phone patch and message relay, HF data support, air traffic control (ATC) support, mission following, emergency assistance, and email access to SIPRnet (Secret Internet Protocol Router Network, a system of interconnected computer networks used by DOD and the U.S. Department of State to transfer classified materials using the same TCP/IP protocols you typically see on the Internet, but in a secure environment), and NIPRnet (Nonsecure Internet Protocol Router Network, a parallel airgapped analogue to SIPRnet providing interoperability for unclassified combat support applications, as well as a gateway to the public Internet).

Although I mentioned ATC support in the above, HF-GCS stations are not equipped to provide ATC communications routing, and thus they cannot provide ATC flight following service. They will, however, accept emergency ATC traffic and, of course, provide phone patch or message relay support as needed.

As of press time, I'm aware of 14 HF-GCS voice ground stations, the names and locations of which I've listed in **Table 1**. All HF-GCS receiving and transmitting sites worldwide (see **Photo A** for a look at the antenna farm belonging to one of these) are remotely controlled from Andrews AFB, with a backup control site located at Grand Forks AFB. The primary USB frequencies, in effect 24 hours a day, are 8992.0 and 11175.0, with daytime backup frequencies of 13200.0 and 15016.0 and night backup frequencies of 4724.0 and 6739.0. There are additional "discrete" or secondary frequencies that are also used by the various ground stations, and in order to free up the primary frequencies for other traffic the ground station will often initiate a switch to another frequency (QSY) once a user has established initial contact. A comprehensive listing of known discrete frequencies would occupy more space than I have available, but since the discrete frequency is always given on the air before the stations move off the primary frequency, such a listing is hardly necessary anyway.

**Table 1. Current HF-GCS Ground Stations**

- Andersen (Andersen AFB, Yigo/Dededo, Guam Island)
- Andrews (Andrews AFB, Prince George's County, Maryland)
- Ascension (RAF Ascension Island, South Atlantic Ocean)
- Croughton (RAF Croughton, Northamptonshire, England)
- Diego Garcia (Diego Garcia Naval Station, Indian Ocean)
- Elmendorf (Elmendorf AFB, Anchorage, Alaska)
- Grand Forks (Grand Forks AFB, North Dakota)
- Hickam (Hickam AFB, Honolulu, Hawaii)
- Lajes (Lajes Air Base, Terceira Island, Azores, Portugal)
- McClellan (a.k.a. West Coast, Sacramento, California)
- Offutt (Offutt AFB, Omaha, Nebraska)
- Puerto Rico (Salinas, Puerto Rico)
- Signonella (Naval Air Station Sigonella, Sicily, Italy)
- Yokota (Yokota Air Base, Fussa/Tokyo, Japan)

Note also that there used to be additional primary frequencies that have long since been removed from HF-GCS service, and unfortunately these frequencies still appear on many frequency lists that you find on the Internet. If you find yourself on the Internet viewing a frequency list that includes frequencies like 8968.0 or 17976.0, know that you're looking at an obsolete list as these frequencies were removed from HF-GCS service over a decade ago! The same goes for lists including closed stations such as Thule or MacDill.

The radio traffic heard on the HF-GCS voice frequencies varies considerably. One minute you'll hear an aircraft simply getting a radio check from a ground station; the next minute an aircraft may contact a ground station for a "phone patch" to the aircraft's parent command, or to a contact at its destination, perhaps to arrange lodging or obtain the expected weather conditions at the time of the aircraft's arrival, or to confer with maintenance personnel regarding a problem with one of the aircraft's systems.

In the middle of all this, the ongoing communications might be interrupted for the transmission of higher priority traffic, such as an Emergency Action Message (EAM, coded alphanumeric message strings ranging in length from six to several hundred characters and believed to originate from the Joint Chiefs of Staff, or JCS), or perhaps a FOXTROT broadcast (well known to veteran utility listeners as those cryptic broadcasts that invariably begin with the words "FOR <callword/words>" or even more commonly, "SKYKING, SKYKING, do not answer..." and believed to be directed at assets under the direct control of the JCS and/or U.S. Strategic Command).

EAMs may be simultaneously transmitted on any or all of the primary HF-GCS frequencies as well as on other HF frequencies. The transmissions may be broadcast by one of more of the HF-GCS ground stations, but frequently they are also heard from assets belonging to the so-called "Nightwatch Net," a collection of assets under the control of the JCS, most often U.S. Navy E-6B TACAMO (for Take Charge and Move Out) aircraft (**Photo B**) or an E-4B National Airborne Operations Center (NAOC) aircraft (**Photo C**), formerly known as KNEECAP or LOOKING GLASS.

In addition to the voice network whose stations are shown in Table 1, there's also an ALE (Automatic Link Establishment) component to the HF-GCS, which is called Scope Command. The voice stations listed in Table 1 are also active in the Scope Command ALE net, as well as at least one additional station (Mt. Pleasant, an RAF facility in the Falkland Islands) and two former HF-GCS stations (Keflavik and Incirlik), whose respective HF-GCS facilities have been closed. Several other non-HF-GCS military and civilian stations have also been observed in this net, which utilizes the following frequencies: 3137.0, 4721.0, 5708.0, 6721.0, 9025.0, 11226.0, 13215.0, 15043.0, 18003.0, and 23337.0.

As one might expect, monitoring the HF-GCS involves listening to a fair amount of military radio jargon, including everything from callsigns and callwords to a generous helping of alphabet soup. The accompanying HF-GCS Glossary (**Table 2**) explains some of the more commonly heard terms. Most of them are not callsigns or callwords, since such a listing could easily fill a book, and since many of them are not static assignments



Photo A. The antenna farm at the Lajes HF-GCS station. (USAF Photo)



Photo B. A U.S. Navy E-6B TACAMO aircraft, frequently heard transmitting EAMS on the HF-GCS. (USN Photo)

but are changed every 24 hours at midnight UTC, rendering pointless any attempt at listing them.

## Reader Logs

As always, your contributions to "Utility Communications Digest" are very welcome and heartily encouraged. One easy way to contribute is to send in your loggings for publication, and the simplest way to do that is to email them to me at the address that appears at the beginning of this column. By doing so, you can join the fine gentlemen who have shared their logs with us again this month, namely Al Stern, Satellite Beach, FL (ALS); Mark Cleary, Charleston, SC (MC/SC), and Glenn Valenta, Lakewood, CO (GV/CO).

**3053.0:** CBE (USCGC TAHOMA WMEC 908) sounding in ALE USB at 1316Z. (MC/SC)

**4026.9:** AAA4CH, AAA4SC, AAA4WR in U.S. Army MARS Net in USB at 1137Z. (MC/SC)

**4730.0:** CBE (USCGC TAHOMA WMEC 908) sounding in ALE USB at 1316Z. (MC/SC)

**6519.0:** WLO, ShipCom shore station, Mobile, AL; synth YL/EE with high seas WX forecasts in USB at 0503Z. (GV/CO)

**6709.0:** CBE (USCGC TAHOMA WMEC 908) sounding in ALE USB at 1618Z. (MC/SC)

**7527.0:** FOXTROT 35 (HU-25 on final to Key West for fuel) secures guard with CAMSLANT, in USB at 1155Z. (MC/SC)

**7530.0:** CAMSLANT conducting radio checks with DISTRICT 7 and SECTOR UPPER MISSISSIPPI in USB at 1308Z. (MC/SC)

**8176.0:** VMC (Charleville, S. Australia) maritime WX broadcast, strong signal, in USB at 0639Z. (GV/CO)

**8301.6:** SECTOR SAN JUAN setting air-guard in USB at 2348Z. (MC/SC)

**8806.0:** WLO, ShipCom shore station in Mobile, AL; synth YL/EE with high seas WX forecasts, also heard much weaker on parallel freq. 8788.0, in USB at 0521Z. (GV/CO)

**8971.0:** FIDDLE working GOLDFINCH 711 (P-3C) in USB at 1623Z. (MC/SC)

**8992.0:** JEEP 23 (KC-135R) working HF-GCS station LAJES for current message traffic, in USB at 2327Z. (MC/SC)

**9025.0:** FOXTROT 33 (HU-25) in ALE-initiated phone patch to CAPE AIR for current WX, in USB at 2333Z. (MC/SC)

**9034.0:** NOJ (USCG COMMSTA Kodiak) calling J07 (MH-60J) in ALE USB at 0346Z. (MC/SC)

**10320.0:** AFRTS Pearl Harbor feed, weak but readable, in USB at 0525Z: Same heard

here another night at very good levels in USB at 0510Z. (GV/CO)

**11175.0:** HF-GCS Station OFFUTT working KING 76 (HC-130P #65-0976, Patrick AFB 920RQW 39RQS) for phone patch in USB at 1605Z. (ALS)

**11175.0:** HF-GCS Station PUERTO RICO working RED ALDER for DSN phone patch to GEOMETRIC (Offutt AFB Orderwire Controller); requests use of freq RF 17, in USB at 1635Z. (ALS)

**11175.0:** ICER 13 (B-52H Bomber, Minot AFB, 5BW) via HF-GCS station for phone patch to obtain current WX, in USB at 1655Z. (ALS)

**11175.0:** PUERTO RICO working KING 76 (HC-130P #65-0976, Patrick AFB 920RQW 39RQS) for phone patch; they QSY to 11220.0, in USB at 1842Z. (ALS)

## Table 2. HFGCS Glossary

*Alpha 1*—Aircraft status code indicating no write-ups, plane is okay

*Alpha 2*—Aircraft status code indicating write-up(s) for non-mission-critical systems

*Alpha 3*—Aircraft status code indicating write-up for mission critical systems

*Block Time*—An aircraft's final arrival time ("in the blocks")

*DSN*—Defense Switched Network, a primary long-distance communications service for the DoD

*DV*—Distinguished Visitor (uses numeric codes from DV1 to DV8 according to USAF protocol)

*MAINSAIL*—General call meaning "any ground station this net," roughly equivalent to calling CQ

*METRO*—Base weather office

*PAX*—Passengers

*Phone Patch*—Service that interconnects radio system to landline telephone network or to the DSN

*REACH*—Generic callsign for any Air Mobility Command flight

*RON*—Remain Over Night

*RTB*—Return To Base

*SAM*—Special Air Mission (VIP)

*S4JG*—Generic call assigned for use by any USN P-3 aircraft

*SKYKING*—Generic call representing strategic forces assets on net



Photo C. A USAF E-4B NAOC aircraft, another HF-GCS "frequent flyer." (USAF Photo)

**11175.0:** OFFUTT working CHILL 32 (B-52H, Minot AFB 5BW) for DSN phone patch BARON OPS (Minot AFB); CHILL 32 is told that 1915Z is the hard land-time because Maintenance needs 6 hours between flights; trouble with #7 Generator; it has decoupled, in USB at 1755Z. (ALS)

**11175.0:** KING 77 (HC-130P #65-0977, Patrick AFB 920RQW) via HF-GCS station for phone patch to McGuire AFB Command Post, reports 1950Z ETA to McGuire AFB, in USB at 1836Z. (ALS)

**11175.0:** OFFUTT working RAMA 81 (B-1B Bomber, Dyess AFB) for DSN phone patch to RAYMOND 37 (Dyess AFB Command Post); reports inbound to Dyess from AR track, in USB at 1824Z. (ALS)

**11175.0:** KING 77 (HC-130P #65-0977, Patrick AFB 920RQW) for DSN phone patch to McGuire AFB Metro, then calls Andrews Metro, then Hilda Metro at Scott AFB; requests arrival WX for McGuire AFB (KWRI) at 2000Z, in USB at 1838Z. (ALS)

**11175.0:** HF-GCS Station ANDREWS working RAMA 81 (B-1B, Dyess AFB, east of Westover ARB); they QSY to 13200 kHz, then return; in USB at 1846Z. (ALS)

**11175.0:** ANDREWS working RANGER 310 (possibly RANGER 32) before QSY to 8992.0 in USB at 1844Z; HF-GCS Station SIGONELLA working REACH 5107 (C-17A #95-0107, Charleston AFB 437AW) for radio check only in USB at 0031Z. (ALS)

**11175.0:** ANDREWS recites 291-character EAM containing several groups of four contiguous characters (e.g., "WWWW" and "EEEE") in USB at 1316Z. (ALS)

**11175.0:** ANDREWS working REACH 901 for radio check in USB at 1430Z. (ALS)

**11175.0:** OFFUTT working LC 919 (NAS Jacksonville VP-8 "Fighting Tigers") for phone patch to FIDDLE (NAS Jacksonville TSC) in USB at 1414Z. (ALS)

**11175.0:** ANDREWS working GUCCI 11 (KC-10A, Travis AFB); 17 pallets, 56 PAX; in USB at 1720Z. (ALS)

**11175.0:** OFFUTT working REACH 234 for phone patch; reports inbound, in USB at 2345Z. (ALS)

**11175.0:** OFFUTT working REACH 6161 (C-17A #06-6161, Travis AFB) for phone patch to Metro; requests 0330Z WX for KSSU (White Sulphur Spring, WV; Metro clearly repeated KSSU but I wonder if pilot meant to ask for WX at KSUU, which is Travis AFB), in USB at 0050Z. (ALS)

**11175.0:** YANKEE 86 (USMC KC-130T out of Ft. Stewart's VMGR-452) calling MAINSAIL repeatedly, no joy, though strong signal here; in USB at 1812Z; OTIS 03 (KC-130J, Cherry Point VMGR-252) via HF-GCS station for DSN phone patch to Cherry Point OTIS OPS, in USB at 1845Z. (ALS)

**11175.0:** REACH 9001 (C-5, 69-0001, NY-ANG, Stewart ANGB, NY) working HF-GCS station for radio checks on two radios, in USB at 1858Z; ANDREWS working REACH 358 for radio check only, in USB at 1900Z. (ALS)

**11175.0:** CONVOY 3226 (C-130T), message relay via HF-GCS station PUERTO RICO, in USB at 2225Z. (MC/SC)

**11220.0:** HF-GCS Station OFFUTT working TUFF 22 (B-52H, Barksdale AFB) for DSN phone patch to Barksdale SOF in USB at 1852Z. (ALS)

**11220.0:** HF-GCS Station PUERTO RICO working KING 76 (HC-130P #65-0976, Patrick AFB 920RQW 39RQS) here after QSY from 11175.0 for DSN phone patch to Patrick AFB King Ops, in USB at 1845Z. (ALS)

**11232.0:** HALIFAX MILITARY working RESCUE 338 for phone patch to RCC regarding SAR; reports en route to SAR scene; tests SELCAL, they QSY to 15010.0 for radio check, in USB at 1839Z. (ALS)

**11232.0:** HALIFAX MILITARY working CANFORCE 2295 regarding WX for Ottawa, in USB at 1905Z; HALIFAX MILITARY working CANFORCE 2699 regarding WX at TIST (Charlotte Amalie, St Thomas, V.I. and TJSJ (San Juan, PR) in USB at 1928Z. (ALS)

**11232.0:** PEACH 33 (E-8 JSTARS) via TRENTON MILITARY for phone patch in USB at 1444Z. (MC/SC)

**11268.5:** Unid station sending clean, hand-keyed text, ZZD31ZZTQRSEV etc., probably encoded or encrypted, in CW at 0559Z. (GV/CO)

**11300.0:** Unid stations in QSO in Spanish, in USB at 0505Z. (GV/CO)

**11406.0:** Unid station sending series of Vs, occasional deviations for a couple of characters then back to sending Vs, in CW at 0537Z. (GV/CO)

**11436.0:** CAMSLANT conducting radio checks with District 7 sectors and air stations, in USB at 1316Z. (MC/SC)

**12133.5:** AFRTS feed from Saddlebunch (Key West), FL; weak but readable, in USB at 0625Z. (GV/CO)

**12923.0:** HLW, Seoul Radio, South Korea, station marker calling CQ, very good signal, in CW at 0632Z. (GV/CO)

**12927.0:** Unid simplex QSO in Spanish, in USB at 0543Z. (GV/CO)

**13096.0:** LMSN calling BF3U in CW at 0650Z. (GV/CO)

**13125.0:** Varna Radio, Bulgaria; YL in Russian running duplex phone patch, very strong here, in USB at 0536Z. (GV/CO)

**13200.0:** HF-GCS Station ANDREWS attempting to work RED ALDER here after QSY from 11175.0, but neither hears the other, in USB at 1719Z. (ALS)

**13200.0:** HF-GCS Station OFFUTT working HEADACHE (E-6B TACAMO) for phone patch in USB at 1747Z; OFFUTT working CHILL 32 (B-52H, Minot AFB



5BW) for DSN phone patch to BARON OPS (Minot AFB); they QSY to 11175.0, in USB at 1750Z. (ALS)

**13200.0:** ANDREWS with 28-character EAM VBCBBY etc. in USB at 2245Z. (ALS)

**13324.0:** Various aeronautical stations with digital transmissions, including Molokai, HI, ground station, in HDFL at 0258Z. (GV/CO)

**13927.0:** USAF MARS Operator AFA5RS (Shelbyville IN) working BAT 71 (B-2A Bomber, Whiteman AFB, MO, at 41,000 feet) for M&W phone patch to a Missouri area code, in USB at 1905Z. (ALS)

**13927.0:** SENTRY 53 (E-3 AWACS from Tinker AFB) via USAF MARS station for phone patch in USB at 1830Z. (ALS)

**13927.0:** USAF MARS Operator AFA9PF (Los Angeles) working SENTRY 60 (E-3 AWACS, Tinker AFB) for phone patch to DRAGNET WEAPONS (Tinker AFB); reports "All students effective" in USB at 1635Z. (ALS)

**13927.0:** USAF MARS Operator AFA5RF (Shelbyville, IN) working REACH 400 (NAS Ft. Worth aircraft) for M&W phone patch to Dallas, TX, area in USB at 1720Z. (ALS)

**13927.0:** USAF MARS Operator AFA9AY (California) working REACH 9014 (C-5B 69-0014, Kelly Field 433AW, over Oklahoma City) for DSN phone patch to HILDA GLOBAL (Scott AFB TACC); is en route from KNYL (MCAS-Yama, AZ) to KORF (Norfolk, VA); intends to crew-rest at Norfolk and continue to MPTO (Tocumen IAP, Panama) tomorrow at 1700, in USB at 2145Z. (ALS)

**13927.0:** AFA9AY working REACH 9014 for DSN phone patches to Norfolk ATOC, then to (Kelly Field "HILL COUNTRY"), then Norfolk ATOC again, reports inbound Norfolk, in USB at 2152Z; AFA9AY working REACH 9014 for M&W phone patch to a Texas area code, in USB at 2202Z. (ALS)

**14389.0:** USAF MARS Operator AFA5AD working GOFER ## callsign (C-130H #96-1003, MN-ANG, 133AW, St Paul, MN; callsign partially copied) here after QSY from 13927.0 for DSN phone patch to Scott AFB Metro; requests WX for CYYT (St Johns, Newfoundland) in USB at 1840Z. (ALS)

**13927.0:** USAF MARS Operator AFA5QW (Greenwood, IN) working HAWK 61 (B-1B, Dyess AFB 7BW) for phone patch; HAWK 61 cannot hear well; will try again later; in USB at 1437Z. (ALS)

**13927.0:** USAF MARS Operator AFA7HS (Leawood, KS) working KING 64 (HC-130P #64-14864, Patrick AFB 920RQW) for radio checks on two radios, in USB at 1422Z. (ALS)

**15010.0:** HALIFAX MILITARY working RESCUE 338 for radio check here after QSY from 11232.0, in USB at 1842Z. (ALS)

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## Life As A Southpaw

by Bill Price, N3AVY  
chrodoc@gmail.com

*“Mrs. N3AVY was, in fact, quite tolerant of the situation, but drew the line at waving a white flag when she wanted to walk across the line of fire.”*

I’m dreaming of a *Wintery Mix*...la la la...” That’s because here in Cowfield County, we rarely get snow, just some combination of whatever Mother Nature can throw at us to make driving (and walking) difficult, while bringing down antennas and power lines.

I’ve been blessed by the luck of the draw which brought me to choose Cowfield County as my base of operations. While it may not be perfect, there are nearby cities, towns, and entire counties which lose their electrical power for weeks on end whenever there is some slight weather anomaly like rain or wind, and of course, the dreaded *Wintery Mix* that often includes sleet and freezing rain. I think that in the 15 or so years I’ve lived here, the longest we’ve been without power was maybe four hours while others have gone for over three weeks.

Another benefit of living within commuting distance of the nation’s capital is watching the extremely impatient (and not so skillful) drivers react to icy roads. This normally means increasing one’s following distance to almost eight feet and slowing to just 10 mph over the speed limit. Think of watching “roller derby.”

Listening to a scanner during a *Wintery Mix* storm is better than most TV comedy. Then again, watching paint dry is better than most TV comedy. I’m a radio person and I’m sticking to my guns (more on that later). It never ceases to amaze me how the police and emergency people (and their dispatchers) can discuss the goings-on without laughing out loud or using some really derogatory terms. There was a time when tow truck operators used two-way radio, and they were perhaps the most colorful of all when describing hapless drivers and their predicaments. All that has been taken away from us now, since they generally do all their communication by cell phone. I really miss hearing those guys.

Some of you may remember that I’d been working with just one paw while waiting for rotator-cuff surgery on my right shoulder, which took place in early July. I was able to continue writing using just half the keyboard, and the surgery was successful, to say the least. My surgeon told me that my shoulder was shredded and (in the words of humorist Dave Barry, I’m *NOT* making this up) that he had to use a sort of a “blowout patch” made of *pigskin* to sew me back together. Of course, this led to a lot of speculation about my post-surgical eating habits, which now include rooting in garbage cans and dumpsters. I also look at bacon with a familial respect.

But seriously, folks—my recovery and rehab is still going on as you read this. Seven weeks of absolutely no use of the arm, followed by very limited use and only passive exercises until mid October when a guy who called himself “Dave” (aka the “Marquis de Therapist”) was turned loose on me with all the implements of torture known to modern physical therapy.

And those seven weeks away from work were truly “house-arrest,” with no driving and not even any code practice (unless I used my left hand). I had lots of time with my radios, and finished listening to my 600-odd hours of Jean Shepherd MP3s, because the only way I could read was sitting at a table (I couldn’t hold a book or magazine properly). In every room I have at least one radio, three of which are shortwave. My “mending wing” kept me off my feet for about 23 hours a day, because I needed that arm to get myself up and onto my feet. Radio was never more of a blessing than during my weeks of recovery.

Eventually, I was able to set up a shooting range between the living room and the dining room, with my “bench-rest” in front of my easy chair and a 10-meter target and backstop near the dining room window. My CO2 pellet rifle kept me occupied for many hours, much to the consternation of She-Who-Must-Be-Obeyed. Mrs. N3AVY was, in fact, quite tolerant of the situation, but drew the line at waving a white flag when she wanted to walk across the line of fire.

There was a day when I thought that electronics in cars would be a wonderful improvement. I’d like a recount on that vote now, please. My car has way too many sensors, all of which seem not to be working, and I have been replacing one after the other until I have no more money and no more sensors to replace. I think I’m going to call the car “Scarecrow,” because I seem to hear it singing, “If I only had a brain,” which is the next thing I guess I’ll have to replace.

I’ve now been back at my HPJIE\* for a couple of months and doing much of what I did before, only with more emphasis on my left hand. None of the major league ball clubs have responded to my application for a position as a relief pitcher, and I no longer have to show a doctor’s excuse if a holdup man tells me to “reach for the sky.” Life is good (if I don’t count the car).

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AOR U.S.A., Inc.

20655 S. Western Ave., Suite 112, Torrance, CA 90501, USA

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