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• Vatican Radio In Tow For A Papal Visit, pg. 18
• A British Museum Showcases Warfare Comms, pg. 23

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ICOM Bonito CS 4.5 Software included! A $69.00 value included FREE with your R1500/ R2500, PCR1500/2500 purchase for a limited time.

Special Note: Prices shown for the R1500/PCR1500 and R2500/PCR2500 reflect the '20 Icom limited time mail-in rebate.

The Icom PCR2500 wideband receiver uses a similar form-factor to the PCR1500, but has several enhancements, including two powerful features: dual watch (the radio can receive two signals simultaneously) and diversity reception (two antennas can be connected at the same time and employed to provide stable reception). The optional UT-118 Digital Unit provides D-STAR® digital voice reception and the optional UT-121 supports APCO25 digital voice decoding. The R2500 is shown above. #2501 $709.95

The Icom R9500 clearly raises the bar for professional receivers. Covering 5 kHz to 3335 MHz, this instrument represents the state-of-the-art in receiver technology! Visit the Universal website for complete details.
12 Antenna Support Structures For The Common Man—How To Build A Tower With Only $500
Proven Tips For Putting Steel In The Sky Without Spending A Small Fortune
Ken J. Meyer, K9KJM

18 The Pope's Radio Station
With The Upcoming Papal Visit, Vatican Radio Should Be A Stop On SWLs' Itinerary
by Gerry Dexter

23 A Stroll Through Military Comms History
England's Royal Signals Museum Highlights Developments In Warfare
by Roy Stevenson

Features

Columns

27 Focus On The Missouri State Highway Patrol
35 Democracy In Action—Broadcast Media Mayhem For The Primaries
39 Meteor-Scatter: Heavenly Propagation! No Sunspots Required!
42 World News, Commentary, Music, Sports, And Drama At Your Fingertips
46 Africa “Re-arises,” And Lots Of Other Places Are Making More Noise, Too
57 Andrews Air Force Base—A Veteran Scannist (And New Columnist!) On Listening To The Home Of Air Force One
64 A New Cycle Is Born
70 Radio History In Triplicate...But In No Particular Order
76 Clearing The Air About CODAR
84 Gimme That Old-Time Radio

Departments

4 Tuning In—An Editorial
6 Washington Beat—Capitol Hill And FCC Actions Affecting Communications
8 InfoCentral—News, Trends, And Short Takes
10 Our Readers Speak Out—Letters
44 Power Up—Radios & High-Tech Gear
63 The Pop'Comm Trivia Corner

On The Cover
Putting "steel in the sky" is just a dream for many, if not most, hobbyists—but it doesn't have to be that way. Our cover story, "Antenna Support Structures For The Common Man—How To Build A Tower With Only $500" by Ken J. Meyer, K9KJM, starting on page 12, shows that with the right combination of time, money, and skill, the sky's the limit. (Cover by the author)

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Place this pocket-sized MFJ Morse Code Reader near your receiver’s speaker. Then watch CW turn into solid text messages on LCD.

MFJ-5600TR, $24.95. Same as MFJ-5606SR but Reverse-TNC male to N-male.

Morse Code Reader

N-Female connector. Tripod screw-mount. Wall and desk shelves. Use vertically/horizontally. 18Wx2/Hx1.5 inches. 2.9 ounces. MFJ-5606SR, $24.95. Cable connects MFJ-1800/WiFi antennas to computer.

Morse Code Reader

Place this pocket-sized MFJ Morse Code Reader near your receiver’s speaker. Then watch CW turn into solid text messages on LCD.

MFJ-5606SR, $24.95. Same as MFJ-5606TR but Reverse-TNC male to N-male.
O Brave New World!

Spring is a time of renewal and possibilities—which for us means new technologies and gadgets. Both were center stage at the Consumer Electronics Show (CES) in Las Vegas, January 7–10. In the interest of full disclosure, I did not attend, but was riveted to the Web posts to a scary degree. I had to share.

The “SuperSession” presentations that enlightened and entertained at the show ran the gamut from useful to goofy, from “here tomorrow” to “not for a few more decades” (aka tomorrow + 1). One such session, on “Disruptive Technology,” was conducted by Dr. Levy Gerzberg, founder and CEO of Zoran Corporation. The good doctor revealed how implanted pacemakers will soon have GPS functionality, so in the event of a cardiac emergency, medical personnel can be directed to the victim’s exact location. That application I’d deem useful, though I shudder at the further implications of the word “disruptive”—I hope that’s just bad marketing.

The Taser International booth laid forth the company’s C2 (for consumer) line. Useful? Well, how many times has this happened to you? You’re sitting on a park bench listening to tunes on your iPod when a ne’er-do-well makes a grab for it. You don’t have time to open your backpack and grab your Taser, so goodbye iPod. But worry no more! The C2 Taser combines a 2-gig music database with massive bursts of instant energy. But I think in “tomorrow + 1” we can do a little better than that. Could body far be converted to electrical energy? Ross Dueber, president and CEO of ZPower, thinks so. In fact, as he puts it: “Before I go to sleep I will plug myself into the wall and wake up hungry.”

Truly, a tomorrow to look forward to.

A Warm Welcome To Our Newest Columnist

But back to today. Pop-Comm is absolutely delighted to be bringing onboard with this issue a brand new “Military Radio Monitoring” columnist: Mark Meece, N8ICW. His name is no doubt well known to many of you through his writings, his involvement in the Cincinnati/Dayton Area Monitoring Exchange (MONIX) and the Association of North American Radio Clubs (ANARC), and, frankly, his long history of mentoring so many people in the hobby. We’re honored that he’s sharing that enthusiasm with readers of these pages. His email address can be found at the top of his column, which begins on page 57—why not drop him a note to ask a question or just to say hello? Let him know what interests you in MilCom.

But, don’t worry, our previous columnist, Tom Swisher, hasn’t gone any further than the “Plane Sense” column. Tom takes off with that one next issue.

by Edith Lennon, N2ZRW, Editor
Do dropped calls have you at the end of your rope?

Improve your cellular signal and coverage area with Wilson amplifiers and antennas.

Wilson's 40+ years of experience means quality products from a leader in the wireless communications industry. What this means to you is improved cellular performance at home, in the office, or on the road.

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Capitol Hill And FCC Actions Affecting Communications

AFCO Summit Focuses On Technology In Public Safety Communications

Just one key issue was on the agenda for the Association of Public-Safety Communications Officials (AFCO) International Winter Summit: technology in public safety communications.

Field: a summit in Orlando, Florida, the fifth annual event was conducted over three days, taking attendees “on a three-day journey through the technological challenges and opportunities faced by public safety communications executives,” AFCO said. Sessions included:

- Is 700 MHz Broadband In Your Future?
- Leveraging Broadband To Improve Public Safety And Emergency Crisis Response
- Lessons learned from the Minneapolis Bridge Collapse
- What Communications Centers Can Learn From Corporate America
- Funding Interoperable Communications

In a report on the organization’s website, AFCO said, attendees took part in “practical sessions dealing with today’s hot topics—from the regulatory impacts of radio and rebanding, to understanding VoIP and wireless connectivity issues, to strengthening networks and standardizing data exchange.”

“Your peers are a wealth of knowledge, and most are struggling with many of the same concerns you face day to day,” AFCO said prior to the summit’s start. The summit, with its focus exclusively on technology, is “the only executive-level event tailored to foster technical information sharing with others in the public safety communications field.” AFCO said.

“Whether you’re a technical administrator in a public safety communications agency, a city manager, an elected official, or a government CIO,” AFCO said, “the 2008 Winter Summit was the ‘only place to find a complete education on what’s happening with technology in public safety communications.’

$250,000 Allocated For Digital Communications Network In Oregon

Oregon Governor Ted Kulongoski’s Strategic Reserve Fund has allocated to the State of Oregon’s Office of Emergency Management (OEM) $250,000 “to further develop and enhance a statewide amateur radio digital communications network,” according to a statement from an official of the American Radio Relay League.

“This network, the Oregon ARES Digital Network (OADN), already uses a combination of different radio equipment and spectrum segments, computers and the Internet to provide a robust backup communications system in times of disaster,” said ARRL Oregon Section Manager Bonnie Altus, AB7ZQ. “With its enhancements, all Oregon counties will be able to communicate with the state OEM.

“In December 2007, this system proved its usefulness in the storms and floods by utilizing Wintlink stations in Lincoln and Clatsop counties to communicate with OEM,” said Altus. “Early in that activation, the OEM’s Amateur Radio Unit found they were not able to keep up with maintaining a complete log of communications when using voice communications, but Wintlink activities maintained an automatic log for them.”

The main purpose of the OADN is to provide back-up digital communications between Oregon Emergency Management and county Emergency Operations Centers and other state agencies in Salem, if normal communications systems fail in an emergency, Altus said.

According to the League’s publication, the ARRL Letter, “after a visit to one of the severely affected towns, Gov. Kulongoski said, ‘I’m going to tell you who the heroes were from the very beginning of this...the ham radio operators. These people just came in and actually provided a tremendous communication link to us.’

“Oregon’s OEM said 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 ARRL said that ARES/RACES groups in each county would be responsible for installation, maintenance, and operation of the network through an Intergovernmental Agreement between the individual county Emergency Managers and Oregon’s Office of Emergency Management.

FCC Issues Warning To Former Radio Amateur, Alleging Interference

The Federal Communications Commission has issued a Warning Notice to David O. Castle, ex-WA9KJI, of Evansville, Indiana, for alleged deliberate interference to a repeater on the 2-meter band. Riley Hollingsworth, Special Counsel in the FCC’s Enforcement Bureau, issued the warning in January.

The complaint says that “monitoring information before the Commission indicates that [Castle has] been operating portable radio transmitting equipment on 2 meters in order to interfere with a local linked repeater system on 146.835/146.250, and that [he has] provided a portable unit for others to use in the same manner.” The Commission wrote Castle that “you have no authority to operate amateur radio transmitting equipment on any frequency.”

Castle’s alleged actions are “a violation of Section 301 of the Communications Act of 1934, as amended, 47 U.S.C. Section 301, and carries criminal penalties including monetary forfeiture [fine] and prison. Monetary forfeitures normally range from $7,500 to $10,000,” the Commission said.

According to published reports, Castle’s application to renew his amateur radio license was “denied with prejudice” by an Administrative Law Judge in August 2007.

EMCOMM Software For Windows Available For Beta Test

A suite of software programs designed for point-to-point, error-free emergency messaging up to or more than 100 miles is available for Windows users.

“The NarrowBand Emergency Messaging System (NBEMS) development team announced...that a Windows NBEMS software suite for beta testing is now available,” the ARRL Letter reported earlier this year.

“According to developers Skip Teller, KH6TY and Dave Freese, W1HKJ, the NBEMS system is designed primarily for use on VHF and up, or on HF with Near Vertical Incidence Skywave (NVIS) antennas.

“The system uses the computer soundcard as the modem,” the Letter said. “Other than a simple interface connection between the computer and transceiver, no additional hardware is needed. Composing and sending emergency messages on NBEMS is no more difficult than sending e-mail via the Internet. All forwarding is done by stations manned by live operators on both ends who can confirm that a frequency is clear locally, or negotiate a frequency change to avoid causing interference.”

Additionally, the NBEMS software can be used for routine communications on PSK31, PSK63, RTTY, or MFSK16, and “is capable of sending flawless, high resolution, passport photo-sized color images in less than 10 minutes over any path that can sustain PSK250 without excessive repeats,” the Letter said.

To download the NBEMS suite for beta testing, visit the NBEMS website at http://w1hkj.com/NBEMS/ Comments and bug reports can be sent via e-mail to kh6ty@comcast.net.
Bearcat® BCD396T Trunk Tracker IV
Suggested list price $799.95/CEI price $519.95
APCO 25, 9600 baud compact digital ready hand-held TrunkTracker IV scanner featuring Fire Transponder, Emergency 900 MHz and Dynamically Allocated Channel Memory (up to 6,000 channels), SAME Weather Alert, CTCS/DCS, Alpha Tagging. Size: 2.40 Wide x 1.60 Deep x 5.50" High
Frequency Coverage: 25.000 - 512.000 MHz, 764.000 - 775.895 MHz, 794.0000 - 823.000 MHz, 849.0125 - 868.995 MHz, 1220.000 - 1230.000 MHz. The BCT96T scanner was designed for National Security Emergency Preparedness (NS/SEP) and homeland security use with now feature a unique jam resistant response staff to help you selecting frequencies likely to be used by public safety and public service services just as for conventional two-way communications were used. Dynamically Allocated Channel Memory - The BCT96T scanner's memory is organized so that it more closely matches how radio systems actually work. Organizes channels in memory in a way that changes as new channels are added or deleted. Your scanner has a dynamic memory management system. 3,000 channels are typical but over 6,000 channels are possible depending on the scanner feature included. You can also easily determine how much memory you have left Proprietary Systems The BCT96T is preprogrammed with over 400 channels covering police, fire, and emergency medical. 13,000 channels are possible depending on the scanner features used. Unique Data Skip - Allows your scanner to skip over unwanted data transmissions and birdies. Electronic Memory - If your scanner is not preprogrammed with a particular channel, you may also operate the BCT96T using a 3AA alkaline battery pack. Unibody design - The BCT96T is rugged and can be used in both trunked and non trunked public safety and public service systems. Suggested list price $799.95 CEI price $519.95

Ordering Information
For orders and more information, visit www.usascan.com or call 1-800-USA-SCAN.
According to numerous published sources, including the U.S. Navy Times, a local radio operator—perhaps a prankster known as the “Filipino Monkey”—may have nearly triggered a shoot-out between the United States and Iran on January 6 in the Strait of Hormuz at the entrance to the Persian Gulf.

The U.S. military complained that its warships had been harassed by Iranian vessels at least three times since December in the Strait of Hormuz, the only way into the Gulf by sea. An audio-video tape released by the U.S. military showed that in the latest incident, on January 6, five Iranian speedboats dodged around and between a heavily armed cruiser, a destroyer, and a frigate for about half an hour as they steamed together through the Strait into the Gulf. One of the American warships trained a machine gun on an Iranian boat that came within 200 meters of the U.S. vessel. But the Iranians turned away before the commander gave the order to fire.

At the height of tense confrontation, a male voice speaking in heavily accented English on an open frequency was heard to say: “I am coming to you. You will explode after ... minutes.” Initially, the Pentagon attributed this voice to one of the Iranians on the five speedboats. Now it says the source of the threatening commentary cannot be pinpointed.

The U.S. Navy Times suggested that the radio transmission may have come from a local heckler known as the “Filipino Monkey” who might have listened in on ship-to-ship traffic and then intervened. U.S. military personnel have reported many similar threatening or insulting radio transmissions in the past, but say they don’t know whether they come from Iran or somewhere else in the Gulf.

According to the U.S. Navy Times, Rick Hoffman, a retired Navy captain who spent many years at sea in the Gulf, had plenty of experience with the infamous radio operator. “For 25 years there’s been this mythical guy out there who, hour after hour, shouts obscenities and threats. He could be tied up pierside somewhere or he could be on the bridge of a merchant ship,” Hoffman was quoted as saying in the Times piece. “He used to go all night long. The guy is crazy. But who knows how many Filipino Monkeys there are? Could it have been a spurious transmission? Absolutely.”

Iran has played down the incident, accusing Washington of deliberately stoking tensions while President George Bush was in the Middle East trying to rally a regional Arab coalition against Iran. Teheran says the boats were merely trying to identify the U.S. vessels. But the U.S. Navy has been keenly aware of the danger of speed boat attacks since al-Qaeda operatives packed a small boat with high explosives and rammed the destroyer USS Cole while it was docked in Yemen in October 2000, killing 17 U.S. sailors, wounding 40 and causing around $250 million in damage to one of the navy’s most sophisticated warships.

Radio Pakistan External Service Drops Eight Languages, Retains Seven

Pakistan Broadcasting Corporation (PBC) has decided to retain and reinforce its external service broadcasts in Hindi, Gujrati, Bangla, Pushto, Dari, Persian and Chinese languages. The PBC says that contents of the programs of these services will be improved in line with its international broadcast partners with more emphasis on news, current affairs and entertainment. There will also be a readjustment of its broadcast transmitters and the services will be relayed through powerful transmitters to improve the broadcast signals.

The decision to revamp the external services of Radio Pakistan was made last year. The Radio Pakistan External Service schedule webpage indicates that PBC will drop English, Turkish, Turkmen, Arabic, Tamil, Sinhali, Nepali, and Russian. The staff that will become surplus due to the revamping is to be absorbed in other services of Radio Pakistan.

Delphi and WorldSpace Announce Development Agreements For European Satellite Radio Receivers

Delphi Corp and WorldSpace Satellite Radio have announced that the two companies have an agreement in which Delphi will design the first WorldSpace satellite radio mobile receiver for the European aftermarket based on a WorldSpace-developed reference design. In addition, the two companies announced that WorldSpace has selected Delphi to be a lead designer for its European OEM receiver and reception system applications that will also be based on WorldSpace's reference designs. Delphi made the announcement at the 2008 International Consumer Electronics Show.

Designed by Delphi for European aftermarket applications, the WorldSpace aftermarket receiver will receive the signal from the WorldSpace satellite, which covers the European continent. The satellite digital radio (SDR) standard that was approved by the technical committee of the European Telecommunications Standards Institute (ETSI) in November 2006 is the core of the technology that WorldSpace is implementing in its satellite radio communication networks in Europe. It combines terrestrial repeaters and satellites and permits the most efficient use of the spectrum allocated for satellite radio (12.5 MHz from 1479.5 to 1492).

The aftermarket receiver is expected to be launched in parallel with the start of WorldSpace’s mobile service beginning in Italy in 2009. According to the company, WorldSpace expects to begin broadcasting 40 to 50 channels of commercial-free music, news, talk, entertainment and sports programming 24 hours a day, using the most advanced digital audio technology currently available (MPEG-4 accPLUS v.2).
With the supplied accessories the RC-D710 is a full upgrade to the TM-V71A. The TM-V71A will have full functionality of the TM-D710A by exchanging the TM-V71A panel with the RC-D710.

**This is where it gets interesting!**

PG-SJ connection kit makes the RC-D710 a complete standalone APRS/TNC for your current radio. This option allows connectivity with previous and current Kenwood models* as an external modem.


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G4 WORLD RECORDER
AM/FM/Shortwave Portable Radio with MP3 and SD Player | $200

- AM, FM, LW, Shortwave (1.7 - 30 MHz) and SSB
- 700 programmable memory presets
- Variable-rate tuning knob, direct keypad frequency entry, up/down push-buttons and auto-tuning for all reception modes
- FM station Auto Tuning storage (ATS)
- Selectable bandwidths: 7.0, 4.0, 2.5 KHz

G5 GLOBAL TRAVELER
AM/FM/LW/Shortwave Radio with SSB (Single Side Band) | $150

- AM/FM-stereo and Shortwave (1711-29999 KHz)
- Single Side Band (SSB)
- Digital Phase Lock Loop (PLL) dual conversion
- Digital Display world-band radio
- Station name input features allow a 4-character input of the stations call letters

G6 AVIATOR
AM/FM/LW/Shortwave Radio with SSB | $100

- AM, FM, Aircraft Band (117-137 MHz) and Shortwave (1711-30000 KHz)
- Dual conversion
- Three types of automatic scan tuning
- 700 memories with 4 character page naming
- 3 programmable alarm timers (volume and frequency can be preset)
Antenna Support Structures For The Common Man—How To Build A Tower With Only $500

Proven Tips For Putting Steel In The Sky Without Spending A Small Fortune

by Ken J. Meyer, K9KJM

Almost everyone who’s been in the radio business or hobby for any length of time knows that a radio station is only as good as its antenna system. And for that system to be much good, the antennas usually need to be mounted high above the surrounding area. That eventually leads radio communication enthusiasts to say to themselves “I sure wish I had that in my backyard” whenever they pass some tall commercial-type radio tower.

As much as we’d like to have a big tower in our backyards (or even a tripod and mast on the roof), there are a number of potential roadblocks that must be overcome to get the tallest and best antenna support structure, or “tower,” possible. Lack of funds can definitely be a big roadblock. But it doesn’t have to be that way; you just need to make the most of something called a “Resource Triangle.”

Geometry Is Your Friend

Years ago I heard how any project can be accomplished with the right combination of elements—to your Resource Triangle, that is, with the three points being TIME, MONEY, and SKILL. That triangle can be adjusted any which way. If you have lots of time and skill, you can succeed at most any project with very little money. Or, if you have lots of time, but very little skill and money, the project still can be accomplished; it will just take much longer. You get the idea. The exception of course is money. If you have boatloads of money, you can get by without a lot of either skill or time; you can just hire it all out!

Think small...An example of an old TV tower recycled to a 50-foot Rohn 25 tower holding up 11-meter CB antennas.

Kenneth J. Meyer, K9KJM, has been a life-long communications enthusiast. In addition to his Extra class ham license, Ken also has an FCC GMRS license, operates an FCC licensed VHF commercial radio system, and provides technical support to various radio communications systems. He currently has seven towers in his backyard.
As mentioned, the expense connected with a tower is an obstacle for many; it certainly has been for me! So over the years I found many ways to use time and skill to accomplish a goal like getting a decent tower without breaking the bank.

**If You Can Build A Backyard Swing Set, You Can Probably Do This, Too**

To build your own tower, you must first determine if the law is on your side. There are a few key questions to ask yourself: Do you own the property in question, or rent? If a renter, you need to check with the landlord. If you're a homeowner, is there a (dreaded!) homeowner association private agreement with restrictions on your property? Then there's the FAA. Are you near an airport or under a flight path?

You also need to check with the local zoning or planning department. Most rural areas have almost no regulations for non-commercial towers, but some cities and villages do have restrictive ordinances that need to be addressed. Note that even if there is some type of local ordinance restricting your plans, if you're a ham you have PRB-1 (a federal law you can read more about at http://wireless.fcc.gov/services/index.htm?job=prb-1&id=amateur&page=1) working in your favor. The threat of a federal lawsuit usually will work magic in getting the local zoning board to see things your way, or at least in being willing to compromise on the height of the tower allowed.

All these rules and regulations may have some people saying, “The heck with it, I don't need a tower that bad,” or you may be tempted to think, “My little 30-foot mast will go unnoticed.” To the first I say it’s much easier than you may think; to the second I say: builder beware. You don't want to go through all the trouble and even moderate expense of building a nice antenna support only to have someone show up with a legal order to make you take it down!

**Now The Fun Stuff**

After you've determined that you can indeed legally put some steel in the sky, it's time to do the really fun part: planning just what you can do on your specific property. If you own or rent a small city lot, a 200-foot tower may be a little far fetched. If your lot is only 100 feet wide, maybe a 50-foot tower would be more appropriate. Regulations will affect...
this decision, too, since many rules state that the "fall zone" of any tower lie within your own property lines.

Your homework also included researching various types of towers, manufacturers, and materials, and learning about antenna support structures in general. Fortunately, research doesn't cost anything, and—especially if you have access to the Internet—is fun and easy.

**A Few Words On Towers In General**

Here's a little tower history to give you a foundation (pun intended!):

Only about 30 or so years ago, television reception was a real challenge in broadcast fringe areas, which prompted the purchase and installation of "TV towers" for better TV viewing—and to get those "blacked out" football games. Now that cable TV and direct-to-home satellite dish antennas have become the norm, many of those old TV towers are going unused. The good news is that they're a perfect source for very low-cost antenna support structures for radio enthusiasts! All you have to do is to go door-to-door asking the owner if he or she would like to get rid of that old TV tower. In many cases, the answer is YES! And the price is usually right: either free or close to it. A small "Wanted" ad in a local newspaper may also bring in many leads, especially if you can indicate that the old tower would be used for REACT, ARES, or other public service-type operation.

But before you go knocking on doors, you need to know what you're looking for. Most of the early TV towers were what I call a "Rohn 6-type." This refers to a tower with fairly small-diameter tube legs (only about 3/4 inch), horizontal braces between the legs, and no diagonal braces at all. There were a number of companies making them, and several different versions, that were popular in the 1950s. Unless there are some special circumstances, I would avoid this type of tower.

Instead, seek out something with a somewhat larger diameter leg (about 1-1/4 inches outside diameter) and that has diagonal solid steel braces making a "Z" pattern up the tower. I refer to this design as "Rohn 25G-type," though other manufacturers made similar models. A Rohn 25G tower will free-stand to a height of 50 feet with a reasonable wind load of antennas, and it can be installed with guy wires (at 80-percent of the tower height for maximum strength) to a height of over 150 feet. Yes, you would need to collect a number of TV size towers to come up with a really tall tower like that, but it can be done!

Be aware that Rohn also made a model very similar to the 25G, known as the "20." The Rohn 20 can also be a useful tower,

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**Tools Of The Tower Trade, And How To Use Them**

You've gotten a good overview of the steps involved, now here's what you need to help you take them:

**Bolt Action**

As you're disassembling your discovery, the easiest way to remove the tower leg bolts is with a plain carpenter's claw hammer. Remove the nuts with wrenches, use the hammer to tap the bolt as far as it will go, then use the claw part of the hammer to just pull the bolt out like an old nail.

A word about the bolts: Rohn 25 bolts are galvanized grade 5 fine thread 5/16 and 1/4 inch. If you can save any of them, good, but you'll still have to buy some new ones, so ONLY use grade 5 steel bolts! Do NOT use stainless, or grade 8. Stay with what the factory used!

**Clean Up Your Act**

Use a wire brush to get any loose scale or rust off the tower sections. In most cases they will need a little touch up. The product to use is "Instant Cold Galvanize" in either spray (much easier) or brush-on form. This is sold in many hardware, auto, and home supply stores.

To make your "new" tower really look new, a very light coating of bright aluminum spray paint (I just use 99-cent-a-can type) will really make it look nice. Or, if you want more of a "stealth" installation, just leave the Cold Galvanize alone. It dries to a nice dull grey that will blend in with the sky and really needs no topcoat.

**Guy Wire Guide**

If you decided to put up a guyed tower, the correct guy wire to use would be either 3/16 or 1/4-inch EHS (Extra High Strength) galvanized steel type. A low-cost source of 1/4-inch can be your friendly local cable TV construction crew. Most cable companies use 1/4-inch EHS. (Power and telephone companies use 3/8-inch and larger, which is pretty heavy for a small tower.) If you're lucky enough to find any cable TV overhead construction work in your area, your odds of getting some of that cable (and the "pre-forms" or "grips" for each end) are pretty good!

You'll need some way to put proper tension on the guy wires. For those really short of money, some of the two- or three-bolt cable clamps used by the cable company as anchor rods could be pressed into service, along with some extra cable clamps for extra security. The best way is to install turnbuckles at each anchor rod. The minimum size would be 3/8-inch high-quality galvanized steel type; 1/2- or 5/8-inch would be better.

There are various types of tension gauges available, but on a small tower the "feel" of the guy wire by an experienced person works about as well as anything. If you're doing your first tower, it's a good idea to hire a tower professional to stop by after your job is done to inspect the whole thing, and have him or her pay special attention to guy wire tension. Most tower specifications call for the tension to be 10 percent of the cable strength, so a 6000-pound cable should be tensioned to 600 pounds. I usually tension smaller towers on the light side to keep down-pressure to a minimum.

If you're unable to obtain guy wire supplies from the local cable company line crew, Texas Towers (http://texastowers.com/online.htm) has almost everything you could want for a tower installation, including "Phillystran," a non-conducting, very high-strength material that can be used for guy wires. While Phillystran is fairly expensive, it's the way to eliminate the steel guy wires up near the top of the tower if you want to side-mount lots of antennas, or if you want to use the tower itself as an HF antenna.

By the time you calculate all the insulators, pre-forms or cable clamps, and extra labor to install insulators the old-fashioned way, Phillystran turns out to be a pretty good deal. It's also an option that can be easily utilized at a later date if needed.
A Word of Caution: Pictured here is a Rohn 25G tower, about 12 inches wide. Should you be able to find a similar, or even larger, tower you are very lucky indeed! Rohn also made a slightly larger model, the 35G (also called a Motorola contract tower), which is very rare, as well as a model 45G, a heavy-duty tower. But be careful: Rohn also made a lighter-duty model, the “20.” The 20 and 25G can be distinguished because the 20 has about 18.5 inches between horizontal “steps” and only seven horizontal bars; the model 25G has eight horizontal braces, and about 15.5 inches between braces. The 25G is rated to a height of about 150 feet when properly guyed; the 20 is only good for very small antennas and a height of about 40 feet! Don’t confuse the models!

but is not nearly as strong as the 25G. See the boxed photo and caption of the Rohn 25G tower for details on how to tell them apart.

Prior Planning Prevents...

Make sure you’ve carefully planned out just how you’ll be getting that old tower safely down and safely home. If you have no problem with heights, you might be able to do it yourself (with a helper and a good-quality safety belt!), but if you have no experience climbing you’ll definitely need someone who can help you take the tower down.

Hopefully, you’ve already joined up with people with similar interests from your area, but if not, this is a great time to do so. Join a ham radio club or the local REACT team. Find a friendly tower worker, utility lineman, steel worker, or someone else you could team up with. Be open to looking and asking, and sooner or later it will all come together.

Whatever you do, don’t rush it or take any needless chances doing work you’re not comfortable with. Tower work can be dangerous! NEVER work on a tower without proper safety equipment, including safety belt or harness, hard hats, and so on.

Step By Step

So now you’ve found your tower, maybe a typical 25-year-old Rohn 25G, freestanding model, complete with a rotor at the top and an old television antenna dangling in the wind. Most of these smaller towers have not had proper maintenance, so the leg bolts, especially those near ground level, will be worn, leaving the tower somewhat wobbly. But that’s why you got it for free, or close to it!

The way to make those old “loose” joint towers safe is to borrow (or buy) some cable “come alongs” to jack each tower leg tight together again, especially that first, lowest tower leg joint, which is normally the loosest. Once you have done that, you (or your qualified helper) should be able to climb up. If the tower really seems loose, attach some type of temporary guy ropes to help steady it. It’s then a simple matter to take the old antenna and mast down and to unbolt the upper tower section.

Borrow or build an erection fixture, or gin pole (a simple piece of pipe with a rope pulley at the top), so the weight of the tower section can be mostly handled by the helper on the ground; experienced tower workers are able to “manhandle” Rohn 25 sections without a gin pole. Factory-made gin poles have fancy clamps to easily attach to the tower legs, but you can use other types of attachments, as long they’re sturdy and can handle the weight. Again, don’t take any chances with this stuff. Hint: I did it myself years ago—NOT a good idea!

Take it from me, if you’re uncomfortable with any of it, don’t do it. You might have to dig out a little more money to hire a friendly cable TV guy to stop by with his bucket truck to take the sections down, but it’s worth it in the end.

Once all the tower sections are on the ground, you’ll have the base left sticking out of the ground in most cases; the installers usually just dug a one-cubic foot hole and filled it with concrete around the first tower section. Just take a hacksaw and cut the legs off as close to the ground as possible. Now you can transport your goodies home. Many of these towers will easily fit in the back of a small pickup truck, but you may need to make more than one trip.

With everything now home, it’s helpful to use a pair of saw horses to get the tower sections up at a suitable working height. Sight down each section to make sure it’s nice and straight. Look over the bolt holes to see if any are elongated from too-loose bolts. If some holes are badly elongated, I’d recommend using those for a guyed tower only, although some people have drilled out the holes to the next larger size (3/8 and 5/16 inch) with success. If the bolts have “crushed” the legs somewhat where they bolt together, you can take a short section of pipe that just slides inside the leg and “tap” around with a hammer to get them round again.

Location, Location, Location; Foundation, Foundation, Foundation

The location of a tower in relation to your “radio room” is always a compromise. For VHF and UHF it’s nice to keep it as close as possible to reduce coax feedline loss. Then again, for
HF use, and for lightning protection, it's good to have it a reasonable distance from your radio equipment. When you lay out where your tower will go, keep in mind that someday you just might want to make it even higher. Plan ahead for possible guy wire anchor points so you'll have that height out from the base for maximum strength. For example, a 100-foot-tall tower should have the anchors 80 feet away from the base of the tower. Actual distance is measured to where the guy anchor rod enters the ground, so the hole and concrete will be a few feet further away from the tower. If you know anyone who works for the local power, phone, or cable companies, galvanized steel anchor rods can usually be recycled from them.

A typical anchor hole for a 100-foot tower would be 3 feet by 3 feet, with 1.5 feet of concrete, buried 4 feet down. Actual dimensions will depend on what your local soils are like. Follow the specs written by Rohn; you can find them at www.radian corp.com/ROHNNET/rohnet2004/html 2004/index.html. You'll need a full cubic yard (at least) of concrete for your tower base, and about another yard for your anchor holes if you'll be guying this tower. The ONLY way to get the concrete is to have the big truck come over! Do NOT consider the little sacks of premixed cement and gravel for your tower! Years ago you could save a few bucks by buying the cement, sand, and gravel to mix your own concrete. Those days are long gone. Now the easy, simple, cheap way is to just be ready when the truck comes to pour.

Contact the local Redi-mix concrete people and tell them what you're doing; many concrete jobs have those big trucks heading back to the plant with several yards of concrete left over from some other job. That's the concrete to get! Tell the dispatcher what hours of the day and days of the week you can be available to pour. If you have to order your own, you might be hit with a "small load" extra charge. Try to avoid that! Some areas also have rental places where you rent a small mixer full of concrete—that's another "TO AVOID." You need over one cubic yard of solid concrete that will be strong. Don't take any chances with the concrete! You want a good strong mixture, with 4000PSI the ideal, but get at least a 3000PSI mix.

Make sure you have some fairly sturdy temporary guy wires or ropes holding the tower two sections of the tower plumb, and check to make sure it stays that way as the concrete is pouring. Then sit back and wait—at least two weeks—before starting to assemble the tower. Concrete reaches well over 80 percent of its ultimate strength in 28 days.

To assemble, just reverse the procedure you used with the gin pole in taking the tower down. With at least two people, it will go fast, and in an hour or two it will be up and finished! Don't forget to take a few pictures as it goes up!

The Best Part...

If you really scrounge and get many of the supplies as described in this article, you may be able to build that 50- to 100-foot tall tower for $500 dollars or less! And the same principles apply if you're going for a simple pipe mast or a tripod on your roof. Search around for an old TV antenna setup and "recycle" it before shelling out the big dollars for a brand new installation. Yes, it can be done—I've done it myself many times and so have others! But even if you can't do it for that low of a price-tag, by following some of these ideas you should be able to build a good tower/antenna support for much less than full retail. The sky's in reach!
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Radio Vaticana

The Pope’s Radio Station

With The Upcoming Papal Visit, Vatican Radio Should Be A Stop On SWLs’ Itinerary

by Geoff Dexter

The Pope is going to visit the United States! And where the Pope goes there goes Vatican Radio, fully equipped, ready and standing by to report on his every public word and appearance.

The Papal visit, set for April 15 through 20, is scheduled to include stops in Boston, New York, and Washington, D.C., so most of us won’t have an opportunity to see him in person, even from a distance. But, this being America, you’re guaranteed that our media certainly won’t ignore the event and that some outlets will pay more attention than others. Certainly Vatican Radio will report on the Pontiff’s activities using its worldwide reach and will record every word, eventually destined for their extensive archives.

It’s a safe bet you’ll be able to hear reports direct on Vatican Radio’s English language service on shortwave as the visit proceeds, and likely his pronouncements as well. News of the visit will be included on all of the Radio’s extensive language offerings—38 in all—as well as seven others they can call up if needed for special occasions or events. In all, that works out to an estimated 56 hours over the week or so of the visit that could be devoted to the Pope’s activities. Obviously, though, other Church-related news might be touched upon, too.

Vatican Radio Then And Now

Simply based on the potential program hours available it’s obvious that Vatican Radio is anything but a rinky-dink operation. The station was the idea of Pope Pius XI who was concerned over the millions of Catholics and their local churches who were living under authoritarian regimes, which made it difficult for the Vatican to reach them. Pius XI wanted to be able to communicate with them directly, without having to deal with a dictatorial government. So, shortly after the treaty creating the Vatican was signed in 1929, the Pope took the initial step toward having a radio station within the Vatican itself. He gave the job of putting it together to a fellow named Gugliemo Marconi (yes, that guy!). Pius XI officially inaugurated the station on February 12, 1931. A few years later, by the beginning of World War II, Vatican Radio was broadcasting in nine languages.

By the time the Cold War began and Communist regimes dominated Eastern Europe, Vatican Radio responded with a significant expansion. Under Pope Pius XII a large new transmission complex was built at Santa Maria di Galeria, comprising

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The 110-acre Vatican City-State is filled with churches, offices, and Vatican Radio facilities.

28 huge directional antennas and five others which couldn’t be rotated. Feeding them were four 500-kW behemoths, as well as five 100-kW transmitters. (There were also seven mediumwave and five FM transmitters there for local broadcasting). This facility, still in regular use today, also allowed Vatican Radio to expand its broadcasts into Africa, Asia, and Latin America.

Santa Maria di Galeria is not situated on the original Vatican grounds but is just a bit to the north and west. The site is still considered part of the Vatican, just as an embassy is considered a part of the nation it represents. Purists who want to hear the “real” Vatican can try the only shortwave frequency in use from this site, 4005, which is active from 0340 to about 0745, mostly using European languages. The power is just 10 kW. The Vatican currently uses relays at Novosibirsk (7300, 12070), Khabarovsk (9600, 13785), Atamanovka (6140), Russia, Tashkent, Uzbekistan (9310), Werchital, Germany (5885), and Sackville, Canada (9600), but the frequencies mentioned here are not exclusive to the sites mentioned.

Over the ensuing decades broadcast languages expanded, so did staff size, which grew to 370. In 1970 the station’s headquarters were moved into the Plazzo Pio (Pio Palace) where most of the day-to-day studio work currently takes place. As technology continued to progress Vatican Radio added satellite broadcasts, DRM and Internet feeds. There are nine studios, where programs are produced for live broadcast or recorded for later release. All the studios are equipped for digital production. The building also houses the station’s office and an auditorium used for press conferences, seminars, and such. Also housed in the Plazzo...
Pio is a library, with archives containing important past broadcasts, and a chapel. This palace also holds the Promotions Office where those excellent Vatican Radio QSL cards are designed!

The tower atop the Leo XIII Palazzina in the Vatican Gardens, where the station has its technical control center, supports FM Yagi broadcast antennas and also antennas used for the point-to-point feeds of program material to the Santa Maria di Galeria complex. Some live concerts and other live musical performances originate in two additional studios in this building (the station has several facilities throughout the Vatican). The main transmission control center is also in this building.

Also in the Vatican Gardens area is the Palazzina Marconi, which was home to the original broadcast station and still holds the two mediumwave transmitters and one 10-kW unit for shortwave (see above). Also here is the station's technical museum, which is open to the public. It contains nearly 200 pieces
of historic equipment, ranging from telegraphy to transmitters.

**Broadcasts**

As mentioned, Vatican Radio's programs go out in 38 languages. There are 35 language "sections," each of which may contain two or more tongues. The Internet notwithstanding, Vatican Radio is still a big gun on shortwave with an extensive schedule to all areas of the world. In addition its programs are aired on well over 1,000 domestic stations—Catholic and not, commercial and non-commercial—all over the world. Brazil has the most local stations airing material from Vatican Radio.

Newscasts go out several times per day in the major languages, tailored to the target area. Needless to say, Vatican Radio tends to focus on cultural, political and social issues of special concern to the
Church. The station’s printed material claims that there are “encouraging signs” of (increased) interest in its programs in Asia and even in Muslim countries.

There are six English news bulletins on the air each day. That includes the separate English language services for Africa and South Asia. There are also daily musical programs of classical and popular music as well as music-related features and interviews. Vatican Radio makes it a point to record live concert performances for later broadcast. As you’d expect, church services are allotted a good share of airtime. The Mass in Latin airs daily at 0630, beamed to both Africa and Asia.

Hearing Heavenly Voices

Once the Pope arrives in America you may want to monitor English broadcasts from the Vatican. The accompanying table shows Vatican Radio’s English language broadcasts, but please note that this listing is based upon the B-07 frequency schedule currently in effect. The A-08 season will be underway by the time of the Pope’s visit so these frequencies will have changed to one degree or another. You should check the Vatican Radio website (radiovaticana.org) or the EiBi “by-time” listing at www.susi-und-strolch.de/eibi for changes.

And be sure to QSL the broadcasts. Vatican Radio is an excellent verifier of reception reports. As usual, make them as complete and detailed as you can. The address is 00120 Citta del Vaticano, Vatican City State. Carol Ganbardella is the secretary for the English Service. Listen in. Report. Let them know you appreciate their efforts!
A Stroll Through Military Comms History

England’s Royal Signals Museum Highlights Developments In Warfare

by Roy Stevenson

A Saracen Armored Command vehicle and an AFV439 Armored Communications vehicle guard the parking lot outside the Royal Signals Museum, located at Blandford Camp in Dorset, England. The large, gray, metal-walled repository of history opened in 1997 to showcase the history of the Royal Corps of Signals. It also provides a crash course on the science and technology of military communications from the Crimean War to the Gulf War.

Providing marvelous insight into a relatively little-known area of military operations, the museum tells about the men and women who operated signaling equipment and their contribution to England’s history in the past 150 years. There’s also a great selection of books, souvenirs, and gifts about military signals and radios in the bookstore by the front entrance.

There are enough radios and communications equipment displayed here to qualify it as nirvana for radio and signals enthusiasts. In addition, some unsung but fascinating aspects of military communications are represented in its exhibits, such as Women at War, Behind Enemy Lines, D-Day, Special Forces, Animals at War, Dispatch Riders, Military Signaling Vehicles, and Antique Signaling Equipment.

The Evolution Of Communications

The first exhibits, a combination of reader boards and display cases, tell the general history of military communications. Runners provided the first form of long-distance signaling, followed by men on horseback. Another primitive but effective mode of signaling used chains of soldiers on hilltops shouting messages to each other, a method the Persian King Darius used in the 5th century B.C. Drums and trumpets were also used. The Greeks had a torch telegraph system, and the Romans used colored smoke to communicate.

Fire signals, lights in towers, and beacons were all early forms of alert. They warned of impending invasion and were even put to use during Napoleon’s threatened naval invasion of England in 1795. The Duke of Wellington organized regular mounted messengers, an approach that evolved into the motorbike dispatch riders in the 20th Century. You’ll see a beautifully restored Triumph motorcycle and several other motorbikes with models of signals riders in uniform.

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A D-Day invasion equipment display. A small folding bicycle used by Royal Signals soldiers, and a rare air-dropped radio set.

The History of the Heliograph exhibit tells how reflected sunlight was used to flash messages as long ago as the Greek and Persian Wars, when the combatants used polished shields as mirrors. Depending on the size of the mirror used, messages could be sent over distances as great as 80-plus miles. Flags or banners were used later. Heliographs communicated messages during World War II as late as 1941.

Technology Enters The Picture

The History of the Royal Corps of Signals theme rooms trace the Corps’ evolution from men literally shouting to each other to modern radio transmissions. In 1870 the War office formed a Telegraph Battalion from the Royal Engineers, which served from 1884 into the late 19th Century, and brightly pol-
ished period brass and wood telegraphs are displayed.

You'll see many other antique pieces of communications equipment here. Two years after Alexander Graham Bell invented the telephone, in 1876, the U.S. Army began using telephones, several early examples of which are exhibited, including the C Mark 1 Ericsson portable military telephone (which weighs 18 pounds), the C Mark 2, D Mark 1, and D Mark 3 models. There's also a Fullerphone, invented in 1916, which had anti-eavesdropping capability and was used up until the 1950s.

The Admiralty Shutter Telegraph System on display proved that even simple systems could be highly effective. Its three chains of huts with signaling frames and shutters were set up five to 10 miles apart, running from London to Deal, Sheerness, and Portsmouth in the south in 1795. Its purpose was to alert the Admiralty in London in the event of an invasion by Napoleon's Navy. This communications system was so fast that messages took only 15 minutes to pass the 238-mile chain from Plymouth to London; if the message were pre-arranged, it took only three minutes.

A large number of World War I and II displays show how the Royal Signals Corps expanded, developed, and used improved communications equipment as the wars progressed. As the telephone became the prime means of communication in World War I, the Royal Engineer Signal Service burgeoned from 6,000 to 70,000 by 1917. During World War II it mushroomed to 8,518 officers and 142,472 soldiers, with 4,362 killed in action.

Wireless Emerges

The museum also illustrates how military inventions enter civilian life after a war ends. For instance, because telephone wires were constantly cut by artillery fire, military communications took a great revolutionary step forward in World War II with the transition to wireless radio. Wireless radio became common in civilian communications after the war, thus shaping today's communications.

As the Royal Signals reorganized and retrained in World War II, their equipment became more compact, lightweight, and easier to operate as they geared up for a more mobile type of warfare. By now indispensable to all of the allied services, they worked with the Royal Navy as Beach Signals Units or trained as parachutists to provide communications for commandos or Special Operations Executive (SOE) agents.

The World War II Wireless Sets display shows how military wireless rigs had to operate a number of interference-free channels, offer good range, be robust yet portable, as well as easy to operate and simple to maintain. The 1943 Wireless Station No. 10 is one example of such then-state-of-the-art equipment. It used radar techniques to beam eight telephone channels over a duplex radio path between land links and was used after the D-Day landings. Housed in a four-wheel two-ton trailer, an example of which is on exhibit, its innovative techniques made it the technological wonder of its time, a forerunner of modern day radio relay equipment and the radiotelephone.

The Airborne Forces Equipment display tells of the reliance of paratroopers and glider-borne soldiers on wireless sets. There's an airborne wireless radio on display, as well as a small motorcycle that was also used for communications between the airborne force groups.

Clandestine Radio

The Deception exhibit shows how special signals units simulated radio traffic of whole army groups to deceive the Germans. Vans traveling around southeastern England emitted vast volumes of fake wireless traffic, simulating troop movements. The illusion convinced the Germans that the U.S. 3rd Army was mobilized, waiting to embark for the Pas de Calais area, when it was actually 150 miles away in Cheshire. Code-named Operation Fortitude, it was so effective that the Germans held several of their divisions back around Pas de Calais for several weeks after D-Day.

The Royal Signals was also involved in every phase of Operation Overlord—the Battle of Normandy—and every aspect of the D-Day landings. Among their tasks was creating signals communications for the combined headquarters and for the assembly of troops for embarkation, creating fake radio traffic to deceive the enemy as to landing sites, preparing cross-channel communications links, and providing beach signals for the landings. They also allocated radio frequencies to ensure there was no unintentional jamming and they reestablished telephone and telegraph lines once they had been captured and repaired.

As the Allies moved through Northwest Europe, Royal Signals laid hundreds of miles of telephone and telegraph cables. Communications to the United Kingdom were made via a cable laid under the Channel and connected to signal stations at Bayeux and Cherbourg in France.
The Y Service Units comprised another clandestine intercept group serving in England that was staffed by Royal Signals men and women. They listened to enemy radio messages, copied them down, and sent them to the huge Bletchley Park decoding center, which they knew only as “the big place.”

The Enigma Codes and Code Breaking gallery relates the history of wartime codes and code breaking centered at Bletchley, highlighting the German code encryption machine, The Enigma. There’s an authentic Enigma machine on display.

An exhibit about the General HQ “Phantom” Liaison unit tells how its purpose was to keep allied air forces and artillery aware of where the front lines of Belgian and British troops were on the ground. Using armored cars, motorcycles, and radio sets, this group performed ground reconnaissance to locate the enemy forces. After the evacuation of allied forces from Europe, the Phantom unit of 48 officers and 479 soldiers was tasked with observing possible seaborne landing areas in Southern England. They were to give an early warning of the anticipated German invasion in late summer 1940. Some No. 11 wireless sets they used are on display.

Other Points Of Interest

An attention-grabbing memorabilia exhibit displays sports trophies, ashtrays, cigarette cases, napkin rings, chess sets, pocketknives, and water flasks, all made from shell casings.

History Of The Royal Signals Corps

The precursor to the Royal Signals Corps was formed in 1869 as the Signal Wing of the Royal Engineers, followed a year later by C Telegraph Troop, to provide telegraph communications for the British field army. Captain Montague Lambert was the first Commander of the Telegraph Troop. In 1908 the Royal Engineer Signal Service was formed. The modern Royal Signals was born on June 28, 1920, when Winston Churchill signed a royal warrant decreeing the formation of a “Corps of Signals.” Six weeks later the King conferred the title “Royal Corps of Signals.”

The function of Royal Signals has always been to provide communications for the army, and its methods have changed and evolved with each new development of modern communications. Today there are three signals brigades in the regular British Army, comprising over one dozen Royal Signals regiments attached to the regular army and over one dozen regiments attached to the Territorial (reserve) Army. Its soldiers have been deployed to every theater where British Military forces have seen action, most recently including Bosnia, Croatia, Yugoslavia, Cambodia, Rwanda, Angola, and the Persian Gulf.

Appropriately enshrined in the Royal Signals Museum is The Royal Signals Gallantry Awards Honors Board that lists all Royal Signals soldiers who received medals for their bravery.

A medals display in the Royal Signals Museum. There are several large glass cases of these. The Corps have had their share of highly decorated soldiers.

Glass cases also display Italian occupation money, Nazi badges, a fan signed by POWs, cigarette packets, diaries, code pads, books, watches, first aid kits, egg cups, and more.

There’s even a Pigeons at War display that pays homage to the plucky little bird used in military communications. They carried military messages as early as 1815 for Wellington at the Battle of Waterloo. In World War I, 22,000 pigeons flew in service, from 150 mobile lofts, with 400 loftsmen to tend them.

A Far East Prisoners of War display tells of the more than 100,000 Allied Prisoners of War who were held by the Japanese and forced to work in extremely harsh conditions. A homemade receiver set used by the POWs to listen to allied radio news sits in a glass case.

There are also displays on conflicts and wars since World War II, including Malaya, Korea, Northern Ireland, the Falklands War, the Gulf War, and Kosovo, Macedonia, and Bosnia. Several modern signals vehicles stand on display to illustrate the evolution and increasing sophistication of the mobile headquarters used in today’s communications.

A Trip To Nirvana...

If you ever get the chance, a visit to this fascinating time capsule is well worth it. Even if you can’t get across the pond, you can at least armchair travel there by checking out www.army.mod.uk/royal signalsmuseum. For radio and history fans, it’s a stirring place indeed.


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Focus On The Missouri State Highway Patrol

Reader Mike Kudelka from St. Louis writes in that he used to hear the Missouri State Highway Patrol (Troop C from Kirkwood) on 42.12, but "for a long time now this frequency does not seem to be active. Do you know if they changed to a different band?"

Well, Mike, I wasn't aware of anything, but it looks like something might be in the works. I also used to have them plugged in, although it wasn't an agency I listened to often. After your note, however, I did monitor for a while but haven't heard a lot, either. So I went digging, and while I didn't find much of an answer I did find some interesting things out about the Highway Patrol I thought I'd share. Most of this information is available on their website, with the exception of frequency information which I got from RadioReference.com.

Organization Of The State Highway Patrol

During the 1920s several efforts were made to establish a statewide police agency of some kind, but most failed due to opposition from one or more factions. County sheriffs believed it would undermine their authority or make them unnecessary, while many civilian groups feared that it would be centered around the Prohibition Act or used against labor union organizations in some kind of strike-busting maneuver.

However, while the county sheriffs were still somewhat concerned, labor groups did not oppose the creation of an organization focused on motor vehicle oversight and enforcement. In September of 1931, the Missouri State Highway Patrol, rather than a Missouri State Police was born.

The first officers were trained at the St. Louis Police Academy. Missouri municipalities are organized in rather a strange way as the city of St. Louis existed as a major metropolitan area before the state really took form. Because of this, the city of St. Louis reports directly to the state legislature in Jefferson City for many things, including the police department. St. Louis City police officers are deputized for the entire state. St. Louis County is a completely separate entity and the two sometimes don't get along very well (like that's different from any other city/county relationship!). St. Louis already had a running police academy before the Highway Patrol was established, so that's where the officers were trained.

The motor vehicle fleet for the patrol consisted of 36 Model A Ford Roadsters at a cost of $413.18 each. The vehicles were equipped with "twin Klaxon horns, a spotlight, a fire extinguisher, a first aid kit, and an electric "Patrol" sign behind the right side of the windshield. All vehicles had license plates with the words "State Patrol" in bold letters but there were no decals on the sides. None of the vehicles had sirens and there were no heaters in the cars." (The above quotes are from Celebrating Tradition: A Journey Through Patrol History, 2005, available on the State Highway Patrol website at www.mshp.dps.missouri.gov/MSHPWeb/AboutThePatrolHistory/History.html.)

News, Sports, Weather, And Police Calls?

From the early days, it was obvious that there had to be some way to communicate with the cars. Like many police agencies during the time, the Patrol turned to station WOS, an AM broadcast outlet located in the Missouri Capitol building and operated by the Department of Agriculture. The officers would tune in at certain times for Patrol "bulletins." Of course, anyone listening to the radio heard them as well, so by necessity the bulletins were short and cryptic. Officers could find a phone and call in (although that wasn't an easy thing to do out in the rural areas... no cell towers out there in 1931!).
In 1936 station KIUK went on the air at a frequency of 1674 (just above the broadcast band) and became a 24-hour police radio station. But it was still one-way communications.

Two-way radio didn't really take off until World War II. Early tests were with AM transmitters, but the power required and the frequencies in use made efficient antennas nearly impossible so it was not very useful. FM was also making a debut and, in late 1941, the Patrol began to equip all cars with FM transmitters operating on 39.78 MHz. By 1946 a full conversion to FM was underway and a move to 42 MHz followed in accordance with new FCC rules for the VHF (low) band.

It hasn't changed all that much since. The equipment used was modernized and the amount of data and text traffic increased, especially in recent years, as national police networks and databases came online. But for car-to-car and car-to-base communications, those old frequencies are still used. There was a frequent problem on the VHF-lo band with skip, and tone squelch (CTCSS) was able to help that situation, but not relieve it completely. Well, it hadn't changed much until its seeming disappearance, that is.

**Statewide Radio In Missouri?**

One of the plans proposed to help upgrade the communications system as well as provide additional capabilities involves a shared system between the State Patrol and Ameren (the utility company in the area). Operating mostly on 700 MHz but with some areas left on VHF because of terrain, the $245 million proposal has not become official that I'm aware of, but it is posted on the Patrol's website. In addition, several 700-MHz frequencies have been licensed.

As for an explanation for the apparent hightailing of the Highway Patrol, unfortunately, except for the slight hint at 700 MHz, there really isn’t an answer I could find as to what's happened to Troop C in the St. Louis area.

**RadioReference.com For Answers, Write In With Questions**

As I've often mentioned in this column, a great scanning reference is RadioReference.com, which provides a very comprehensive frequency database site. While much of the information is available to anyone for free, they do offer some premium services for a membership fee. It's worth exploring, if you haven't already, just to learn what's available.

RadioReference.com provides quite a bit of information on the Missouri Department of Public Safety, which includes the Patrol, as well as the Water Patrol, Drug Enforcement, and a few other agencies. Have a look at the accompanying frequency table to see how they appear.

I'm grateful to Mike Kudelka for sending in his question. If any other readers have any of their own mysteries, questions, or anything else to share, I'd like to hear from you.

Until next month, good listening!

---

**Table. Statewide Common Frequencies**

RadioReference.com lists the following statewide frequencies culled from the FCC databases and user reports. Note the long list of 700-MHz frequencies listed for statewide use in the APCO 25 digital mode.

Statewide 700 MHz itinerant/interoperability frequencies are for "Temporary Bases/Repeaters" probably to be used for future on-scene operations.

WPTZ785 is statewide license for 700 MHz.

<table>
<thead>
<tr>
<th>Frequency</th>
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<td>154.935</td>
<td>KA5824</td>
<td>203.5 PL</td>
<td>Tac-3</td>
<td>Tactical 3 - SERT/Speed Enforcement (Air-to-Ground)</td>
<td>FM</td>
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<td>154.665</td>
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<td>Tac-4</td>
<td>Tactical 4 - SERT/Speed Enforcement (Air-to-Ground)</td>
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<td>155.37</td>
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<td>F-5</td>
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<td>CSQ</td>
<td>Mobile Extenders (according to license)</td>
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</table>
Troop A (Lee's Summit)

Each of the Troops is listed below along with their use of the 42 MHz frequencies. The use is scattered throughout the state in an effort to minimize interference from Troop to Troop.

Troop A - Metro - Platte City (remote receive, repeats Mobiles)
Troop A - Mobile Relay (Hughesville - Pettis County)
Troop A - Mobile Relay (Polo - Ray County) [replacing 456.75 - 2007]
Troop A - Metro - Repeats Mobiles from TX/RX site to Troop Headquarters (KA5824)
Troop A - Mobile Relay (Urich - Henry County)
Troop A - not used (Polo - Ray County)
Troop A New Cars RX
Troop A New Car -to- Car (reported not in use 9/12/07)
Troop A New (reported not in use 9/12/07)
Troop A Metro Cars RX
Troop A Metro Dispatch (203.5 PL on mobiles) (was 42.38 B 186.2 PL)
Troop A Rural Cars RX
Troop A Rural Dispatch (203.5 PL on mobiles) (was 42.38 B 186.2 PL)
Troop A - Car-to-Car
Statewide Car-to-Car
Troop A - Mobile Relay (Polo - Ray County) [Deleted from license 2007]
Troop A - not used (Polo - Ray County)
Troop A - Mobile Relay (Urich - Henry County)
Troop A - Metro - Repeats Mobiles from TX/RX site to Troop Headquarters (KA5824)
Troop A - Mobile Relay (Polo - Ray County) [replacing 456.75 - 2007]
Troop A - Mobile Relay (Hughesville - Pettis County)
Troop A - Metro - Platte City (remote receive, repeats Mobiles)
### Troop A (Lee's Summit)

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<td>154.935</td>
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<td>Troop A Headquarters (Low Power Repeater)</td>
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### Troop A (Macon)

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### Troop B (St. Louis)

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<td>Statewide Car-to-Car / Air-to-Car Speed Checks, etc. (*)</td>
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<tr>
<td>154.905</td>
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### Troop E (Poplar Bluff)

<table>
<thead>
<tr>
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<th>Tone</th>
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<th>Description</th>
</tr>
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<tbody>
<tr>
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<td>Troop E - Mobile Relay (Benton - Scott County)</td>
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<td>456.525</td>
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<td>Troop E - Mobile Relay (Knob Lick - St. Francois County)</td>
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<tr>
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<td>Troop E - Mobile Relay (Doniphan - Ripley County) [No License?]</td>
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### Troop E (Poplar Bluff)

<table>
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<tbody>
<tr>
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### Troop F (Jefferson City)

<table>
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<th>Alpha Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>456.425</td>
<td>KNID905</td>
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<td></td>
<td>Troop D or F - Mobile Relay (Macks Creek - Camden County)</td>
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<tr>
<td>456.475</td>
<td>KNID905</td>
<td></td>
<td></td>
<td>Troop D or F - Mobile Relay (Macks Creek - Camden County)</td>
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<tr>
<td>456.525</td>
<td>WGLS39</td>
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<td>WQG266</td>
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<td>42.64</td>
<td>KAB302</td>
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<td>61</td>
<td>Troop F Car-to-Car</td>
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<tr>
<td>42.32</td>
<td>KAB302</td>
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<td>186.2 PL</td>
<td>69</td>
<td>Statewide Car-to-Car</td>
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### Troop G (Willow Springs)

<table>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>456.175</td>
<td>KNID903</td>
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<td></td>
<td>Troop G: Mobile Relay (Romance - Ozark County)</td>
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<td>Troop G: Mobile Relay (Fairview - Texas County)</td>
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<td>456.525</td>
<td>WGT950</td>
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<td>Troop G: Mobile Relay (New Ellington - Reynolds County)</td>
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<td>456.575</td>
<td>WNR320</td>
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<td>Troop G: Mobile Relay (Alton - Orgeon County)</td>
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<td>WNR320</td>
<td></td>
<td></td>
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<td>KAA522</td>
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<td>70</td>
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</tr>
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<td>42.38</td>
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<tr>
<td>42.26</td>
<td>KAA522</td>
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<td>72</td>
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<td>Statewide Car-to-Car</td>
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### Troop H (St. Joseph)

<table>
<thead>
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<th>Description</th>
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<tr>
<td>42.40</td>
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<td>42.78</td>
<td>KAA958</td>
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<td>Statewide Car-to-Car</td>
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<tr>
<td>456.275</td>
<td>KAA91</td>
<td>173.8 PL</td>
<td></td>
<td>Troop H: Mobile Relay (Quitman - Nodaway County)</td>
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<td>456.475</td>
<td>KAB57</td>
<td></td>
<td></td>
<td>Troop H: Mobile Relay (Martinville - Harrison County) [changed to 460.3375 - 2007]</td>
</tr>
<tr>
<td>460.3375</td>
<td></td>
<td></td>
<td></td>
<td>Troop H: Mobile Relay (Martinville - Harrison County) [replacing 456.475 - 2007]</td>
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</table>

### Troop I (Rolla)

#### Unit Numbers (some)
- Pulaski County: 593, 808, 812
- Laclede County: 123, 452, 962

<table>
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<tr>
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<th>Tone</th>
<th>Alpha Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>456.275</td>
<td>KNID904</td>
<td>167.9 PL</td>
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<td>Troop I: Mobile Relay (Leasburg - Crawford County)</td>
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<tr>
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<td>KAC45</td>
<td>167.9 PL</td>
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<td>Troop I: Mobile Relay (Salem - Dent County)</td>
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<tr>
<td>42.58</td>
<td>KAA958</td>
<td>186.2 PL</td>
<td>90</td>
<td>Troop I: Dispatch - Base-to-Cars</td>
</tr>
<tr>
<td>42.24</td>
<td>KAA958</td>
<td>186.2 PL</td>
<td>90</td>
<td>Troop I: Dispatch - Cars-to-Base</td>
</tr>
<tr>
<td>42.58</td>
<td>KAA958</td>
<td>186.2 PL</td>
<td>91</td>
<td>Troop I: Car-to-Car</td>
</tr>
<tr>
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<td>KAA958</td>
<td>186.2 PL</td>
<td>92</td>
<td>Troop I: Cars RX</td>
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<td>KAA958</td>
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<td>99</td>
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<td>KAA958</td>
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<td></td>
<td></td>
<td>Troop I: Dispatch (Back-up)</td>
</tr>
<tr>
<td>42.38</td>
<td>KAA958</td>
<td></td>
<td></td>
<td>Troop I: Dispatch (Back-up)</td>
</tr>
</tbody>
</table>
A Correction

Dear Editor and Mr. Swisher:

I just finished reading most of the December 2007 issue of Pop'Comm, and wanted to congratulate you on an excellent article entitled "A New Jersey Triad" by Tom Swisher. It was easily one of the most readable pieces I've seen, with good practical information and some great history sprinkled throughout.

As a pilot, I noticed a minor error in the sidebar for NAS Lakehurst Frequencies. The frequencies listed for ATIS are in fact the aviation emergency frequencies (121.5 civilian, and 243.0 military). These are not the Automated Terminal Information System frequencies. I believe the correct frequencies are 110.6 and 270.1 for the McGuire ATIS. You can find the information on McGuire's frequencies and more about the aviation procedures at www.mcguire.af.mil/shared/media/document/AFD-071004-083.pdf.

Colin Haig VE3MSC
Milton, ON, Canada

Thank you, Colin, for both the feedback and the new information.—Editor

The Battle Of The FHSS Radios

Dear Editor:

Your December “Tech Showcase” article touting the communications privacy offered by Motorola’s DTR-410 digital 900-MHz FHSS transceiver seems a bit gratuitous. With only six channels that anyone else with another DTR-410 can easily hear (especially in scan mode) these radios seem to offer no more privacy than a CB radio—which scanners generally can’t receive, either.

Conversely, the TriSquare TSX300 transceiver (also 900-MHz FHSS) described in your November cover story costs one-fifth as much and has 10 billion channels—probably more than enough to keep eavesdroppers guessing.

Am I missing something, or is this choice a no-brainer? In any case, thanks for publishing the latest information on this interesting new wave of personal two-way radio technology.

B. Welle
Via email

Jazzed On January

Dear Editor

I really enjoyed Kent Britain’s “Active Antennas For Better SW Reception” in your January 2008 issue. Apartment and condo dwellers (aka “cliff dwellers”) like myself often have few shortwave antenna choices, and these magic boxes have often made all the difference for me in various locations where I couldn’t string an antenna outside.

These active antennas/preselectors seem to be very common at hamfests where they can often be had for under $20. I was lucky enough to find a Heathkit HD-1424 at a hamfest for $10 (after some haggling) and have been extremely happy using it with my Sony ICF-2010. Although this classic is decades old, it’s a good performer and a great value.

Even with the preamp switched off and using it in preselector mode, I’ve been able to hear far more international broadcasts this way compared to using the radio’s built-in whip antenna. Which makes me wonder why shortwave portable radios no longer include a simple antenna trimmer adjustment like the classic ICF-2001 had.

Anyway, thanks for the enjoyable article, and thanks for publishing a truly enjoyable magazine.

Harry Caul
Brooklyn, NY, USA

Dear Editor

What a terrific cover story your January issue had: “Blutan Broadcasting Service—Voices From The Roof Of The World.” Steven Herman’s coverage of the history and current developments at this unique shortwave station was excellent, including the great pictures. It’s encouraging to read about a country with such devotion to the shortwave broadcast medium. Thanks for publishing this story and all your other excellent radio articles. Keep up the good work.

William K. Smith
Cumberland, MD

OUR READERS SPEAK OUT

This month we’d like to ask you about your household. Please use the Reader Survey Card and circle all appropriate numbers. Thanks for participating.

What is your age?

<table>
<thead>
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<th>Age Range</th>
<th>Number</th>
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<td>1</td>
</tr>
<tr>
<td>11-20 years old</td>
<td>2</td>
</tr>
<tr>
<td>21-30 years old</td>
<td>3</td>
</tr>
<tr>
<td>31-40 years old</td>
<td>4</td>
</tr>
<tr>
<td>41-50 years old</td>
<td>5</td>
</tr>
<tr>
<td>51-60 years old</td>
<td>6</td>
</tr>
<tr>
<td>61-70 years old</td>
<td>7</td>
</tr>
<tr>
<td>Over 70 years old</td>
<td>8</td>
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What is the highest level of education you have completed?

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<th>Number</th>
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<tbody>
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</tr>
<tr>
<td>College grad/GED</td>
<td>9</td>
</tr>
<tr>
<td>Vocational/technical training</td>
<td>10</td>
</tr>
<tr>
<td>Some college</td>
<td>11</td>
</tr>
<tr>
<td>Collage grade (2-year degree)</td>
<td>12</td>
</tr>
<tr>
<td>Collage grade (4-year degree)</td>
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</tr>
<tr>
<td>Post-graduate study</td>
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<tr>
<td>Post-graduate degree</td>
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Which of the following best describes your occupation? (Please circle only one number.)

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<tbody>
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</tr>
<tr>
<td>Executive/owner/partner</td>
<td>17</td>
</tr>
<tr>
<td>Farming/forestry/fishing</td>
<td>18</td>
</tr>
<tr>
<td>Manager/administrator</td>
<td>19</td>
</tr>
<tr>
<td>Operator/fabricator</td>
<td>20</td>
</tr>
<tr>
<td>Precision production/craftsman</td>
<td>21</td>
</tr>
<tr>
<td>Media</td>
<td>22</td>
</tr>
<tr>
<td>Professional</td>
<td>23</td>
</tr>
<tr>
<td>Protective services (fire, police)</td>
<td>24</td>
</tr>
<tr>
<td>Sales/marketing</td>
<td>25</td>
</tr>
<tr>
<td>Service worker</td>
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<tr>
<td>Technical (engineer, lab tech)</td>
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<tr>
<td>Military</td>
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Which of the following best describes where you live?

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<tbody>
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</tr>
<tr>
<td>Small town</td>
<td>30</td>
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<tr>
<td>Suburb</td>
<td>31</td>
</tr>
<tr>
<td>City</td>
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Considering all sources, what is your household’s before-tax income?

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<th>Number</th>
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<tbody>
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<td>$20k-$30k</td>
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<td>$90k-$100k</td>
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<tr>
<td>Over $100k</td>
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Scan Our Web Site
Democracy In Action—
Broadcast Media Mayhem For The Primaries

The primary season is over and the 2008 U.S. Presidential Campaign is well underway as candidates look toward nomination in the national party conventions. For political junkies it’s pure nirvana with all the local broadcast television and 24-hour cable news network coverage of campaign events. “Broadcast Technology” just couldn’t help but get caught up in the excitement, taking a look behind the scenes of the media coverage.

Reporting From The Field

It was Primary Day in New Hampshire and the media were on the move with the candidates as they made last minute stops at polling places across the state. A rather large media contingent gathered at a local elementary school hours before the scheduled early morning arrivals of Senator John McCain and former Governor Mitt Romney. An air of anticipation grew as candidates were running more than a half-hour late.

During that time, some reporters were busy interviewing voters and capturing stock video of the swelling crowd, while others talked shop among themselves. “It’s a little give and take,” said WMTW 8 cameraman Arthur Villator in reference to the all the media, “Everyone gets a chance.” Not this time though. The cheers of campaign supporters began to build in the distance and the throng of media was immediately off and running.

Mitt Romney was the first to arrive, greeted by an intense media swarm, a sudden mass media feeding frenzy. Reporters and videographers assertively jostled for position as the candidate worked his way through the crowd. Within a few minutes it was all over and the media rushed off to the next venue. Some reporters were lucky enough to get in on an almost too-good-to-be-true “made for TV” photo-op of the candidate meeting a young fan. Others had to be satisfied with voice-overs from the sidelines.

This was an informal political rally, announced in advance by campaign coordinators as a “natural sound” visibility event, meaning that common audio/video hookups would not be provided. Each media outlet had to be prepared with its own portable cameras and microphones.

Big Event Coverage

Satellite news trucks from across the nation were tightly packed in the parking lot at Senator Barack Obama’s headquarters for Primary Night festivities. Space for the event had to be reserved in advance through campaign coordinators to guarantee access. “Tonight we’re operating from seven locations with a mix of fiber and satellite to the studios,” said New England Cable News (NECN) engineer Barry Gadbois. “Here it took three to four hours to set up with over 2,000 feet of cable to run. We arrived here at 10 this morning and we were on the air for the 4:00 news.”
An unsuspecting child becomes an instant celebrity in a photo-op with Mitt Romney.

Gail Huff reporting on the scene for Newscenter 5 with Rodney Grace behind the camera.

For WMUR 9 engineer Ryan Hill, who also arrived on-site at 10:00 a.m., Primary Night coverage marked the end of a marathon 75-hour extended workweek. “So far, so good,” said Hill as the Obama event electrical contractor finally started sending an audio test signal, a Steely Dan classic hit, through common mixer and multi-box connections. For a large-scale event like this, individual news organizations tie into a shared main audio/video source, the broadcast media “multi-box,” a single-input/multiple-output distribution box provided by an independent contractor hired through the event sponsor. At the same time, each news team has its own mic/camera equipment and talent in position to file reports. WMUR 9 was the local television station covering the event. “Normally we’d use a microwave link to the studio,” said Hill, “but we’re down in a hole at this location and the microwave signal couldn’t get over the trees, so we had to use a satellite link.”

As an aside, we briefly discussed broadcasting careers. Hill got his start through the Connecticut School of Broadcasting. He interned as a freelance photographer/editor at WFSB-TV in Hartford before landing an engineering position at WMUR. “You can go to school for it, but nobody’s going to hire someone [for engineering] without experience, until you’ve been around. Textbooks aren’t going to give you the hands-on experience,” said Ryan about how he entered the broadcasting engineering field.

**Kucinich: A Voice Not Heard**

Democratic presidential primary contender Congressman Dennis Kucinich has been quite vocal about the corporate control over broadcast media in the United States especially after being denied participation in nationally broadcast debates by the major television networks. The Kucinich campaign went as far as to file an emergency complaint with the FCC, claiming that, by excluding Kucinich from one major primary debate, ABC violated its obligation to operate in the public interest. Kucinich is a firm believer that the airwaves belong to the public.

“I am working for serious media reform,” wrote Kucinich in a campaign policy statement. The statement continued.

Media conglomerates are currently among the most powerful lobbyists against media reform...We need to create a greater diversity of viewpoints in the media by breaking up the major media conglomerates, encouraging competition and quality as well as diversity. We should place new caps on media ownership and ban the granting of exceptions to those caps. We should limit the number of media outlets one corporation can own in a given medium, such as radio, print, or television. We should strictly prohibit cross-ownership and vertical integration.

The Kucinich policy stands in direct contrast to current trends toward expanding the deregulation of media. FCC deregulation has dramatically increased the maximum limits of broadcast ownership in recent years. Under current rules, local ownership of up to three TV stations in a single market is allowed, and one entity may own as many as eight radio stations in a market based on a sliding scale of market size. Furthermore, any number of television stations across the country can be under the same ownership as long as it doesn’t cover more than 39 percent of the national TV audience or violate local limits. Deregulation has also removed what was previously a flat ban on newspaper and broadcast cross-ownership.

As required by the Telecommunications Act of 1996 the FCC must periodically review ownership rules, but it also leaves the door open to further deregulation by specifying the repeal or modification of any regulation deemed no longer in the public interest. Currently the FCC conducts a review of ownership rules every four years, the last review completed in 2006. Follow-up public hearings about media ownership issues were held in “geographically diverse locations,” the last one being in Seattle, November 2007. Although the official comment period for the 2006 review closed early in 2007, the FCC continues to accept input about ownership rules.

**Broadcast Loggings**

From the campaign trail to the DX airwaves, here we go with this month’s selected logs. All times are UTC.

530 Radio Visión Cristiana, Turks & Caicos, at 0235 a religious program in Spanish, multiple IDs; easy to read, with fair to good signals. Over an unidentified station with what seemed like Chinese, probably CIAO Ontario. (McNeil -MA)

603 RNE5 Monte Viejo and La Corchuela, Spain, at 2256 a good signal; alternating man/woman with news. Double top of the hour pips indicating reception of both stations on the same network, one slightly delayed. (Conti -NH)

631.28 YVKA Radio Nacional de Venezuela, Caracas, monitored at 0430 fair with national anthem followed by news of Latin...
WGME 13 Maine, Comcast CN8, and CBS 2 Chicago remote broadcast trucks flank the crop of satellite dishes at Obama headquarters.

Barry Gadbois is the engineer behind the controls inside the NECN satellite truck.

America by two alternating male announcers in Spanish. (DeLorenzo-MA)

640 Radio Progreso, Cuba, at 0415 with great Cuban music, ID on the half-hour as Radio Progreso, La Habana. A regular here most nights. (McNeil-MA)

747 Radio 5, Flevoland, Netherlands, heard at 0026 fair with a discussion in Dutch followed by the Jimi Hendrix version of Bob Dylan’s “All Along the Watchtower.” (DeLorenzo-MA)

750 YVKS Caracas, Venezuela, at 0232 talking about a baseball player who knew the best tips on how to cook a ham sandwich. An odd comment regarding a baseball game nevertheless. “Este jugador de los Leones sabe cual es la mejor manera de cocinar el jamón...” An excellent signal with CMHV Cuba and WSB Atlanta barely noticeable under this 100 kW Caraqueño. (Chiochiu-QC)

770 WYRV Cedar Bluff, Virginia, at 2249 contemporary gospel music and an announcer thanking the listeners for all that they do. A decent signal mixed with WVNN Athens, Alabama, and WLWL Rockingham, North Carolina. (New-GA)

770 HJJX Bogotá, Colombia, at 0445 good over nulled WABC with festive Latin American music and ID. “RCN Radio de Colombia... RCN Radio punto com.” (DeLorenzo-MA)

770 Radio Rebelde, Las Mercedes, Cuba, at 2300 heard the distinctive Rebelde sounder through WABC New York. (Conti-NH)

780 YVNM Radio Coro, Venezuela, at 0258, fading up with a traditional deeply

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melancholic cumbia tropical groove, just some slight WABC and CIAD sideband splatter. (Chiochu-QC)

820 WCPT Chicago, Illinois, at 2304 CNN news, a Randi Rhodes Show promo, and mentions of Progressive Talk Radio. A decent signal in the mix of signals. (New-GA)

882 COPE synchros, Canary Islands and Spain, at 2304 good with news in Spanish: a steady signal with little fading. 880 WCBS splatter minimized with SuperLoop antenna. (DeLorenzo-MA)

940 XEQ Iztapalapa, México City, at 0505 over presumed WIDG in CINW null: a cheesy instrumental, “Besame” slogan jingle, and romantica. (Conti-NH)

980 WAZS Summerville, South Carolina, at 0526 oldies and mentions of Charleston, “The new Rocket 980.” Initially a good signal only to fade to just above the mix. (New-GA)

980 KSVN Richfield, Utah, at 2130 numerous local spots during break from the Dr. Laura Show, local references to Delta and Sevier Valley. Heard during check to see if KFWB Los Angeles was still on. (Barton-AZ)

1010 WJXL Jacksonville, Florida, at 0440 sports news and scores. A good signal trading places with CFRB Toronto. “Jacksonville’s Sports Radio, 1010 XL.” (New-GA)

1030 WQSE White Bluff, Tennessee, at 1100 southern gospel music and ID, on a weak but steady signal mixed with WBZ Boston. (New-GA)

1130 KFAN Minneapolis, Minnesota, at 0600 with sports play by play, clear ID, “...on AM 1130 KFAN.” Heard on GMC Sonoma dashboard radio, stock vertical antenna, while DXing on the road. (Barton-AZ)

1179 Radio Sweden International, Sölsberg, Sweden, at 2300 fair with news by a man and woman in English, interval signal and ID. (DeLorenzo-MA)

1200 WAMR Nashville, Tennessee, at 2338 big band music with a good signal in the null of WOAI San Antonio, Texas. (New-GA)

1206 France Info, Bordeaux, France, at 2242 good with news in French. In the clear with no interference from 1210 WPHT-HD. (DeLorenzo-MA)

1214.65 Radio Tirana, Filakë, Albania, at 2210 presumed to be the off-frequency station in an Eastern European language battling 1215 Virgin Radio and creating a loud het. (DeLorenzo-MA)

1215 Virgin Radio synchros, United Kingdom, heard at 2200 fair over the Albania het, Eurhythms “Sweet Dreams,” ads. Virgin Radio jingle and DJ talk. (Conti-NH)

1370 WGIV Pineville, North Carolina, at 2300 gospel music ID, and the “Girlfriend!” (New-GA)

Get a Life!” show. A good signal only to fade away as the show started. (New-GA)

Thanks to Rick Barton, Bogdan Chiochu, Marc DeLorenzo, Taylor McNeil, and Bert New.

Miscellany

Loggings contributor Bert New is DXing with the Sony SRF-59. This little Walkman-like pocket radio is taking the broadcast DX community by storm! Despite its small size and analog tuning, the SRF-59 has proven to be a very DX-capable receiver.

Speaking of storms, according to SpaceWeather.com, Solar Cycle 24 is underway based on an observed change in the polarity of sunspots. Predictions are mixed regarding the expected 2011–2012 peak intensity of this cycle, but for now solar activity continues to be quiet. Meaning there’s plenty more DX to be had before the sun begins to disturb reception.

Until next time, 73 and good DX! ■

Note: There is no FCC callsign list this month.—bc

Cash, Camera, Action!

Readers who are involved in broadcasting will find this quite interesting, and I ask others to indulge me briefly here for a particular interest of mine: the image capture of the events.

JVC, Panasonic, and Sony are among the most popular manufacturers of professional portable cameras used in field reporting. A fully configured system including batteries, lens, memory, microphone, and tripod represents a significant investment, with $10k typical for an entry-level package and over $90k for top-of-the-line portable documentary and film gear. As a result there’s a healthy market for used broadcast camera equipment.

Panasonic is a recognized leader in the development of digital news-gathering equipment for the broadcast industry. Since the company first introduced its DVPRO digital audio/video format in 1995, it’s been adopted by over 750 television stations across the United States according to a company press release. An open architecture has allowed for continued development of a wide range of third-party products supporting everything from field acquisition to live studio broadcasting.

Sampling the Panasonic product line, the HVX200 1080i/720p handheld HD camcorder is considered groundbreaking technology for providing affordable production-quality results, now with tapeless digital memory card capability, all for just under $6k or about $1k per pound. At the opposite end of the spectrum, the Panasonic HVX900 is a professional shoulder-mount field production HD camcorder, starting at around $25k.

The Panasonic HDX900 1080i/720p professional shoulder-mount field production camcorder. (Manufacturer’s photo)
HAM DISCOVERIES

by Kirk Kleinschmidt, NTOZ, kirk@cloudnet.com

Meteor-Scatter: Heavenly Propagation!
No Sunspots Required!

As a beginning ham I thought that VHF signals traveled along line-of-sight paths and faded out after about 30 miles. For casual 2-meter FM operation, especially through repeaters, that’s mostly true. But because there were no repeaters in my neck of the woods, and because I wanted to work stations in faraway places, I ignored 6 and 2 meters and focused on HF operation, which was much more accessible. Besides, I could easily talk face to face with the three local hams who might have used a repeater if one were available! And I held a Novice class ticket, which didn’t even allow for operation above 10 meters.

In the late 70s and early 80s, VHF weak-signal operation was still somewhat esoteric. I still remember looking on in awe at the construction articles published in the ham magazines. The project chassis contained a maze of shielded compartments interconnected with feed-through capacitors, and the whole mess was tuned and tweaked by practitioners of that occult art. And the “HF rigs” of that era didn’t include a bunch of bands above 30 MHz like they do today.

The barriers of the day were unfortunate, because once you cross the “30-mile barrier” there are many exciting ways to propagate VHF signals over hundreds or even thousands of miles. Articles in CQ, QST and dozens of websites now describe E- and F-layer skip, tropospheric and transequatorial ducting, moonbounce, auroral propagation, and many other fascinating propagation modes. (That part of our hobby, even today, has a Wild West flavor, and hams and scientists alike are still discovering new propagation modes and are adding nuanced details to what we already know.)

Meteor-scatter communications—bouncing radio signals off of the ionized trails produced by meteors burning through the atmosphere—takes a little patience and a bit of study, but requires only an ordinary station (and perhaps a computer with a sound card). I’m not an expert, but I’ve made a few scatter QSOs in my day. And because I can only introduce the subject in this column, I’ll point you toward more complete information. No worries!

Radio Fun With Meteors And Comets

Meteors are produced when the Earth plows through the orbiting debris streams left by passing comets. The debris, mostly dust and other small particles, burns up as it speeds through the atmosphere. (These high-speed particles can also punch holes through space station and satellite solar panels, “sandblast” the exteriors of stuff in orbit, and even chip the windshield of the space shuttle—but we’ll save those for another day.)

Although the Earth constantly sweeps up “random debris” as it orbits the sun, meteor showers are recurring events. The Earth encounters certain debris streams at about the same time each year. Table 1 lists the major showers.

And whether produced by random meteors or the more predictable meteors that are part of a recurring shower, nighttime observers see falling stars streak across the sky. Radio signals “see” the trails left by meteors as long reflective tunnels of ionized particles. Basically, earthbound stations that can mutually “see” the ionized trails can communicate with each other by bouncing (scattering) radio signals off them. The ionized particles are temporary radio reflectors that can be put to good use!

Details

Because of the physics and geometry involved, meteor-scatter QSOs take place mostly on 10, 6, and 2 meters between stations 500 to 2,300 km apart. Faster, larger meteors produce more intense, longer-lasting trails and better propagation paths. For two stations to communicate via meteor-scatter, a meteor(s)

Table 1. Major Annual Meteor Showers

<table>
<thead>
<tr>
<th>Shower</th>
<th>Peak Dates</th>
<th>Zenith Hourly Meteor Rates</th>
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</thead>
<tbody>
<tr>
<td>Quadrantids</td>
<td>Jan 3</td>
<td>120</td>
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<tr>
<td>Aquarids</td>
<td>May 6</td>
<td>60</td>
</tr>
<tr>
<td>Arteids</td>
<td>Jun 7</td>
<td>54</td>
</tr>
<tr>
<td>Perseids</td>
<td>Aug 12</td>
<td>90</td>
</tr>
<tr>
<td>Orionids</td>
<td>Oct 21</td>
<td>20</td>
</tr>
<tr>
<td>Geminids</td>
<td>Dec 14</td>
<td>120</td>
</tr>
</tbody>
</table>

Note: These are only the biggies. The info for dozens of smaller showers can be found at http://en.wikipedia.org/wiki/List_of_meteor_showers.

An ESK441 QSO using WSJT (Version 4) as posted on the website of Freek Emck, PE2PE, of The Netherlands. HVOA has a nice signal.

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April 2008 / POP’COMM / 39
must pass through the ionosphere in a useful direction and at mutually visible elevations (45 degrees or less is best).

Typical meteor trails reflect radio waves from a few seconds to a few minutes, depending on the frequency, the size and speed of the meteor, and several other factors. At 28 and 50 MHz, meteor trails can reflect signals for 30 seconds to several minutes. At 2 meters, the same meteor burst reflects signals for only a fraction of a second to a minute.

Meteor-scatter signals suddenly appear out of a dead band, persist for a short time, and then disappear! The effect is eerie! During meteor showers, when several overlapping ionized trails may be scattering radio waves simultaneously, communications may be possible for several minutes to several hours.

It's easy to see why meteor-scatter ops get so excited about working the big showers. A November shower, officially called the Leonids (meteor showers are named for the constellations in which they appear; Leo, in this case), has produced once-in-a-lifetime radio propagation in years past. Every 33 years or so, when the shower's parent comet Tempel-Tuttle sweeps near the sun, the Leonid meteor shower can become a raging meteor storm.

During a typical (good) meteor shower, 60 to 80 meteors blaze across the sky each hour. During the last Leonids storm in 1966, scientists saw peak hourly rates of 150,000 meteors per hour—pileup central! Observers witnessed apocalyptic light shows in the sky. In some locations people were awakened in the middle of the night by "bright daylight" streaming in through their curtains! In past centuries, more than one Leonids meteor storm prompted people to think that the end of the world was upon them. Unfortunately, the expected 1998-1999 Leonid meteor storm didn't materialize. Some scientists speculate that Tempel-Tuttle has run out of debris and is on its last legs. I guess we'll know for sure in 2030 when the comet swings around again!

SSB Meteor-Scatter QSOs

Although 2 meters is a meteor-scatter workhorse band, the best bands for beginners are 10 and 6 meters. Station requirements are modest and openings last longer and are more consistent.

Traditional meteor-scatter contacts (mostly SSB, and mostly during major showers) are made with dipole, vertical, and even mobile antennas, especially on 10 and 6 meters, but directional antennas work best. On 10 and 6 meters, 50 to 100 watts and a three-element Yagi produce solid results. On 2 meters, where the action is a bit more frantic, 150 watts and a 10-element beam should do nicely.

There are no special procedures for 10-meter meteor-scatter QSOs. Meteor trails usually last long enough to allow normal, brief contacts. Limit your transmissions to a few seconds. During meteor showers, try calling "CQ scatter" just above (and or below) 28.5 MHz. Aim your antenna in the direction you hope to make contacts.

On 6 meters, SSB activity usually starts at 50.130 MHz and moves up. Contacts are fast, so stay awake! On 2 meters and above, most meteor-scatter work is accomplished via schedules, where each station transmits and receives in coordinated time intervals. Most activity centers around the 144.2-MHz national calling frequency.
**Table 2. Resources**

In addition to the operating procedures outlined in *The ARRL Operating Manual for Radio Amateurs*, see the list of Web links below.

<table>
<thead>
<tr>
<th>MS Links</th>
<th>MS Resources</th>
<th>Primer</th>
<th>User Manual</th>
<th>Articles</th>
</tr>
</thead>
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<td>AB7IY</td>
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During peak shower periods on 6 and 2 meters, call CQ for a few seconds, then listen for a few seconds. Contacts are complete when no other stations call CQ. Contacts are made using FSK441 to communicate. The period from sunrise to about 9 a.m. local time is prime time for meteor-scatter contacts. There are plenty of contacts to be made year-round (especially via FSK441), although June, July, and August have the most meteor activity.

Because it’s sometimes impossible to discern meteor-scatter propagation from tropo or E-skip openings, there aren’t many (any?) specific meteor-scatter awards per se. That said, scatter QSOs work just fine for other awards or certificates. Including WAS (Worked All States) and VUCC (VHF/UHF Century Club).

The June VHF QSO Party overlaps the Artieads meteor shower, which unfortunately is often a poor performer. Meteor-scatter propagation usually gives the best boost to the annual ARRL 10-Meter Contest, which intersects the December Geminids shower. Even when 10 meters seems totally dead, morning scatter contacts put at least a few stations in just about everyone’s log.

There’s a lot more information available for hams who want to get started with meteor-scatter contacts. I encourage you to follow up with this fascinating, sunspot-independent, aspect of ham radio. See Table 2 for some suggested resources to get you up and running.

**Contacts You Can Count On**

To the old adage, “The only sure things are death and taxes,” you can now add the consistency and accessibility of meteor-scatter VHF communication. Station requirements are reasonable, and the gear you’ll accumulate will be useful for other VHF/UHF work. Who needs sunspots when we have heavenly propagation?

Your QSL cards, letters and questions are always welcome. Send them to Editor, *Popular Communications*, 25 Newbridge Rd., Hicksville, NY 11801; Web: Editor@popular-communications.com. Let’s hear from you!

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This listing is designed to help you hear more shortwave broadcasting stations. The list covers a variety of stations, including international broadcasters beaming programs to North America, others to other parts of the world, as well as local and regional shortwave stations. Many of the transmissions listed here are not in English. Your ability to receive these stations will depend on time of day, time of year, your geographic location, highly variable propagation conditions, and the receiving equipment used.

AA, FF, SS, GG, etc. are abbreviations for languages (Arabic, French, Spanish, German). Times given are in UTC, which is five hours ahead of EST, i.e., 0000 UTC equals 7 p.m. EST, 6 p.m. CST, 4 p.m. PST.

UTC | Freq. | Station/Country | Notes | UTC | Freq. | Station/Country | Notes |
--- | --- | --- | --- | --- | --- | --- | --- |
0000 | 11975 | VOIRI, Iran | CC | 0400 | 7390 | Channel Africa, South Africa |
0000 | 6165 | Radio Nederland, Bonaire Relay | | 0400 | 7220 | Voice of America, Morocco Relay |
0000 | 4845 | Radio Mauritania, Mauritania | AA | 0400 | 4976 | Radio Uganda |
0000 | 6240 | Radio PMR, Moldova | | 0400 | 4965 | The Voice - Africa, Zambia |
0000 | 11935 | Radio Romania International | SS | 0430 | 9635 | Radio Okapi, Congo, via South Africa |
0030 | 5830 | Radio Ukraine International | | 0430 | 5945 | Deutsche Welle, Germany, via England |
0100 | 4985 | Radio Brazil Central | PP | 0430 | 3975 | Kossuth Radio, Hungary |
0100 | 3985 | Croatian Radio | | 0430 | 7535 | Kol Israel |
0100 | 6045 | XEQ Radio Universidad, Mexico | SS | 0430 | 6020 | Voice of Turkey |
0100 | 3310 | Radio Mosoji, Bolivia | SS | 0430 | 6155 | Voice of Russia |
0130 | 4800 | Radio Buenas Nuevas, Guatemala | SS | 0500 | 4905v | RN Tahadienne, Chad |
0130 | 15720 | Radio New Zealand International | SS | 0500 | 5005 | Radio Nacional, Equatorial Guinea |
0130 | 4835 | Radio Maranon, Peru | SS | 0500 | 4777 | RN Gabonaise, Gabon |
0130 | 4747 | Radio Huanta 2000, Peru | SS | 0500 | 7255 | Voice of Nigeria |
0200 | 9665 | Radio Marumby, Brazil | PP | 0500 | 4770 | Radio Nigeria |
0200 | 5025 | Radio Rebelde, Cuba | SS | 0500 | 9705 | La Voix du Sahel, Niger |
0200 | 4780 | Radio Cultural Coatán, Guatemala | SS | 0500 | 7811v | AFN/AFRTS, Florida |
0200 | 3279 | La Voz del Nabo, Ecuador | SS | 0530 | 9575 | Radio Medi Un, Morocco |
0200 | 4815 | Radio El Buen Pastor, Ecuador | SS | 0600 | 5030 | Radio Burkina, Burkina Faso |
0200 | 4824.5 | La Voz de la Selva, Peru | SS | 0600 | 9600 | XEYU/Radio UNAM, Mexico |
0200 | 6185 | Radio Republica (clandestine to Cuba) | SS | 0600 | 4760 | ELWA, Liberia |
0230 | 3249 | Radio Luz y Vida, Honduras | SS | 0600 | 6080 | Voice of America, Sao Tome Relay |
0230 | 6040 | Vatican Radio | | 0730 | 9525 | Cotton Tree Network, Sierra Leone, via S. Africa |
0300 | 5035 | Radio Aparecida, Brazil | PP | 0830 | 11750 | HCJB-Australia |
0300 | 4052.5 | Radio Verdad, Guatemala | SS | 0830 | 9800 | Trans World Radio, Monaco |
0300 | 3255 | BBC, via South Africa | | 0900 | 9645 | Radio Bandeirantes, Brazil |
0300 | 7110 | Radio Ethiopia | Amharic | 0900 | 9595 | Radio Nikkei, Japan |
0300 | 6010 | Radio Sweden, via Canada | | 0930 | 4990 | Radio Apinte, Suriname |
0300 | 3240 | Trans World Radio, Swaziland | vern | 1000 | 6020 | Radio Australia |
0300 | 3220 | Radio Sondergrense, South Africa | Afrikaans | 1000 | 3300 | Voice of Korea, North Korea |
0300 | 4790 | Radio Vision, Peru | SS | 1030 | 4700 | Radio San Miguel, Bolivia |
0300 | 5755 | KAJ, Texas | | 1030 | 11935 | Trans World Radio/KTWR, Guam |
0300 | 5915 | Radio Zambria | | 1030 | 6020 | Voice of Vietnam |
0330 | 6110 | Radio Fana, Ethiopia | Amharic | 1100 | 7355 | KNLS, Alaska |
0330 | 5010 | RTV Malagasy, Madagascar | vern | 1100 | 6160 | CKZN, Canada |
0400 | 7425 | Radio Tirana, Albania | | 1100 | 4909v | Radio Chaskis, Ecuador |
0400 | 4950 | Radio Nacional, Angola | PP | 1100 | 6050 | RT Malaysia |
0400 | 4915 | Radio Difusora Macapa, Brazil | PP | 1100 | 3345 | Radio Northern, Papua New Guinea |
0400 | 6025 | Radio Amanecer, Dominican Republic | SS | 1130 | 5040 | Radio Myanmar (Burma) |
0400 | 4780 | Radio Djibouti | FF | 1130 | 6130 | Lao National Radio, Laos |
0400 | 7100 | Voice of the Broad Masses of Eritrea | Tigrinya | 1130 | 6150 | Radio Singapore International |
0400 | 5950 | Voice of the Tigre Revolution, Ethiopia | vern | 1130 | 3905 | Radio New Ireland, Papua New Guinea |
0400 | 6185 | Radio Educacion, Mexico | SS | 1130 | 9615 | Radio Veritas Asia, Philippines |
0400 | 4775 | Trans World Radio, Swaziland | GG | 1199 | 9615 | Radio Veritas Asia, Philippines | Mandarin
<table>
<thead>
<tr>
<th>UTC</th>
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<tbody>
<tr>
<td>1200</td>
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<td>Voice of the Strait, China</td>
<td>CC</td>
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<td>1200</td>
<td>11510</td>
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B'laster Corporation's Corrosion Stop

Protect that new tower you just put up, or other equipment exposed to the elements, with Corrosion Stop (Part No. 16-CSP) from the B'laster Corporation. This water-resistant spray corrosion inhibitor/protectant penetrates surfaces, resists water, displaces moisture, prevents further corrosion, creates a protective barrier and simplifies future maintenance saving you money. Corrosion Stop also inhibits corrosion and protects against salt water and atmospheric salt and chemicals.

Specifically designed for use in the demanding industrial, automotive, and marine parts and equipment industries, Corrosion Stop is appropriate for anything that rusts or is exposed to a corrosive environment, such as towers. Corrosion Stop can be used on engine blocks, electrical connectors, and lug nuts, as well as batteries, antique equipment, locks and padlocks.

Corrosion Stop is available at all Home Depot stores in 11-ounce aerosol cans and retails for $5.50. For more information, visit www.blasterchemical.com.

Thunderbolt HF Antennas From DX Engineering

DX Engineering is expanding its Thunderbolt Antenna series. These high-performance vertical antenna systems are tunable to operate over a variety of HF bands with an SWR of 1.5:1 or less. Reaching up to 43 feet in height, they use 6063 corrosion-resistant aluminum tubing along with stainless-steel hardware for durability. Some models feature a top hat, allowing the antenna to be shorter without giving up efficiency or radiating performance.

For best performance, your installation should include a good ground radial system, such as DX Engineering's radial plate and bulk radial wire kits, to facilitate connecting ground-radial wires (32 are recommended). Most models offer a tilt-base to allow easier raising and lowering of the antenna. All Thunderbolt Antenna systems are priced at under $500.

For more information, contact DX Engineering, P.O. Box 1491, Akron, OH 44309-1491; Phone: 800-777-0703; Web: www.dxengineering.com.

Record Skype Conversations With Skype Recorder 1.4

Skype Recorder from ExtraLabs Software is an easy-to-use tool for recording Skype audio conversations. Skype Recorder can record Skype calls automatically. The software has a number of additional handy features, such as an automatic record encoding into MP3/WMA/OGG/WAV format, support for all Skype versions, single or dual audio track recording, hidden mode work, a built-in audio player, a built-in FTP-client and easy interface.

Creating a new recording is simple: all you need is to run Skype Recorder. The software will automatically start recording as soon as you start talking on Skype. When the conversation is over, Skype Recorder will encode the recording to the specified format and save the ready file on your hard drive. The built-in audio player lets you listen to the recording and delete, move, or upload the file.

Skype Recorder is compatible with all operating systems of the Windows family (95, 98, Me, 2000, XP, NT, Vista) and supports all Skype versions. The license price of $13.95 includes free lifelong updates. For more information, visit www.extralabs.net/skype-recorder.htm. The full-featured version of Skype Recorder 1.4, with a free 30-day trial period, is available at www.extralabs.net/SkypeRecorderSetup.exe

Note: In many areas of the country both parties must be aware a recording is being made for it to be legal. Be sure to consult your local laws.

Skype Recorder from ExtraLabs Software automatically records Skype audio conversations—but check your local laws before using it.

44 / POP'COMM / April 2008
K8LV FLP1 Pre-amp

The K8LV Fish Lake Beverage Pre-amp, model FLP1, can help you improve your "ears" on the low bands. This high-performance receive antenna pre-amplifier is designed for 160 and 80 meters. It can be used not only for Beverage antennas, but also for a wide variety of receiving antenna designs.

Improve your "ears" on the low bands with the K8LV Fish Lake Beverage FLP1 pre-amp.

The FLP1 pre-amp uses a state-of-the-art MMIC for active amplification, preceded by high-Q bandpass filters. The MMIC is based upon GaAs technology and can produce 20 dB of gain while maintaining a low level of intermodulation. The FLP1 comes pre-assembled using SMT components and two-sided PC board with ground plane. The final package is mounted in a custom metal enclosure that fully shields the electronics and provides a simple mounting flange for attaching to a flat surface. Each band is provided with a trimmer capacitor that allows peaking the input filter to any frequency within the band. It is factory set at the specified frequencies and normally will not require any further attention. Its power supply line contains extensive RF and DC filtering to minimize problems with RFI from multiple transmitters stations, as well as reverse battery polarity protection.

For more information and to inquire about pricing visit <http://booksandtubes.com/K8LV.htm>.

NewSoft Offers WMS 200 Video Wireless 802.11 Adapter

NewSoft America offers a video wireless projector adapter, the WMS 200, which lets educators, trainers, presenters, and mobile professionals wirelessly broadcast dynamic presentations, video, audio, and pictures from their laptops to any projector or display. The WMS 200 transmits lossless, high-quality MPEG-I, 2, and 4 video, music, high-resolution images, and presentations with dynamic animation and audio and wirelessly link WiFi-ready laptops directly to projectors and displays.

Manufacturer's suggested retail price for the WMS 200 is $349. For more information, visit www.newsoftinc.com.

AC Power Line Protector

The MCG 400 Series of AC power line protectors offers reliable, heavy-duty protection for expensive electronic gear from high-speed lightning, transients and surges that can damage or destroy transceivers, scanners, power supplies and HF amplifiers. IEEE 587 ring and impulse waves are vigorously clamped to safe levels and the protector automatically resets, ready for the next transient. The protectors easily installed "within" or adjacent to a piece of sensitive equipment. The unit's low profile (2.85 x 4.95 x 1.25 inches HWD) makes it ideal for space-sensitive applications.

Series 400 employs high-speed (less than 1 nanosecond), brute force protection components and impulse filtering to prevent damage or malfunction. Transient absorption capability exceeds 900 joules. The 400 Series is available in 120 or 240 VAC, single phase, 50/60/400 Hz power lines, handling currents from 5 to 25A. Units incorporate a green LED indicating the unit is operational and protection is present. An internal fuse automatically disconnects unit from the power line in the event of serious line current overload.

Pricing starts at $161. For more information, visit www.mcgsurge.com.
Africa “Re-arises,” And Lots Of Other Places Are Making More Noise, Too

Although fresh new broadcasters aren’t involved, Africa has nonetheless seen some unusual (read “positive”) activity of late. First, Libya brought its transmitting site at Sabrata back into service and discontinued its use of France’s Issoudun site, which had been doing fill-in service while Sabrata underwent an upgrade. And lately Algeria seems to be making increased use of some of the VT-Merlin sites (Woofferton and Rampisham), having added 5915 and more recently 7175 and 7295. And CVC-The Voice-Africa has begun to use the “international” bands, starting with 13590 and 13650 via Zambia (although the programming source appears to be from CVC-Australia). This may be the first step in their previously announced plans to provide Africa-wide coverage. Then came word that Chad’s Radio Nationale had returned to its familiar and long-used 4904.5 where it’s being heard nearly everywhere in the United States. More positive news that Africa is on a shortwave uptick these days!

Radio Serbia International has taken another step forward, as mentioned earlier, with the recently reactivated Bijeljina site. For North America the station is active on 7115 from 0030 to 0230 and to Europe on 7240 from 1130 to 2230 with 6100 added from 1900. Half hours in English are broadcast at 0100, 0200, 1400, 1930 and 2200.

The Mexican Radio Transcontinental/XERTA, Mexico City, has moved from its previous 4810, where it was usually buried in a pile of noise. It’s now using 4800, leaving a question as to the status of Radio Buenas Nuevas in Guatemala, which also uses this frequency but hasn’t been heard recently—not even as a QRM creator.

Ontario’s CFRX, absent for many months on 6070 will, indeed, make a comeback, according to Steve Canney, QSL Manager for the station and mediumwave CFRB, which it relays. A new solid-state transmitter should be on the scene—or even operational by now. So keep an ear open on 6070 and welcome them back!

A new station in Peru is Radio Manantial, now operating on 4990.8 from Chilca in Huancayo Province. It’s only running 1 kW and is in a “messy” area of the band so don’t expect an easy time if you enter the hunt for this Catholic-affiliated station. The address for reports is care of I.E.P.J., Templo la Hermosa, Jr. Santa Cecilia No. 107, Chilca, Huancayo, Peru.

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 separately according to its home country, and include your last name and state abbreviation after each. Also needed are spare QSLs or good color copies you don’t need returned, station schedules, brochures, pennants, station photos, and anything else you think would be of interest. And how about sending a photo of you at your listening post? It’s your turn to grace these pages!

Here are this month’s logs. All times are UTC. Double capital letters are language abbreviations (SS = Spanish, RR = Russian, AA = Arabic, etc.). If no language is mentioned English (EE) is assumed. Lots of logs this time so let’s kick it off!

ALASKA—KNLS, 6150 at 1405 with 80s pop and some hash from a Firedrake jammer. (Barton, AZ) 6890 in Mandarin at 1332. (Schiefelbein, MO) 6915 at 0804. (Patterson, Philippines) 7355 in CC at 1100. (Ng, Malaysia)

ALBANIA—Radio Tirana, 6110 with press review at 0130 to 0142*. (Paradis, ME) 0440. (Maxant, WV) 7430 at 2110 on a new nuclear power project. //99 I 5. (Fraser, ME) 7425—Shijak at 0438 with news, ID. (Parker, PA) 0448 in presumed Albanian to 0456*. (Wood, TN) 13640—Shijak with choir at 1554. (Charlton, ON)

ANGOLA—Radio Nacional, 4950 at 0139 in PP, old pop song, PP ID at 0200 and into news. (Alexander, PA)

ASCENSION—BBC Atlantic Relay, 6005 at 0328 and 17830 at 1549. (Wood, TN)

ASCENSION—BBC Atlantic Relay, 6005 at 0328 and 17830 at 1549. (Wood, TN)

ARGENTINA—Radio Argentina al Exterior, 11710.7 at *1000 with long SS sign on routine before going into JJ. (D’Angelo, PA) 15345.4 with SS at 2007. (Charlton, ON) GG service at 2102. (Strawman, IA)

ANTARCTICA—Radio Nacional Argentina, 15476 at 2054 with bits of audio peeping out of the noise. (Strawman, IA)

ARGENTINA—Radio Argentina al Exterior, 11710.7 at *1000 with long SS sign on routine before going into JJ. (D’Angelo, PA) 15345.4 with SS at 2007. (Charlton, ON) GG service at 2102. (Strawman, IA)

ANTARCTICA—Radio Nacional Argentina, 15476 at 2054 with bits of audio peeping out of the noise. (Strawman, IA)

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Help Wanted

The “Global Information Guide” consistently presents more shortwave broadcast loggings than any other monthly SW publication! (An incredible 787 shortwave broadcast loggings were processed this month!**) Why not join your fellow SWLs, let us know what you’re hearing, and also become eligible for our monthly shortwave book prize! Send your logs to Gerry Dexter, “Global Information Guide,” 213 Forest St., Lake Geneva, WI 53147. Or e-mail them to gdx@genevaonline.com (please see the column text for basic formatting tips.) Come join the party—we look forward to hearing from you!

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

A Guide To “GIG-Speak”

Here’s a partial list of abbreviations used in the “Global Information Guide.”

**

* (before or after a time) time the station came on or left the air
(l) (after a frequency) lower sideband
(p) — pressured
(t) — tentative
(u) (after a frequency) upper sideband
v — variable time or frequency
// — in parallel
AA — Arabic
ABC — Australian Broadcasting Corporation
AFN — Armed Forces Network
AFRTS — Armed Forces Radio TV Service
AIR — All India Radio
Alt — alternate
AM — amplitude modulation, AM band
Anncr(s) — announcer(s)
Anmt(s) — announcement(s)
BSKSA — Broadcasting Service of Kingdom of Saudi Arabia
CA — Central America
CC — Chinese
Co-chan — co-channel (same frequency)
comm(s) — commercial(s)
CP — Bolivia, Bolivian
CRI — China Radio International
DD — Dutch
DJ — disc jockey
DS — domestic service
DW — Deutsche Welle/Voice of Germany
EE — English
ECNA — East Coast of North America
f/b — followed by
FEBA — Far East Broadcasting Association
FEBC — Far East Broadcasting Company
FF — French
freq — frequency
GBC — Ghana Broadcasting Corp
GG — German
GMT — Greenwich Mean Time (UTC)
HH — Hebrew, Hungarian, Hindi
HOA — Horn of Africa
ID — station identification
I — International, Indonesian
Int/Intl — international
Ir. — irregular use
IRRS — Italian Radio Relay Service
IS — interval signal
JJ — Japanese
KK — Korean
LB — lower sideband
LV — La Voz, La Voix (the voice)
MW — mediumwave (AM band)
NBC — National Broadcasting Corporation (Papua New Guinea)
OA — Peru/Peruvian
OC or O/C — open carrier
PBS — People’s Broadcasting Station
PP — Portuguese
PSA — public service announcement
QQ — Quechua
QRM — man-made interference
QRN — noise (static)
QSL — verification
RCI — Radio Canada International
RDF — Radiodifusora, Radiodiffusion
REE — Radio Exterior de Espana
RFA — Radio Free Asia
RFE/RL — Radio Free Europe/Radio liberty
RNZI — Radio New Zealand International
RR — Russian
RRI — Radio Republik Indonesia
RTBF — RTV Belge de la Communate Franpoise
Relay — transmitter site owned/operated by the broadcaster or privately operated for that broadcaster
Relay — transmitter site rented or time exchanged.
SA — South America
SEA — Southeast Asia
SCI — Song of the Coconut Islands (transition melody used by Indonesian stations)
s/off — sign off
s/on — sign on
sked — schedule
SLBC — Sri Lanka Broadcasting Corporation
SS — Spanish
SSB — single sideband
SWL — shortwave listener
TC — time check
TOH — top of the hour
TT — Turkish
TWR — Trans World Radio
Unid — unidentified
USB — upper sideband
UTC — Coordinated Universal Time (as GMT)
UTE, ute — utility station
Vern — vernacular (local) language
via — same as “relay”
VOA — Voice of America
VOIRI — Voice of Islamic Republic of Iran
WCNA — West Coast of North America
ZBC — Zimbabwe Broadcasting Corporation

1115

7160 at 0420. (MacKenzie, CA) 7185 in an African language at 0417. (Brossell, WI) 12095 at 1600. (Paradis, ME) 15400 at 1930. (Charlton, ON) 17830 at 1612 and 21470 at 1605. (Ronda, OK)

AUSTRALIA — Radio Australia, 6020 at 1005, 9580 at 0805 and 9590 at 1115. (Maxant, WV) 7240- Shepparton at 1428 and 17785 at 2221. (Ronda, OK) 9475-Shepparton at 1100, 9500-Shepperton at 2100 and 15290 in Indonesian at 0600. (Ng, Malaysia) 9580 at 1704 and 9660-Brandon at 1240. (Strawman, IA) 9580-Shepperton at 1913 and 11880-

April 2008 / POP’COMM / 47
Shepparton at 2024. (Charlton, ON) 9590 at 1500. (Paradis, ME) 9710 heard at 1615. (Barton, AZ)

ABC Northern Territories Service, 2310 VL8A-Alice Springs at 1116 with news at 1130. (D'Angelo-FCDX-PA) 2485 VL8K-Katherine at 1238 with country singers. (Wood, TN) VL8T-Tennant Creek, 4910 at 1120 with sports coverage. (Brossell, WI) 1320 with weather and ID. (Charlton, ON) 9590 at 1130.

CVC-Australia 9500 via Tashkent in Hindi at 1340 and 15170 in Mandarin at 2204. (Ronda, OK) 9515-Sackville with mailbag at 1537, (Parker, PA) 0220 with songs and occasional anncr. (Ronda, OK) 0332 with man anncr. Gone at 0355 re-check. (D'Angelo, PA)

Radio Capixaba, Vitoria, 9435 with M anncr, W vocal at 0607. (Parker, PA)

Radio Novo Tempo, Campo Grande, 4985 with M talk, ID jingle, religious song at 0115. (Parker, PA)

Radio Educaaco Rural, Tefe, 4925 at 0132 with slow selections. (Parker, PA)

Radio Difusora, Macapa, 4915 at 0425 with LA pop oldies. (Parker, PA)

Radio Difusora, Taubate, Taubate, 4925 with M anncr and music at 0010. (Parker, PA)

Radio Cultura Ondas Tropicais, Manaus, 4845.2 at 0130-0200* with possible soccer coverage. ID and info at 0151, anthem and off. (Parker, PA)

BULGARIA—Radio Bulgaria, 5900-Plovdiv in umid language at 0256. (Patterson, Philippines) 7200 in RR at 0412. (MacKenzie, CA) 9400 in FF at 1817. (Charlton, ON) 15700 with Bulgarian choral music heard at 1454. (Ronda, OK)

Radio Varun, 9900 in BB with U.S. oldies at 2154. (Brossell, WI)

BURKINA FASO—Radio Burkina, 5030 at 0558 with anthem, opening FF anncs, talk, FF ballads. Afropops also at 2315 to 0020*. (Alexander, PA) 2242 with hi-life overpowering China's CNR-1. (Strawman, IA) 2246 with Afropops and talk in FF. (Ronda, OK) 0000 close. (D'Angelo, PA)

CANADA—Radio Canada Intl., 7195 via South Korea in Mandarin at 2255. (Ronda, OK) 9515-Sackville with mailbag at 1537. 9610-Sackville with airport complaints at 0445. 9710 via Skelton in AA at 2014, 11865-Sackville in FF at 2042. (Charlton, ON) 9635 via Xi’an with music at 1500. (Schiefelbein, MO) 2115 in SS. (MacKenzie, CA)

CBC Northern Quebec Service, 9625-Sackville in Inuit at 1724. (Charlton, ON) 2330. (Maxant, WV)

CKZU, St. John’s 6160 at 1105 with weather for the Maritimes. (Maxant, WV)

CKZU, Vancouver 6160 at 1256, mixing with VOA-Tinag in CC. (Strawman, IA)

CHU, Ottawa 7335 with time anncs at 0925. (Maxant, WV)

CHAD—Radio National Tchadienne, N’Djamena, 4905v at 2049 with lots of Afropops, woman anncr in FF. Very good. (Strawman, IA) 2103 but poor at tune in. (Ronda, OK) 2120 with FF talk, African hi-life, anthem at 2228. (Alexander, PA) 2226 to 2300* with FF man anncr. Off with presumed NA. Nearly armchair copy. (Wood, TN)

CHILE—CVC-La Voz, 17680-Santiago in SS at 1912. (Charlton, ON)

CHINA—China Radio Intl. 7110 in JJ at 2235, 7170 in CC at 2350, 9415 in VV at 2353, 9425 in Cantonese at 0002, 9435 in JJ at 2353, 9460 in Cantonese at 2354, 9470 in Mongolian

Bob Brossell got this QSL from the Voice of Russia, complete with site indication.
at 0010, 9590 in SS at 2315, 9695 in JJ at 2308, 9765 in Cambodian at 2330, 9785 in Cambodian at 2348, 9790 via Cuba at 0338, 9860 in Hakka at 0006, 11770 in VV at 0013, 11975 via Mali in CC at 2357, 13580 in CC at 0002 and 13650 in PP at 2355. (MacKenzie, CA) 0620 via Albania with “China Beat” pgm at 0130 and 1520 via Sackville at 1430. (Paradis, ME) 7110-Hohhot in RR at 2312, 7140-Shijiazhuang in RR at 1233, 7250-Urumqi in SS at 2348, 9415-Beijing in VV at 2335. (Ronda, OK) 13675 via Cuba in CC at 1540. (Maxant, WV) 7190-Xi’an in JJ at 1512. (Barton, AZ) 7285 via Albania at 2039. (Charlton, ON) 15710 with news at 1000. (Ng, Malaysia) 11875-Urumqi in RR at 1639. (Brossell, WI) 7710-Beijing at 0400. (Patterson, Philippines) 9570 via Albania at 0114, 13630 via Mali at 2045, 13740 via Cuba at 1550 and 17735 via Sackville in CC at 1622. (Charlton, ON) CBPS/CNR 5030-Beijing in Mandarin at 1355, 5995-Beijing in listed Mongolian at 2248 and 9420-Lingshi in Mandarin at 1339. (Ronda, OK) 7345-Beijing in CC at 1208. Also on 9845 at that time, but seemingly not in parallel. (Brossell, WI) 9675 in CC at 2304, 11710 in CC at 2212, 11750 in CC at 2353 and 13610 in CC at 2352. (MacKenzie, CA) 9810 China Business Radio at 1145. Covered by Thailand at 1230. (Alexander, PA) 

Xizang PBS (Tibet), 4905 at 2220 with dramatic vocals. (D’Angelo/FCDX, PA) 6110 in Tibetan at 2350 in Asian/EE-like music. Wiped out by Albania heard at 2355. (Schiefelbein, MO) 

Urungan PBS, 4500 at 0010 in Mongolian with Chinese classical music. (Parker, PA) 5060 at 2355 with long talk in Mandarin. (Schiefelbein, MO) 7155 in Mandarin at 1141. (Ronda, OK) Nei Menggu PBS, Holhhot, 9520 in Mandarin heard at 2332 but soon faded out. (Ronda, OK) 

Gannan PBS, Hezou, 3990 with CC talk at 1101. (Ng, Malaysia) 

Qinghai PBS, Xining, 4220 at 2330 in listed Amur/Tibetan. Poor but in the clear. (Parker, PA) 2335 with seeming phone calls and local music. (Schiefelbein, MO) 

Yunnan PBS, Kunming, 6937 in CC with ID at 1120. (Ng, Malaysia) 

Sichuan PBS, Chengdu, 7225 at 1256 in Mandarin with CC pop, ID, more songs. (Schiefelbein, MO) 

Guanxi PBS, Nanning, 9820 with female vocal at 2320, 3050. Fair until blasted by Cuba monitored at 2230. (D’Angelo/FCDX, PA) 

Voice of the Strait, Fuzhou, 4900 (Amoy Channel) poor in Amoy at 1251. (Ronda, OK) 7280 in CC at 1205. (Brossell, WI) 1225. (Ronda, OK) 

Voice of Jinling, Nanjing, 5860 1205 in Mandarin with Western EZL and old pops. (Schiefelbein, MO) 

BPM time station, 5000 at 2320 audible under WWV/H with CW during WWV’s silent period at 2329. (Schiefelbein, MO) Firedrake Jummer, 7140 at 2237. (MacKenzie, CA) 7160 at 2249 and 6170 at 2223. (Parker, PA) 6145 attacking Radio Taiwan at 1600. (Barton, AZ) 9605 on BBC in JJ at 1312. (Brossell, WI) 9905 against RFA-Palau at 1615, also 9930 against KWHR and 11540 on RFA via Kuwait at 1623. (Brossell, WI) 

COLOMBIA—Marfil Estereo, Puerto Lleras, 5910 at 0514 with LA vocals. (D’Angelo, PA) 0605. (MacKenzie, CA) 2357 with romantic ballads. (Ronda, OK) 

CONGO—Radio Okapi, 9635 via South Africa at 0440 with ID and talk in FF. (Ronda, OK) 

CROATIA—Hrvatski Radio/V of Croatia, 3985 at 0118 with EE features. ARO QRM. (D’Angelo, FCDX, PA) 0302 with ID, schedule and web info. (Parker, PA) 

CUBA—Radio Havana Cuba, 6180 at 0440. (Maxant, WV) 9590 on oil production in LA at 0516. (Wood, TN) 11760 at 2035 and 15570 in SS at 1728. (Charlton, ON) 

Radio Rebelde, 5025 in SS at 0557. (MacKenzie, CA) 0819 with SS phone-ins. (Maxant, WV) 

CYPRUS—Cyprus Broadcasting Corp., 9760-Limassol at 2215 sign on with Greek music and talk, local folk music, radio drama, guitar. Off at 2244. 5210 was fair mixing with CRI and 6180 was weak under Brazil. Active on Fri., Sat., Sun. only. (Alexander, PA) 

EGYPT—Egyptian Radio/Radio Cairo, 6290 in AA at 2248. (Ronda, OK) 12050 with Koran at 1644. (Brossell, WI) 

ENGLAND—BBC, 3255 via South Africa at 0320. (Parker, PA) 5875 Cyprus Relay in Pashmo to Afghanistan at 0105. (Parker, PA) 6005 at 0445. (Maxant, WV) 6065 Thailand Relay in Burmese at 0006 and 11955 Oman Relay at 0118. (Ng, Malaysia) 6110 Thailand Relay in Indonesian at 1313, 6135 Singapore Relay in VV at 1437, 7340 Thailand Relay at 2325 and 9410 Cyprus Relay at 1407. (Ng, Malaysia) 7245 Cyprus Relay in RR at 0407, 7340 at 2337, 9660 via

Here's the foreign service staff of Radio Tirana. (Thanks Rich D’Angelo)

In Times Past...

Here's another nostalgia nugget from Times Past:

Radio Comercial, YSV, Santa Ana, El Salvador. 9576 in SS at 1324 on January 8, 1975. (Dexter, WI)

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April 2008 / POPCOMM / 49
Brandon (Australia) at 2205 and 17640 via Meyerton at 1605. (Ronda, OK) 7165 in unid Asian language at 0210 and 9740 Singapore Relay at 1207. (Brossell, WI) 7430 via Dushanbe at 1356. (Strawman, IA) 11755 via Meyerton heard at 1852. (Charlton, ON)

FEBA, 9550 via Rwanda at 1943. (Charlton, ON)

EQUATORIAL GUINEA—Radio Nacional, Bata, 5005 at 2245 with Afropops, SS talk. Off with anthem at 2256. (Alexander, PA) 0525 with up tempo tribal music, SS annrcr. (Parker, PA) 0532 with vocals and M annrc in SS. (D’Angelo, PA)

Radio Africa, Bata, 15190 at 1145 as it was beginning to fade in. Never better than weak. Closed at 1329 with “Radio Africa Network” ID and mention of that and Pan American Broadcasting email and postal addresses. (Alexander, PA)

ERTERIA—Voice of the Broad Masses, Asmara. 7100 at 0355 sign on. (Alexander, PA) 0431 with “Program 1” service with HoA music, woman in Tigrigna. M/W annrcrs, music and news. Also 7175 “Program 2” at Asmara, 7100 at 0355 sign on. (Alexander, PA)

Radio Ethiopia, Addis Ababa, 6100 at 0258 with IS, opening anmts at 0300 with M/W in Amharic. Off with anthem at 2100. (Alexander, PA)

Radio Fana, Addis Ababa, 6100 at 0258 sign on with IS, opening anmts at 0300 with M/W, HoA music. Only a threshold signal on 7170. Never better than weak. (Schiefelbein, MO) 2005 with local pops, talks in Amharic. Off with anthem at 2100. (D’Angelo/FCDX, PA)

ETHIOPIA—Radio Ethiopia, Gedja, 7110 at 0423 with M/W in Amharic. (Ronda, OK) 9704.2 (t) at 1443 with a hot beating against VOA in Cantonese. Could just make out weak music and possible comments by a woman. (Schiefelbein, MO) 2005 with local pops, talks in Amharic. Off with anthem at 2100. (Alexander, PA)

Radio Fana, Addis Ababa, 6100 at 0258 sign on with IS, opening anmts at 0300 with M/W, HoA vocals, ID heard at 0359. (D’Angelo/FCDX, PA)

FRANCE—Radio France Intl, 5925 in FF at 0632, 7325 in CC at 1030 and 13695 in FF at 2005. (Ng, Malaysia) 9790 in FF at 0260. (Charlton ON) 1615 at 1615 with African news items (Fraser, ME) 1630. (Paradis, ME) 1610. Also 13695 in FF at 0204 and 15300 in FF at 1631. (Charlton, ON) 11965 in FF at 1705. (Brossell, WI) 15180 via Meyerton in FF at 1245. (Patterson, Philippines)

FRENCH GUIANA—RFO Guyane, 15795drm at 1405. This is a 150-kW test but it’s unclear how long this will last. (Schiefelbein, MO)

Gabon—RTV Gabonaise, 4777 heard at 0456 with O/C, orchestral anthem, ID by W and anmts in FF. (D’Angelo, PA) 0457. (Alexander, PA) 0505. (Strawman, IA) 0510 in FF. (Maxant, WV) 0511. (Parker, PA) 0541 in FF with CODAR QRM. (Parker, PA) 0549. (MacKenzie, CA)

Africa Number One, 9580 at 0529 with news in FF; also 15475 in FF at 1609. (Wood, TN) 1935. (Fraser, ME) 2051 and 15475 in FF at 1638. (Ronda, OK)

GERMANY—Deutsche Welle, 5905 in GG at 1130 and 5945 at 0445. (Maxant, WV) 9735 via Wooterton in FF at 1945, 6160 via Wooterton in AA at 1855, 11725 Rwanda Relay in GG at 1850, 11925 Sri Lanka Relay in GG at 1940, 12035 via Wooterton GG in FF at 1707, 12070 via Wooterton GG at 1926, 13790 Rwanda Relay in AA at 2005 and 15620 Portugal Relay in RR at 1545. (Charlton, ON) 9755 Rwanda Relay at 0506. (D’Angelo, PA) 11725 Rwanda Relay in GG at 1809. (Strawman, IA) 11865 Portugal Relay in GG at 2330. (Brossell, WI) 15410 Rwanda Relay in FF at 1218 and 21840 Sri Lanka Relay at 0932. (Patterson, Philippines) 1690 Rwanda Relay at 2210, 13790 Rwanda Relay in AA at 2012. (MacKenzie, CA) 17710 Sri Lanka Relay at 0930. (Ng, Malaysia)

GREECE—Voice of Greece, 9420 in Greek at 1948. (Charlton, ON)

RS Makedonias, 7450 with Greek vocals at 2218. (Ronda, OK)

GUAM—Adventist World Radio, 11935 in CC at 1030 and into Uigur. (Ng, Malaysia) 12120 in Mandarim at 2313. (MacKenzie, CA)

GUATEMALA—Radio Buenas Nuevas, San Sebastian, 4800 at 0125 in SS or local dialect with M/W talks. (Parker, PA)

Radio Cultural Coatan, San Sebastian, 4780 at 0035 with SS preaching and CODAR QRM. (Wood, TN) 0202 in SS with M annrc, vocal. Strong signal, louder than Ethel Merman trapped in a burning building. (Parker, PA)

Radio Verdad, Chiquimula, 4052.5 in SS heard at 0133 with M over flute. (Parker, PA) 0534 to 0600+ with EE service, prayers and inspirational talks. (Wood, TN)

HONDURAS—Radio Luz y Vida, 3249v with SS preaching heard at 0243. (Wood, TN) 0202 in SS with M/W in II, 4790-FakFak in II at 1345. (Strawman, IA) 3995-Kendari (p) at 2136 in II talk and vocal. Also 4750-Makassar at 2135 with M/W in II, woman hosting vocals. Into Jakarta news at 2200. (D’Angelo/FCDX, PA) 4605-Serui in II with light pops at 1409 and 4750-Makassar in II at 1346. (Ronda, OK) 9680-Cimanggis in unid language at 2310. (MacKenzie, CA)

Voice of Indonesia, 11785 in FF at 1952. (MacKenzie, CA)

IRAN—Voice of the Islamic Republic of Iran, 3945-Kalanabad, at 0335 with M in vernacular and Koran. (Parker, PA) 6010 opening with anthem at 1930. Better on 7732 but just threshold level on 11695. (Alexander, PA)

ISRAEL—Kol Israel, 7545 in HH at 0353. (MacKenzie, CA) 1430 to North America. (Parker, PA) 0430. (Wood, TN) 2240 in HH. (Ronda, OK)

JAPAN—Radio Japan/NHK, 6120 at 1210. (Maxant, WV) (This is via Canada. On 7115 via Dhabbaya (UAE) in JJ at 2217. (Strawman, IA) 2235 in JJ. (Ronda, OK) 2240. (Schiefelbein, MO) 9825 to 1440 close. Not listed. (Alexander, PA) 11665 in JJ at 2203, 11910 in JJ at 2245 and 13650 in Burmese at 2310. (Strawman, IA) 11815 at 0910. (Ng, Malaysia) 13630 via Rampisham in JJ at 1450. (Charlton, ON) 13650 in CC at 2250. (Barton, AZ) 15590-Yamata at 0909. (Patterson, Philippines)

Radio Nikkei, 3925 in JJ at 0937. (Alexander, PA) 6055 in JJ at 1325. (Strawman, IA) 9595 in JJ at 1115. (Ronda, OK) 0549 in JJ. (Patterson, Philippines) 9760 in JJ monitored at 0345. (MacKenzie, CA) 0600. (MacKenzie, CA)
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JORDAN—Radio Jordan, 9830 in AA at 1945 and 11690 in EE at 1540. (Charlton, ON) 1510 with Western pops. (Fraser, ME) 1600 with local FM pops relay. (Paradis, ME) 1625. (Brossell, WI)

KUWAIT—Radio Kuwait, 9855 in AA at 1920. (Brossell, WI) 1947 in AA. (Charlton, ON) 11990 in AA at 1925. (Maxant, WV) 2044 with EE pop vocals and regional news. (Ronda, OK) 15110 in EE at 0635. Also 17885 with Filipino service at 1157 and AA FL at 1200. (Ng, Malaysia) 15505 in AA at 1226. (Patterson, Philippines)

LAOS—Lao National Radio, 6130 at 1125 with nice local vocals and woman host. Then their familiar seven gongs heard at 1200. (Alexander, PA)

LATVIA—“Latvia Today.” 9290-Ulbroka, 1144 with light classical music, features on local history. Radio SWH address for reports. (Alexander, PA) 1400 IDing as a pgm of Radio SWH. (Schiefelbein, MO)

LIBERIA—ELWA, 4760 at 0630 with music, ID at 0657, religious talk. (Alexander, PA) 2137 with EZL religious vocals. (Schiefelbein, MO)

LIBYA—Radio Jamahiriya/Voice of Africa, 17725-Sabrata at 1435 in EE on solving the “problem of democracy.” (Fraser, ME) 1454 in EE but with heavy QRM. (Charlton, ON) 1553 with news and African music. (D’Angelo, PA)

MADAGASCAR—RTV Malagasy, *0248 with lively group vocals and choral anthem, opening ID at 0301 and mix of brief music bits and MIW talk. (D’Angelo/FCDX, PA) 0330 with local religious music and vernacular talk. (Alex, PA)

MALAYSIA—RTV Malaysia, 6050-Sibu relaying the Asyik FM pgm in Malay at 1103. (Ng, Malaysia)

MALI—RTV Malienne, 5995 at 2315 with Afropops, FF talks and hosted by a woman and Burmese talks. (D’Angelo/FCDX, PA)

MAURITANIA—RTV Mauritania, 4845 with Koran at 0500. (Parker, PA) With presumed news in AA at 2302. (Ronda, OK) 5910 via Petropavlovsk in DD at 1320. (Strawman, IA)

NETHERLANDS—Radio Nederland, 3955 in DD at 0615. (Parcer, PA) 5910 via Petropavlovsk in DD at 1320. (Strawman, IA) 6120 via Singapore in Indonesian at 2310, /7380, 9895. Also 9345 via Uzbekistan heard at 1403. (Schiefelbein, MO) 7305 via Moldova in DD at 0617, 11655 via Madagascar Relay at 2020. (MacKenzie, CA) 7120 heard at 1518. (D’Angelo/FCDX, PA) 7380 Madagascar Relay in Indonesian at 2320 and 9345 via Russia at 1520. (Ng, Malaysia) 11655 Madagascar Relay in DD at 2326, 11805 Madagascar Relay at 2052, 11805 via South Africa at 1950. (Charlton, ON)

NEW ZEALAND—Radio New Zealand Intl, 5950 with ID and news at 1400. (Ronda, OK) 6095 monitored at 1240. (Brossell, WI) 15720 at 0148. (Patterson, Philippines)

NIGER—La Voix du Sahel (p) 9705 very poor in seeming extended commentary to 2149 when lost in the noise. (Strawman, IA)

NIGERIA—Voice of Nigeria, 7255-Ikorodu in Harsa at 2221. (Ronda, OK) 9690-Ikorodu at 0757 sign on. (Alexander, PA) 0815. (Maxant, WV) 2322, also 15120 at 1924. (Charlton, ON) 15120-Ikorodu monitored at 0225. (Parker, PA) 1835. (Charlton, ON) 1900. (Paradis, ME)

7275-Abuja, weak with news after Tunisia leaves at 0630. (Alexander, PA)

NORTHERN MARIANAS—KFBS, Saipan, 15580 in Indonesian at 1017. (Ng, Malaysia)

NORTH KOREA—Voice of Korea, 6285 with classical music and FF anm in 1150. (Ronda, OK) 6303 (t) at 1125 but very weak in possible KK to past 1200. Drifting up from 6285. Also 9335 at 1308 with EE news (Alexander, PA) 7180 in Mandarin at 2255. (Ronda, OK) 9335 at 0108. (Patterson, Philippines). 9650 in JJ at 2342. (MacKenzie, CA) 11710 at 1015. (Maxant, WV) 1615 in FF with ID at 1630. (Brossell, WI) 12015-Kujang in RR at 1717. (Charlton, ON) 15180 in SS at 0208. (Ng, Malaysia)

Korean Central Broadcasting Station (KCBS), 2850 at 1227 with classical group vocals hosted by man in KK. (D’Angelo/FCDX, PA) 1304 with possible news. (Strawman, IA)

Pyongyang Broadcasting Station in KK at 1217. (D’Angelo/FCDX, PA)

www.popular-communications.com
OMAN—Radio Sultanate of Oman, 15140 monitored at 1410 with pops, news, sports news, achievements pgm. (Alexander, PA)

OPPOSITION—Suah Xaa Moo Zoo (to Laos) 11655 via Northern Marianas in Hmong with talks at 2337. (D'Angelo/FCDX, PA)

Shokaze (to North Korea) 5985 monitored at 1408 but in Mandarin. (Schiefelbein, MO)

Radio Liberty, 11530 in an Asian language at 1208. (Brossell, WI) 15530 in Turkmen at 0221. (Maxant, WV) 11930 in an Asian language with religious talk by man. No trace of Radio Vision. (Parker, PA) 15100-Islamabad in Urdu at 0317 with phone conversation in Kurdish. (Ronda, OK)

Radio Marti, (to Cuba) 6030 with SS news at 0715. (Maxant, WV) 11930-Greenville in SS at 1700. (Charlton, ON)

Radio Soll (to Afghanistan) 15265 via Rampisham in Pashto at 1240 with lively music. (Ronda, OK)

Southern Sudan Interactive Radio Instruction, 15675 via Meyerton at 1400 with EE lesson. Tues-Thurs only and not //15390 which was airing a different EE lesson. (Alexander, PA)

PAKISTAN—Radio Pakistan, 4790-Rawalpindi presumed in listed Urdu at 0317 with talk by man. No trace of Radio Vision. (Parker, PA) 15100-Islamabad in Urdu at 0832. (Patterson, Philippines)

PALAU—15725, TBBZ/Gospel Radio in EE with religious talk at 1000. (Ng, Malaysia)

PAPUA NEW GUINEA—Radio East Sepik, Wewak (New Guinea) 3335 at 1215 with EE anncr hosting island music. (D'Angelo/FCDX, PA) 1309 with pops and semi-classical running past listed 1300 and then suddenly went off at 1309. (Strawman, IA)

Radio Northern, Popondetta (New Guinea) 3345 at 1103 with mix of EE and Pidgin and mainly island music. ID and close-down anncs at 1157 and off at 1206. (D'Angelo/FCDX, PA)

Radii New Ireland, Kavieng, (New Ireland) 3905 monitored at 1137 with island vocals and some country. (D'Angelo/FCDX, PA)

PERU—La Reina de la Selva, Bolivar, 5486.7 at 1044 with man in SS, ID, TC monitored at 1045, rustic vocal. (D'Angelo/FCDX, PA)

Radio del Pacifico, 4974.8 at 0018 with SS preacher. (D'Angelo/FCDX, PA)

La Voz de la Selva, Iquitos, 4824 at 0217 with W in SS and slow religious music. (Parker, PA) 2357 with talks and songs in SS. (Brossell, WI)

Radio Vision, Chiclayo, 4790.2 at 0321 with a loud preacher. (Parker, PA)

Radio Frecuencia, San Ignacio, 5700 with M/W in SS and brief music bits at 0047. (Parker, PA)

Radio Huanta 2000, Ayacucho, 4746 at 2253 with excitable SS talker. (Parker, PA) 2345 at threshold level and quickly faded. (Strawman, IA) 1045 with OA vocal, excited SS anncr. (Ronda, OK)

Frecuencia VH, Celedun, 4486 at 0256 with SS anncr. Off/heard at 0307. (Parker, PA)

Radio Maranon, Jaen, 4355 at 0145 with boisterous SS anncr, lively vocal and a traditional flute number. (Parker, PA)

PHILIPPINES—Radio Veritas Asia, 9505 in II with EE comments. ID and off at 2329. Also 9645 in Kachin with EE DD at 2330. (Mackenzie CA) 9615 in Mandarin at 1110. (Ronda, OK) 15530 in VV at 0220. (Ng, Malaysia)

Far East Broadcasting Co., 9430-Bocaue at 1120 with Mandarin/EE lesson. (Ronda, OK) 9435 in Indonesian at 2310. (Strawman, IA) 9930 in an Asian language with religious songs at 1238. (Brossell, WI) 15325 at 1000 with "Leading the Way" pgm. (Ng, Malaysia) 15330-Bocaue in und lang at 1257. (Patterson, Philippines)

Radio Filipinas, 12025 with EE news at 0200. (Ng, Malaysia) 0233. (Patterson, Philippines)

PIRATES—WBNY, 6925u monitored at 2203 with Commander Bunny and speech about "monkey rights." (D'Angelo/FCDX, PA) 2203 and a repeat bcst at *1744 on the

This Month's Winner

To show our appreciation for your loggings and support of this column, each month we select one “Global Information Guide” contributor to receive a free book. Readers are invited to send in loggings, photos, copies of QSL cards, and monitoring room photos to me at Popular Communications, “Global Information Guide,” 25 Newbridge Road, Hicksville, NY 11801, or by e-mail to popularcom@aol.com. The e-mail’s subject line should indicate that it’s for the “Global Information Guide” column. So come on, send your contribution in today!

Our book winner this month is Joe Wood in Greenback, Tennessee. Joe received a copy of the 2008 edition of the venerable World Radio TV Handbook courtesy of Billboard Publications. Just in case you need the reminder, this book is essential to have at the ready whenever you turn your receiver on. This year's big edition is available at all large bookstores as well as at your favorite radio hobby supplier.
PORTUGAL—RDP Intl., 15560 in PP at 1915. (Charlton, ON)

PRINDESTROVIE (Moldova)—Radio PRM, 0240 monitored at 2300 sign on with EE opening. PMR ID and news about Moldova-Russia politics, into FF at 2315, GG at 2330 and EE again at 0000. Also 7370 at 1300, M-F only. (Alexander, PA) 6240 from 2255 open with carrier and tones to 2300 when into EE. Also 7370 from carrier on at 1856, clock ticking, instl music and EE opening. (D’Angelo, PA)

ROMANIA—Radio Romania Intl., 11935 in SS at 0020. (MacKenzie, CA) 11940 in GG at 2043. (Chandler, ON)

RUSSIA—Voice of Russia. 6155 with Jazz pgm at 0348. (Wood, TN) 0450 on Russian composers. (Maxant, WV) 6170-Khabarovsk-Kommunomsk in RR at 1305, 7155-Khabarovsk with military chorus at 1335. PWBR has the former site: the Aoki list shows the latter. Also 9800-Irkutsk in RR at 1335. (Ronda, OK) 6240 at 0425. (MacKenzie, PA) 7295-Novosibirsk in Mandarin at 1329 and 9800-Irkutsk in RR at 1335. (Strawman, IA) 11985 in unid language at 1647. (Charlton, ON) 1200-Moscow in AA at 1701. (Maxant, WV) 12035-Chita in an Asian language at 1224. (Brossell, WI) 13580 with Russian By Radio at 0632, 15520 in RR at 0201. 17695 at 0445 with "Message From Moscow." (Nigeria) and 17805-Irkutsk at 0800. (Paterson, Netherlands)

Radio Rossi, 6075-Petropavlovsk, 1303 in RR. (Strawman, IA) In unid Asian language at 1315. (Barton, AZ) 7200-Yakutsk in RR at 1255. (Brossell, WI) 2342. (Ronda, OK)

RWANDA—Radio Rwanda 6055, 2040 to 2101 close in FF and vernacular with domestic music. (Alexander, PA) 2043 with pop vocal, FF ann'er, phone-ins. Closed at 2100. (D’Angelo/FCDX, PA)

SAO TOME—VOA Relay, Pinheira, 4960 at 0358 with IS and into news. (Wood, TN) 0400 sign on and news. (Ronda, OK) 0411. (Brossell, WI) 0425 in FF. (Parka, PA) 0432 with news. (D’Angelo, PA) 6080 at 0626 and 13735 in FF at 1936. (MacKenzie, CA) 9860 in Tingara at 1910. (Paterson, Philippines)

SAUDI ARABIA—BSKSA, 9870 in AA at 1951 and 11735 in AA at 1958. (Charlton, ON) 9870 in AA at 1928 and 15205 in AA at 1714. (Brossell, WI) 11820 in AA at 1835 and 11915 in AA at 1949. (Charlton, ON) 15250 answering mail in EE at 1105. (Ng, Malaysia) 15435 with Holy Koran at 1500. (Paradise, ME) 17785 in FF at 0810. (Paterson, Philippines)

SERBIA—Intl. Radio of Serbia, 7240-Bijeljina at 2110 in GG. Into FF at 2130. (D’Angelo/FCDX, PA)

SEYCHELLES—BBC Relay, 21470 at 1000. (Ng, Malaysia)

SIERRA LEONE—Cotton Tree News, 9525 via Ascension heard at 0730 to 0800 with ID and previews over drums, headlines in EE, several IDs. (D’Angelo, PA)

SINGAPORE—Media Corp. Radio, 6150 at 0920. (Maxant, WV) 6130 at 1105. (Barton, AZ) 1140 in Malay. (Ng, Malaysia) 7170 in listed Tamil at 1308. (Ronda, OK) 7235 in unid language at 1229. (Brossell, WI)

SOUTH AFRICA—Channel Africa, 3345 at 0340 with discussion. (Parka, PA) 0415 with US pops. (Parka, PA) 5960 at 0315 and 17770 at 1510. (Maxant, WV) 7390 in FF at 0447 and 17770 at 1550 with financial pgm to 1600. (Wood, TN) 7390 at 0357. Into FF at 0400. (MacKenzie, CA) 15235 at 1728 and 17770 at 1549. (Charlton, ON)

Radio Sondergrense, 3320 in Afrikaans at 0329. (Parka, PA) 0332. (Strawman, IA)

SOUTH KOREA—KBS World Radio, 9650 via Sackville at 1810 on airline service. (Maxant, WV) 9770 with EE open and into CC at 1130. Also 9805 in CC at 2310. (Ng, Malaysia) 2324 in CC. (MacKenzie, CA)

SPAIN—Radio Exterior de Espana, 3350 Costa Rica Relay in SS at 0402. (D’Angelo, PA) 0542 in SS. Also 5965 Costa Rica Relay in SS at 0610 and 11620 in SS at 2155. (MacKenzie, CA) 11620 in SS at 0045 and 12035 in AA at 2047 and 17595 in SS at 1435, all from the Nobeljas site. 17850 Costa Rica Relay in SS at 2018. (Charlton, ON) 21610 in SS at 1545. (Wood, TN)

Onda Cero Radio (p), 4396.3u at 0350. An ARFRS-type broadcast for Spanish troops abroad, all SS with various programming items. (Parka, PA)

SURINAME—Radio Apinte, 4990 at 1014 with man in DD with vocals, ID at 1019. (D’Angelo/FCDX, PA)

SWAZILAND—Trans World Radio, 3240 at 0305 in listed Shona. (Strawman, IA) 0325 with religious talk in listed Ndeu. (Ronda, OK) 4775 in African language at 0343 and 9745 at 1900. (Brossell, WI) 4775 in GG at 0358. (Wood, TN) 6135 at 0306 with IS, ID and off at 0707. (D’Angelo/FCDX, PA)

SWEDEN—Radio Sweden Intl, 6610 via Sackville at 0305 on the Swedish monarchy. (Maxant, WV) 7120 via Madagascar at 2150. Off at 2159. (Ronda, OK) 12075 in RR at 1320. (Brossell, WI)

TAIWAN—Radio Taiwan Intl. 5950 via Florida in CC at 2332 and 11665 via Florida in FF at 2037. Also 11850 via France at 1714. (Charlton, ON) 9355 via WYFR at 2235. (Fraser, ME) 11605 in JJ at 0800. (Ng, Malaysia) 11850 via France with news at 1700. (Paradise, ME)

Sound of Hope, 11765 in CC at 1636. (Brossell, WI)

TAJIKISTAN—Tajik Radio, Yangiyul, 4635. Tajik at 0301 with news, ID jingle, flute music bridges. (Parka, PA)

TANZANIA—Radio Tanzania-Zanzibar, 11735 at 1758 with Swahili talk, local pops and more Swahili. The scheduled EE newscast wasn’t heard. (Alexander, PA) 1800-1817 carrying EE news from local Spice FM. (D’Angelo, PA) 1900 in Swahili.
Andrews Air Force Base—A Veteran Scannist (And New Columnist!) On Listening To The Home Of Air Force One

Military air communications in this vicinity are the main focus of Andrews Air Force Base, located about 10 miles southeast of D.C. in Camp Springs, Maryland.

All emergency response and contingency capabilities to ensure national security for this region are the mission of Andrews’ 316th Wing. This includes all rotary-wing aircraft and encompasses equipping, maintaining, organizing, and training to keep combat forces ready to deploy for both air and space expeditionary forces. The 316th, as the host wing for Andrews AFB, is also responsible for providing security forces and other services for the management of the airfields. The wing also is charged with providing support for the President, Vice President, and other U.S. leaders.

There are more than 50 organizations and other federal agencies based at Andrews.

Andrews Air Force Base

Land for Andrews AFB was purchased in 1942 by order of President Franklin Delano Roosevelt to then-Secretary of War Henry L. Stimson and construction began later that year. The 463rd Base Headquarters and Air Base Squadron, from Westover Field in Massachusetts was the first permanent unit to take residence, on April 19, 1943. Just a few weeks later on May 2, 1943, Camp Springs Army Air Field became opera-
Two KC-135 "Supertankers" hook up for mid-air refueling.

**Units And Aircraft**

<table>
<thead>
<tr>
<th>UNIT</th>
<th>AIRCRAFT</th>
</tr>
</thead>
<tbody>
<tr>
<td>89th AW</td>
<td>C-32, C-37, C-40</td>
</tr>
<tr>
<td>316th W</td>
<td>UH-1N</td>
</tr>
<tr>
<td>113th W (DCANG)</td>
<td>F-16 C/D, C-40C</td>
</tr>
<tr>
<td>459th ARW (AFRC)</td>
<td>KC-135R</td>
</tr>
</tbody>
</table>

**Andrews AFB (KADW) Aeronautical Operations**

<table>
<thead>
<tr>
<th>Tower</th>
<th>118.400, 349.000</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCA Helo Tower</td>
<td>120.750</td>
</tr>
<tr>
<td>Ground</td>
<td>121.800, 275.800</td>
</tr>
<tr>
<td>Potomac Approach</td>
<td>119.300, 270.275, 335.500</td>
</tr>
<tr>
<td>Potomac Departure</td>
<td>125.650, 348.725</td>
</tr>
<tr>
<td>Clearance Delivery</td>
<td>127.550, 285.475, 393.100</td>
</tr>
<tr>
<td>ATIS</td>
<td>113.100, 251.050</td>
</tr>
<tr>
<td>Dispatcher</td>
<td>139.300, 372.200</td>
</tr>
<tr>
<td>Meteo</td>
<td>344.600</td>
</tr>
<tr>
<td>113th FW/121st FS</td>
<td>139.900, 351.800</td>
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<tr>
<td>459th ARW Command Post</td>
<td>143.800, 351.200</td>
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<tr>
<td>HMX-1 Operations</td>
<td>276.400, 320.400 (COM3), 265.800 (Common), 273.950</td>
</tr>
<tr>
<td>Navy Command Post</td>
<td>122.850, 386.800</td>
</tr>
<tr>
<td>USMC Squadron Common</td>
<td>243.600, 252.525, 262.600, 310.350</td>
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<tr>
<td>USMC Air Tactical</td>
<td>141.700, 225.600, 292.200, 297.500</td>
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<td>1st Helo Sqdn &quot;Mussel&quot; Ops</td>
<td>136.750, 378.100, 381.600, 141.550, 142.750 (VENUS CONTROL)</td>
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<tr>
<td>89th AW Operations/Tactical</td>
<td>Safety of Flight</td>
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<td>266.500</td>
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<tr>
<td>113th FW/121st FS</td>
<td>32.650 (V11 Air Tactical), 32.850 (V17), 393.000 (P2), 34.300 (V10), 281.400 (P7 ARTCC), 41.300 (V14 Kiowa Range, PA), 122.900 (V13 Dare Range, NC), 125.125 (V9 TAC), 281.900 (P9 PAX), 127.275 (V5 TAC), 389.000, 138.025 (V16), 249.800 (P11), 138.450, 286.200 (P12), 139.150 (V6), 139.450 (V8), 139.625 (V12 Warren Grove Range), 139.750, 349.100 P13, 139.900 (V1 SOF), 143.150 (V7), 143.600 (V10)</td>
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<td>314.250 (BOXER Ops)</td>
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<td>113th FW/201st AS</td>
<td>119.300, 128.350, 257.200, 286.600, 301.500, 316.700, 335.500, 360.800, 379.200</td>
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<tr>
<td>Ground Controlled Approach</td>
<td>277.400, 323.000</td>
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<tr>
<td>Washington ARTCC</td>
<td>113th FW/201st AS</td>
</tr>
<tr>
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<td>Ground Controlled Approach</td>
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<td>Washington ARTCC</td>
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</tbody>
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**Notes:**

The ICAO identifier for Andrews AFB is KADW; the base occupies 6853 acres and contains two runways, 1L/36R and 1R/36L.

The Marine Corps provides the president and vice president helicopter service with their executive flight squadron designated "HMX-1." The U.S. Secret Service refers to it as "Nighthawk," but most taxpaying citizens know them better as "Marine 1" and "Marine 2." The helos are based in Quantico, Virginia.
**Listening To Andrews Air Force Base**

**SYSTEM:** Andrews AFB
**TYPE:** Motorola UHF Type II Astro 3600
**SYSID:** 6b01
**DIGITAL TYPE:** APCO-25
**BASE:** 406.000
**OFFSET:** 25 kHz

**FREQUENCIES:**
- 406.3500
- 406.9500
- 407.1500
- 407.4250
- 407.9500
- 408.0250
- 408.2000
- 408.7500
- 408.9500
- 409.3500+
- 409.7250+

**TALKGROUPS:**
- 16 Base Announcement
- 48 Base Command Net
- 80 Public Affairs
- 112 Protocol Net
- 144 Disaster Preparations Net
- 176 Presidential Pilots Net
- 208 Command Post
- 240 AJDIC Command Net
- 272 AJDIC Field Operations
- 304 VIP Billeting Net
- 336 Airlift Squadrons Ops 1
- 368 Airlift Squadrons Ops 2
- 400 Airfield Environmental Ops
- 432 Emergency Net
- 464 Coordination Announcement
- 496 Patch to NP CALL
- 528 Patch to NP TAC 1
- 560 Special Emergency Response
- 592 Patch to Prince Georges County FD
- 624 Patch to Prince Georges County FD
- 656 Patch to NSIAAC Response
- 688 Patch to Naval Command Net
- 720 Coordination Command Net
- 752 Coordination Ops 1
- 784 Coordination Ops 2
- 816 Coordination Ops 3
- 848 Coordination Ops 4
- 880 Fire Mutual Aid 1
- 912 Fire Mutual Aid 2
- 944 Group 3 Announcement
- 976 Group 4 Announcement
- 1008 89th AW Common
- 1040 89th Public Affairs
- 1072 89th AW Base Operations
- 1104 89th AW Airfield Command
- 1136 1st Helo Squadron Ops 1
- 1168 1st Helo Squadron Ops 2
- 1616 Refueling Operations
- 1648 General Dynamics Operations
- 1680 Boeing Operations
- 1712 General Electric Operations
- 1744 Raytheon Operations
- 1776 Airfield Operations 1
- 1808 Airfield Operations 2
- 1840 STORM Announcement Net
- 1872 STORM Command Net
- 1904 STORM Operations
- 1936 STORM EMS
- 1968 STORM Staging
- 2000 STORM Sector 1
- 2032 STORM Sector 2
- 2064 STORM Sector 3
- 2096 STORM Sector 4
- 2128 STORM Sector 5
- 2160 STORM Sector 6
- 2196 STORM Rehab Net
- 2224 STORM Spare 1
- 2256 STORM Spare 2
- 2288 STORM Spare 3
- 2352 Airfield Help Desk
- 2416 SAM Catering Service
- 2480 89th AW Command Net
- 2544 Patch to Prince Georges Trauma Center
- 3184 Group 6 Announcement
- 3216 Security - Law Enforcement Ops
- 3248 Security Operations
- 3280 Civil Engineers 1
- 3312 Civil Engineering - Building Ops
- 3344 Civil Engineering - Electrical
- 3376 Cargo Ramp Control
- 3408 Environmental Inspectors
- 3440 Telecom
- 3472 Logistics Net
- 3504 Officers Club
- 3536 NCO Club
- 3568 Golf Course
- 3664 Fire Group Announcement
- 3696 Fire Dispatch
- 3728 Fire Command
- 3760 Fire Incident 1 Ops
- 3792 Fire TAC 1
- 3824 Fire Incident 2 Ops
- 3856 Fire TAC 2
- 3888 Fire Incident 3 Ops
- 3920 Fire TAC 3
- 3952 Fire Incident 4 Ops
- 3984 Fire TAC 4
- 4016 Fire Call
- 4048 EMS Coordination 1
- 4080 EMS Coordination 2
- 4112 EMS Coordination 3
- 4816 AirEvac Announcement
- 4848 AirEvac Command Net
- 4880 AirEvac Base EMS
- 4912 AirEvac Medical Control
- 4944 AirEvac Holding Center
- 4976 AirEvac Field Operations
- 5008 AirEvac Hospital Patch 1
- 5040 AirEvac Hospital Patch 2
- 5072 AirEvac Hospital Patch 3
- 5104 AirEvac Hospital Patch 4
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5136</td>
<td>AirEvac MASH Supply</td>
<td>7664</td>
<td>59th Spare</td>
</tr>
<tr>
<td>5168</td>
<td>AirEvac Support Operations</td>
<td>8016</td>
<td>Group 13 Announcement</td>
</tr>
<tr>
<td>5200</td>
<td>AirEvac Logistics</td>
<td>8048</td>
<td>201st ALS Flightline Ops</td>
</tr>
<tr>
<td>5232</td>
<td>AirEvac MASH Tactical</td>
<td>8080</td>
<td>201st ALS Squadron Ops</td>
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<td>SAM Group Announcement</td>
<td>8112</td>
<td>201st ALS Logistics</td>
</tr>
<tr>
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<td>SAM Command Net</td>
<td>8144</td>
<td>231st Flightline Ops</td>
</tr>
<tr>
<td>5328</td>
<td>SAM Support 1</td>
<td>8176</td>
<td>231st Squadron Ops</td>
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<td>SAM Support 2</td>
<td>8208</td>
<td>231st Squadron Spare</td>
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<td>8240</td>
<td>459th AW Command</td>
</tr>
<tr>
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<td>8272</td>
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<td>459th Commo Operations</td>
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<td>SAM Executive Escort 1</td>
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<td>99th ALS Operations</td>
</tr>
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<td>SAM Executive Escort 2</td>
<td>8368</td>
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</tr>
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<td>SAM Executive Escort 3</td>
<td>8400</td>
<td>113th FW Delta Command Post</td>
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<td>5584</td>
<td>SAM Executive Escort 4</td>
<td>8432</td>
<td>113th FW Watergate Command Post</td>
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<td>5616</td>
<td>SAM Transportation 1</td>
<td>8464</td>
<td>113th FW Hotel Command Post</td>
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<td>5648</td>
<td>SAM Transportation 2</td>
<td>8816</td>
<td>Group 14 Announcement</td>
</tr>
<tr>
<td>5680</td>
<td>SAM Shuttle Bus</td>
<td>8848</td>
<td>231st Squadron Security Ops</td>
</tr>
<tr>
<td>5712</td>
<td>89th AW Group Announcement</td>
<td>8912</td>
<td>231st Squadron</td>
</tr>
<tr>
<td>5744</td>
<td>89th AW Command</td>
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<td>9456</td>
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**Notes:**

+ These frequencies are used for system phone patches. With Andrews being "The Gateway to the Capital" the base sees a lot of dignitaries and military VIPs arriving and departing. The phone patch traffic greatly increases when big events, such as the presidential inauguration, are taking place.

* STORM stands for Specialized Tactical Operations Response Management (Hazmat Team).
FAILSAFE ASSIGNMENTS:
In the event of a systems failure, the following frequency assignments are automatically made so base operations may continue:

- 406.3500 Command Post
- 406.9500 Fire Department 1
- 407.1500 Fire Department 2
- 407.4250 89th AW Ramp Control
- 408.0250 Security 1
- 408.2000 Security 2
- 408.7500 Security 3
- 408.9500 Airfield Operations
- 413.0000 Input to 413.375
- 413.0250 Security - Law Enforcement
- 413.5000 Security - Support
- 413.0500 Fire/EMS
- 413.2000 Ready Line Operations
- 413.2750 Ground Control
- 413.3000 Ground Control
- 413.3500 Transit Operations
- 413.3750 Security - Law Enforcement Repeater
- 415.1500 Ramp Control
- 415.8250 Transportation 1
- 415.9500 Transportation 2
- 416.2500 Transportation Command
- 416.3500 Transportation Executive
- 417.1500 Transportation Control

SYSTEM: Andrews AFB
TYPE: P-25
SYSID: 17A

FREQUENCIES:
385.2125, 385.3125*, 385.9000, 385.9125, 386.0375, 386.2000, 386.3375, 386.5000, 386.6375, 386.8000

* = Control Data Channel

TALKGROUPS:
153 Police 6B
157 Gate
203 Announcement
259 Civil Engineers
323 IT Techs
405 MEDEVAC
457 Flightline
501 Show Control
511 Event EMS
517 Event Security
519 Event Security

known as the “Home of Air Force One.” The current Air Force One aircraft is a Boeing VC-25A.

Tenant Units At Andrews
In addition to the 316th Wing, other notable tenant units call Andrews home. They include the Air Force Reserve’s 459th Air Refueling Wing (ARW), which was converted over from an airlift wing in 2003. Also attached are the D.C. Air National Guard’s 113th Wing and its subordinate units, the 121st Fighter Squadron and the 201st Airlift Squadron. The 89th Airlift Wing at Andrews provides global SAMs as issued by the White House, Air Force Chief of Staff, and Air Mobility Command. It is also the headquarters of the Air Force’s Office of Special Investigation (OSI).

Andrews also provides a home for the Naval Air Facility (NAF) located on the eastern side of the base, better known as Washington Naval Air Station. It’s also the home for the Air National Guard Readiness and Support Center. See the sidebars “Units And Aircraft” and “Andrews AFB (KADW) Aeronautical Operations” for specifics on who, what, and where for listening to the base.

Communications
Andrews AFB still has a trunked radio system in place, which is tied in with Bolling AFB about 6.5 miles from Andrews in southeastern Washington, D.C., along the Potomac River. Nearly all the ground support operations have migrated to the trunked system.

A UH-1N “Twin Huey” from the 316th Wing in flight over the Jefferson Memorial.

Combat Air Patrol Frequencies And Units

| 138.0500 | 177th FW NJ ANG V18 |
| 138.2000 | CAP |
| 143.8250 | CAP |
| 225.0000 | HUNTRESS |
| 228.9000 | HUNTRESS Common |
| 251.8000 | HUNTRESS |
| 254.2000 | HUNTRESS |
| 255.8000 | HUNTRESS |
| 260.9000 | BLUE 13 (Refueling) |
| 262.9000 | HUNTRESS |
| 277.6000 | HUNTRESS |
| 282.3500 | AWACS |
| 290.4000 | CAP 1 |
| 293.6000 | BLUE 20 |
| 303.0000 | CAP Refueling |
| 307.2500 | CAP Control |
| 309.5000 | CAP Primary |
| 320.6000 | BLUE 24 |
| 324.0000 | BLUE 25 |
| 327.9000 | BLUE 27 |
| 342.1000 | HUNTRESS |
| 357.1000 | 1st FW/71st FS |
| 364.2000 | Air Intercept Command and Control (AICC) |
An F-16C “Fighting Falcon” on take off.

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There’s also a new 380 MHz P-25 trunked radio system in use at Andrews. Information on the system is extremely sketchy at the moment. It’s not known whether the older Motorola Type II system is being phased out in favor of this system or how much activity this system may have. It’s mainly been heard during the Joint Services Open House held annually in May.

See “Listening To Andrews AFB” for information on the systems, frequencies, and talkgroups involved.

Combat Air Patrol

Since the events of September 11, 2001, national assets in the D.C. are under the constant protection of Combat Air Patrols (CAP). This function is provided by various fighter wings from nearby bases, most notably the 1st FW, based at Langley AFB, Virginia, and the New Jersey Air National Guard’s 177th FW “Jersey Devils,” based out of Atlantic City, New Jersey. The D.C. Area CAP is controlled by the North American Air Defense’s (NORAD) Eastern Air Defense Sector. It’s known as “HUNTRESS” and is based at Griffiss AFB in Rome, New York.

See “Combat Air Patrol Frequencies And Units” for more what to listen to.

So Much To See—And Hear

Spring is a great time to make a trip to Washington, D.C.—the days are getting warmer and, if you can be spontaneous, you might even catch the 2008 National Cherry Blossom Festival, scheduled for March 29 to April 13 and sure to please the family. But our nation’s capital is wonderful vacation destination any time of year, with its variety of monuments, museums and historical places. There’s so much of interest that it’s hard to take it all in, so it may take several visits. If you do plan on visiting some time, make sure you remember to pack your scanner and plan accordingly.
Q. What was Room 40 in relationship to cryptanalysis in World War I?
A. In early August 1914 the British intercepted message traffic from the German battleship Gothenburg. The message was not decoded in time to discover that the Gothenburg planned to shell several Russian ports on the Black Sea. After the damage had been done Parliament demanded that the Navy increase their capability in Radio Interception and Decoding. One thing the Navy did was establish Room 40, a code-breaking program set up in Room 40 of the Admiralty building.

Another way the British kept track of the Germans used the German Navy’s internal procedures. Every day every German vessel was required to contact Naval Headquarters in Wilhelmshaven. This encoded traffic was also picked up by a British Coast Guard Station in Norfolk. Unfortunately Room 40 was not able to crack the Naval codes right away.

Then, on August 26, 1914, just 25 days after Germany and Russia declared war on each other, the German light cruiser Magdeburg ran aground in the northern Baltic. Two Russian cruisers came upon the helpless Magdeburg, fired on and captured it. Among the treasures found aboard the stricken vessel were three copies of the German Naval codes. One of the code books was forwarded to Room 40 in London. The codebook and the radio intercepts gave the British a definite advantage in Radio Interception and Decoding.

Q. Was there any opposition to the CB service when the FCC started to develop it?
A. Yes there was. Nobody likes to lose any part of a frequency assignment and affected entities will always put up a fight. One serious call for delay of the development of CB also came from people who felt that criminals might use the service to commit crimes coordinated by CB. During the ’60s a great many arrests were made by law enforcement officers who had learned to monitor the 11-meter band. Their success rate was primarily because there is no intelligence test required to become a criminal.

Q. What is a Q ship and how did it get its name?
A. During both World Wars the German Navy sent out Commerce Raiders, surface craft that were actually heavily armed vessels of attack. Disguised as harmless merchant ships, they would fly neutral flags as they came up alongside enemy transports or warships. They would be ordered to stop engines and be boarded for inspections. After fulfilling the enemy to a false sense of security with peaceful compliance they would open fire from close range, often sinking their adversary. The radio call for a ship encountering one of these killers was QQQ. The radio call for sighting a U-boat was SSS. Either call could be followed shortly by SOS.

Q. During the Vietnam War did we use deceptive radio practices like the British did against the Germans in World War II?
A. SOG (Studies and Observations Group) ran a “black propaganda” unit out of #7 Hong Tap Street in Saigon. They put out radio programs that were supposed to be coming from Radio Hanoi. CIA technicos also built transistor radios that appeared perfectly normal but would not pick up Radio Hanoi. Instead they picked up a false station in South Vietnam that sounded like Radio Hanoi.

Many former VC sympathizers would turn themselves in to the Americans after becoming tired of hearing about privileged students who were the sons and daughters of high Communist officials being selected for advanced training in Poland, North Korea, Red China, or the Soviet Union.

Many Army of North Vietnam troops went home when General Giap personally ordered them home by radio. They were told that major flooding near Hanoi had left displaced citizens homeless and starving, and they were being ordered north to assist in disaster relief. They naturally wanted to be with their families and give aid.

They hadn’t been listening to Radio Hanoi, however, they had been listening to Radio SOG. Some of these CIA-built radios even had transponders in them so the American’s could find their unhappy owners.

And Now A Question For Our Readers

Now here’s one for you! I’ve heard this story but cannot conclusively verify it. Can anyone help in that?

During the latter part of World War II the Russians had a radio unit operating behind their lines, perhaps Radio Moscow itself. The Russians would tune in to Radio Berlin and synchronize their signal to Berlin’s using an oscilloscope. Then every time the German announcer stopped to take a breath his German speaking Russian counterpart would put in his two kopeks worth. “The German Army in Russia is winning tremendous victories! In their icy graves!” “The Fuehrer made a visit to our front line fighting troops today and found our soldiers in good spirits. Because they were moving out of the front lines of freezing Russia to defend France!” Or something like that.

Can anyone verify this? Can it even be done effectively with World War II era equipment? I’d really like to know.
A New Cycle Is Born

It’s official: the first sunspot of the new solar cycle, the 24th solar cycle that we’re keeping record of, has been observed. This exciting moment occurred on January 4, 2008. When observers took a close look at the day’s images of the sun, they noticed that a small sunspot had developed with a much-anticipated feature—a reversed magnetic polarity. Such a reversal marks the start of the new solar cycle.

Earlier in December, solar scientists and amateur radio operators held their breath when a magnetically reversed, highly active region appeared in the sun’s eastern limb. Because of its reversed polarity, scientists became hopeful that the region would develop into an actual sunspot. If it had, then scientists would have declared the official start of Cycle 24. Instead, it faded quickly away, and the wait was again on...until January’s new sunspot, that is.

While sunspots have a complex magnetic structure, they typically have at least one very clearly defined set of magnetic poles, north and south. At the start of a new solar cycle, the polarities of the new cycle’s sunspots are reversed from the polarities observed in sunspots belonging to the previous cycle. When the first sunspot arrives with a reversed magnetic structure, scientists declare the start of the new cycle. This occurred on January 4, 2008.

Flyby

A little over a week later, on January 14, the European-built Ulysses space probe arrived over the sun’s northern polar cap. This occurred almost a year after last visiting the south solar pole. This pass completes the third rapid south-to-north transit to date. “This important milestone for the joint ESA-NASA mission also coincides with the start of a new cycle of solar activity,” explained Richard Marsden, ESA’s Ulysses mission manager. “It’s been calm on the space weather front recently and so we are looking forward to some solar fireworks over the coming months as the number of sunspots increases.”

“This is a wonderful opportunity to examine the sun’s north pole at the onset of a new solar cycle,” said Arik Posner, NASA Ulysses program scientist. “We’ve never done this before.”

Launched on October 6, 1990, the Ulysses space probe began its journey aboard the Space Shuttle Discovery STS-41. It’s now in a 6.2 year heliocentric orbit inclined at 80° to the ecliptic.
plane. The Ulysses mission is to conduct the first-ever survey of the sun’s environment in space from the sun’s equator to the sun’s poles. It’s to accomplish this over a wide range of solar activity conditions. Some of the notable results so far include the first detailed measurements of the solar wind (see previous issues of this column for discussions of the solar wind) from the sun’s polar regions at solar minimum and solar maximum, the discovery that the magnetic flux leaving the sun is the same at all latitudes, the discovery of interstellar dust in the solar system, and the first direct measurements of interstellar helium atoms in the solar system. Quite a list of successes! The three previous polar flybys, the first in 1994–1995, the second in 2000–2001, and the third in 2007, revealed something interesting and mysterious. This flyby, however, could well be the most interesting flyby to date.

“Just as Earth’s poles are crucial to studies of terrestrial climate change, the sun’s poles may be crucial to studies of the solar cycle,” explained Ed Smith, Ulysses project scientist at NASA’s Jet Propulsion Laboratory.

Many researchers believe the sun’s poles are central to the ebb and flow of the solar cycle. It’s now known that the decaying magnetic fields of a dying sunspot are carried toward the poles by vast currents of plasma. This makes the poles a “resting place” for old sunspots. These old magnetic fields sink beneath the polar surface 200,000 km deep, all the way down to the sun’s inner magnetic dynamo. There, dynamo action amplifies the fields for use in future solar cycles.

What currently has scientists focused on this current flyby is that they observed a 8-percent difference in polar temperatures. In the previous solar cycle, the magnetic north pole was about 80,000 degrees cooler than the south. No one yet knows why. Is this temperature difference between the poles typical?

These questions might be answered because this flyby comes less than a year after a similar south pole flyby in February 2007. Mission scientists will be able to compare temperature measurements, north versus south, with hardly any gap between them.

Ulysses also discovered the sun’s high-speed polar wind. “At the sun’s poles, the magnetic field opens up and allows solar atmosphere to stream out at a million miles per hour,” said Smith. This new discovery also revealed some odd behavior, and Ulysses has allowed scientists to monitor this polar wind activity over the course of a solar cycle in a way no other probes have yet permitted.

Posner explained: “Eleven years ago, during a similar ‘sea change’ between solar cycles, the polar wind spilled down almost all the way to the sun’s equator. But this time it is not. The polar wind is bottled up, confined to latitudes above 45 degrees.”

Is this a detail of little importance or a major anomaly, signaling new things to come? This is yet another question that scientists hope to answer with this new flyby. “We’ll be monitoring the magnetic field above the north pole to see what it’s like during the change of solar cycles,” said Posner. We’ll follow the story here in the “Propagation Corner.”

With the new sunspot polarity observed on January 4, what’s in store for the rest of 2008? Solar cycles take anywhere from two to five years to reach the point of maximum solar activity. The current consensus among most solar scientists places Cycle 24’s maximum sometime between 2011 and 2013. That means we have at least a year or two before we see major solar activity of any kind. However, that doesn’t mean that 2008 will be a disappointment.

**HF Propagation**

As we move into spring in the Northern Hemisphere we experience better DX openings from around the world on HF. This is because the sun is mostly overhead over the equator, creating equal day and night periods in both hemispheres. The Vernal Equinox at the end of March marks the day when the hours of daylight and darkness are about equal around the world. This creates an ionosphere of similar characteristics throughout more of the world than is possible during other times when it is summer in one hemisphere and winter in the other, and there are extreme differences in the ionosphere.

This equalization of the ionosphere, which takes place during the equinoctial periods (autumn and spring), is responsible for optimum DX conditions, and starts late in February and lasts through late April. The improvement in propagation is most noticeable on long circuits between the northern and southern hemispheres. During this season conditions are optimum for long-path as well as short-path openings, and during gray line twilight periods associated with sunrise and sunset.
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April is one of the hottest months for DX. The seasonal change plays out on HF with activity moving up from 41 meters and down from 11 meters. Propagation on the higher HF frequencies (19 through 11 meters) begins to suffer late in April and into the summer months due to lower Maximum Usable Frequencies (MUFs) in the Northern Hemisphere. MUFs peak very late in the day during summer. Summertime MUFs are lower due to solar heating, which causes the ionosphere to expand. An expanded ionosphere produces lower ion density, which results in lower MUFs.

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

From April to June, excellent propagation occurs on both daytime and nighttime paths. The strongest propagation occurs on paths that span areas of both day and night, following the MUF. During April, peaking in May and still in June, 16 meters may offer 24-hour DX to all parts of the world, with both short- and long-path openings occurring, sometimes at the same time! If you hear a lot of echo on a signal, you might be beamed in the wrong direction. Try the opposite azimuth. Thirty-one through 19 meters are more stable as nighttime bands, with propagation following the gray line and nighttime paths.

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

VHF Ionospheric Openings

On VHF, many different types of propagation modes can appear once or twice this month. Combination propagation modes may be possible on VHF this month, making for some exciting openings. An increase in Trans-equatorial (TE) propagation is typical this month. Sporadic-E (Es) will become more common as we move into late spring and summer. There are times when Es, TE, and F2-layer propagation modes will link, providing strong DX openings on VHF between North America and New Zealand, Australia, or other areas. The best time to catch a TE opening across the geomagnetic equator is between 8 and 11 p.m. local daylight time. These TE openings will be north-south paths that cross the geomagnetic equator at an approximate right angle.

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

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

These precipitating particles mostly follow the magnetic field lines that run from Earth's magnetic poles and are concentrated in circular regions around the magnetic poles called "auroral ovals." These bands expand away from the poles during magnetic storms. The stronger the storm, the greater these ovals will expand; sometimes they grow so large that people...
at middle latitudes, like California, can see these "Northern Lights."

When you see the solar wind speed increase to over 500 kilometers per second, and the B_z remains mostly negative—when the Interplanetary Magnetic Flux (IMF) is oriented mostly southward—expect an increase in geomagnetic activity, as revealed by the planetary K index (Kp).

When the Kp rises above 4, look for aurora-mode propagation. The higher the Kp index, and the longer the geomagnetic storminess lasts, the more likely we'll have strong aurora openings. You don't have to see them to hear their influence on propagation. Listen for stations from over the poles that sound raspy or fluttery. Look for VHF DX. Sometimes it will enhance a path at certain frequencies, other times it will degrade the signals. Sometimes signals will fade quickly, and then come back with great strength. The reason for this is that the radio signal is being refracted off of the more highly ionized areas that are lit up. These ionized areas ebb and flow, so the ability to refract changes, sometimes quickly. I've observed the effect of aurora and associated geomagnetic storminess even on lower HF frequencies.

**Radio Aurora**

If there are enough solar particles flowing down the Earth's magnetic field lines and colliding with atmospheric atoms and molecules, ionization occurs. This ionization may be sufficient to reflect VHF and lower UHF radio waves, generally between 25 and 500 MHz. This usually occurs in conjunction with visual aurora, but the mechanism is a bit different and it's possible to have one (visual or radio) without the other.

Using "radio aurora," the chances of contacting stations over greater distances than would ordinarily be possible on the VHF frequencies is increased. Like its visual counterpart, radio aurora is very unpredictable. The thrill of the chase draws many VHF weak signal DXers to working auroral DX.

VHF auroral echoes, or reflections, are most effective when the angle of incidence of the signal from the transmitter, with the geomagnetic field line, equals the angle of reflection from the field line to the receiver. Radio aurora is observed almost exclusively in a sector centered on magnetic north. The strength of signals reflected from the aurora is dependent on the wavelength when equivalent power levels are employed. Six-meter reflections can be expected to be much stronger than 2-meter reflections for the same transmitter output power. The polarization of the reflected signals is nearly the same as that of the transmitted signal.

The K index is a good indicator of the expansion of the auroral oval, and the possible intensity of the aurora. When the K index is higher than 5, most readers in the northern states and in Canada can expect favorable aurora conditions. If the K index reaches 8 or 9, it's highly possible for radio aurora to be worked by stations as far south as California and Florida. Your magnetic latitude can be found using the map at www.sec.noaa.gov/Aurora/globeNW.html.

Because we're at the beginning of the new solar cycle (Cycle 24 has begun, even if the statistical beginning is not yet determined mathematically at the time I write this), we're not going to see major solar flares with resultant Coronal Mass Ejections, and so we won't see many days where space weather will cause geomagnetic storms. However, these storms are also caused by high-speed solar wind that streams out of coronal holes, and coronal jets (see last month's column) and by the plasma that escapes the sun to ride the solar wind until the plasma hits the Earth's magnetosphere. I expect a possible minor to moderate geomagnetic storm once or twice this month.

Meteor showers provide opportunity for observing VHF/UHF meteor scatter propagation DX. Most meteor showers are at their best after midnight. After midnight, you're on the leading edge of the Earth and you're meeting the meteors head on. Before midnight, you're on the trailing edge of the Earth and the meteors have to catch up to you. As a result not only are there more meteors seen in the pre-dawn hours,
but their impact speeds encountering the Earth’s atmosphere are much higher and the meteors are generally faster and brighter. This causes greater ionization, which is what you use to refract a radio signal. Look for TV and FM broadcast “pings” (short bursts of reception) during these events. If you’re an amateur radio operator, look for 6- and 2-meter openings off the ionized meteor trails.

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

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

**Current Cycle 23 Progress**

The Royal Observatory of Belgium reports that the monthly mean observed sunspot number for December 2007 is 10.1, a very large jump up from November’s 1.7 and October’s 0.9. The lowest daily sunspot value of zero (0) was recorded December 19 to 31. The highest daily sunspot count was 30 on December 13. The 12-month running smoothed sunspot number centered on June 2007 is 7.7. The forecast for April 2008 calls for a smoothed sunspot count of 3 to 4, reflecting a gradual start to Cycle 24. These observed sunspot averages from October through December add weight to the declaration of the start of Solar Cycle 24.

The Dominion Radio Astrophysical Observatory at Penticton, BC, Canada, reports a 10.7-cm observed monthly mean solar flux of 78.6 for December 2007. The 12-month smoothed 10.7-cm flux centered on June 2007 is 73.2. The predicted smoothed 10.7-cm solar flux for April 2008 is between 60 and 70.

The observed monthly mean planetary A-Index (Ap) for December 2007 is 4, which is typical for the end of autumn and the beginning of winter. The 12-month smoothed Ap index centered on June 2007 is 7.8. Expect the overall geomagnetic activity to vary greatly between quiet to minor storm levels during April.

**I’d Like To Hear From You**

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

Please don’t hesitate to write to let me know about any interesting propagation you’ve noticed. Do you have questions about propagation? I look forward to hearing from you.

Happy signal hunting!
Radio History In Triplicate... But In No particular Order

My folks have always been strong believers in the Biblical axiom, As you sow, so shall you reap. Rather than emphasize the punitive side of this truth, however, Mom and Dad simply urged me to test its power via the United States Postal Service.

Every month or so, my father would happen to have been to the post office while they were coincidentally “running a sale on postcards.” Anyway, that’s what he’d tell me as he handed over a small stack of plain postal cards and then he’d dramatically wonder to whom I’d send them and what the effort might net me in return.

Current research shows that almost nobody writes away for anything anymore, but this story’s block-lettered barrage occurred during the late 1970s, the sunset of a more cordial business era when many companies welcomed hand-written requests for information on their goods and services.

My windfalls typically consisted of promotional literature, radio and TV station coverage maps, an occasional QSL card, or some trinket from a generous firm that probably never suspected they were responding to a 10-year-old girl. At least three-quarters of the stuff resulted from tiny ads Dad had noticed in the likes of Popular Mechanics or Radio-TV Experimentier, circled and then conspicuously left on my desk. Somewhere in my parents’ attic, I bet there’s still a shoebox full of little pencils, wooden nickels, cheap plastic drill-size indicators, key chains, and crudely stamped mini wrenches—the latter a seemingly never-ending response to one pre-stamped/return-reply magazine tear-out card for a now-defunct Midwestern technical school.

Admittedly, I’m long out of practice when it comes to my childhood regimen of sending off postcards in anticipation of having interesting mail awaiting me almost every afternoon. Maybe it’s our 21st Century’s instant gratification, email/Internet/text messaging and cell call-oriented culture that has made “sending a postcard for details” as anachronistic as seeking out a public payphone to contact a friend. I’ve got say, though, receiving an envelope—especially a big one—with a fascinating return address can still be one of life’s little pleasures.

These days, my biggest postal bonuses relate to Broadcast Pro-File. A card I recently sent off to Pro-File’s Jan Lowry serves as an example. It was addressed to 28243 Royal Rd., Castaic, California 91384-3028 (the same place anyone can request their free catalog detailing the firm’s bargain-priced radio station histories and vintage photos), and simply asked, “Jan, any ideas for my upcoming columns?” On a non-descript Monday, and just when a serendipitous pick-me-up was needed, I noticed one of Pro-File’s crisp white and black 10 x 13-inch envelopes gently curled in my rural mailbox. Inside, were text chronicles and some unique pictures of three stations I had never considered, though one in particular fit my favorite historical category: a short-lived commercial FM facility. Just as my postcard forays had done nearly 30 years ago, the reward of the correspondence to Jan was traveling to faraway places in both distance and time.

Down To Dixie, Back To The Forties

On top of the Pro-File pile were five paragraphs detailing one WFMY. Pop’Comm readers in the Greensboro, North Carolina, area will probably recognize that call sign, but this brief expose wasn’t so much about the market’s thriving WFMY-TV Channel 2 as it was about that television outlet’s long-deceased FM sister.

Like many other pre-World War II-era newspapermen who understood that broadcast advertising cut into print ad revenues, by the late 1930s, E.B. Jeffress of the Greensboro Record and Greensboro Daily News developed an “if you can’t beat ’em, join ’em” attitude about radio. Jeffress followed many of his newspaper maven contemporaries into the rush of FM enthusiasm when the FM band was opened for full-fledged commercial applications circa 1940. America’s entry into the War put broadcast applications on hold for much of the conflict’s duration, but with the unconditional Axis surrender to Washington, the FCC was again in the new station business. And the Commission was particularly pleased to okay new FM requests.

The Commission granted an FM construction permit to Jeffress’ Greensboro News Company a few days before Thanksgiving 1946. In addition to being glad for any culinary bounty that November, the publisher could be thankful for this authorization at 98.1 on the FM dial with 23 kW from an antenna at 450 feet. Call letters WFMY (FM)—the parentheses an FCC code for the “FM” suffix being silent in any spoken or official station identification—were quickly requested and assigned.

Apparently, the project then went on hold for about a year. It’s quite possible that the permittee’s counsel heard that a change in CP was in the works. In fact, a mid-1947 FM frequency revamp caused the Commission to reassign the yet-unmade WFMY (FM) to 97.3 megacycles. By the end of 1947, though, construction was going great guns on a $175,000 adjunct to the 212 North Davie Street newspaper building that would co-house the print organization’s radio project. A part of these funds was earmarked for an impressive 450-foot self-supporting tower that heralded the FM outfit to anyone gazing at the Greensboro skyline.

Another FMer (WGBG-FM) beat WFMY (FM) to the local airways by a year, but “FMY, complete with two nicely equipped studios and a robust staff of 11, received a “first child” welcome...
An obscure piece of real estate from an even more obscure radio station. You’re looking at the remaining front wall of the WFMY (FM) studio building at 210 North Davie Street Greensboro, North Carolina. Jan Lowry snapped this nuance shot in September 2004.

in the picturesque pages of its sibling newspapers when it debuted on March 14, 1948.

Oh, Such A Lonely Boy!

Some of you might be old enough to remember Andrew Gold’s 1977 Top-40 radio hit Lonely Boy about a kid who felt marginalized by his baby sister. Imagine yourself as a proud WFMY (FM), faithfully serving your parents day and night with music, news, and weather...and then they're increasingly and delightfully distracted by a new child who's only up for a few hours daily but gets copious amounts of attention from admirers' ears and eyes. Our lonely FM boy’s favored six came in the form of a CP for WFMY-TV, little more than two months after the radio station went on the air.

The Greensboro News Company’s television permit allowed for construction on the video dial’s most coveted place: Channel 2. The building of the TV facility took top priority, clearing the way for its late-summer 1949 fanfare - and a bump up to 34,000 watts ERP during 1951.

Jan unearthed the obscure facts that WFMY (FM) was then being identified as “the eyes and ears of the Piedmont” (undoubtedly a nod to the favored TV side) and, through 1952, carried lots of programming from “the Dixie Network, based at WRAL-FM Raleigh, North Carolina.” This affiliation probably meant that at least several original WFMY (FM) staff members were let go, as the station offered less locally produced fare.

On April 19, 1953, officials at the Greensboro News Company unceremoniously pulled the plug on their FM station. A jump to a 1/4 kW was granted WBSO in 1928.

By early 1930, the suburban Boston facility got a dial reassignment, going to 920 k.c., plus a licensee corporate name change to Babson Broadcasting Service. This coincided with a city-of-license modification to Needham, the present site of many Boston TV and FM sticks. By the sunset of 1930, Babson's Great Plain Avenue site there featured dual towers (between which a wire antenna array was likely strung) radiating 500 watts of daytime RF. During the early 1930s, Babson modified his station’s corporate moniker to Broadcast Service Organization (to better convey an alignment with its related WBSO callsign).

In the middle of the ‘30s, as the Great Depression slogged through its deepest trough and while he sought to generate some decent economics via WBSO, Babson hired one George A. Crockwell to serve as the station’s general manager. Reportedly, Crockwell had previously confided in Babson that he’d like to buy WBSO for cash money. The two took another step towards such a transaction on December 3, 1935, when a sales agreement between Broadcast Service Organization and Crockwell Broadcasting Company was initiated. Consummation occurred in January 1936, as did a call change to WORL. Jan discovered that Crockwell really wanted the name WKDX, but the FCC had already assigned those letters elsewhere, so WORL was picked because it had a nice ring to the phonetic sound of its pronunciation.

Also new in ‘36 were studios in the Boston-based Myles Standish Hotel and visually similar call letter combinations and a trio of hometowns. Roger Babson founded this AM as WBSO in 1926 at Wellesley Hills, Massachusetts. Using his acumen in economics and statistics, he ran the Babson Statistical Organization, wrote books, delivered lectures, and probably figured that radio represented a statistically economical way to reach a populous and diverse cross section of New England's ears.

His December 1926 U.S. Commerce Commission broadcast authorization specified 100 watts at 780 kilocycles from a studio/transmitter set up in a Prescott Street at Babson Park (Wellesley Hills) headquarters. Babson must have suspected that his radio request was a shoe-in, as he probably made a head start on his project, managing to shoehorn WBSO’s start-to-finish construction and debut into the final few weeks of 1926. A jump to a 1/4 kW was granted WBSO in 1928.

Some Radio History Whirling Around Bean town

The next goody in Jan’s mailer focused upon what was long known as WORL, a Boston daytimer having had a pair of
WORL, ORIGI NATORS OF THE FAMOUS 920 CLUB

does it AGAIN!
WITH A NEW MILLION DOLLAR PROGRAM IDEA!

YOU CAN'T MISS
...ON THIS!

“THE MILLION DOLLAR BALLROOM”

WORL BOSTON'S BEST BUY!
FOR JOE & CO. - NATIONAL REPRESENTATIVES

INQUIRE NOW ABOUT OUR GUARANTEED
13-26-32 WEEK CONTRACT PLAN

WORL BOSTON 16, MASS.

Once the proud entrance to the KCHJ studios and live music shows like “Barn Dance,” this portal and its signage was abandoned in 1965, 14 years prior to Jan Lowry capturing its lonely picture.

WORL dubbed itself Boston’s Best (advertising) Buy in this 1948 publicity sheet aimed at ad agencies that purchased airtime for their clients’ commercials. Note that the success of WORL’s cornerstone “920 Club” DJ/record program is mentioned along with a big plug for its new “Million Dollar Ballroom,” a similar personality hosted record spinning scenario. Nowhere in the spread, though, is there a hint that WORL is a daytime-only operation. And it’s odd that the “920 Club” was even mentioned, as the station’s frequency had long before been changed to 950 kHz and with it the name of WORL’s biggest ratings maker became the “950 Club.”

a congruent city-of-license ID switch to Boston. Now, at least from a station ID standpoint, WORL was on a par with the big boys of Boston broadcasting.

Watch Out For Trouble Ahead!

Broadcast Pro-File notes that Crockwell’s reign was suspiciously short for those days, decades before broadcast property buy and sell frenzies became commonplace. About 12 months into his ownership, Crockwell quietly sold WORL. Jan says, “watchmaker Arde Bulova, owner of Boston’s WCOP, purchased WORL. Harold LaFount, former U.S. Radio Inspector and head of Mr. Bulova’s radio group, then became president of licensee Broadcasting Service Organization, Inc.”

The timing and Crockwell’s gerrymandering to move WORL to Boston is curious. One can only speculate that perhaps Bulova, already the licensee of a hub city station, needed a front man with no other radio interests to navigate this significant change request.

“News of the hour, on the hour, every hour,” became WORL’s cry throughout the ’30s, as it operated from 7 a.m. to local sunset. In early 1939, Bulova added the DJ banter and popular records programming pioneered at co-owned WNEW New York that was attracting a vibrant listenership in the Big Apple. The WORL version, dubbed “920 Club” (for its 920 dial position), debuted at the end of January 1939 and ran well past the Bulova years as the station’s biggest ad revenue draw. To be more accurate, the popular DJ show was soon recast as the “950 Club” to coincide with the 1941 North American frequency shift that knocked WORL 30 kilocycles up the band.

In the meantime, Bulova’s technical people had installed a new 1-kW transmitter at the Needham site where they began using a Truscon-brand 308-foot vertical radiating antenna. This March 1940 modification predated, by three years, another big change: a studio move to larger quarters on the 9th floor of the Union Savings Bank Building located at 216 Tremont Street in Boston.

In the midst of the activity designed to make WORL truly competitive (though still a daytime-only operation), Bulova sold a minority share of the station to his radioman and broadcasting company president, Harold LaFount. By 1944, the FCC was
A hauntingly beautiful image from the Broadcast Pro-File collection, it provides a ghost town glimpse of the downed, twisted tower remains in the foreground of an equally derelict KCHJ building off County Line Road near Delano, California. Jan D. Lowry took the classic radio station picture on September 13, 1979, nearly a decade and a half after the last RF flew from this original KCHJ site.

looking intently into broadcast property transactions and ownership patterns for signs of duopoly, or one firm controlling too many radio voices in a given media market.

Then the “duopoly” definition was no more than one commonly owned AM, one FM, and one TV outlet per area. Interestingly, in order to comply with the Commission’s new policy in Boston, Bulova sold fulltime WCOP Boston in lieu of having to shed daytimer WORL. No matter, FCC examiners scrutinizing Bulova’s Massachusetts holdings saw something they didn’t like at WORL. Jan Lowry describes the 1945 controversy as “allegations over unauthorized transfer of control of licensee Broadcast Service Organization cited as the reason for review of WORL’s authorization to continue broadcasting.”

The FCC has always been very picky about its licensees being completely candid with all details related to who is actually calling the shots at a particular station. It may be that Bulova had granted LaFount more ownership clout than was disclosed in WORL’s FCC application filings. In any event, Bulova’s attorneys could not satisfactorily answer the charges, resulting in an April 1947 Commission decision denying the renewal of WORL’s license.

Two years later, and with appeals exhausted, Bulova was forced to give up his Boston facility. At sunset on the last day of May 1949, WORL’s temporary authorization, under which it had operated while fighting for license renewal, expired. Folks tuned to that day’s “950 Club” heard the program’s last record fade and an announcer indicate that the station had been “losing money.” With this euphemistic admission, the transmitter was silenced. The first version of Boston’s WORL officially became history sometime in June when the FCC deleted the callsign.

But Not For Long...

Pop’Comm AM buffs who know New England radio might wonder why the previous piece of history wasn’t titled “Rolling Around Beantown” instead of “Whirling.” That’s because, for years, the Boston 950 occupant had been called WROL, not WORL. The seeming letter confusion has a logical explanation contained in the following nutshell.

In 1950, the Commission granted Pilgrim Broadcasting, a company formed to seek Boston’s 950 spot, permission to reactivate the shamefully silenced WORL frequency. Because Bulova’s programming and calls had been well received by hub city audiences, understandably Pilgrim debuted its new 950 outlet with the same identity and much of the former content of the previous WORL. Arguably, there were more than a few Bostonians who were happy to hear the “950 Club” again.

By the mid-1960s, Pilgrim decided to capitalize on the Beautiful Music programming trend that targeted affluent adults. The aging “950 Club” gave way to quarter-hour segments of lush instrumentals and ballads bordered by rich-voiced announcers who tastefully presented time, temperature, and intelligent advertising. To better banner this fare, WORL was re-dubbed WRYT or “Right Radio,” perhaps as a contrast to the “wrong” kind that catered to teens via screaming DJs, Rolling Stones records, whizzing jingles, and Clearasil commercials. This focus worked reasonably well until the early 1970s when FM penetration and classy stereo stations like General Electric’s WJIB-FM Boston siphoned off much of WRYT’s “good music” base.

After the station was sold to inspirationally oriented Carter Broadcasting in 1977, WRYT’s new ownership wanted to return it to its nominal roots. But a check of FCC listings indicated that an Orlando, Florida, area station had grabbed the WORL calls during 950’s WRYT years. Carter decided that WROL was close enough to WORL—especially after a lengthy phonetic hiatus for Boston radio listeners—and successfully sought the similar sounding ID. A religious focus constituted much of Carter’s programming, a format still held by the station’s current licensee, Salem Communications.

WROL’s Recipe For Success

No mention of Boston’s 950 AM would be complete without acknowledging the personality responsible for its most loyal audience members. From the late 1960s until October 1999, Gus Saunders spent a good portion of his 56-year Beantown broadcasting career entertaining “housewives” (and, no doubt, men who enjoyed preparing food) in his electronic Boston Kitchen, a.k.a. “The Yankee Kitchen.”

Saunders’ show, originally on WNAC and its full New England affiliate coverage Yankee Network, was Number 1 in women listeners and had a sponsor waiting list when 50,000-watt WNAC morphed into Top-40 WRKO and dumped
Saunders in 1967. After a short stint at WCOP, he was recruited by Pilgrim’s WORL to set up the daily cooking program there. His rich voice, friendly “can-do” demeanor, and obvious knowledge of things culinary equaled good ratings, no matter what his station venue.

When combing through my files for anything related to WORL, WRYT, or WROL, I noticed a 2003 letter from a “Shannon” reader who mentioned how his mom had two radios, side by side, on top of the refrigerator in their cozy Stoneham, Massachusetts Cape Cod-style home. “One was a solid-state, wood-grain plastic Sylvania clock radio,” the writer recalled. “And the other one was a chubby, kind of ‘50s coral color, tube-type.” He said that the latter set had no tuning dial because his father had pulled it off and chucked it out the kitchen window! The reader continued:

As teenagers, my sister and I would always change the station to rockers WRKO or WMEX and then my technically challenged mother would have problems retuning to 950 so she could hear Gus Saunders’ program. Dad got so tired of the almost daily ritual of finding that spot for mom that he eventually parked the set next to our main kitchen radio.

Whenever Gus Saunders’ cooking show came on, all mom had to do was negotiate the on/off/volume control. We kept clear of what my parents referred to as the “recipe radio” and used the Sylvania for our required diet of Top-40 tunes. We weren’t alone either. Both my sister and I had friends whose moms let us listen to Gus Saunders when the “Yankee Kitchen” hit the airwaves.

The truly amazing thing about this cooking program is that it built a respectable portion of its host’s Boston media icon status on a daytime-only AM outlet. Even during the 1990s, when more than a few large Boston area FMs (not to mention a 50-kW AM or two there) struggled for any kind of consistently positive reputation, 70-something Gus Saunders on little WROL 950 AM made a remarkable splash.

**Drenched By Waves, From Short To Medium**

During World War II, Japanese military officials as well as one Charles Herman Johnes were fixated on the community of Delano, California. The Japanese Navy wanted to bomb the town and Johnes (pronounced “Jones”) dreamed of running a local radio station there. Here’s why: From 1942 to 1944, the U.S. Government commissioned Columbia Broadcasting System to build a super-power shortwave transmission facility at Delano. Johnes became part of the CBS team employed in that San Joaquin Valley locale. The construction resulted in the facility being ready for air as America hyper-focused on winning the War in the Pacific.

Delano-based KCBR shortwave became an ideal venue from which American broadcasts could be beamed to Hawaii, the Philippines, Okinawa, and on to Tokyo. Warlords in that capital city planned to blow up KCBR and silence that electronic blanket over their region, but their reconnaissance argued that getting Japanese bombers past U.S. air defenses would be virtually impossible. Meanwhile, the giant shortwave outlet contributed mightily to the improving morale of the Allied war effort and later continued as a Voice of America relay operation until its closure last fall due to the waning publicity value of international shortwave.

“During its peak transmission hours,” a Wikipedia contributor noted, the Delano relay was “off limits to the public because of Radio Frequency Interference [radiation] issues.” With a 250,000-watt transmitter into a vast antenna array good for 36 dBµ gain, nearly 50 megawatts of effective isotropic radiated power bathed the site. That could light up a lot of fluorescent bulbs around the neighborhood!

No doubt CBS engineer Charles Johnes was impressed with his employer’s gigantic station; however, he got to thinking about a broadcast operation easier to get one’s hands around. Maybe a nice little daytime with a mom & pop ownership approach...something to serve the good people of rural Delano and neighboring folks in the farm country about 140 miles north of Los Angeles. These musings followed him through the War’s duration and into the late ’40s when he actualized them with an FCC application.

Just ahead of Labor Day 1949, Johnes received word that the Commission had granted his request for a new AM at Delano. The okay was for 1 kW on 1010 kilocycles. A few weeks later, Washington assigned the Construction Permit working call letters that included his initials: KCHJ. Jan Lowry’s research shows that permittee Johnes, also 50 percent owner of a small Delano business, Radio-Sound Sales & Service, estimated that he could get KCHJ going for about $7,800. If that sounds incredibly cheap, it may be that Johnes already had some gear on hand. And, of course, construction labor was pretty reasonably priced in those days.

However, he kept on budget. Johnes oversaw the development of a “modern, single story block building on County Line Road at Melcher Avenue, on the northern edge of Kern County, bordering Tulare County.” Broadcast Pro-File states. “A self-supported vertical radiating antenna tower was erected alongside the new studio/transmitter building.” It could be that a bit of Johnes’ cost-cutting came in the form of time. Instead of rushing his project, he did what he could when he could, eventually getting KCHJ airborne on December 1, 1951—two years and three months after his original CP arrived. In the interim, he’d quit his day job with the mammoth shortwave outfit down the road.

Once Johnes had KCHJ up and running, he devoted some of his engineering skills to seeing a major upgrade for the daytime. In 1954, this resulted in the FCC allowing him to boost day power to 5 kW and add a 1000 watts of night service via the erection of a second tower. Again, KCHJ’s ownership took its time in making the improvements, but the additional (gyed) stick, phasor cabinetry, transmission line, and bigger transmitter were systematically readied for the new full-time facility’s debut on April 9, 1957.

**What Did KCHJ Play?**

Though I wasn’t around during the Delano station’s golden age, nor have I heard any airchecks of its fare, I bet its towers pipped out some good old airwaves hospitality. Jan’s findings peg the KCHJ output of the 1950s and 1960s as “a variety program format, including a live local “Breakfast Club,” “Melody Rancho,” “Starlight Memories,” “Club 1010," the “Party Line” telephone talk show, an all Elvis Presley hour, and a female DJ show (the latter exclusive feminine hosting being rather rare in those days, especially at a small-market station). Religious programming was broadcast on Sundays until 10:30 a.m. and something dubbed “Freeway 99" was heard thereafter. A Spanish language program aired daily in the early morning hours.”
Filipino. and increasing amounts of

programming from 1975 to 1983, and specialized pro-
musical middle-of-the-road/country

marily format -related. For example, the Milestones from that period on were pri-
KCHJ for the next quarter century.

KCHJ era, was fast running out of it. In 1959, they’d received FCC permission to
occupy new studio and transmitter digs. “Increasingly cramped” conditions were
cited as reasons for the desired relocation. Another five years elapsed, however,
before moving day arrived. Sales offices were opened in downtown Delano in
early 1964, and occupancy of a new Delano studio/transmitter venue fol-
lowed. Jan notes that this combo facility came in the form of a freshly built “60-
foot by 120-foot cinderblock building located at Avenue 16 and Road 112.”

A most interesting footnote about this site switch, Pro-File states, is the fact that “the old KCHJI quarters were abandoned but left standing to the ele-
ments and vandals and the property is now open farmland.”

End Of A KCHJ Era

Johnes had realized his dream of estab-
lishing a robust local radio station and
shepherded his early 1940s notion (while
working at shortwave KCBR) from a
what if? to a CP, and then through power
increases, full-time status, and the stu-
dio/transmitter site upgrade. In
1968, with all that accomplished and undoub-
etedly more radio ideas in mind, he was
killed in a car accident. The Gabe Herman
person a died, too.

Johnes’ family continued operating
KCHJ for the next quarter century.
Milestones from that period on were pri-
marily format-related. For example, the
station’s air product was listed as “mid-
dle-of-the-road/country music” circa
1971, automated (as opposed to “live”)
musical fare (primarily MOR, and
Country) was slipped into the schedule
from 1975 to 1983, and specialized pro-
gramming like Farm Information,
Filipino, and increasing amounts of
Spanish offerings were broadcast. By
1986, oldies were featured among
KCHJ’s tunes, but dropped three years
later in favor of a bigger association with
C&W and the station’s new identity:
Country 101.

This sound changed radically on May
12, 1991 when KCHJ flipped to contem-
porary Spanish-language music for all of
its schedule except five hours of Filipino
per week. The year 1991 also marked a
KCHJ studio move that took it 35 miles
south to Bakersfield, California, in order
to co-locate with KWAC, another
Spanish-formatted AM there. The Johnes
family parted with KCHJ in 1994. The
owner of KWAC gave them $400,000 for
the (still officially licensed to) Delano
AM. Five years later, it was resold, with
a group of sister stations, for over $6
million bucks, and, in 2006, moved into
a brand new, modern office and studio
building at 5100 Commerce Drive
in Bakersfield.

For Johnes and the other station
founders in this month’s historical
vignettes, receiving the FCC’s tradition-
all postcard announcement form stating,
“Your application has been granted,”
must have certainly been a thrill.

...And so ends another day of broad-
casting history at Pop’Comm.
Clearing The Air About CODAR

For experienced SWLs who have tried listening to a shortwave utility or broadcast station in the presence of a CODAR signal, this month's column title will undoubtedly draw an ironic snort. “Clear the air, indeed,” you may well exclaim. “Those CODAR stations do anything but!”

It's true that CODAR signals seem to have a way of interfering with our efforts to log many or our listening targets. Many SWLs have lamented QRM from CODAR systems on the HF bands, myself included. However, many SWLs are in the dark about what CODAR is and what purpose it serves, other than to sometimes thwart our efforts to successfully log other stations on the HF bands.

The CODAR acronym stands for Coastal Ocean Dynamics Applications Radar and refers to an HF radar system that remotely measures surface currents on the oceans. Its purpose is to permit researchers to produce a complete map of ocean currents, without having to actually go out on a boat and deploy an expensive system of current meters.

There are several of these systems currently in operation around the world. A couple of the most well known in the United States are the one that Rutgers University has deployed along the New Jersey coast, and another installed around Monterey Bay, California, and managed by the U.S. Navy. Others that I know of are deployed in Maine, Massachusetts, North Carolina, and Alaska, to name a few. In fact, there's an entire radar “backbone” consisting of numerous existing and planned CODAR installations along the East Coast of the United States and Canada.

But the use of CODAR is not confined to North America. For instance, the Japanese Coast Guard operates CODAR systems at the entrances to Tokyo and Sagami Bays, and a CODAR system located on mainland China is known as a notorious source of interference on 12 meters. In fact, there's an entire radar “backbone” consisting of numerous existing and planned CODAR installations along the East Coast of the United States and Canada.

But the use of CODAR is not confined to North America. For instance, the Japanese Coast Guard operates CODAR systems at the entrances to Tokyo and Sagami Bays, and a CODAR system located on mainland China is known as a notorious source of interference on 12 meters.

These systems all utilize the same basic technology involving a transmitted radio wave to calculate the basic speed and direction of oceanic surface currents. A typical CODAR system might transmit radio signals in 4- to 18-minute intervals at frequencies from 3 to 50 MHz, employing multiple receivers at different locations to listen for return signals. When a transmitted signal encounters a wave on the ocean that's half the wavelength of the radio signal and is moving directly toward or away from the receiving antenna, a return signal is produced. Researchers can then determine distance from the time delay of the return signal in relation to when it was transmitted, and they can determine the speed of the wave by measuring the Doppler shift of the return signal.

A radio direction finding (RDF) algorithm is also used, allowing researchers to calculate the bearing of the wave. By using two or more transmitters at different locations to examine the same area of ocean, researchers can then combine the different viewing angles into a two-dimensional map of the upper surface currents, such as the one shown in the accompanying Figure, from the Monterey Bay system managed by the Naval Postgraduate School.

The resulting data is used not only by the researchers, but produces observations significant to determining the settlement of marine animal populations, and thus is of value to commercial fishermen and charters. The data on surface currents is also of considerable aid to oil spill response teams, or others wishing to track pollutants on the ocean surface. In addition, the U.S. Coast Guard's search and rescue (SAR) operations make use of the data for finding and recovering vessels or other objects lost at sea. The National Weather Service, Army Corps of Engineers, and even the general public are also users of the data the CODAR systems collect.

The range of these systems varies according to many factors, including external noise, wave height and speed, the location of the radios with respect to the water and nearby obstructions, and of course, the frequency of the transmitted signal. CODAR signals in the 40-44 MHz range, for example, have a range of 10-20 km. In the 24-27 MHz region this
increases to 30–50 km, and in the 12–14 MHz slice of the RF spectrum the range is about 50–70 km. The CODARs most frequently cited as examples when SWLs ask one another about them are those in the 4–6 MHz region, where the range jumps dramatically, from 160–220 km during the daytime (the range is reduced significantly at night due to the higher noise level at night). The 4–6 MHz region generally also yields the best resolution (3–12 km, as opposed to as little as 300 meters at 27 MHz and higher) on these radars.

It should be noted that in the preceding paragraph, the reference to "range" refers to the effective range of the system for gathering data, not to the distance it's possible to hear the transmitted signals using the HF receiver in your shack! These are HF radio signals, subject to the same effects of propagation as any other HF radio signals. Thus, obviously, since these signals are being transmitted over water, which is electrically conductive, they can be heard far beyond the distances at which the signals retain any value to the researchers who transmit them, even though the RF power radiated by the transmitter may be as low as 40 watts.

Photo A shows the antennas used at a typical site, with the transmitting antenna at left and the receiving antenna on the right in the photo.

Aside from the tendency of these signals to hinder efforts to log utility, broadcast, and amateur stations on nearby frequencies, the primary annoyance associated with CODAR stations for us listeners is that they are not required to identify their transmissions. Therefore, we cannot log them, and, as one SWL remarked recently on Usenet, "It would not be so bad if these things would ID at the top of the hour so at least propagation could be tracked." Alas, though, since the location of a particular signal cannot be positively identified by the average SWL, we cannot even use them to study propagation. We can only chalk them up as QRM for our purposes. But now we know that, like so many other things that cause our radios to go "Beep!" in the night, there's at least a good and practical reason for their presence.

The CODAR stations initially deployed in the 1980s have been improved upon and replaced by newer systems bearing a name that's a registered trademark of the company that designs the systems, CODAR Ocean Sensors in Mountain View, California, so it's obvious why the systems are still referred to as CODAR systems.

Military Applications And The Littoral Sensor Grid

Besides the scientific uses for the data collected by CODAR systems, there are also military applications for surface current data related to SAR, navigation, subsurface operations, ship detection, amphibious operations, and anti-submarine warfare (ASW). While other environmental assessment requirements pertaining to naval operations (such as surface temperature and winds, sea state, sea ice, and beach conditions) are detectable by satellites, satellites cannot detect surface currents. This can only be

Photo B. Naval assets, such as this Littoral Surface Craft, may soon get a high-tech assist from a grid of coastal sensor buoys able to share data with other assets. (U.S. Navy photo)
done using HF radar. For this reason, militaries make extensive use of airborne and vessel-mounted sensors when engaged in ASW activities.

It's known that Canadian forces have experimented with using their shipborne Raytheon ship detection HF radar systems to extract surface current information. This is theoretically feasible; however, while only one radar site is needed for ship detection, at least two are required for surface current detection. This would seem to make it unlikely from a cost standpoint that anyone would want to regularly use systems like the Raytheon ship detection radars for this purpose. Not only does CODAR cost a fraction of what the Raytheon system does, but also the distance between sites required for surface current data generation (no more than 40 to 60 percent of the system's range) is substantially less than that needed for two adjacent sites optimized for ship detection. Therefore, the additional sites needed to fill in the gaps for surface current detection would be wasted from a ship detection standpoint.

This is particularly true since ship detection systems such as Raytheon's cannot "see" littoral waters, and in fact do not operate within the first few tens of miles from shore. CODAR systems can be, and are, operated in this zone, and this zone is an essential area from a military standpoint, particularly with respect to amphibious operations and mine countermeasures.

It is at least partially for this reason that the U.S. Navy recently contracted with the commercial firm Mobilisa, a wireless technology provider with headquarters in Port Townsend, Washington, to develop a prototype for a system of wireless sensor buoys that are able to share data and network buoy-to-buoy, buoy-to-shore, and buoy-to-at-sea platforms. This would not only be able to share data with military vessels, such as the new littoral Surface Craft shown in Photo B, but could also send data to other government agencies, as well as universities and schools and to environmental groups. Called the Littoral Sensor Grid, this network of high-tech buoys would supplement or replace the magnetometers and acoustic sensors currently used in littoral waters, and thus extend the protection zone around U.S. harbors and seaways.

In any case, you now can add another acronym to your vocabulary: in addition to LAN (Local Area Network) and WAN (Wide Area Network), you will now need to contend with a new buzzword, PAN (Floating Area Network). My initial research on these buoys indicates that they will apparently do the bulk of their communicating on VHF and above. Thus, we don't expect many signals on HF as a result of their eventual deployment. That is, unless and until some fishing boat or other vessel operating in shallow coastal waters hits one

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**Glossary Of Utility Terms And Acronyms**

- **AFB**—Air Force Base
- **ALE**—Automatic Link Establishment, a link control system that includes automatic scanning, selective calling, sounding, and channel selection, without human intervention using processor control.
- **AM**—Amplitude Modulation
- **ANDVT**—Advanced Narrowband Digital Voice Terminal, a secure voice mode used by the military.
- **ATC**—Air Traffic Control
- **CAMSLANT**—Communications Area Master Station Atlantic, the U.S. Coast Guard's primary HF radio station for the Atlantic region, located at Portsmouth, Virginia.
- **CAMSPAC**—Communications Area Master Station Pacific, the U.S. Coast Guard's primary HF radio station for the Pacific region, located at Pt. Reyes, California.
- **COMMSTA**—Communications Station, for example: COMMSTA Kodiak, a communications station of the U.S. Coast Guard, located at Kodiak, Alaska.
- **CGAS**—Coast Guard Air Station
- **Cut Numbers**—The use of letters in place of numbers when sending a long string of numbers, for brevity's sake. This is often done by "numbers" stations, such as sending one long dash instead of five normal dashes to indicate a zero, or the letter N instead of the number nine. etc.
- **CW**—Continuous Wave (Morse code)
- **DE**—The Morse code operating prose DE, meaning "from," as in DE NNN, meaning from station NNN
- **D/Layer Absorption**—A phenomenon where the sun's rays ionize the D layer of the atmosphere causing it to absorb, rather than propagate (reflect/bounce), radio signals at certain frequencies.
- **Duplex**—A means of radio communication where a station can both transmit and receive at the same time.
- **EAM**—Emergency Action Message, coded instructions commonly sent by U.S. military stations. Despite the name, they usually aren't emergency traffic at all.
- **EHF**—Extremely High Frequency (30-300 GHz)
- **FAX**—Facsimile, a transmission mode used to send maps, charts, and other non- textual material.
- **FM**—Frequency Modulation
- **Han Station**—A licensed station operating in the Amateur Radio Service under the control of an operator who is licensed to operate the station.
- **HF**—High Frequency (3-30 MHz)
- **LINK-11**—Also called TADIL-A for Tactical Digital Link, a secure digital data mode used by the military. Utilizes a 16-tone data modem to allow assets to share digital information, such as radar data.
- **MN**—Merchant Vessel
- **NAS**—Naval Air Station
- **Propagation**—The means by which radio signals get from one place to another; some forms are quite simple (such as line of sight) while others are much more complex (such as EME, or earth-moon-earth).
- **QRM**—Man-made interference to radio signals
- **QRN**—Natural interference to radio signals, such as the static crashes often heard due to thunderstorms
- **QSO**—A contact between two or more stations
- **QSY**—Change frequency.
- **QTH**—Location
- **RTTY**—Radio TeleTYpe
- **SELCAL**—Selective CALLing, a method for activating a radio or data terminal at one station without disturbing other stations that are monitoring the same frequency.
- **Simplex**—A means of radio communication where a station may transmit or receive at any given time, but not do both at the same time.
- **SITOR**—Simplex Teletype Over Radio, a transmission mode used to transmit text messages over radio. There are two SITOR modes: SITOR-A (also called AMTOR) uses Automatic Repeat Request (ARQ); SITOR-B uses Forward Error Correction (FEC).
- **SWL**—Shortwave Listener, a person who enjoys listening to shortwave radio stations.
- **UHF**—Ultra-High Frequency (300-3000 MHz)
- **USAF**—United States Air Force
- **USAR**—Upper Sideband
- **USCG**—United States Coast Guard
- **USMC**—United States Marine Corps
- **USN**—United States Navy
- **UTC**—Coordinated Universal Time, formerly known as Greenwich Mean Time, and also commonly referred to as ZULU time and abbreviated as in 2000Z.
- **UTE**—Utility Station
- **Utility Station—Stations transmitting material that is not intended for reception by the general public and is not originating from an amateur (ham) station.
- **VHF**—Very High Frequency (30-300 MHz)
- **VOLMET**—Station that transmits aeronautical weather information. Comes from a French term that literally means, "flying weather."
(i.e., when a ship hits the FAN), at which point we may be able to monitor Coast Guard and/or Navy communications pertaining to the resulting SAR mission.

**HF Beacon Society**

Seeking Listener Reports

Those who read last month's column will recall that we looked at the High Frequency Beacon Society and the homebrew, low-power beacon stations that its members use to study propagation. Since that column was written, I've been contacted by a representative of the society with the news that they would like listeners to their beacons to send a short report now and then to help them collect data on how shortwave propagation affects the signals from their beacon stations.

As a reminder, or in case you missed last month's issue (shame on you!), you can check the society's website for complete information, including a list of currently operating beacons and their frequencies:

www.highfrequencybeaconsociety.bravehost.com/index.html

Once there, you can find a list of beacons that are currently in operation by clicking the button marked “Beacons” (and, of course, “surf” the other pages on the website as well!). The society asks that reception reports be e-mailed to this address:

hiberbeacon@yahoo.com

Since last month's column, the 100-milliwatt "W" beacon in Colorado, operating on 8188.7 KHz, has been upgraded to operate 24/7 with the addition of battery power. Previously it used solar power and thus operated only when it was in daylight. The transmitter for this beacon was shown in a photo that accompanied last month's column.

**Now On With The Logs!**

On a monthly basis, *Pop'Comm* readers supply their fellow hobbyists with a treasure chest of loggings, for which we are eternally grateful. This month is no exception, and our thanks go out to the following UTE monitors who submitted the logs that follow, namely: Al Stern, Satellite Beach, FL (ALS); Steven Jones, Lexington, KY (SJ/KY); Glenn Valenta, Lakewood, CO (GV/CO); Mark Cleary, Charleston, SC (MC/SC); Lupo Alberi, Italy (LA/IT); William Hassig, Mount Prospect, IL (WH/IL); and John Kasupski, Tonawanda, NY (JK/NY).

1755.0: Palma Radio, Spain, with nav weather warning in Spanish, in USB at 2040Z. (LA/IT)

2183.7: Undid station idling for over 4 hours, similar transmission heard last month on long-standing distress & emergency voice frequency 2182.0 KHz, this time it was standard 1.7 KHz offset for voice versus digital transmissions, in SITOR-B from 0030Z to past 0430Z. (SJ/KY)

2455.8: AQP24, Marine Karachi Pakistan, with series of Vs, shifting the frequency as RTTY with negative keying 1000 Hz down, in CW at 1748Z. (LA/IT)

2474.0: PBB, Marine Den Helder Holland, with test transmission in 75850 RTTY at 1630Z. (LA/IT)

2609.0: FOO, Marine Toulon France, with “voyez vous le brick” in 150850 RTTY at 1635Z. (LA/IT)

2789.0: FUE, Marine Brest France, with “all de fue” testing in 75850 RTTY at 1645Z. (LA/IT)

2872.0: Gander Radio working various aircraft; Shanwick Radio's SELCAL transmissions also audible, in USB at 0652Z. (GV/CO)

2872.0: Gander Radio wkg “Al Italia 78C” for posrep in USB at 0545Z; Shanwick wkg “VPBMH” for posrep in USB at 0505Z. (ALS)

2872.0: Gander Radio wkg “Malasian 91,” a Boeing 777 en route from Newark to Arlanda A/P, Stockholm, Sweden (ESSA) for routing, in USB at 0649Z; Gander wkg Air Indi 141 for routing in USB at 0717Z; Gander wkg Air Europa 440 for routing in USB at 0718Z. (ALS)

2872.0: Gander Radio wkg Aeroflot 316 for posrep and SELCAL check in USB at 0504Z; Shanwick wkg “New Zealand 2” QSYs to 4675, in USB at 0538Z; Shanwick wkg “KLM 644” for posrep in USB at 0645Z; Shanwick wkg “Inter 642” for SELCAL check in USB at 0458Z. (ALS)

2872.0: Gander Radio wkg “El AI 107” for posrep in USB at 0733Z; Gander wkg “Speedbird 298” for posrep in USB at 0736Z; Gander wkg “El AI 103” for posrep in USB at 0739Z; Gander wkg “El AI 068” for posrep in USB at 0751Z. Gander wkg “Longhansa 2” for amended clearance, new fix GSPR, due to tcu. in USB at 0751Z. (ALS)

2899.0: Gander Radio working Air Canada 872 for flight following and SELCAL test in USB at 0435Z. (JK/NY)

2899.0: Gander Radio wkg “US Air 740” for posrep in USB at 0640Z; Gander wkg “American 885” for posrep in USB at 0508Z; Gander wkg “Delta 36” for SELCAL check in USB at 0509Z. Gander wkg a Northwest flight and passing info from North West Dispatch regarding report of turbulence near position 53 N 20 W, in USB at 0711Z. (ALS)

2899.0: Gander Radio wkg “Continental 100” for posrep in USB at 0647Z; Gander wkg “American 60” for posrep in USB at 0434Z; Gander wkg “Condor 189” for clearance, routing in USB at 0726Z; Shanwick Radio wkg “N680GG” (Cessna 680) for posrep and SELCAL check in USB at 0642Z; Shanwick wkg REACH 371 for posrep in USB at 0644Z. (ALS)

2899.0: Shanwick Radio wkg “Navy PR 04” (EP-3E, Whitehuy NAS) for posrep (54N 20W) in USB at 0651Z; Shanwick Radio wkg “Continental 54” for SELCAL check in USB at 0708Z; Shanwick wkg Northwest 50 for posrep (52N 30W) in USB at 0735Z; Shanwick Radio wkg “Continental 22” for SELCAL check, also passes SigMet, in USB at 0534Z. (ALS)

2899.0: Shanwick Radio wkg “Air Canada 872” for posrep and SELCAL check in USB at 0307Z; Shanwick wkg “American 70” for posrep and SELCAL check in USB at 0319Z; Shanwick wkg “Delta 60” to report they “Delta 46” to cctn Shanwick on this freq., in USB at 0318Z. (ALS)

2899.0: Shanwick Radio wkg “Iberia” flight in USB at 0815Z; Gander Radio wkg UPS flight for posrep in USB at 0835Z; Gander wkg Northwest 60 for posrep and fuel status report in USB at 0903Z; Gander wkg REACH 9028 for SELCAL check in USB at 0906Z. (ALS)

2962.0: Santa Maria Radio wkg “Iberia 6740” for posrep and SELCAL check in USB at 0626Z; Santa Maria wkg “N707GW” and handed off to Shanwick on 3016.0, in USB at 0632Z. (ALS)

2971.0: Shanwick Radio wkg “Lufthansa 487” for SELCAL check in USB at 0746Z; Shanwick wkg “Continental 46” for SELCAL check in USB at 0751Z; Shanwick wkg “Speedbird 284” for posrep and SELCAL check in USB at 0754Z; Shanwick wkg “Singapore 210” for posrep in USB at 0800Z; Shanwick wkg “American 54” for SELCAL check in USB at 0510Z. (ALS)

3016.0: Santa Maria Radio wkg “American 54” for fuel status and SELCAL check in USB at 0517Z; Shanwick Radio wkg “Virgin 6” for SELCAL check in USB at 0742Z; Shanwick wkg “N480QS” for posrep and SELCAL check in USB at 0710Z; Shanwick wkg “North American 134” for routing clearance in USB at 0527Z; Shanwick wkg “Speedbird 215” for routing in USB at 0635Z. (ALS)

3310.0: Odessa Radio, Ukraine, with clear ID and nav warning in Ukrainian, in USB at 1627Z. (LA/IT)

3319.0: Link-11 data transmission at 1246Z. (MC/SC)

3455.0: NY Radio working Jet Blue 707 and clearing same for climb to FL350, in USB and SELCAL at 0314Z. (JK/NY)

boats and putting one in the shipyard, in USB posrep in USB at 0733Z; Gander wkg "Continental 486" for posrep (at waypoint at 0659Z, then OWENS) in USB heard at 0642Z; New York wkg "Ethyl 91" routing (CHAMP at 0701Z, then OWENS) in (Mil tanker acct, at FL 360) for posrep and Jacksonville wkg WBN 5049 (Tug PIO-DEFENDER) for ops report from 19-17 N, 64-37 W, in USB heard at downband, in CW at 0447Z. (GV/CO)

4089.17), hrd thru QRM from RTTY stn SIERRA, in USB at 0458Z. (MC/SC)

net roll call for JULIET, OSCAR, PAPA, and Nassau ESG Air Defense Commander) with LSB at 0543Z. (GV/CO)

4149.0: Tug SENTRY, WBN3013, wkg WPE Jacksonville in USB at 2321Z. (MC/SC)

4196.0: Two Unid. stns in QSO using computerized keying, in CW at 0653Z. (GV/CO)

4270.5: FOQX, ARTOIS, 298,330-ton French Antarctic Territories-registered very large crude carrier w/routine TEST exchange to SVO, Olympia R., Athens, Greece, SVO acknowledged and requested simplex voice contact on 4125.0 kHz, in GMDSS DSC at 0539Z. (SJ/KY)

4214.0: IDR2, Marine Roma Italy, with c/s IDR/GJ series and command list summary in 75/850 RTTY at 1540Z. (LA/IT)

4215.0: PETROBRAS 07, Brazilian offshore oil storage/processing rig in the Campos Basin w/irregular idle frequency marker and occasional weak traffic, in CW+SDRATOR in USB at 0605Z; New York wkg "Air Europa 440" for routing; New York wkg "Delta 019" for posrep in USB at 0600Z. (MC/SC)

4583.0: DDI2, Meetei Offenbach Germany, with northern latitudes sea weather in 50/65 RTTY at 1515Z. (LA/IT)

4675.0: Gander Radio wkg a SPEEDBIRD flight for SELCAL check in USB at 0814Z; Gander wkg a Zoom Airlines flight for SELCAL check in USB at 0828Z. (ALS)

4739.0: 711 (P-3C) ops normal report to FIDDLE in USB at 0713Z. (MC/SC)

4772.0: Link-1 data transmission at 0715Z. (MC/SC)

4965.0: Unid. OM/EE repeating "testing" for several minutes then out, in USB at 0605Z. (GV/CO)

5550.0: Shanvick VOLMET reciting WX reports for var European cities in USB at 0422Z. (ALS)

5526.0: Picaro Radio wkg airtanker for SELCAL check; passes 6449 as primary, 5526 as secondary in USB at 0543Z. (ALS)

5550.0: New York Radio wkg "United 861"; QSY flight to 3455.0, in USB at 0426Z; NY wkg "United 846" in USB heard at 0520Z. (ALS)

5574.0: San Francisco Radio wkg var airliners in USB at 0515Z. (ALS)

5598.0: New York Radio wkg "Martairn 074" for SELCAL check in USB at 0604Z; New York wkg "Air Mexico 022" for routing; told to get SELCAL check on 3455.0, in USB at 0650Z. New York wkg "Air Europa 440" for posrep in USB at 0449Z. (ALS)

5598.0: New York Radio wkg "Speedbird 208" for clearance, routing in USB at 0451Z; New York wkg "Virgin 66" for clearance in USB at 07242. Santa Maria Radio var airliners for routing in USB at 0727Z. (ALS)

5610.0: Gander Radio wkg "Reach 285" for posrep (49N, 40W FL330), handed off to Shawlick's 4675.0, in USB at 0522Z; Gander wkg "Reach 600" for routing change in USB at 0531Z; "Gander" wkg "Martairn 068" for posrep and SELCAL check in USB heard at 0340Z. (ALS)

5649.0: "Gander Radio" wkg "Razor 91" for posrep in USB at 0549Z; Gander wkg "Martairn 636" for posrep in USB heard at 0550Z. (ALS)

5696.0: RESCUE 1703 passing final posrep as on approach and securing guard with COMMSTA KODIKA, in USB heard at 0459Z. (GV/CO)

5701.0: Unid. maritime stns in casual QSO in southern-accented EE, in USB heard at 0315Z. (MC/SC)

5711.0: CAPE RADIO with test counts in USB at 1751Z. (MC/SC)

5732.0: CG 1708 (HC-130, CGAS Clearwater) p/p via SERVICE CENTER to CGAS Clearwater, in USB at 1449Z. (MC/SC)

6131.0: Link-11 data transmission at 1236Z. (MC/SC)

6265.5: C6FZ7, ENCHANTMENT OF THE SEAS, 7,200-ton Bahamas-registered passenger/ship w/unlisted MMSI 311733000, abbreviated ID "ENCH" plus HELP and TEST commands in SITOR-A at 0346Z. WWYY, SEABULK AMERICA, 46,312-ton U.S.-registered chemical tanker w/5-digit SELCAL 11240 and callsign in SITOR-A at 1300Z. (SJ/KY)

6535.0: Dakar OAC wkg various A/C in USB and SELCAL at 0405Z. (GV/CO)

6586.0: New York Radio wkg "Continental 30" for posrep in USB at 0843Z; New York wkg "Martairn 069" for clearance and routing in USB at 0846Z; New York wkg "United 0860" (over GRANT, FL340): r/pilot FL360; pilot informs New York that it is "United 0860" and not "United 860" in USB at 0850Z; New York wkg "Delta 120" for posrep in USB at 0902Z. (ALS)

6586.0: New York Radio wkg SPAR 47 (MacDill AFB VIP flight) for posrep in USB at 1045Z; NY wkg "Continental 31" for routing in USB at 0558Z; NY wkg "Air Canada 074" for posrep in USB at 0759Z; NY wkg "Jet Blue 739" for posrep in USB at 0804Z; NY wkg "Continental 747" for posrep, handed off to Miami Ctr VHF freq., in USB at 0810Z. (ALS)

6586.0: New York Radio wkg "Blue Panorama 1734" for SELCAL check in USB at 0804Z; NY wkg "Air Mexico 001", e/f Madrid; primary 5598.0, in USB at 0653Z; NY wkg "Martairn 646" for posrep in USB at 0654Z; NY wkg "United 861" for routing in USB at 0715Z. (ALS)

6586.0: New York Radio wkg "Jet Blue 727" for routing; handed off to San Juan Ctr on VHF 134.3, in USB at 0719Z. NY wkg "Condor 233" for posrep; handed off to NY Ctr on VHF 128.5, in USB at 0402Z; NY wkg "Delta 121" for posrep in USB at 0408Z. (ALS)

6604.0: Gander VOLMET w/WX for Toronto, Ottawa, etc. in USB at 0720Z; New York VOLMET with terminal aerodrome forecasts for Chicago, Milwaukee, etc. in USB at 0730Z. (ALS)
null
pounds fuel and Customs on arrival, in USB at 1845Z; LAJES wkg LT 622 (P-3C, NAS Jacksonville VP-62); changes callsign to Martin 80, attempts p/p to NAS Whidbey Island Duty Office. number busy, will try later; in USB at 2109Z. (ALS)

11175.0: HF-GCS Station OFFUTT wkg BIRDSEYE for p/p to Seymour Johnson Base Ops; regex WX at KGSS for 0045Z, in USB at 2242Z; OFFUTT wkg SHADOW 58 (Kirtland MC-130); actf weak/barely readable to OFFUTT but loud/clear here, in USB at 2215Z. (ALS)

11207.0: Air Transport 530 (USAF contractor flight, weekly milkrun to downrange Eastern Range sites Antigua and Ascension) calling “MacDill” several times with no joy (needs new flight handbook; MacDill’s Global station has been closed for many years) in USB at 1812Z. (ALS)

11175.0: REACH 9168 (McChord AFB 62AW C-17A 99-0168) calls MAINSAIL (any HF-GCS Station), no joy; in USB monitored at 0427Z. (ALS)

11232.0: SENTRY 60 (E-3 AWACS) p/p via TRENTO MILITARY to Tinker AFB Metro for WX at Tinker and Langley, in USB at 1825Z. (MC/SC)

11328.2: San Francisco ARINC working unheard AC for status and QSY to lower frequency, in USB at 0103Z. (GV/CO)

11309.0: New York Radio wkg “Avianca 011” for posrep, SELCAL check in USB at 2030Z; NY wkg “Air Europa 033” for clearance to higher altitude, in USB at 2037Z. (ALS)

11387.0: Unid. VOLMET station, synth YL voice, ended statement without ID, suspect AXQ421 Australia, in USB at 0018Z. (GV/CO)

12458.5: Two very weak stations in QSO, fast handsent w/keyer, full numbers, in CW at 1518Z. (SJ/KY)

12479.0: 3EHX4, STAR PRIMA, 13,189-ton Panama-registered refrigerated cargo ship w/partial AMVER report, MMSI and abbreviated ID “PRIM,” in SITOR-A at 1515Z. VRDA4, SAGA NAVIGATOR, 46,500-ton Hong Kong-registered newbuilt general cargo ship w/AMVER/PR and INMARSAT ID, 1,200 miles ENE of Jacksonville, FL and en route to Rotterdam, Netherlands, arrive in 9 days, in SITOR-A at 1600Z. 3FPW3, BUJIN, 17,189-ton Panama-registered vehicles carrier w/5-digit SELCAL 42173, abbreviated ID “BUIN” and msg “M V BUJIN WE WUD LIKE TO TEST,” in SITOR-A at 2045Z. (SJ/KY)

12482.0: SELFS, TAMPA BAY, newbuilt 17,979-ton Panama-registered bulk carrier w/AMVER/PR, MMSI, abbreviated ID “TABA” and INMARSAT-C ID 1,200 miles east of Jacksonville, FL en route to Dunkirk, France, arrive in 9 days, in SITOR-A at 1558Z. (SJ/KY)

13490.0: P3BN8, HANJIN KAOHSIUNG, 43,925-ton Cyprus-registered container ship w/AMVER/PR, MMSI and abbreviated ID “HAKS,” 500 miles southeast of Halifax, Nova Scotia and en route to New York City, in SITOR-A at 1620Z. A8IW3, REGINA OLDENDORFF, 37,000-ton Liberia-registered bulk carrier w/garbled AMVER/PR in SITOR-A at 1622Z. HP0A, IRENE OLDENDORFF, 32,729-ton Panama-registered bulk carrier w/MMSI and abbreviated ID “IROD” in SITOR-A at 1746Z. ONBZ, CARLI BAY, 20,613-ton Belgium-registered LPG tanker w/MMSI and callsign, in SITOR-A at 2125Z. (SJ/KY)

12749.85: CWA, Cerrito R., Uruguay w/w in Spanish, parallel to slightly better 8602.0 kHz, in machine-sent CW at 0045Z. (SJ/KY)

12993.0: KSM (Maritime Radio Historical Society coast station, California) with VVVs and calling QSO in USB at 2302Z. (GV/CO)

13125.0: Unid. Russian YL with duplex PP, suspect via Varna Radio, in USB at 2249Z. (GV/CO)

11330.0: New York Radio wkg var acf for routing, SELCAL checks in USB monitored at 1950Z. (ALS)

13354.0: San Francisco Radio wkg var acf for routing, SELCAL checks in USB at 2003Z. (ALS)

13907.0: UniD (probable DHS assets) in Parkhill-encrypted speech monitored at 2039Z. (MC/SC)

13927.0: USAF MARS Operator AFA6PF (Los Angeles) wkg EVAC 809 for p/p to “Brooks AFB Hospital,” is 45 min out, arriving with two litters; needs ambulances to meet a/c, in USB at 1953Z, AFA6PF wkg ELVIS 46 (C-5A, TN-ANG, Memphis, west of Huntington KY), for p/p back to home squadron, in USB at 1647Z. (ALS)

13927.0: USAF MARS Station AFA2CU (Virginia) wkg EVAC 33116 (MS-ANG C-17A #03-3116, over Thunder Bay) for M&W phone patches to CA and VA in USB at 2050Z, USAF MARS Operator AFA1YV wkg HORSE 47 (Little Rock C-130) for p/p to Little Rock Base Ops, ETA 2245Z, in USB at 2010Z. (ALS)

13927.0: USAF MARS Operator AFA1YV (Binghamton NY) wkg TEAL 61 (Keesler AFB WC-130, just south of St Petersburg, FL) for p/p to Keesler AFB CP, passes ETA of 2140Z and requests Sgt. West be notified to meet the flight, in USB at 2021Z. (ALS)

13927.0: USAF MARS Operator AGA2PA (Patrick AFB MARS O6c) wkg RAM 01 (self-ID as KC-10) for M&W phone patches, then p/p to Tindall AFB, reports inhl Tindall with 9 crew, 61 pax; will be over FL in two hours, in USB at 2025Z. USAF MARS Operator AFA1EN (Shelbyville IN) wkg AWACS acf SENTRY 61 for phone patch in USB at 2046. (08Jan2008) (ALS)

14364.0: Link-11 data transmission at 1625Z. (MC/SC)
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<table>
<thead>
<tr>
<th>Advertiser</th>
<th>Page #</th>
<th>Website Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOR USA, Inc.</td>
<td>Cov III</td>
<td><a href="http://www.aorusa.com">www.aorusa.com</a></td>
</tr>
<tr>
<td>Advanced Specialties</td>
<td>41</td>
<td><a href="http://www.advancespecialties.net">www.advancespecialties.net</a></td>
</tr>
<tr>
<td>Antique Radio Classified</td>
<td>37</td>
<td><a href="http://www.antiqueradio.net">www.antiqueradio.net</a></td>
</tr>
<tr>
<td>Atomic Time, Inc.</td>
<td>75</td>
<td><a href="http://www.atomictime.com">www.atomictime.com</a></td>
</tr>
<tr>
<td>C. Crane Company</td>
<td>19</td>
<td><a href="http://www.ccrane.com">www.ccrane.com</a></td>
</tr>
<tr>
<td>CQ Bookstore</td>
<td>17</td>
<td><a href="http://www.cq-amateur-radio.com">www.cq-amateur-radio.com</a></td>
</tr>
<tr>
<td>Communications Electronics</td>
<td>7</td>
<td><a href="http://www.usascan.com">www.usascan.com</a></td>
</tr>
<tr>
<td>Computer Aided Technology</td>
<td>45</td>
<td><a href="http://www.scancat.com">www.scancat.com</a></td>
</tr>
<tr>
<td>Etón Corporation</td>
<td>10,11</td>
<td><a href="http://www.etoncorp.com">www.etoncorp.com</a></td>
</tr>
<tr>
<td>Grundig</td>
<td>10,11</td>
<td><a href="http://www.etoncorp.com">www.etoncorp.com</a></td>
</tr>
<tr>
<td>ICOM America, Inc.</td>
<td>Cov. IV</td>
<td><a href="http://www.icomamerica.com">www.icomamerica.com</a></td>
</tr>
<tr>
<td>Kenwood</td>
<td>9</td>
<td><a href="http://www.kenwoodusa.com">http://www.kenwoodusa.com</a></td>
</tr>
<tr>
<td>MFJ Enterprises, Inc.</td>
<td>3</td>
<td><a href="http://www.mfjenterprises.com">www.mfjenterprises.com</a></td>
</tr>
<tr>
<td>Monitoring Times</td>
<td>69</td>
<td><a href="http://www.grove-ent.com">www.grove-ent.com</a></td>
</tr>
<tr>
<td>PowerPort</td>
<td>37</td>
<td><a href="http://www.powerportstore.com">www.powerportstore.com</a></td>
</tr>
<tr>
<td>QCWA</td>
<td>37</td>
<td><a href="http://www.qcwa.org">www.qcwa.org</a></td>
</tr>
<tr>
<td>REACT International, Inc.</td>
<td>40</td>
<td><a href="http://www.reactintl.org">www.reactintl.org</a></td>
</tr>
<tr>
<td>RentScanner</td>
<td>37</td>
<td><a href="http://www.rentscanner.com">www.rentscanner.com</a></td>
</tr>
<tr>
<td>Universal Radio</td>
<td>1</td>
<td><a href="http://www.universal-radio.com">www.universal-radio.com</a></td>
</tr>
<tr>
<td>W5YI Group, The</td>
<td>41</td>
<td><a href="http://www.w5yi.org">www.w5yi.org</a></td>
</tr>
<tr>
<td>Wilson Electronics</td>
<td>5</td>
<td><a href="http://www.wilsonelectronics.com/23">www.wilsonelectronics.com/23</a></td>
</tr>
<tr>
<td>Yaesu</td>
<td>Cov II</td>
<td><a href="http://www.vxstdusa.com">www.vxstdusa.com</a></td>
</tr>
</tbody>
</table>

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Hello loyal readers. I have just pried myself away from WAMU-FM’s “Big Broadcast” with Ed Walker. Each Sunday night he brings us three hours of old-time radio shows, ranging from “Dragnet” to “The Great Gildersleeve” and anything in between. For my money, it’s the best entertainment out there, and if you don’t live within the listening area, they’re on the Internet.

If I haven’t mentioned it before, I have no television. I do own a video monitor and a DVD player, but no tuner. No cable. No antenna. No TV as you know it. There are a few TV shows that I miss, and yeah, if I could get a few channels from a cable or satellite provider, I might do it, but they all want to sell me their idea of the “package” that I want, and I’m just not having any of what they consider a “bargain.”

My earliest broadcast recollections do include television, but the good recollections all involve radio. “Communications” (whether popular or not) includes television, but you’ll notice that most of the subject matter in this magazine is about radio, in one form or another—not the one-eyed timewaster.

It’s hard to find good nostalgia today, and for me, the old-time radio broadcasts are about as good as it gets. I’m old enough to remember hearing them the first time around, and it only takes a moment for me to remember the smell of tubes warming up, whether it was in the little bakelite clock radio in my bedroom, or some monstrosity I would drag home from the dump for a little experimentation and near-death experiences as I learned not to touch the chassis and the laundry tub at the same time.

The first radio station whose callsign I remember is WIBG, 990 kc, in Philadelphia. I discovered rock ‘n’ roll just about the time it came into existence, and listened to Joe Niagara and Hy Lit every night until the sandman took me away. Our Cub Scout den built crystal radios with the help of one of the den’s fathers, who was a ham. Mine worked great and lasted a long time—and I remember that it had real headphones, almost identical to the ones I later wore in Coast Guard radio school and on several Coast Guard ships.

And I don’t just thank the Coast Guard for introducing me to maritime radio and Morse code—because one of my duties while in port was to stand a gangway watch—often late at night in New York City, where I was introduced to talk radio. It was nothing like today’s talk-radio—not by a long shot. It was Bob Grant, and Jean Shepherd, and Barry Farber, and for a time, even Geoffrey Holder (some of you geezers might remember his voice from the “Uncola” commercials, but surely anyone who ever heard his voice will remember it).

I enjoyed those New York radio stations so much that I used to trade day-watches (we couldn’t listen to radio during a day watch) for the nighttime gangway watches. The other watchstanders thought I was completely crazy (and I was, but that’s a separate issue) but one of the bad things about being on a ship is that they’re all metal and you can’t listen to a radio except out on deck.

When the topics were boring, we had an endless supply of helium (for weather balloons) which we could inhale and talk like chipmunks all night, though I don’t know how healthy that was—I guess I could blame that for my present deranged condition. To this day, I’ll never know how the captain recognized my voice when I answered the telephone with a lungful of helium, but he did, and I remember saying “Yes, sir—no sirs—no, I won’t do it again,” while sounding like Alvin the Chipmunk.

And before all the music moved to FM, and most cars did not have air conditioning, I remember how it seemed that all car radios within about 75 miles of New York City were tuned to 770 WABC (“BONG!”), and as you drove in slow traffic with your windows down, or sat at an intersection, every car around you echoed that same station playing the day’s Top-40 hits with Cousin Brucie Morrow and Dan Ingraham. Nothing like that exists today. There is no single radio station that’s enjoyed by some 90-plus percent of any age group as those famous metropolitan rock stations were in the ’50s and ’60s. A person could argue whether Fords were better or faster than Chevies all day and all night, but there was only one top rock ‘n’ roll radio station in every major market and all the Fords and all the Chevies had their radios tuned to it.

I am a geezer. A dinosaur. Within another year or two, my opinion won’t even matter to pollsters because I’ll be out of all the influential generations, but I’m betting that there are a bunch of you who also remember the Golden Days of Radio, whether you think of them as the days of the radio dramas that are returning to the airwaves or the days of the all-powerful “king of the market” rock ‘n’ roll stations that ruled their markets with about 99 percent of 18 to 24 year-old listeners.

I think it’s safe to say that those of us who enjoy radio communications as a hobby are the same ones who enjoy the broadcast nostalgia more than your average listener, too. One of my most treasured recordings is a CD with about 50 hours of Jean Shepherd’s radio tales in MP3 format, made by a great friend who’s now a silent key—one who was chosen as Pennsylvania’s Broadcaster of the Year just a few years back.

When I was about eight years old, I began to sleep with a radio on. Back then, it was WIBG. Fifty-plus years later it’s Washington’s WETA-FM so that the classics can help me get a restful sleep. And driving without a radio is just not an option. The car radio might as well be welded onto WMAL (D.C.’s AM 630) with some of the best local talk mornings and nights with syndicated stuff in-between.

On one hand, I hope you’re not all as crazy as I am; but on the other hand, I hope you, too, enjoy this kind of nostalgia. Whatever it is that you like about radio, whether it’s CB, ham, scanning, SWL, DXing, or nostalgic broadcasts, drop me an e-mail. In addition to telling me some of your “Loose Connection” tales, tell me what kind of radio broadcasts you enjoy (or wish you could find).

(You can reach Bill at chrodoc@earthlink.net on the days when he’s on work-release from the Cowfield County Home for the Silly.—Editor)
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