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POPULAR COMMUNICATIONS

JULY 2011

Shortwave Listening • Scanning • AM & FM • Radio History

Scanning for High-Seas Excitement

U.S. Coast Guard's Massive 'Rescue 21' System Has You Covered, p. 10

DXing the Mayhem: Hear History in the Making, p. 22

Plus: **SSB's LAN-SDR Networked Receiver for the Home • Strange Scene On a Squeezebox Screen • 'Shackless' Amateur Radio**

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Actual Size

144/430 MHz
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VX-8DR NEW

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IC-R9500

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

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The FT-450D comes with: MH-31A8J hand mic, mic clip and DC power cord. This radio requires 13.8 VDC at 22 amps.

YAESU

FT-857D

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

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

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

FT-817ND

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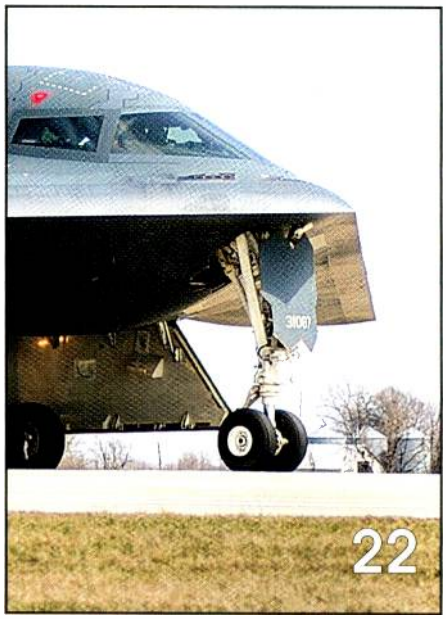

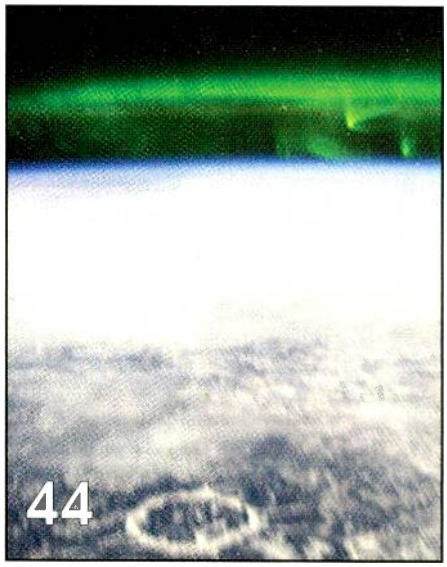

FEATURES

FEATURED COLUMNS

ON THE COVER

The U.S. Coast Guard's massive Rescue 21 mariner monitoring system provides a communications safety net for boaters along nearly 37,000 miles of U.S. coastline – and provides scanning opportunities galore. Pictured: U.S. Coast Guard rescue swimmers from Coast Guard Air Station Atlantic City train off the coast of New Jersey. *(USCG photograph by PAC Tom Sperduto)*

COLUMNS

DEPARTMENTS

Tap into secret Shortwave Signals

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

MFJ-462B **$199.95**

Plug this self-contained MFJ *Multi-Reader*™ into your shortwave receiver's earphone jack.

Then *watch* mysterious chirps, whistles and buzzing sounds of RTTY, ASCII, CW and AM-TOR (FEC) turn into exciting text messages as they scroll across an easy-to-read LCD display.

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

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

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

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

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

High Performance Modem

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

Easy to use, tune and read

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

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

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

Copies most standard shifts and speeds. Has MFJ *AutoTrak*™ Morse code speed tracking.

Use 12 VDC or use 110 VAC with MFJ-1312D AC adapter, $15.95. 5¼Wx2½Hx5¼D inches.

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

MFJ-1800 **$29.95**

16-element, 15 dBi WiFi Yagi antenna greatly extends range of 802.11b/g, 2.4 GHz WiFi signals. 32 times stronger than isotopic radiator. Turns slow/no connection WiFi into fast, solid connection. Highly directional -- minimizes interference.

N-female connector. Tripod screw-mount. Wall and desk/shelf mounts. Use vertically/horizontally. 18Wx2¼Hx1¼D inches. 2.9 ounces.

MFJ-5606SR, $24.95. Cable connects MFJ-1800/WiFi antennas to computer. Reverse-SMA male to N-male, 6 ft. RG-174.

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

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"World Radio TV Handbook" says MFJ-1024 is a *"first-rate easy-to-operate active antenna ...quiet... excellent dynamic range... good gain... low noise... broad frequency coverage."* Mount it outdoors away from electrical noise for maximum signal, minimum noise. Covers 50 KHz-30 MHz. Receives strong, clear signals from all over the world. 20 dB attenuator, gain control, ON LED. Switch two receivers and auxilary or active antenna. 6x3x5 in. Remote has 54" whip, 50 feet coax. 3x2x4 inches. 12 VDC or 110 VAC with MFJ-1312, $15.95.

Indoor Active Antenna

MFJ-1020C **$99.95**

Rival outside long wires with this *tuned* indoor active antenna. *"World Radio TV Handbook"* says MFJ-1020C is a *"fine value... fair price... best offering to date... performs very well indeed."*

Tuned circuitry minimizes intermod, improves selectivity, reduces noise outside tuned band. Use as a preselector with external antenna. Covers 0.3-30 MHz. Tune, Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip. 5x2x6 in. Use 9 volt battery, 9-18 VDC or 110 VAC with MFJ-1312, $15.95.

Compact Active Antenna

MFJ-1022 **$69.95**

Plug this *compact* MFJ all band active antenna into your receiver and you'll hear strong, clear signals from all over the world, 300 KHz to 200 MHz including low, medium, shortwave and VHF bands. Detachable 20" telescoping antenna. 9V battery or 110 VAC MFJ-1312B, $15.95. 3⅛x1¼x4 in.

Eliminate power line noise!

MFJ-1026 **$199.95**

Completely eliminate power line noise, lightning crashes and interference *before they get into your receiver!* Works on all modes -- SSB, AM, CW, FM, data -- and on all shortwave bands. Plugs between main external antenna and receiver. Built-in active antenna picks up power line noise and cancels undesirable noise from main antenna. Also makes excellent active antenna.

MFJ Antenna Matcher

MFJ-959C **$119.95**

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

Preamp with gain control boosts weak stations 10 times. 20 dB attenuator prevents overload. Select 2 antennas and 2 receivers. 1.6-30 MHz. 9x2x6 in. Use 9-18 VDC or 110 VAC with MFJ-1312, $15.95.

High-Gain Preselector

MFJ-1045C **$89.95**

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

Dual Tunable Audio Filter

MFJ-752C **$119.95**

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

MFJ Shortwave Headphones

MFJ-392B **$24.95**

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

High-Q Passive Preselector

MFJ-956 **$69.95**

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

Super Passive Preselector

MFJ-1046 **$119.95**

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

MFJ Shortwave Speaker

MFJ-281 **$12.95**

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

MFJ All Band Doublet

MFJ-1777 **$59.95**

102 ft. all band doublet covers .5 to 60 MHz. Super strong custom fiberglass center insulator provides stress relief for ladder line (100 ft.). Authentic *glazed ceramic* end insulators and heavy duty 14 gauge 7-strand copper wire.

MFJ Antenna Switches

MFJ-1704 **$79.95** MFJ-1702C **$39.95**

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

Morse Code Reader

MFJ-461 **$89.95**

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

MFJ 24/12 Hour Station Clock

MFJ-108B, $21.95. Dual 24/12 hour clock. Read UTC/local time *at-a-glance*. High-contrast 5/8" LCD, brushed aluminum frame. Batteries included. 4½Wx1Dx2H inches.

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A publication of

CQ Communications, Inc.
25 Newbridge Road
Hicksville, NY 11801-2953 USA

Popular Communications (ISSN-0733-3315), Vol. 29, No. 11 published monthly by CQ Communications, Inc., 25 Newbridge Road, Hicksville, NY 11801. Telephone (516) 681-2922. FAX (516) 681-2926. Web Site:<http://www.popular-communications.com/> Periodicals Postage Paid at Hicksville, NY and at additional mailing offices. Subscription prices (payable in U.S. dollars): Domestic—one year $32.95, two years $58.95, three years $85.95. Canada/Mexico—one year $42.95, two years $78.95, three years $115.95. Foreign Air Post—one year $52.95, two years $98.95, three years $145.95.

U.S. Government Agencies: Subscriptions to Popular Communications are available to agencies of the United States government, including military services, only on a cash with order basis. Requests for quotations, bids, contracts, etc. will be refused and will not be returned or processed.

Printed in the United States of America.

POSTMASTER: Send address changes to Popular Communications, 25 Newbridge Road, Hicksville, NY 11801.

EDITORIAL
Tuning In

by Richard Fisher, KI6SN
editor@popular-communications.com

Should *Pop'Comm* Launch a Monitoring Station Callsign Program?

James McWain of Gainesville, Texas has one: WPE5AU.

So does Brian McGraw of Cincinnati: WPE8KHZ. And David Westphalen of Shelby, North Carolina: WDX4DW.

Ron Trotto has two of them: WDX3WI, Warminster, Pennsylvania and WDX4KWI, Kissimmee, Florida.

Radio listener callsigns may have had their heyday in the late 1950s, the '60s and '70s, but a mere mention today brings out legions of holders in droves — reciting their call letters with great pride.

Wes Linscott, WPE1HLS, Ellsworth, Maine. Mike Westfall, WDX6O, Rialto, California. Bill Martin, WPE3HZI, Wilmington, Delaware. Joel Miller, WPE7CIA, Tigard, Oregon . . .

They are beneficiaries of people and publications that sponsored and managed the WRØ, WPE and WDX programs dating to the late 1950s. It's a bit of SWL-scanner listener history we've been looking into since Bob Finn, of St. John's, New Brunswick, Canada, posted a question on *Pop'Comm's* Facebook page. Are the programs still alive and has *Pop'Comm* been a player?

Institutional knowledge is a wonderful thing, and CQ Communications Publisher Dick Ross is truly a wellspring. No, to his knowledge the magazine has never been directly involved in a radio listener callsign program.

But the late Tommy Kneitel, founding editor of *Popular Communications*, had a direct and important role in the phenomenon. He is responsible for making a program at the now-defunct *Popular Electronics* magazine as wildly popular as it would become. Just look at the number of WPE prefixes in the callsigns above.

Kneitel, WPE2AB, was Director of *PE's* Monitor Station Registration. It was a fancy title for a man who single-handedly managed and issued more than 10,000 WPE listener callsign certificates from his dining room table. He left *PE* in 1961 and would later take the helm at *Pop'Comm*.

But there is so much more to tell. We'll be carrying a full-blown story in an upcoming edition of *Popular Communications*. Stay tuned.

Time to Write Another Chapter?

We're wondering if there would be enough interest for *Pop'Comm* to launch a radio listener program of its own. While honoring SWLing's rich history, it would introduce new generations to a very special listener community — and establish a protocol for a whole new genre of callsigns.

The *Pop'Comm* program would be open to listeners from around the world, be Web-accessible and designed to energize the grand tradition established by its predecessors. We'd accomplish all of this through monthly coverage in *Popular Communications*, via supplemental Internet-based sites and by sponsoring programs encouraging and recognizing listener achievement.

Would you be interested in obtaining a ***Pop'Comm*-issued listener callsign?** Do you have suggestions for **listener recognition programs** that through *Pop'Comm* would grow interest in the world of SWLing and scanner monitoring?

Your feedback is important to us. Drop an email to: < editor@popular-communications.com >. We're really eager to hear from you.

July's *Pop'Comm* Live Internet Online Chat

As you can see, input from readers is really valued around here. That's one of the goals of the *Pop'Comm Live Internet Online Chat* — bringing readers, columnists and the editor together for an hour or two in casual conversation on the Internet.

Taking part couldn't be easier. Go to the *Pop'Comm On the Web* blog : < http://www.PopCommMagazine.blogspot.com >. At chat time, click the *Cover It Live* box appearing on the page. Sign-in and you'll be transported to the chat area.

This month's chat will be **Sunday, July 10,** beginning at **4 p.m. Eastern** time **(2000 UTC).** Listeners from around the world are encouraged to join in.

For now, please save the date and sign up for an **email reminder** on the *Pop'Comm* blog, compliments of *Cover It Live*. Hope to see you July 10.

– Richard Fisher, KI6SN

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- Dualwatch Receive
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- 100 Ch/Second High Speed Scan
- Computer Programmable[2]
- Water Resistance Equivalent to IPX4

IC-R6 Pocket Compact

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

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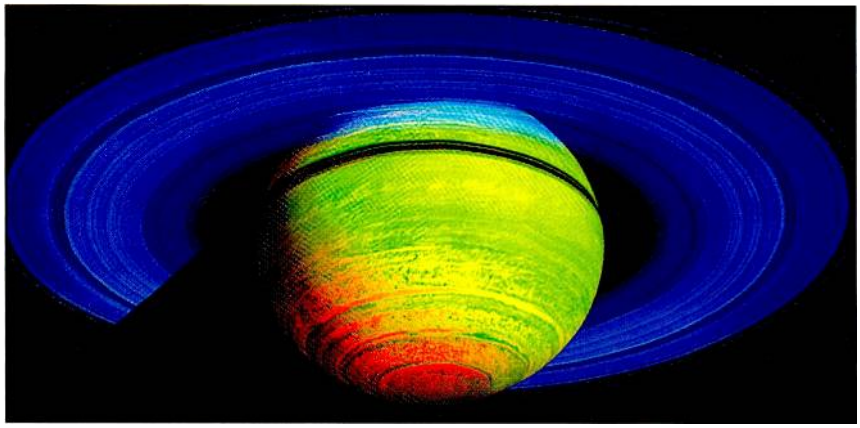
- AM, FM and WFM (Sub)
- 1000 Memory Channels
- Optional D-STAR (UT-118)
- Optional P25 (UT-122)
- Optional DSP (UT-106)
- PC Controllable

ICOM

*Frequency specs may vary. Refer to owner's manual for exact frequency specs. [1]Optional CT-17 required. [2]Optional CS-RX7 required.

by Staff

The Weirder Side of Wireless



NASA's Cassini spacecraft has been picking up weird signals from Saturn. *(Infrared image courtesy of NASA)*

Radio Signals From Saturn Register High On the 'Weird-O-Meter'

According to Space.com, Saturn *(Not the car, silly, the planet. – Ed.)* is sending astronomers mixed signals — radio signals, that is *(those are?)*.

"NASA's Cassini spacecraft recently found that the natural radio wave signals coming from the giant planet differ in the northern and southern hemispheres, a split that can affect how scientists measure the length of a Saturn day. But the weirdness doesn't stop there, researchers say.

"The signal variations — which are controlled by the planet's rotation — also change dramatically over time, apparently in sync with the Saturnian seasons."

For more details, visit Space.com at: < http://bit.ly/fMjcLM >.

Aflac Catches Its Spokes-Duck at Minnesota Radio Station

A Hugo, Minnesota radio station sales manager *l'oranged* his way to advertising fame by out-quacking more than 12,000 candidates vying to be the advertising voice of Aflac.

KQRS Radio's Daniel McKeague waddled past the competition to replace actor Gilbert Gottfried as the new voice of the supplemental insurance company.

The 36-year-old McKeague's first *AFFF-FLAAAAAC* ad aired April 26 during the premiere of *The Voice*, an NBC network talent show.

The duck is the centerpiece of a $100 million advertising budget and is heard in commercials 10,000 times a year. The job pays in the area of six figures.

Gottfried, who was the duck for 11 years, was fired earlier this year for insensitive remarks he posted on Twitter about the earthquake and tsunami in Japan.

To see footage of auditions, visit: < http://bit.ly/eLuoHn >.

(Various sources)

Radio Contest Gone Awry: Advertiser Says 'Not Funny, Goodbye'

The airwaves in the twin cities of Minneapolis-St. Paul were in an uproar earlier this year when the morning show personality at KDWB thought it would be funny to poke fun at Hmong-Americans. An advertiser didn't think so.

In what turned into an ill-advised listener contest, *The Dave Ryan Morning Show* heard from a Hmong listener who suggested a song title *30 Hmongs in a House* with lyrics set to Eric Clapton's *Tears in Heaven.*

Citing 2000 U.S. Census figures, St. Paul's Hmong Resource Center reported about 25,000 Hmong live in that city alone. It is estimated there are more than 250 Hmong-owned businesses in the Twin Cities area.

The parody talked about how Hmong live like "sardines" and referenced Hmong women getting pregnant by 16 with "seven kids by 23" and "over the hill by 30." A spokesman from advertiser HealthPartners told the *Pioneer Press* newspaper "the Hmong parody was offensive and not in line with what we as an organization represent."

The show issued an apology on Facebook.

"KDWB-FM and the Dave Ryan in the Morning Show are very proud that members of the Hmong community are some of our most loyal listeners and fans. Our listeners understand that *The Dave Ryan in the Morning* show is a comedy show meant to entertain, and that much of its content is parody . . . We apologize to anyone we may have inadvertently offended, as this was never our intent. We appreciate the support we continue to receive from all our listeners."

The Hmong is an Asian ethnic group principally from the mountainous regions of China, Vietnam, Laos and Thailand. *(Source: Radio Ink, St. Paul Hmong Resource Center)*

Now Online, This Will Be a Ladies' Choice . . .

Heartbeat Radio for Women, a 24-hour radio station for women founded in Trinidad and Tobago five years ago, has shifted to online-only broadcast at: < http://www.HeartbeatRadioUSA.com >.

"Harnessing the power of the everyday woman is what *Heartbeat Radio* is about," president and founder Kiran Maharaj told *Radio Ink*. "We talk about such a wide array of topics; it allows us to have a fresh format that doesn't exist anywhere else. It helps that more and more people are streaming radio every day from their home and work computers and their mobile devices." *(Sources: Radio Ink, HeartBeat Radio)*

(Continued on page 81)

News, Trends, And Short Takes

by D.Prabakaran
< bcdxer@hotmail.com >

Ariane Rocket Launches Two Telecom Satellites

An Ariane-5 rocket placed two telecommunications satellites into geostationary orbit, the 43rd successive success for the European rocket, Arianespace announced.

The rocket blasted off from the European space center at Kourou, French Guiana, at 2137 UTC on April 22.

The 5.9-ton United Arab Emirates satellite Yahsat Y1A, built by Astrium and Thales Alenia Space, will supply high-definition television to the Middle East, Africa, Europe and Southwest Asia.

The Intelsat New Dawn satellite, weighing three tons at takeoff, will offer a range of services including telephone and Internet to Africa. It was built by Orbital Sciences Corp. *(Source: AFP)*

National Latino Broadcasting Enters Agreement With SiriusXM

National Latino Broadcasting (NLB) announced it has been selected by SiriusXM to lease four channels on a long-term basis on the Sirius and XM satellite radio platforms.

It will provide programming targeting the Latino market in North America. The satellite broadcaster was required by the FCC to enter into long-term lease agreements with entities not affiliated with the company to help ensure programming options that are relevant to otherwise underserved communities.

This expansion of choices was requested by the FCC as a condition for approval of the SiriusXM merger. NLB was selected based on the strength of its proposal for the development of Latino-focused programming.

NLB's corporate and sales office will be based in Miami with outlying offices in Boston, New York City, Houston, Chicago and Los Angeles. Additionally, the company is building a broadcast studio that will accommodate audio, video and digital production at its Miami headquarters. *(Source: National Latino Broadcasting)*

Russia Moves to Permanent 'DST'

Russians set their clocks one hour forward and in so doing put an end to the 30-year-old tradition of moving clock hands one hour forward in spring, and one hour backward in autumn.

The transition to Daylight Saving Time was established in 1981 in an attempt to reduce energy consumption. One year ago, President Medvedev asked experts to analyze whether this *playing with time* is rational. In February 2011, he ordered not to revert to winter time anymore. This means that now Russians live according to summer-time hours all the year around.

The Russian parliament is now working on a draft law on time calculation across the country, which spans nine time zones.

Russia joins other countries that don't change time twice a year: Most Asian countries — including Japan, China and South Korea — and nearly all African and Latin American countries. In the United States, Arizona and Hawaii do not transfer to summer time. Former Soviet republics Ukraine and Belarus are also considering whether to reject *playing with time. (Source: Voice of Russia)*

Sudan: Youth Group Launches Anti-Government Radio Via Shortwave

A Sudanese anti-government youth group announced it has launched a radio station on shortwave frequencies across the country in order to drum up support for regime change — a bold bid to challenge state control over broadcast media outlets in the country.

Deteriorating economic conditions resulting in sharp increases in food prices compounded by a glum mood following the secession of the oil-producing south in a referendum held last January have stoked dissent in northern Sudan.

The youth opposition group known as *Youth for Change,* (the shorthand of which is *Shararah,* meaning *spark* in Arabic) has taken the battle to a whole new level by announcing the launch of its radio programming on shortwave across the country.

According to the group, radio programming is scheduled for Tuesdays, Thursdays and Saturdays for 30 minutes starting at 1530 UTC and can be heard on 15540 kHz.

It is not clear whether *Shararah* broadcasts will be relayed from inside or outside the country, but Sudanese authorities have in the past successfully blocked the operation of radios it deemed hostile to the government, especially in the densely-populated Khartoum state.

Shararah's email address is: < syr.radio@gmail.com >.

Unlike print media, which enjoys relative freedom in Sudan, broadcast media is tightly controlled by the state and heavily regulated by the National Telecommunication Corp., which also filters and monitors internet content.

There are 16 radio stations broadcasting on FM frequencies in the capital Khartoum. Almost all of them focus on entertainment, religious affairs or sports. *(Source: Sudan Tribune)*

(Continued on page 82)

Capitol Hill And FCC Actions Affecting Communications

by Richard Fisher, KI6SN

More Than 100 FM Frequencies Auctioned By FCC

The Federal Communications Commission auctioned 144 FM frequencies from around the United States in late April.

Construction permits auctioned were for new FM allotments, including 37 that were offered previously but did not sell. The Commission held a mock auction to prepare applicants for the real thing. Bidding was done online or by telephone.

A total of 117 applicants made up-front payments to take part. For a list of station locations and other information about the auction, visit: < http://fcc.us/jrTyoa >.

Radio Amateurs Favored in FCC 440 MHz Ruling

The American Radio Relay League has won a skirmish in an ongoing battle to protect the 70-cm radio amateur band from commercial intrusion, it reported.

The FCC ruling came in response to the ARRL's challenge of a rules waiver that permits the certification and licensing of the Recon Scout — a remote-controlled, maneuverable surveillance robot operating in the 430-448 MHz band. It is marketed to public safety agencies and security personnel by ReconRobotics Inc.

"In an *Order on Reconsideration* released on April 15, the FCC granted the ARRL's request for changes in the labeling and instruction manual requirements to ensure that users of the device are aware of its limitations, with regard to interference," the *ARRL Letter* reported. "Noting that no applications for individual licenses to operate the Recon Scout had been granted, the FCC's Wireless Telecommunications Bureau, the Public Safety and Homeland Security Bureau, and the Office of Engineering and Technology deferred to the Commission's Enforcement Bureau with regard to complaints that ReconRobotics has been marketing uncertified devices and that the devices have been operating without authorization," the report said.

Federal Grand Jury Investigates Online Information Sharing

After being served a federal subpoena, Pandora, the Internet radio company, says it's not the specific target of a grand jury investigation, according to an online report from *Radio Ink*.

Pandora believes it is "one of many companies to receive subpoenas in a probe into the information-sharing practices of publishers that make apps for the iPhone and other smartphones that run on Google's Android operating system," and therefore not a specific target, *Radio Ink* said. At the time, Pandora was preparing to file an IPO — *initial public offering* — the first sale of stock by a company to the public.

"Apparently, the government wants to know how private information is being used by third-party companies that have relationships with app creators like Pandora," the story reported. "Especially if those relationships involve a user's private information being used in a way never approved by the user. Sharing information about a user without proper notice or authorization could violate a federal computer-fraud law."

Pandora said that altering how it is "allowed to pass along user information could damage its revenue model. Of particular concern is a potential *Do Not Track* list. According to *Radio Ink*, "such a list 'could significantly hinder our ability to collect and use data relating to listeners,' the company said."

Do Not Track is the online version of the telephone *Do Not Call* list, and has been proposed by the Federal Trade Commission "to let consumers limit or block advertisers that study online behavior to target ads," the report said.

Next Generation EAS On Commission's 'To Do' List

The FCC is nearing circulation of a rulemaking among the commissioners to change Part 11 procedures to allow for Common Alerting Protocol (CAP) delivery of a *next-generation* Emergency Alert System, Gregory Cooke of the Commission's Public Safety and Homeland Security Bureau said during an EAS session in Las Vegas.

Cooke's comments came during the National Association of Broadcasters (NAB) Show and were reported in an online *Radio World* story.

"Any clarity will be welcome among broadcasters, who have been put in the position of having to plan to meet a compliance deadline later this year (September 20) while not all rules and procedures are in place," *RW's* Leslie Stimson wrote. "Stations are anxious to see the proposal and submit comments."

CAP-compliant EAS encoders-decoders must be installed and operational by the end of

(Continued on page 82)

Scanning the Future and a *Quiet Revolution*

by Rob de Santos, K8RKD
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Of all the consumer products you encounter, scanners are probably not the first place you would be looking for big changes. Indeed, for most of the past decade, the pace of change in scanning radios hasn't been exactly breathtaking.

Most of the improvements have been driven by the changes in the public service communications world and still are. A *quiet revolution* is underway though.

In the aftermath of the September 11, 2001 terrorist attacks, money has poured into improvements in the communications systems for first responders. While the wisdom of some of that expenditure could fill a column or three on its own, it has resulted in more complex and expensive scanners in order for the public to continue to listen in.

More and more police, fire and public safety agencies have adopted digital technology and spectrum pressure has grown. As a result, there is a little doubt that the days of analog only scanners are beginning to disappear.

Digital-capable scanners still command a significant price premium, but that will probably come down over time. The variety of trunking and encryption options has grown and there are several systems which no existing commercial-grade scanners can decode. This is not likely to change as the technology evolves.

Consumer-Side Improvements

The real sea change, though, is in the consumer side of the scanner. In past years, if you wanted to find out what frequencies your local agencies used, you had to discover them on your own, find a reference such as the *Police Call* books, or get them from a friend or hobby magazine. The latter is still is a valuable source as my fellow writers at *Pop'Comm* demonstrate every month.

The Internet is now the library for this information, though. But the complexity of loading frequencies and settings for many of the modern digital trunking systems is so high that doing it *the old fashioned way* is time consuming and complex — particularly on the buttons and display screens of the conventional scanner.

Not surprisingly, we are now seeing scanners appear on the market to deal with these changes. The first revolution is eliminating the need to load frequencies at all. With the information already on the Internet it makes sense for downloadable databases and chip-based storage to be deployed and now it has been in several recent scanner models.

For the user who isn't a *county communications specialist,* this has been a major step forward. If there is a change in the frequencies or systems used in your area, you can now rely on the community of listeners to discover the changes and update the online database.

Updating your radio becomes as easy as downloading the updated database to your computer and then to your scanner.

A Prettier User Interface

The bigger change in the consumer scanner world is the user interface of the scanner. For too long, using scanners has required hours studying the manual and punching sequences of buttons in precise order. This has discouraged many members of the public, particularly those outside the readership of publications such as *Popular Communications,* from using anything approaching a modern scanner or getting the full capability out of their equipment.

One look at the several dozen buttons and specialized lingo of the scanner would result in the radio being left on a shelf and never used. My dear mother could never have mastered a modern scanner. All she would have wanted was to hear the local police and fire so she knew what was happening in her neighborhood.

With the debut of the *HomePatrol-1* from Uniden Bearcat we have a touch-screen scanner that can be set up in minutes and will operate without knowing anything about trunking, APCO-25 or anything of the sort.

It would be easy to say this is the scanner for the *iPod generation*, but it is much more than that. It is the scanner my mother could have used. Set it up once, turn it on and it just works. The price still remains a bit steep for widespread sales to the general public but should come down over time.

Finally, we have a scanner that is usable by the technophile as well as the general public. This should herald a revolution in the marketplace. While there will continue to be a market for the sophisticated scanner that the enthusiast can adjust to her delight, we can hope this means greater mass market sales and revitalization in the industry.

We'll all benefit if that happens.

An Ever-Expanding Landscape

There is no question that a whole host of other technologies now found on consumer devices — including the mobile phone in your pocket — need to be brought over to scanners, amateur radios and other hobby radios.

What technology should your radios have that they don't have at present? What changes do you want to see or *don't* want to see? Scan this page for my contact information and let me know what you think. *More next month.*

They're 'Taking the *Search* Out of Search And Rescue'

Find Scanning Excitement on the USCG's 'Rescue 21' Mariner Monitoring System

by Gordon West, WB6NOA

U.S. Coast Guard helicopters have VHF direction finding equipment and capability, as well.

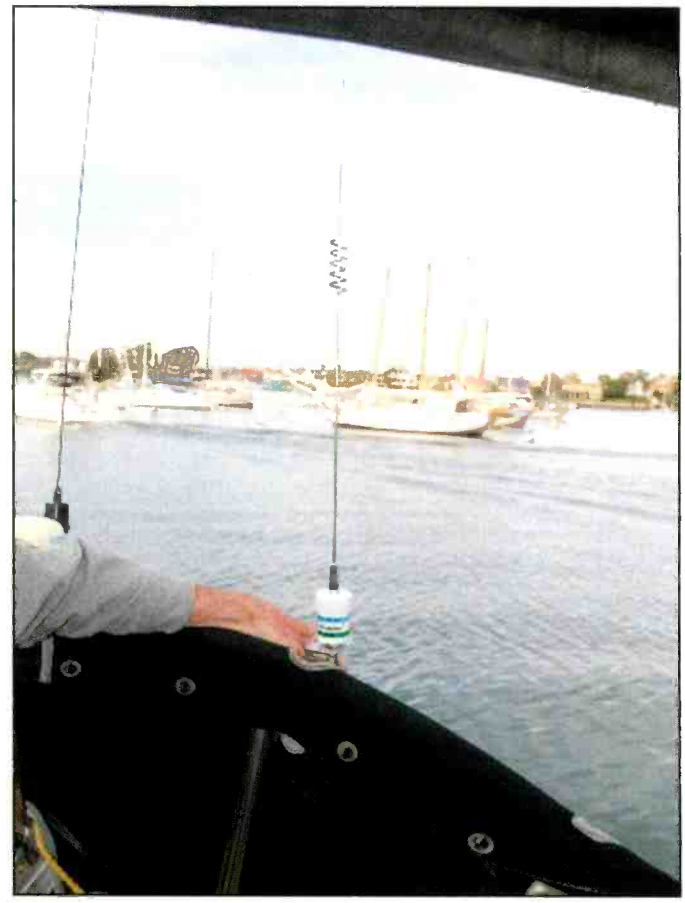
If you live within 100 miles of a seacoast — or within 50 miles of the Mississippi River — there's a good chance 156.800 MHz is bursting with boating excitement, or soon will be.

Even though your scanner station may be too far from shore to hear the ship side of the communications, you will undoubtedly have much improved reception of new, powerful United States Coast Guard shore stations that have been linked together via the Internet for Rescue 21. They're listening for mariners' distress calls. And they want to take "the *search* out of search and rescue."

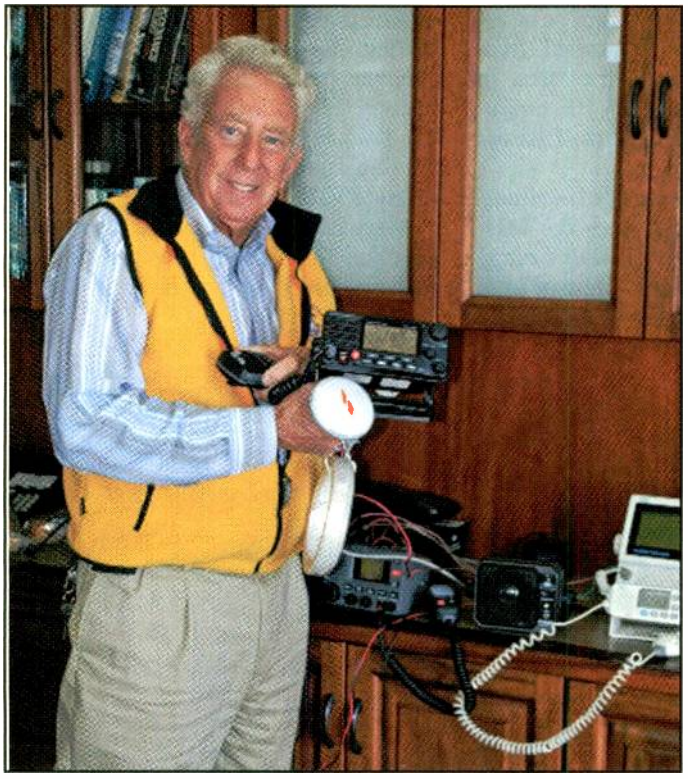
"Rescue 21 is standing the watch, answering the call of duty across an estimated 36,985 miles of coast line," General Dynamics, builder of the Rescue 21 system of monitoring stations, said.

Regional coverage is already expansive — and getting more so.

Northeast: Northern New England to Long Island Sound.
Mid-Atlantic: Delaware Bay to Hampton Roads, Virginia.
Southeast: North Carolina to Key West, Florida.
Gulf: St. Petersburg, Florida to Corpus Christi, Texas.
West Coast: Seattle to San Diego.
Great Lakes: Detroit is on the air. Lake Michigan and Buffalo are coming this year.



Offshore as far as 50 miles, this small, Shakespeare dual-band antenna works fine for accessing the U.S. Coast Guard's Rescue 21 system. *(Photographs courtesy of WB6NOA)*



Gordon West, WB6NOA, teaches using a marine VHF radio with the DSC distress-calling feature.

Mariners can test the DSC data signal with local U.S. Coast Guard units.

Twenty-six Coast Guard Command Stations continuously monitor VHF Channel 16, 156.800 MHz, along the East Coast, Florida Keys, most of the Gulf Coast and West Coast.

The accompanying USCG-Department of Homeland Security chart, titled *R21 Deployment/Acceptance Schedule,* was issued by the Rescue 21 Acquisition Directorate and shows which sites have been deployed and which have been accepted and are scheduled for deployment.

In another year, for example, the trip from the Great Lakes down the Mississippi is expected to be under the Rescue 21 umbrella.

The USCG has put together a seven-part video tutorial on Rescue 21 titled *Can You Hear Me?* It's accessible on the Internet: < http://bit.ly/hxbsOE >.

Under Rescue 21, VHF radio reception range is as far as 20 nautical miles offshore from a mariner's one-watt handheld transmitting just above the ocean waters.

"A mariner transmitting with a submersible VHF radio needs to keep the antenna as vertical as possible for greatest range back to shore," said Jason Gant, of the USCG Auxiliary.

It is estimated the VHF Rescue 21 system may serve more than 78 million mariners and 13 million vessels cruising U.S. coastlines.

The Rescue 21 system all but eliminates the 88 known VHF coverage gaps, where the legacy 1970 transmitters and receivers may be shielded by local hills from hearing an incoming call for help in a small bay.

Each remote site uses voice over Internet protocol (VoIP) tied into the TCP/IP network, allowing *multiple* Rescue 21 remote sites to receive radio traffic in tough terrain installations.

Rescue 21 Internet-linked multiple receiving sites are tuned 24/7 to 156.800 MHz not only to *receive* an incoming distress call, but also to *position determine* the distress signal's location through Doppler shift automatic direction finders at most locations.

"Rescue 21 uses nine-element, Adcock direction-finding antenna arrays on each of its towers for triangulation of an incoming radio call," said Lt. Commander Michael A. Edwards, Technical Manager of the USCG Rescue 21 Acquisition Directorate.

"Rescue 21 VHF-FM Channel 16 voice calls are also digitally stored for 30 days," he said, allowing for Coast Guard Sector Command Centers to determine — within two degrees — triangulated position fixes, as well as the instant retrieval and analysis through digital signal processing of frantic calls for help despite almost inaudible descriptions of the vessel and souls on board.

"Right off the bat, a watchstander (observer on duty) has a visual display so we are not only hearing the radio transmission, but also seeing which towers are picking it up and from which direction — for the signal intersection," said Chief Lawrence Beatty, Operations Specialist at Sector Baltimore. In a two-hour period last July, he responded to 37 distress calls resulting in more than 77 people assisted or rescued in an unexpected storm, which had erupted over Chesapeake Bay.

"The towers are strategically placed so multiple towers can pick up and triangulate to where that mariner is — even with the reception of a partial *mayday* — allowing watchstanders to piece together the information they need, determine a position and to send response resources to the mariners' aid," Beatty said.

Rescue 21 watchstanders undergo major training on this new computerized communication system. Yet, on the air, they still ask for *The Big 5:* position, nature of distress, vessel description, number of people on board and are people wearing life jackets.

Even most day-sailors with little more than a submersible VHF handheld radio will have enough signal strength to come through multiple Rescue 21 monitoring stations.

With no more squelch controls that might accidentally be set too high, masking a weak signal; or volume controls turned too low, any radio-frequency sound, including a lightning strike, gets a position finding, is recorded, and most likely the immediate attention of multiple watchstanders on the air. Any work-

ing marine VHF transceiver will be heard — from an old crystal-controlled, five-channel Ray Jefferson to the latest in fixed-mount, synthesized VHF equipment rated for Global Maritime Distress Safety System.

The U.S. Coast Guard's medium-range recovery helicopters — the MH-60T Jayhawk fleet — each with a range of 300 nautical miles and a crew of four, also carry upgraded marine VHF transceivers, including VHF direction-finding readouts to assist in homing in on a Channel 16 *mayday*. Forward looking infrared (FLIR) imaging technology can also assist in locating overboard mariners treading water while calling for help with a simple VHF handheld.

Marine VHF equipment, including direction finders and homers, has also been upgraded on the fleet of USCG vessels.

Here's a look at a typical sailboat DSC radio system.

A DSC distress call also shows up on this interconnected RADAR.

In an emergency, mariners are instructed to lift the red cover and push-and-hold the distress button.

Every mariner should have a marine VHF radio onboard.

The U.S. Coast Guard is always ready to respond to a distress call nearby.

Large U.S. Coast Guard cutters may launch smaller seven-meter and 11-meter-long Over The Horizon (OTH) cutters, also equipped with VHF Channel 16 monitoring capability.

Many long-range pleasure craft, cruising outside VHF range on the high seas, plus almost all commercial ships, have long-range marine single sideband equipment on board, as well. This equipment pumps out 100-watts PEP and works from 2 to 26 MHz.

The voice mode is upper sideband and the popular ICOM M-802 includes a digital mode for TELEX as well as Digital Selective Calling (DSC).

Signals bounce off the ionosphere and a simple FCC marine station license and restricted operator's permit allow for sky wave communications with ship and shore stations on 2, 4, 6, 8, 12, 16, 22 and 26 MHz.

Monitoring Stations: Locations and Callsigns

At eight, land-based Master Communications Area Stations, USCG continuously monitors individual-band distress voice and digital DSC channels. The stations are listed here by location and callsign:

- Chesapeake, Virginia – NMN
- Boston, Massachusetts – NMF
- Miami, Florida – NMA
- New Orleans, Louisiana – NMG
- Point Reyes, California – NMC
- Guam – NRV
- Honolulu, Hawaii – NMO
- Kodiak, Alaska – NOJ

A long-range DSC distress call in the high-frequency spectrum may be acknowledged by a return DSC Coast Guard transmission, along with a digital command to the distressed vessel's transceiver that switches its equipment to the voice long-range working channel.

There's plenty of excitement on voice frequencies 8291 kHz, upper sideband; and 12,290 kHz, upper sideband.

Rescue 21 and DSC Calling Radios

The mariner's marine VHF radio likely incorporates the DSC feature. A red, spring-loaded plastic cover overlays a single button that *could* lead to an automated distress call.

If his or her marine VHF radio is more than 12 years old, it can be used as a backup voice radio on a small below-deck antenna, such as the Shakespeare model 5216-Ham and 5250-Ham stowaway VHF whip.

It's time for a modern marine VHF radio with DSC and the new Class D ratings for a continuous running DSC Channel 70 receiver. Even an older SC-101 DSC radio will work fine for Rescue 21.

The Coast Guard Rescue 21 system is ready for DSC distress, safety or routine radio test calls, but there is a good chance some on-board DSC radios *won't work.*

Until sailors obtain a Maritime Mobile Service Identity (MMSI) number — their new radio's phone number — *a digi-*

ANTENNA LOOP AN200

Accessory Antenna Loop for use with Other External Antenna Capable Radios

SATELLIT 750

AM/FM/Shortwave Radio with Aircraft Band, SSB (Single-Side Band) and a Rotating AM Antenna

GLOBE TRAVELER G3

AM/FM/Shortwave Digital Radio with Aircraft Band, SSB (Single-Side Band), RDS (Radio Data System) and Synchronous Detector

GRUNDIG

Start your travels

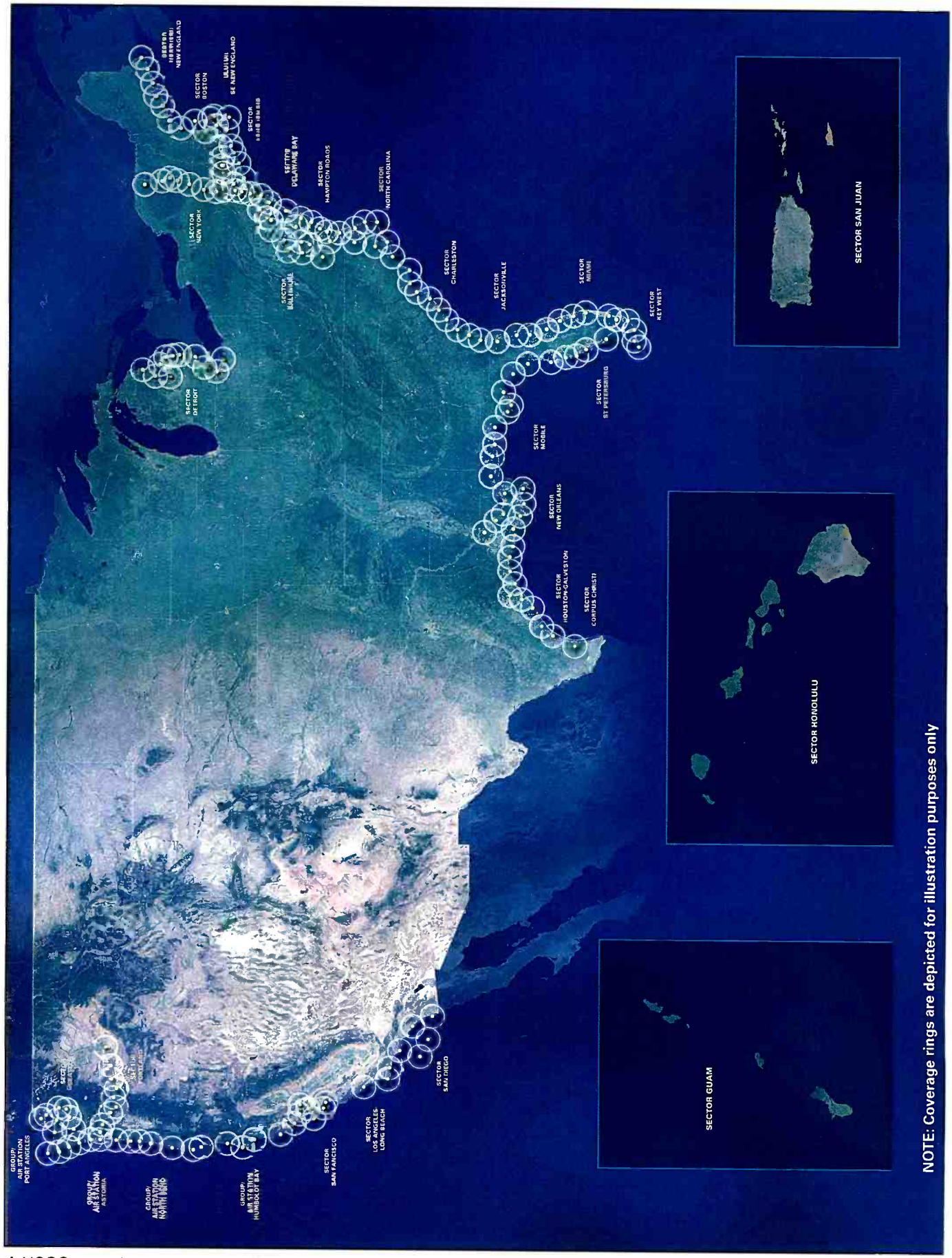
MINI 400
Super Compact AM/FM
Shortwave Radio with
Digital Display

FIELD RADIO S450DLX
AM/FM/Shortwave Field Radio with
Liquid Crystal Display

TRAVELER II DIGITAL G8
AM/FM/Shortwave Radio with World
Time, Great for The Global Traveler

Available at: amazon.com RadioShack. THE SOURCE universal radio inc. J&R

eton
EMPOWERED BY NATURE



A USCG map shows the Rescue 21 radio system's massive coverage of the U.S. coastline — spanning nearly 37,000 miles. *(Courtesy of USCG)*

tal distress call won't be transmitted. No embedded MMSI number means no digital distress capability.

Getting the MMSI number is easy. It now is part of all-new FCC-issued ship station licenses. USCG suggests logging onto: <http://www.boatus.com/MMSI>. For the USCG / DHS Navigation Center, visit: < www.navcen.uscg.gov >.

OK, your buddy's DSC radio has an assigned *phone number* and now it's time to program that number into the radio. If you follow the instruction manual, it's a snap. Even if you goof up the number halfway through the entry process, you can easily go back and correct it. When the radio states something like this: *Press ENTER to store . . .*, read back the number on the screen to double check it agrees with your MMSI assignment, and press and hold *ENTER*. It's in!

A high-frequency, marine-single-sideband (SSB) transceiver with digital selective calling (DSC) capability takes the *same* MMSI number as that programmed into the marine VHF. Programming a marine SSB DSC number into the equipment is identical to the VHF process.

If you are working with a secondhand VHF or marine SSB radio, you may discover it will reject attempts for a new MMSI number. I am sad to report that the equipment must be pulled off the boat and returned to the *manufacturer* for a factory reset. International DSC rules limit the number of times a new MMSI may be entered on a radio that is holding an old MMSI number.

But We're Not Done Yet

Your friend's DSC-enabled radio needs the 4800-baud input streaming from his on-board GPS. Turn on the GPS for a position fix and read the wire color codes in the instruction manuals for *NMEA OUT* of the GPS to *NMEA IN* on the VHF radio.

The Coast Guard wants all incoming DSC distress calls to show latitude and longitude. Until you make the VHF radio/GPS two-wire connection, though, USCG would need to rely on less-accurate Rescue 21 triangulation methods, or subsequent voice calls on Channel 16 calling out latitude-longitude numbers.

This same GPS 4800-baud output must also be fed into the marine SSB GPS input jack. Long-range medium frequency and high-frequency USCG Master Communications Area Stations *do not* have long-range, sky-wave, direction-finding capabilities. A distress alert on high frequency, without the embedded GPS position, may add agonizing hours or days to the final rescue operation. So, for both VHF as well as high frequency SSB equipment, get that GPS data stream fed to *both* transceivers.

What To Do?

I suggest most mariners bring in an NMEA specialist or radio specialist — *such as you?* — to make the radio/GPS wire connection.

The DSC call goes out on VHF Channel 70 automatically. No need to spin the dial. In an emergency, lift the red plastic cover and depress and hold the button. The radio first transmits on Channel 70 and then dutifully switches to VHF Channel 16 where numerous agencies will be responding to this digital call for help.

Other vessels in the vicinity with modern DSC marine VHF radios will also see bearing and range from their stations to the station making the DSC squawk.

"Boaters in distress who, in addition to their DSC alert, make the additional

Where to Tune for USCG 'Rescue 21' Action

On VHF Channels

Channel 16, 156.800 MHz, initial distress and calling
Channel 22A, 157.100 MHz, liaison between any mariner and Coast Guard land or sea stations
Channel 06, 156.300 MHz, on-scene safety calls
Channel 21A, 157.050 MHz, government-only USCG intercom channel
Channel 23A, 157.150, government-only, USCG channel
Channel 81A, 157.075 MHz, oil spill USCG communications
Channel 82A, 157.125 MHz, government-only USCG channel
Channel 83A, 157.175 MHz, U.S. Coast Guard Auxiliary
Channel 13, 156.650 MHz, ships' bridge to other ships' bridge, navigation only
Channel 14, 156.700 MHz Vessel Traffic System
Channel 70, 156.525 MHz, Digital Selective Calling

On Medium and High-Frequency DSC Frequencies

The U.S. Coast Guard also monitors medium-frequency and high-frequency marine band Digital Selective Calling frequencies:

2187.5 kHz
4207.5 kHz
6312.0 kHz
8414.5 kHz
12577.0 kHz
16804.5 kHz

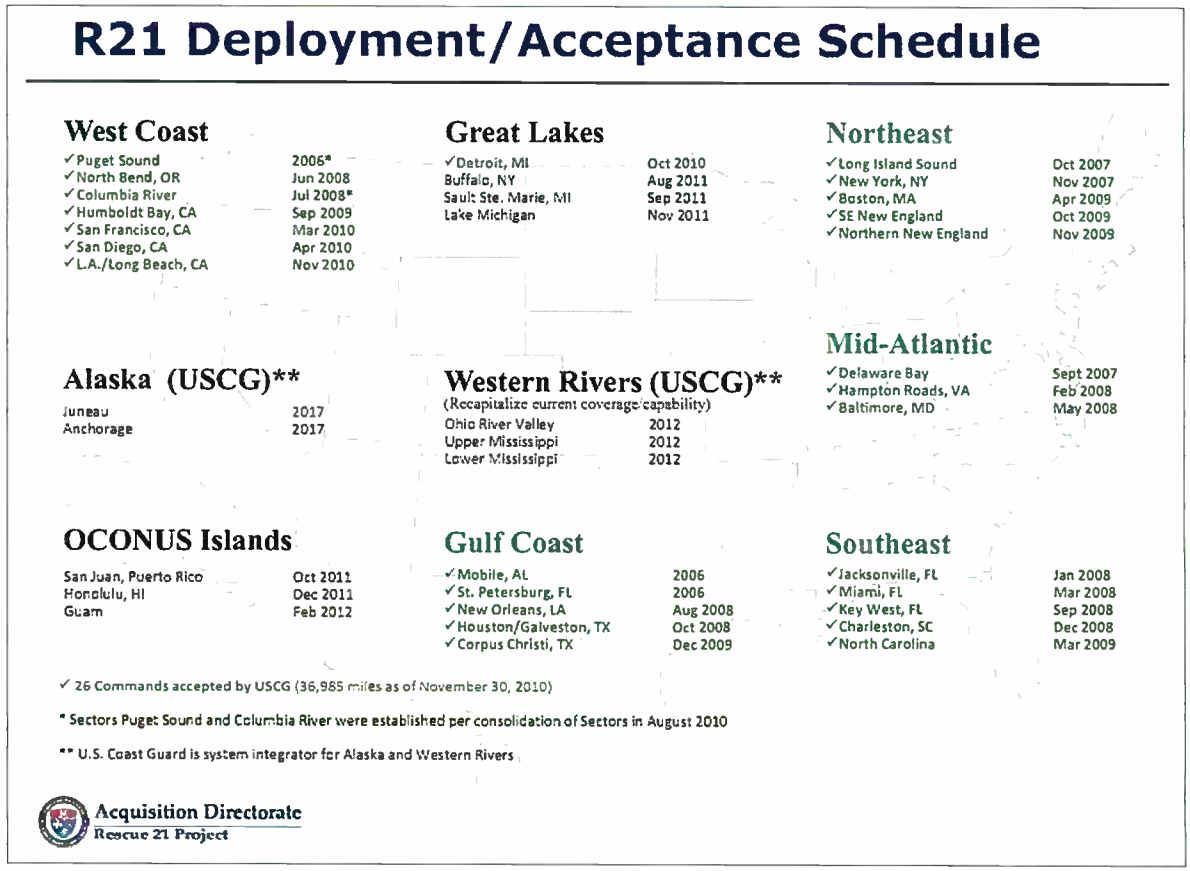
On Medium and High-Frequency USB Frequencies

Additionally on medium and high frequencies, USCG Communications Area Master Stations listen for distress calls on these *upper* sideband (USB) frequencies:

2182.0 kHz
4125.0 kHz
6215.0 kHz
8291.0 kHz
12290.0 kHz

Monitoring Stations: Locations and Callsigns:

Chesapeake, Virginia – NMN
Boston, Massachusetts – NMF
Miami, Florida – NMA
New Orleans, Louisiana – NMG
Point Reyes, California – NMC
Guam – NRV
Honolulu, Hawaii – NMO
Kodiak, Alaska – NOJ

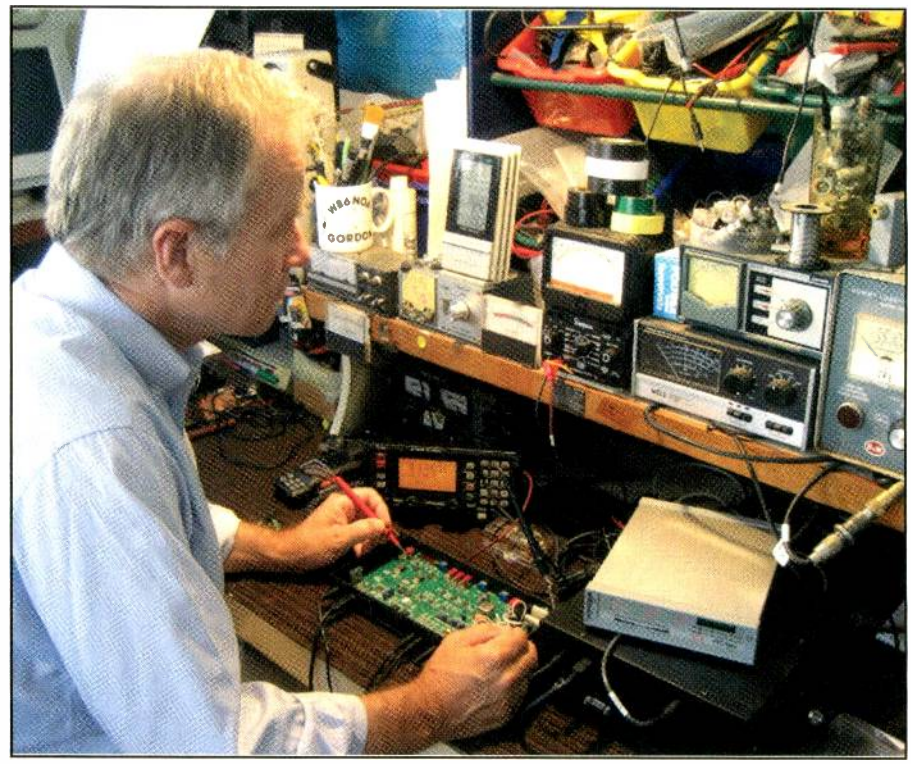


(Courtesy of the USCG)

mayday call on Channel 16 give the SAR watchstanders another piece of information — a line of bearing from the DF system on their Channel 16 voice call.

"It puts them in the mindset to pass all their information to the USCG — *remember The Big 5?* — rather than leave the radio to attend to other urgent matters. While circumstances may not allow for the immediate Channel 16 *mayday*, those who can get one off should do so," advises the USCG.

The Rescue 21 system now allows for DSC *radio checks:* "Rescue 21's DSC radios automatically respond to requests for VHF DSC radio checks by sending an acknowledgement to calls sent to the group MMSI established for radio checks," Lt. Commander Edwards said. NOTE: You *do not* press the red distress button for a radio check. Rather, you enter the DSC menu on your radio and select the sector/group MMSI number beginning with 00366.



A radio technician wires the GPS to the DSC-enabled radio — providing 4800-baud input streaming from the on-board global positioning gear.

Looking for Work?

Marine electronics dealers and many members of the National Marine

A seven-part instructional video by the USCG titled *Can You Hear Me?* gives mariners complete details of the Rescue 21 system. It is accessible on the Internet: < http://bit.ly/hxbsOE >.

Electronics Association < http://www.NMEA.org > may be looking for summer help, specifically for programming MMSI numbers in marine VHF sets, as well as wiring in the NMEA 0183 GPS/VHF data lines.

Many customers would pay for this service at their boats at the marina, so you could earn money and have fun down at the docks.

You would need a laptop for an Internet connection to obtain the free MMSI number, plus the capability of downloading instruction manuals to determine the correct wiring for the GPS to VHF connections. And since you're working on the *outside* of the radio equipment, you would not need the General Radio Operator license (GROL).

Bring along that VHF SWR analyzer, too, to make sure the marine VHF radio has a great antenna to get through — loud and clear to the USCG's Rescue 21 system.

Digital displays show two radios tuned to the 2182 medium-frequency (MF) marine distress channel.

For ALL your monitoring needs,

AR2300 "Black Box" Professional Grade Communications Receiver

First in a new generation of software-controlled black box receivers, the AR2300 covers 40kHz to 3.15 GHz* and monitors up to 3 channels simultaneously. Remote control functions. Internal SD audio recorder allows for unattended long term monitoring. Spectrum recording with optional AR-IQ software can be used for laboratory signal analysis. Using FFT, the unit scans large frequency segments quickly and accurately. Optional IP control port.

AR5001D Professional Grade Wide Coverage Communications Receiver

With amazing performance in terms of accuracy, sensitivity and speed, the AR5001D features ultra-wide frequency coverage from 40kHz to 3.15GHz* in 1 Hz steps with 1ppm accuracy and no interruptions. Large easy-to-read digital spectrum display and popular analog signal meter. The AR5001D makes it easy to monitor up to 3 channels simultaneously. Can also be controlled through a PC running Windows XP or higher. Great as a mobile or desktop receiver.

AR-Alpha with I/Q Control Software

Welcome to a new class of professional monitoring receivers. The AR-Alpha can perform unattended datalogging for extended periods and covers 10kHz to 3.3GHz* continuous, with no interruptions. It boasts a 6-inch color TFT monitor that displays spectrum bandwidth, a switchable time-lapse "waterfall" display or live video in NTSC or PAL. Five VFOs, 2000 alphanumeric memories that can be computer programmed as 40 banks of 50 channels, 40 search banks, a "speed memory" bank of 100 frequencies and a priority channel. Also includes APCO-25 digital capability and can record up to 52 minutes of audio.

AR-One Communications Receiver

Enjoy total command of frequencies, modes and tuning steps with this versatile performer that allows you to control up to 99 units with a single PC. Covers 10 kHz to 3.3 GHz and delivers excellent sensitivity, ultra-stable reference frequency oscillator, high intercept, adjustable BFO and multi-IF signal output (10.7 MHz or 455kHz) plus 1000 memory channels and 10 VFOs.

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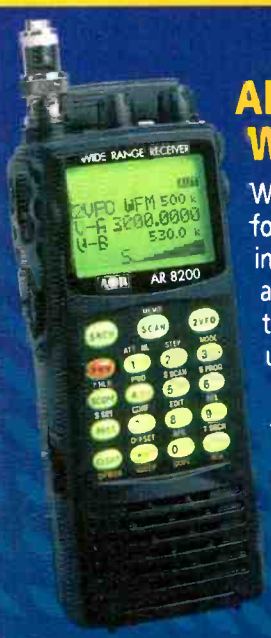
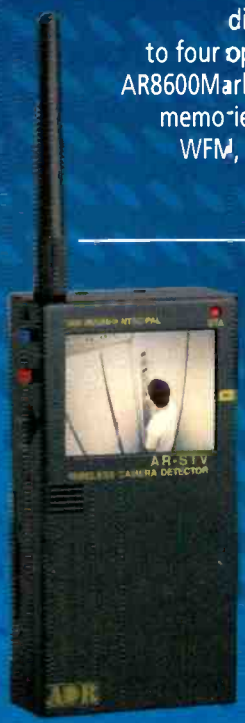


AR8200 Mark III
World Class Portable Receiver

With 1,000 alphanumeric memories and a TCXO that delivers solid frequency stability and performance not found in most desktop units, the AR8200 Mark III covers 500 kHz to 3GHz* and can be used with optional internal slot cards that expand its capabilities. It features true carrier reinsertion in USB and LSB modes and includes a 3kHz SSB filter. The data port can be used for computer control, memory configuration and transfer, cloning or tape recording output. A special government version, AR82000Mark III IR, features user-selectable infra-red illumination of the display and operating keys.

AR8600 Mark II Wide-Range Desktop Receiver

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



AR-STV Handheld Video Receiver

See who is watching you on wireless video surveillance cameras. The AR-STV handheld receiver detects hidden NTSC or PAL analog video signals in real time. A valuable addition to any security operation, the AR-STV features a large 2.5 inch color LCD display and a USB connector that makes it easy to download stored images into a computer. With optional 4GB SD memory card, up to nearly 2000 images can be stored for later analysis.

SR2000A Spectrum Display Monitor

Ultra sensitive, incredibly fast, yet easy to use, the SR2000A lets you SEE received signals in FULL color. Using the power of FFT, it covers 25 MHz to 3GHz* and features a color monitor that displays spectrum bandwidth, a switchable time-lapse "waterfall" display or live video in NTSC or PAL. High quality internal speaker delivers crisp, clean audio signals. Scans 10 MHz in as little as 0.2 seconds. Instantly detects, captures and displays transmitted signals. PC control through RS232C serial port or USB interface. With 12 VDC input, it's perfect for base, mobile or field use.

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

DXing the Mayhem, Via the Shortwaves

From Northern Africa to the Middle East, Tune to Where History's in the Making

by Gerry Dexter

A U.S. Air Force B-2 Spirit stealth bomber returns to Whiteman Air Force Base, Missouri, from a mission in the no-fly zone over Libya in March. *(Courtesy of USAF)*

They're rioting in Africa, sang the Kingston Trio more than 50 years ago.

Although written way back in 1959, lyrics from the folk group's rendition of *The Merry Minuet* are eerily apropos today. Look no further than Tunisia, Libya and Egypt as earlier this year demands for political and social change began sweeping across the northern tier of Africa.

And while the Trio sang, *There's strife in Iran,* a 2011 version of the song could include Syria, Bahrain, Oman, Yemen and Saudi Arabia in the Middle East, as well — each capturing headlines as a tinderbox. *(A 1981 Kingston Trio live performance of the song can be seen on YouTube: < http://bit.ly/i6qqQE >. – Ed.)*

The chaos, you may recall, began with the so-called Jasmine Revolution in Tunisia, which brought an end to the 24-year rule of Abidine Ben Ali. With that, the political unrest began to spread through the region.

Egypt was next. It took about three weeks for the riots and demonstrations in Cairo and other cities to oust long-time President Hosni Mubarak.

Violence — along with widely-disseminated demands for freedom via social networking sites — then spread in other countries under the rule of similar regimes accustomed to thinking they had been elected for life.

Have we reached the end of this road? *Only time and history will tell.*

Aside from the overarching calls for freedom and democracy, there was a significant percentage of youth and women not before seen in the streets, carrying signs and letting their voices be heard.

This change in northern Africa and the Middle East is an excellent opportunity to hit the shortwave bands, tune-in and hear the sounds of history-in-the making for yourself — without needing to have a keyboard on your lap or a cell phone in your pocket.

Unfortunately, hearing English from some of these stations is as rare as finding an oasis during a sand storm. But,

The Touloun Mosque in Egypt.

Listening-In On a Volatile Part of the World

The Shortwaves Open a Window On History

if nothing else, there is a lot of haunting music.

Following is a rundown of broadcasts from the region, and suggestions on where and when to tune. Frequencies are in kilohertz and times are UTC. *(In such a volatile political climate, times and frequencies are subject to change. – Ed.)*

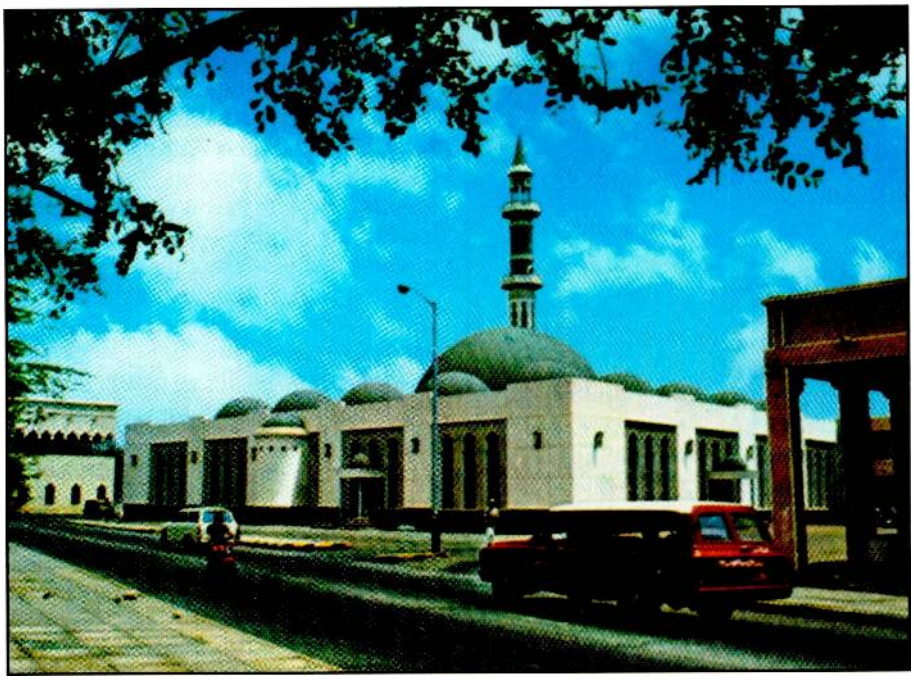
Algeria: *Radio Algerienne*

High unemployment and inflation, poor living conditions, corruption, poverty and dissatisfaction with the government were catalysts for the peoples' unrest in Algeria.

Radio Algerienne, like many of the stations in the region, broadcasts only in Arabic. Currently its signal goes out via the Issoudun, France, site from 0400-0600 on 5865 and 0500-0600 on 7295, then 0600-0700 adding 5865 for that hour. Also, 2100-2200 on 5865. Most of these are audible. The station has no website.

Egypt: *Radio Cairo*

Three weeks of demonstrations and rioting culminated in President Hosni Mubarak being ousted after 30 years in office. Elections are scheduled for September.



The Grand Mosque in Doha, Qatar

The Egyptian Radio Television Union (ERTU), commonly called *Radio Cairo,* isn't a very difficult station to hear. The problem is in understanding what announcers are saying. Modulation problems haunt the station like the ghost of Thutmose III.

Either the modulation is so distorted you can't make out anything, or it doesn't have enough gain to tickle a cat's whisker!

Radio Cairo's English service currently airs at 0300-0400 and 2115-2245 on 6270. Also, 2300-0030 on 11590, 1215-1330 on 17870, 1600-1800 on 12170 and 1900-2030 on 11510.

Broadcasts in Arabic are on to North America at 0030-0430 on 11590 plus several other time-frequency pairings to other parts of the world.

In addition, *Radio Cairo* broadcasts in some 20 other languages — as common as French and German and as uncommon as Albanian and Urdu. The broadcasts come from two sites (Abiz and Abu Zaabal) using several transmitters with powers of up to 500 kilowatts. *Radio Cairo's* website is at: < http://www.ertu.org >.

Tunisia: *Radio Tunisienne*

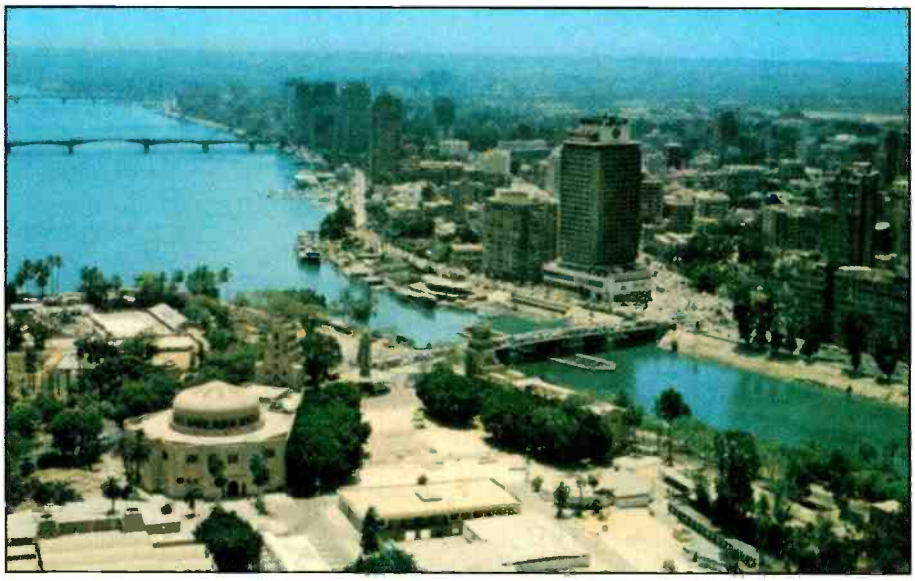
Mohamed Bouazizi, a street vendor who — according to published reports — set himself on fire after his wares were confiscated followed by humiliation by a government employee, was the catalyst for upheaval in Tunisia. Ultimately, the Jasmine Revolution, as it came to be known, forced President Abidine Ben Ali to flee to Saudi Arabia. The irony is that Tunisia, at the time, was in the process of freeing and privatizing its economy.

Radio Tunisienne airs in Arabic from 0200 to a bit past 0500 on 9725 and 12005, 0400-0615 on 7275, 0600-0810 on 7335. Also, 1600-2000 on 9725 and 12005, 1700-2110 on 7225, 1900-2310 on 7345, all frequencies are from the domestic Sfax site. Again, there's no known website.

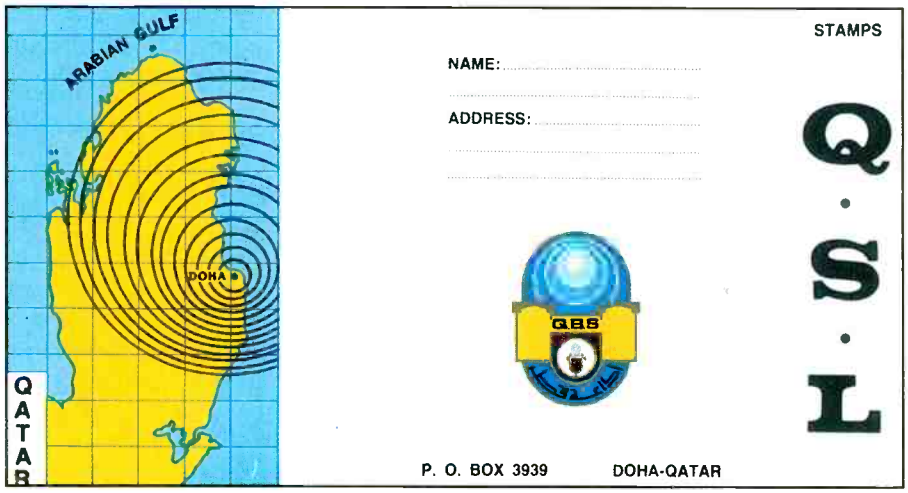
Libya: *The Voice of Africa*

Perhaps the most high profile northern African nation undergoing political and social change has been Libya. Its story has included civil unrest leading to civil war, with revolutionaries — backed by a coalition-supported *no fly zone* — in pitched battle with government forces loyal to Muammar al-Gaddafi.

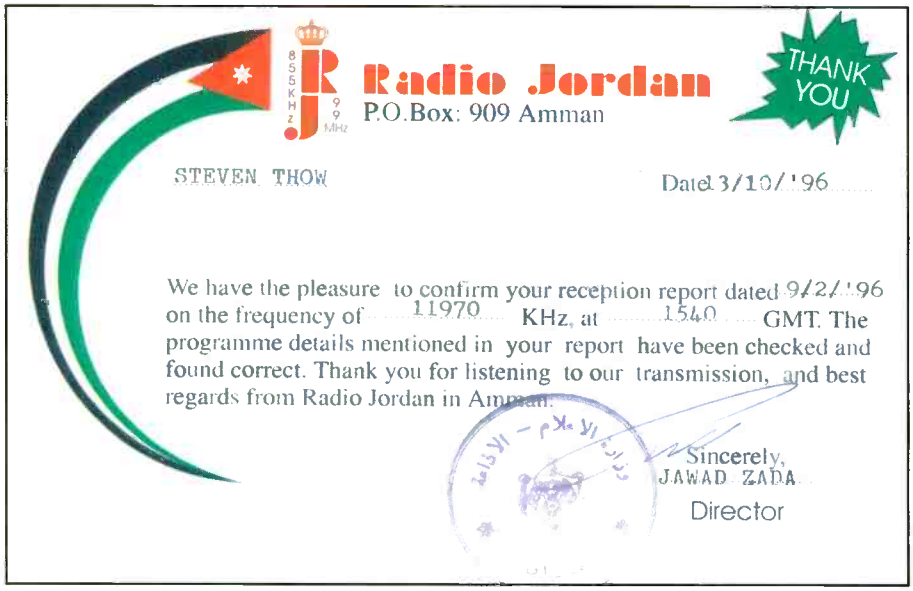
Libyan Jamahiriya Broadcasting (LJB) operates under the name *The Voice of Africa* from studios in Tripoli and transmitters in Sabrata.



The River Nile.



An older QSL from Qatar Broadcasting.



Radio Jordan is seldom heard these days.

It broadcasts in English daily from 1400-1600 on 17725 and 21695 and in French from 1600-1700 on 15660 and 17725 and 1700-1800 on 11965 and 15215. Both language services are heard in the United States fairly well and regularly.

The broadcaster is also active in Hausa and Swahili at various hours.

As conditions deteriorated, the Gaddafi government added a couple of frequencies relaying domestic broadcasts from a station in the leader's home town of Sirt — using 7500 and 8500 kHz in Arabic, closing at 2100 UTC.

Syria: *Radio Damascus*

Demonstrations first broke out in the Syrian towns of Deraa and Nawa, with thousands protesting against the ruling father-son combination Hafez and Bassar al-Asad, alleging human rights violations, political corruption, economic malpractice and government-sponsored terrorism, among other things.

Radio Damascus is the official outlet. It uses two main channels: 9330, which is reported to be generally active with an hour of English from 2100-2200. The 12085 frequency — in use for years at the same hour — has been at best intermittently active.

On either side of the English segment, it broadcasts in Arabic, French, German, Hebrew, Russian, Spanish and Turkish. It transmits from 1600-2300. The website is: < http://www.radio-damascus.net >.

Bahrain: *Radio Bahrain*

The island Kingdom of Bahrain is ruled by the Al Khalifa family, whose head, Hamad bin Isa Al Khalifa, is king. Cleric-led Shia protests have erupted here, too, despite the oil wealth and commercial atmosphere — replete with skyscrapers and plush shopping malls.

Troops from Saudi Arabia and the United Arab Emirates were called in to quell the unrest.

Radio Bahrain is an SWL story in itself. Managing to hear it is a challenge, to put it mildly. Some people — *such as me!* — find it impossible, at least so far.

Radio Bahrain is active 24 hours per day in Arabic on 9745. It struggles through to the U.S. on occasion around 2300 or 0000, but then only with a weak signal.

It's on in English relaying local AM and FM outlets on 6010, as well. This channel is almost never heard in North

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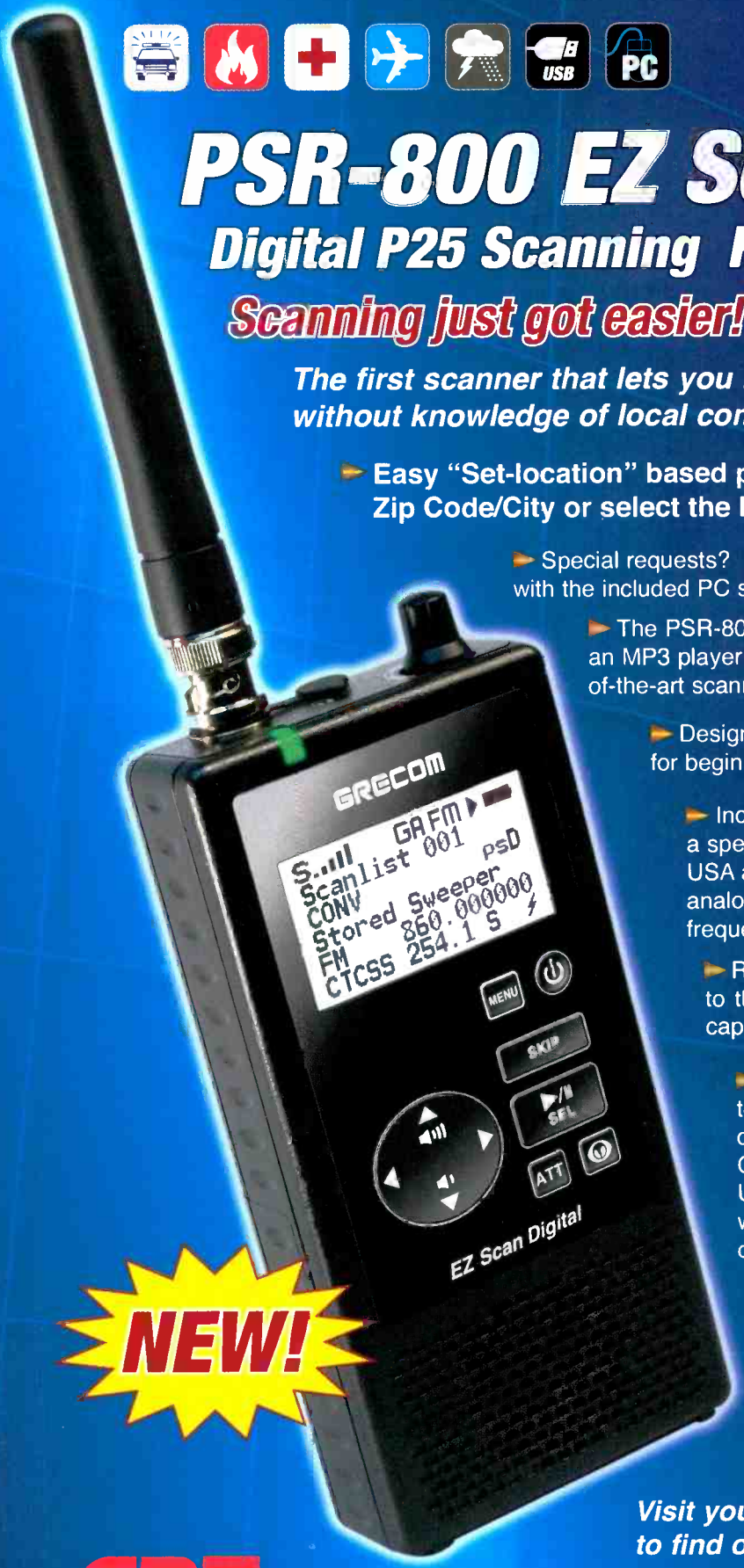

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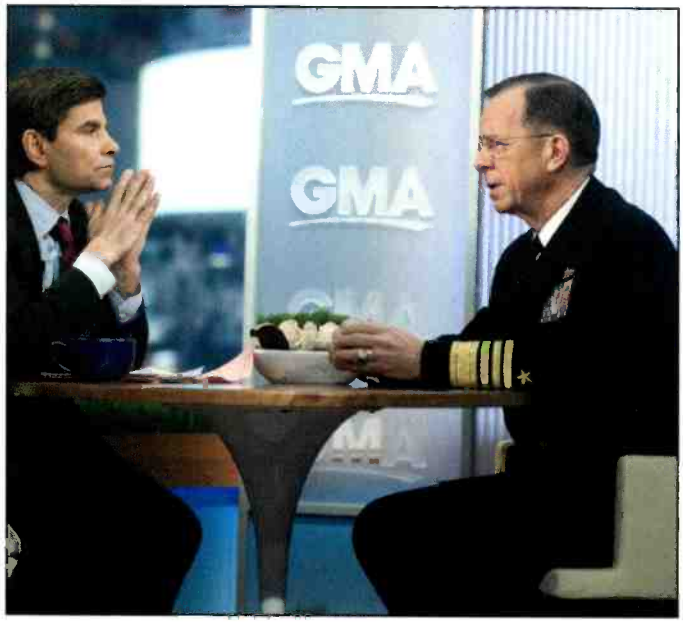


Discussing unrest in Egypt on *Good Morning America* with ABC's George Stephanopoulos is Joint Chiefs of Staff Adm. Mike Mullen. *(Courtesy of USN)*

America, despite the fact that both frequencies employ considerable power.

Yemen: *Republic of Yemen Radio*

The Republic of Yemen is the only Arabic country with a republican form of government. It's headed by President Ali Abdullah Saleh and became a hot spot in the war against terrorism — with the U.S. keeping a close eye on al-Qaeda from there.

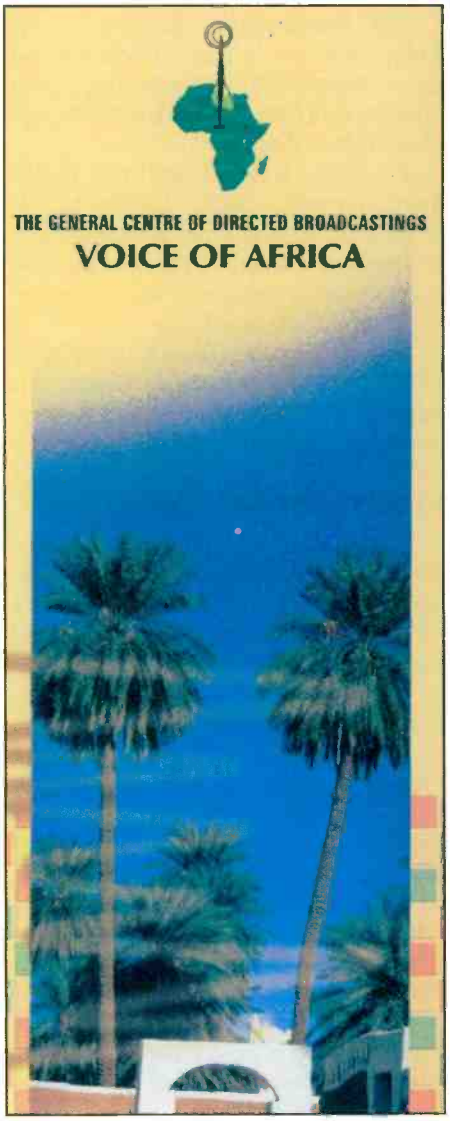
Protests over corruption caused several members of parliament to resign. President Saleh, who stood firm, said he won't run in Yemen's 2013 elections.

Republic of Yemen Radio shows up in spurts. It might be heard for a few weeks — or just a few days at a time — and then disappear. The station is on in Arabic from 0300-0600 on 9780 and from 1900-2200 on the same frequency. It runs 100 kilowatts from the capital, Sana'a.

Oman: *Radio Sultanate of Oman*

Unrest in Oman was not on the scale of other countries, but citizens protested against government corruption and for higher pay, more jobs, improved education and a greater role for the people in politics.

President Obama huddles to discuss the Egyptian protests with his National Security Team, including (clockwise from the President) National Security Advisor Thomas E. Donilon; Chief of Staff William M. Daley; Deputy National Security Advisor for Strategic Communication Ben Rhodes; Tony Blinken, National Security Advisor to the Vice President; Deputy National Security Advisor Denis McDonough; John O. Brennan, Assistant to the President for Homeland Security and Counterterrorism; Robert Cardillo, Deputy Director of National Intelligence for Intelligence Integration; and Vice-President Joe Biden. *(Courtesy of the White House)*



Libyan Jamahiriya Broadcasting, as the *Voice of Africa*.

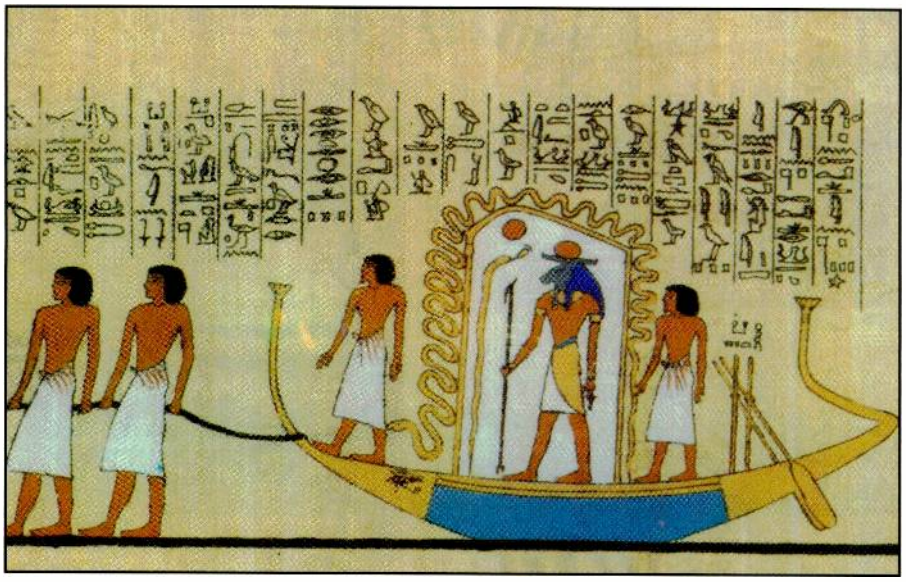
Some demands were partially met when Sultan Qaboos bin Sa'id gave more power to government councils that could only act in an advisory capacity previously.

Radio Sultanate of Oman is reported on the air infrequently. There is question whether it operates regularly. When it's on, the station can be heard on 15140 with English from 1400-1500. It is on in Arabic from 0200-0300 on 15355, followed by an hour of English.

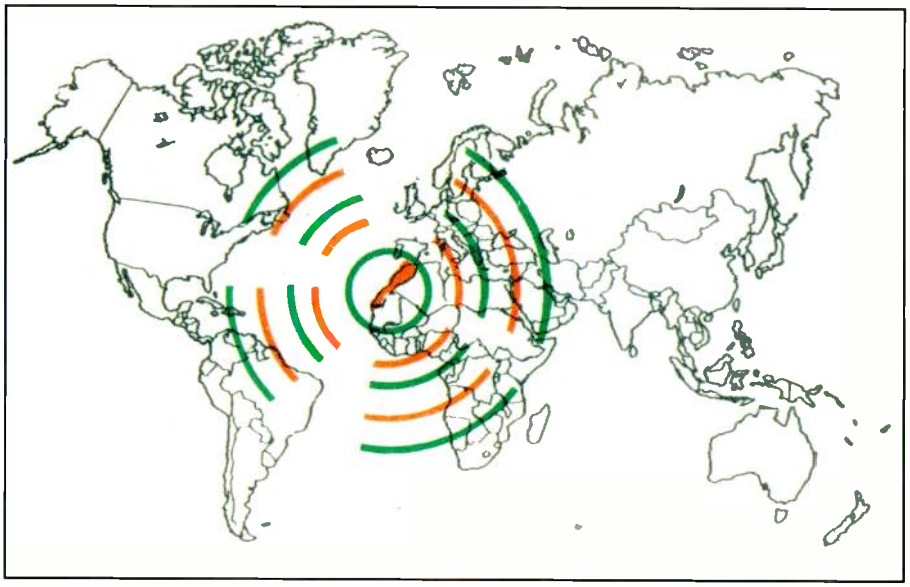
There are some other transmissions, as well, but for practical purposes, those might as well not exist. It runs 100 kilowatts from Thumrait. On the Web: < http://www.oman-tv.gov.om >.

Iran: *The Voice of Justice*

Iran has been a country in transition for quite some time. Citizen protests,



The sun god Ra, traveling in the netherworld.



Radio Marocaine is usually heard on 15345 kHz.

symptom of the level of continued discontent, have been breaking out since Iran's much-publicized and highly-disputed election.

Islamic Republic of Iran Broadcasting is the overall designation for the broadcast services in Iran. Lately — at least for its U.S. service — the station has touted itself as *The Voice of Justice.*

It is a rather extensive operation, using very high power from three or four domestic sites. Its service in English is in hour-long broadcasts at 0130 (on 6120 and 7250), 1030 (15460, 17630), 1530 (9915, 11655), 1930 (6010, 6115, 7320, 11695 and 11860).

It is also active in more than three dozen major and minor languages on more than 100 frequencies.

Saudi Arabia: *BSKSA*

Called the Hunayn Revolution, unrest in Saudi Arabia has not reached the level of that found in many of its neighbors. There were a few hundred demonstrators versus a massive police presence, according to reports.

King Abdullah blunted some of the protest with special handouts, income increases for government employees, forgiveness of some debts, making home loans easier to obtain and so on. At the same time he offered sanctuary to the exiled leaders of Egypt and Tunisia.

The Broadcasting Service of the Kingdom of Saudi Arabia (BSKSA) is a major Middle East broadcaster, which operates on a near-24 hour basis with programming in Arabic.

The station is often heard in the United States on 9555, 9870, 11830, 11915, 11930, 17560 and other frequencies. It transmits in French and Indonesian and several other languages as well — including Hausa, Urdu and Tajik.

English is spoken from 1000-1230 on 15250. But, for whatever reason, this might as well not even exist as it is virtually never reported in the U.S.

In Summary . . .

So that's the story. Shortwave stations from the Middle East and Africa are generally not heard as well these days as once were. But the tenacious SWLer will land a station from time to time.

It's no longer a matter of just switching on the receiver and simply tuning to the right frequency at the appropriate time. Sadly, many broadcasters don't provide programs in English to North America at hours aligning with good propagation.

Some of them are quite inept at producing good quality modulation and the lack of signals from a few leave one questioning whether they are even active!

So, tuning-in many of these stations with regularity is the SWLer's challenge. Algeria and Tunisia are easy finds. As for the rest: *Good luck!*

Also On the Airwaves . . .

Here are some other countries broadcasting from the region:

JORDAN – *Radio Jordan* broadcasts in Arabic from 1830-2230 on 15290, 1845-3245 on 9830 and 0500-0600 on 11960. Despite the use of high power, it makes only rare appearances.

KUWAIT – *Radio Kuwait* transmits in English from 1800-2100 on 15540. Other broadcasts in Arabic include 1700-2000 on 13650 and 2000-0000 on 17550. These use high power but are quite unreliable.

MOROCCO – *Radio Marocaine* airs in Arabic from 0900-1500 on 15341 and 1500-2200 on 15345. The latter frequency suffers interference from Argentina during the last hour or so. Also, *Radio Medi Un* operates around the clock on 9580.

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IN REVIEW: From Germany, the SSB LAN-SDR

A Software-Defined Networked Receiver for the Home

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

In olden times – the 1990s – home networks used to be just for computers and printers. We first wired our current house for computer networking in 1998.

I made the mistake of using a thin Ethernet bus network, otherwise known to us radio hobbyists as RG-58 with BNC connectors. Others in the radio hobby can easily understand how I arrived at this decision: The materials were readily available. Later on, the RG-58 was pulled out and CAT 5 (category 5) was installed instead. Even later came the WiFi "G" router and bridge.

At the 1999 Comdex show, Microsoft's Bill Gates expressed a vision of the future that included a networked refrigerator with a digital screen displaying family pictures. The digital picture frames have been around for a while and can be networked, but the only network that the refrigerator in our home connects to is the electric utility.

Many other devices, though, are now on our home network, including our televisions, TiVos, Internet radios, iPads, Androids and Blackberries. When the signal from the cell site is insufficient, our T-Mobile G2 Smartphone can even use the local WiFi to make phone calls — automatically.

Figure 1. Front and rear shots of the SSB LAN-SDR. This is a most simple "black box" design with sophisticated capabilities built into the software. Note the use of 'N' connectors for the two antenna inputs.

So I was not surprised when the folks at SSB Electronic <http://www.ssb.de> offered *Popular Communications* the chance to evaluate a new type of software defined radio (SDR) that runs across an IP network. It is called the LAN-SDR (model number 9350) and it is in fact an advanced SDR that can be plugged into your local area network (LAN) and accessed from anywhere you can access your network, providing you have sufficient bandwidth.

This is not an SDR that is designed for easy access via the Internet for remote listening. While the software installs on a computer that is not necessarily at the same location as the "black box" receiver, the 500 kHz sample rate requires a minimum bandwidth of 16,000 bits per second from the LAN-SDR to your computer. Consumer Internet connections in the United States are not likely to offer such sustained bandwidth, although it is available at commercial rates. As my friend Warren Whelan, WB2ONA, is known to say, *"it's only a hobby."*

If you want an SDR that can be installed in your shack but listened to in any room of the house or even at a neighbor's via WiFi, you are going to be pleased.

This is a "black box" radio in the most literal sense (**Figure 1**). There are some front panel status LEDs and a front-facing power switch. The rear panel offers two female 'N' connectors, a ground connection, a USB 2.0 port, a wired Ethernet connector and a standard, IEC C14, computer-type power connector. This device has an internal power supply so there is no wall wart power cube to deal with. This is an old-school feature in a new technology device *and I like it.*

Installing the LAN-SDR Software

The software runs only under Windows XP or later. It is Java-based and therefore potential-

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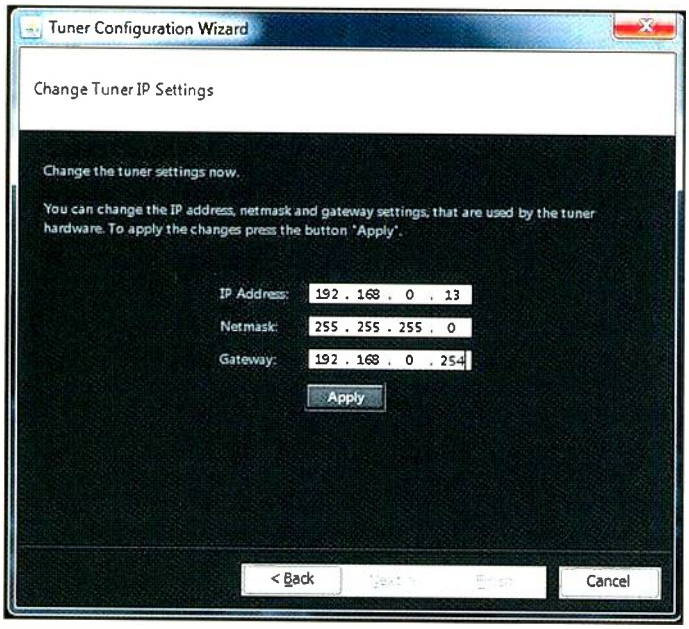


Figure 2. I used the *Tuner Configuration Wizard* to setup the network addressing so it did not conflict with other devices.

ly portable to other operating systems such as Linux or Mac, but SSB has no plans to do so.

My initial testing was done using version 1.2 of the LAN-SDR software, but during testing I was offered the newly released version 1.3. The latest version of the software can be found on the Internet at: < http://www.ssb.de/index.php?cat=c262_SSB-LAN-SDR.html >. This page also offers some sample broadband recordings, which can be downloaded by non-owners of the LAN-SDR who want to try out the software to evaluate its capabilities.

The software is stored in an RAR (Roshal ARchive) type file, which is not usually seen on Windows systems. I downloaded and installed jzip from < http://www.jzip.com >, which is a free utility with no adware or popups that can expand RAR files as well as ZIP, TAR and other compressed file archiving formats.

Once installed on your computer, jzip allows the user to extract the files in the LAN-SDR RAR file. After extracting it to a temporary directory, I clicked on the install application file and the installation proceeded without a hitch.

You'll receive a Windows warning about its inability to recognize the publisher of the driver for the LAN-SDR, which can be safely ignored. You will also initially receive some requests from Windows to open up firewall ports used by the software and radio to communicate, which also can be safely done.

Configuring the Radio

For initial radio setup, there are two options. There is a label on the rear of the radio indicating the factory settings, including the default IP address. If this address is compatible with your network, you can plug the radio into a free Ethernet port on your switch or router.

In my case, one of our TiVos was already using the default IP address of 192.168.0.10, so I needed to first configure the radio via USB, using the supplied cable.

The *Tuner Configuration Wizard,* pictured in **Figure 2**, allows you to select a free IP address on your network. I set my radio to a free IP address, and also set the appropriate netmask and default gateway for my network.

Apply your desired settings and you should be ready to connect to the radio over the network. This is where the possibilities are endless.

You no longer have to locate the radio in the room where you are going to do most of your listening. Instead, you can locate the radio close to the ideal antenna entry point, run a CAT 5 network cable to that location and listen to the radio from your desired location.

I happened to like the idea of turning on the radio in the shack and listening on the downstairs computer that is in the kitchen. This worked well.

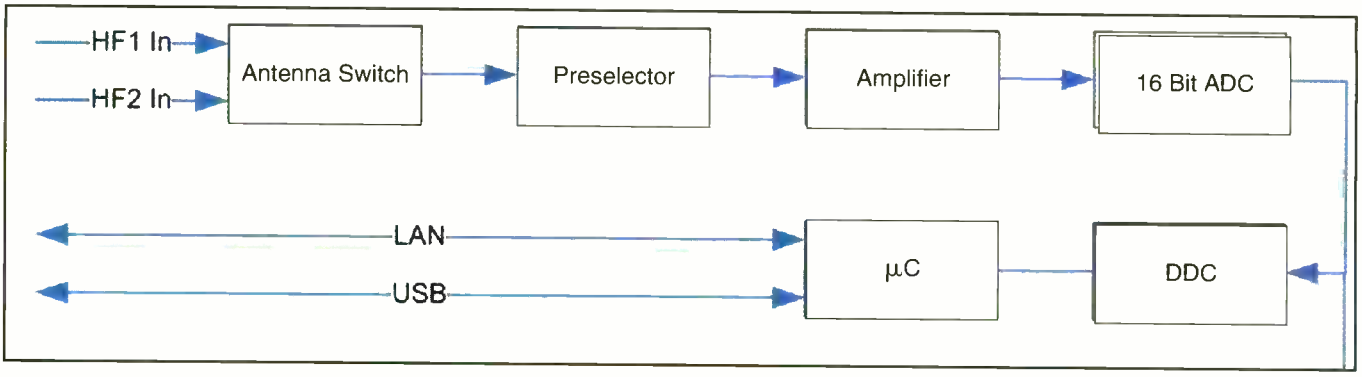
Software Defined Fun

The display screen is uncluttered, even minimalistic. **Figure 3** shows its simplicity.

It offers a simultaneous spectrum display and a spectrogram, or waterfall display. The spectrum display shows received signal strength over a frequency range. It also shows the modulation envelope.

The signal strength axis can be displayed along the left side of the spectrum display and the frequency along the bottom. Either can be toggled ON or OFF. The spectrogram adds the dimension of time and is interesting in that it uses the color spectrum to show relative signal strengths on the waterfall over time. Display of the frequency or time factor can also be toggled.

The spectral display, at the bottom left of **Figure 3**, shows the current pass band signal and modulation envelope. It allows for tailoring of the received signal through application of two



Block diagram of the architecture of the LAN-SDR.

notch filters — quite useful under heavy QRM (interference) conditions. To the right of the spectral display is the Analog Demodulator Control center, which is where you set demodulation mode, bandwidth, AGC, filters, etc.

There are so many ways to tune this radio. Click and drag a cursor on the waterfall or the spectrogram to the signal you want to tune. Type in the frequency manually. Highlight a digit of the displayed frequency and use your mouse wheel. Use the up and down keyboard arrows. The intuitively expected *click* on the spectrum display, though, is missing.

Tuning Around

The tuning cursor is different from other SDR software that I have used. It stretches left and right from the center carrier frequency for an AM signal (three vertical lines), but only left for a lower sideband signal and only right (two vertical lines) for upper sideband. I found this visualization to be useful in understanding how the band segment being tuned will pass through the digital signal processing.

Bandwidth can also be adjusted using the mouse wheel or through a click on a preset. You can also enter an exact value for the desired bandwidth. Bandwidth is completely customizable as opposed to predefined values.

You vary it from 25 Hz to 50 kHz. I had no trouble separating closely-spaced SSB signals that were outside of the selected bandwidth.

The AGC (automatic gain control) on this radio is very interesting. You can set the AGC to fast, medium or slow. I tend to like the medium setting best. You can turn the AGC off and use a manual slider. But the AGC also can provide automatic RF attenuation, as well. This is a nice feature for casual listening, but I found that I preferred to change the attenuation from AGC to 0 dB for more serious hunting.

For casual listening as well as serious DXing, I found the audio reproduction quality of this receiver to be *outstanding*. Low-end audio reproduction did not appear to be cut as is done on some receivers. Even on the worst computer speakers in the house, this radio produces a clean and warm sound. There are no odd digital artifacts. To my ears, this sounds as good as the best analog radios of yore, but without any of the hiss sometimes introduced in audio amplification stages.

For example, the intelligibility of DX station 6V7T around 0100 UTC on 20

Pop'Comm July 2011 Reader Survey

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

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

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

Last, but not least: You can now take this survey online. Simply go to *Pop'Comm On the Web* : < http://www.popcommmagazine.blogspot.com/ > and click the link to the *Pop'Comm July 2011 Reader Survey*. It's quick and easy.

When *Pop'Comm* arrives each month, I . . .

Immediately read it cover to cover 1
Turn to a favorite column or feature 2
Go *window shopping* through the Table of Contents 3
Scan the edition and come back later to what interests me 4

***Pop'Comm doesn't have enough* on (make multiple choices):**

Fascinating people and stories on interesting things 5
Amateur radio / antennas 6
Digital technology 7
Radio and TV history 8
Propagation / technology 9
Humor articles 10
New Products 11
Shortwave listening 12
Scanning / Monitoring 13

***Pop'Comm has too much* on (make multiple choices):**

Fascinating people and stories on interesting things 14
Amateur radio / antennas 15
Digital technology 16
Radio and TV history 17
Propagation / technology 18
Humor articles 19
New Products 20
Shortwave listening 21
Scanning / Monitoring 22

What is an area of communications not now covered in *Pop'Comm* you'd like to see featured monthly? (Use the comment line.)

And the Winner Is . . .

For participating in the *Pop'Comm Readership Survey*, the winner of a free subscription or extension is **Jerry V. Di Trolio** of **Bryn Mawr, Pennsylvania**. *Congrats, Jerry!*

Frequency range	0,1 MHz – 30 MHz
Dynamic range SSB	(SSB_USB, 2400 Hz BW) > 110 dB
Dynamic range CW	(CW, 500 Hz BW) > 110 dB
ADC	16 Bit @ 66,66 MHz/s
IF Bandwidth	8 kHz – 500 kHz (USB: 8 kHz – 150 kHz
Low noise figure	9 dB
High input sensitivity	- 121 dBm @ 2,7 kHz BW 10 dB /SNR
IP3	> 35 dBm - 40 dBm typ
OS Windows	XP to Windows 7, 32/64 bit
Interfaces	Ethernet-LAN10/100, USB 2.0

LAN-SDR Technical Specifications

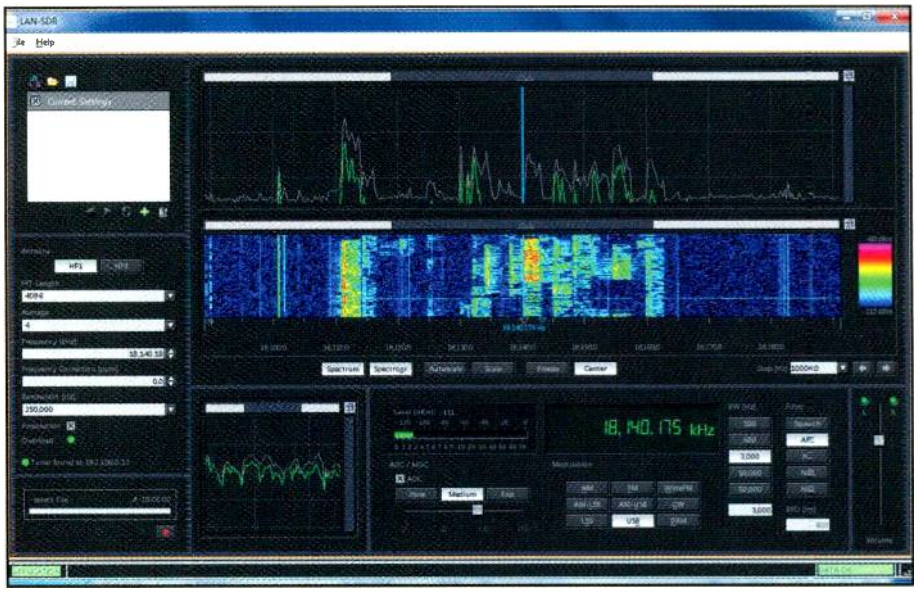


Figure 3. The LAN-SDR at work on a very open 17-meter band. Signals can be viewed on the spectrum display, the spectrogram (waterfall) display or both.

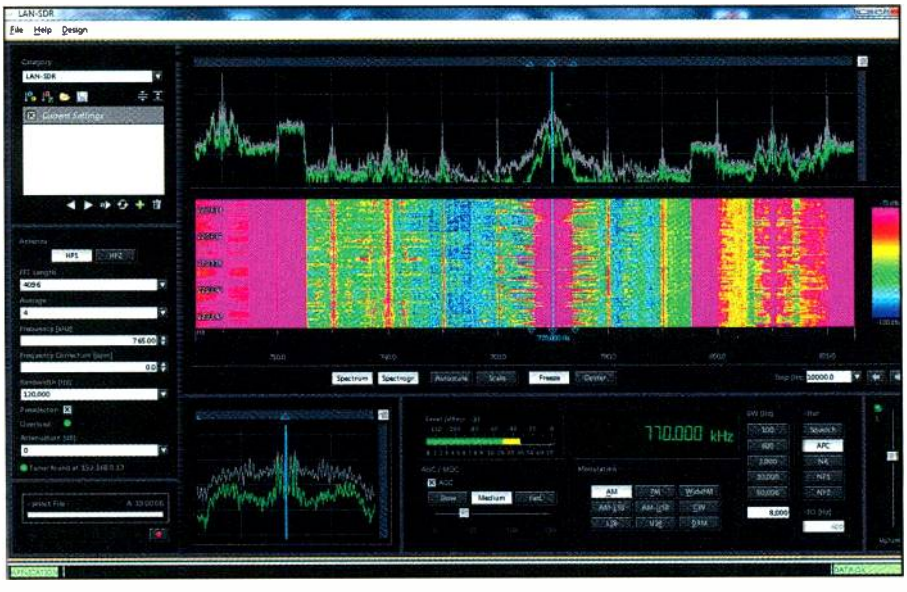


Figure 4. Snapshot of the AM broadcast band. Note the wide IBOC digital sidebands on the left side of the display from WABC on 770 kHz.

meters was amazing. It was more intelligible than on the Ten Tec Orion II, a radio with a reputation for having an excellent receiver. The LAN-SDR showed the signal strength as S5, but it sure sounded S9 to my ears. I attribute this to the wide dynamic range of the LAN-SDR, which is rated at more than 110 dB for SSB signals.

Figure 4 shows how the display screen looked while tuned to WABC on 770 kHz in New York. Note how the color spectrum shows both bandwidth and signal strength on the spectrogram. The IBOC (in-band on-channel) digital sidebands of some of the stations are very easy to pick out on the spectrum display.

Figure 5 shows an interesting and wideband digital signal in the 60-meter shortwave broadcast band. Take a look at the left side of the display screen. The LAN-SDR does a terrific job of showing you what signals are on the bands even if they cannot be decoded or otherwise understood.

A check of longwave performance showed that the LAN-SDR is sufficiently resistant to overload from strong local BCB (broadcast band) interference. This would be a useful receiver for exploring the murky regions below 500 kHz.

Recording and Other Features

LAN-SDR also integrates easily with the Virtual Audio Cable software, so you can pipe the radio output into an external, digital, signal-processing package. This makes it easy to decode RTTY, PSK31, SSTV or DRM with your soundcard decoder package of choice.

I tested with DM780 to decode some PSK31 and Dream to decode DRM. I was able to do so simply and reliably. You can control which computer sound device sees the digital output through a simple audio settings menu (**Figure 6**).

The integrated digital sound and spectrum recorder is easy to operate and allows both the recording of the received audio or the entire received spectrum, up to 500 kHz. The amount of disk space used for the recording will directly correspond to the width of the spectrum being recorded.

The Record Options include AF (audio frequency) or IF (intermediate frequency) recording and the ability to automatically append the date, time or frequency to the filename. The LAN-SDR software uses a .DAT extension but the files are recorded in standard WAV format.

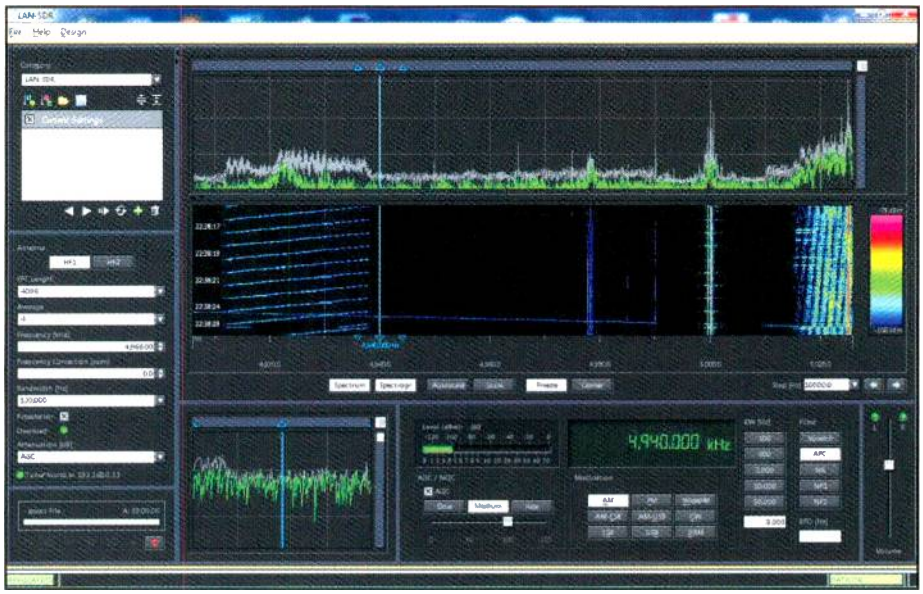


Figure 5. Snapshot of a wideband digital signal occupying approximately 4910-4940 kHz. Wonder what it is?

The Noise Reduction filter works not only to remove unwanted noise from the received signal, but almost works as a squelch. The background noise between a SSB or QSO transmission is almost eliminated. There is no impulse noise blanker in the radio or software, but under some conditions the DSP NR filter would assist.

Rounding out the feature set on this capable receiver is the ability to store different configurations or setups. Configure bandwidth, mode, filter settings, frequency and you can save the configuration for future reference or export it for later importing into another radio.

Missing, however, is integration with a frequency directory such as HFCC or EiBi. This is a useful feature for SWLs that is supported by other SDR manufacturers.

The online help was helpful. I did not have to consult the PDF manual that is installed along with the software.

Figure 6. The audio settings menu allows complete control of the main audio output as well as a separate line for DRM.

Conclusion

My evaluation of the LAN-SDR made use of two computers — a dual-core, 32-bit laptop and a 4-core, 64-bit desktop. Both machines run Windows 7.

While the 4-core machine met the minimum recommendation of 2 GHz, the 2-core laptop runs at a speed of 1.6 GHz. To compensate for not meeting the minimum recommendation on the dual-core machine, my testing was done with a 120 kHz spectrum sample. This worked quite well and I rarely received data overrun errors.

On the 4-core machine, I validated the performance on a 500 kHz chunk but most of my testing was done at a 250 kHz sample. Neither presented any problems.

The LAN-SDR is a capable receiver on all accounts. Many will enjoy the uncluttered simplicity of the interface and top performance and the convenience not only of listening but controlling the radio from a WiFi-enabled laptop over your home network.

The excellent receiver performance, full sound and ease of installation and operation round out the experience.

The LAN-SDR is sold directly by SSB in Germany < http://www.ssb.de > for 1,850 Euros, or $2,699 U.S. The company's American distributors include Array Solutions < http://www.arraysolutions.com >, SSB USA < http://www.ssbusa.com > and Universal Radio < http://www.universal-radio.com >.

A Strange Scene On My Squeezebox Screen

Also: Keeping Up With Pandora, Livestream, Grace Reciva, Roku, TiVo, YouTube and So Much More . . .

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

Sometime in January, my Logitech Squeeze box Wi-Fi music player-tuner started acting strangely.

I enjoy listening to *Coast to Coast AM* with George Noory before going to sleep each night and there is a Canadian station which replays the second hour of the prior night's broadcast at 10 p.m. Eastern time. Although the program often touches on the paranormal, that's not what was *strange* about the Squeezebox.

Its usual screen display when *off* is a digital clock. One night as I went to listen, the screen was blank. Naturally I thought the radio had crashed or lost connection with my WiFi access point. My first inclination was to remove the power cord and *reboot*, causing the radio to re-connect. However, at the end of the reboot sequence, the display screen would go dark again. I tried this several times.

The Squeezebox content can be governed through a local digital media server running the Squeezebox Server or through < http://www.mysqueezebox.com >. This website provides access to the Radiotime database of programming information. It also features a *Remote Control* function, allowing you to remote control your Squeezebox over the Internet. So I thought to connect to the website, and check the online remote control even as the display screen on the radio showed no signs of life.

The *Remote Control* has a virtual power button. I clicked on it and my Squeezebox suddenly

Figure 1. The Squeezebox Internet radio can be controlled over the Web through a *Remote Control* applet. Note the virtual power button at the upper left.

Figure 2. Grace now offers a component-style Reciva-based Internet and FM radio, with access to a world of content.

came to life. A website on the Internet was controlling my radio!

I concluded that something in the radio software or on the server back end was putting the device into a strange state. I did a little bit of reading on some Internet message boards and it seems as if the problem may have been related to a radio software update gone bad.

If you own a Squeezebox and have a similar problem, don't despair. Log on to the *mysqueezebox* website and power up your radio (**Figure 1**).

Around the end of January my Squeezebox was offered an automatic software update. I installed it and all was well with the world. Hopefully, this was the case for others as well. Again, I could fall asleep to *Coast to Coast AM*. In fact, listening to George Noory has become such a ritual in our home that bedtime is now known as *Snoory time* (no offense to the host — we *really* enjoy the program).

Internet Listening Notes

The Squeezebox provides access to a lot of pleasant listening. In addition to program choices from the Radio Time database, it offers access to the BBC, Live 365, Shoutcast, Pandora, Sky.fm and Sirius Internet Radio. A subscription is required for the Sirius access, but if you are a Howard Stern fan and don't own a satellite radio, this may be for you.

Pandora has become the "radio" station of choice around my house, with support from not only the Squeezebox, but my Grace Recivas and Tivo. It's a sign of the times that commercials are now heard, if only occasionally. Pandora does a great job in predicting the type of music one wants to hear. Just name a song or an artist, and Pandora goes to work for you.

My wife, Tina, happens to be a fan of Pink and of Elton John, and those are her two favorite Pandora stations. If she doesn't like a particular song, it can be skipped. If she wants to add variety to her listening, she can add another artist into the mix, perhaps Pink and Lady Gaga or Elton John and David Bowie. The combinations and permutations are limited only by your imagination.

Internet radio manufacturers are aware that local content is important to many listeners. A feature of both the Squeezebox and the Recivas are pre-programmed lists of local radio stations. If I want to hear oldies from WCTC in New Brunswick, New Jersey or one of the HD subchannels of the New York over-the-air (OTA) stations, I can do that on either platform.

I recently added a Grace Reciva component-style tuner (**Figure 2**) to my sound system. This device features an *old-school* FM tuner, as well — but not HD. Just add an external antenna for reasonable performance and RDS (Radio Data Systems) information on the display screen.

YouTube: On a TV Near You

Whether YouTube represents the future of television is hard to say, but it is certainly a powerful medium with great influence. According to some estimates, it reaches over 120 million viewers per month. That is more viewers than many broadcast and cable stations.

A computer is not the only way to watch YouTube. It can be viewed on a mobile telephone, on game consoles, on streaming appliances such as the Roku, on TiVo and directly on some television sets.

For example, the Sony EX-700 series is WiFi capable. With the addition of a proprietary and somewhat *pricey* WiFi USB interface — only the Sony interface

Figure 3. Radio Moscow never looked so good back in the Cold War days. *Russia Today* via YouTube brings news and opinion to your den from a Russian perspective.

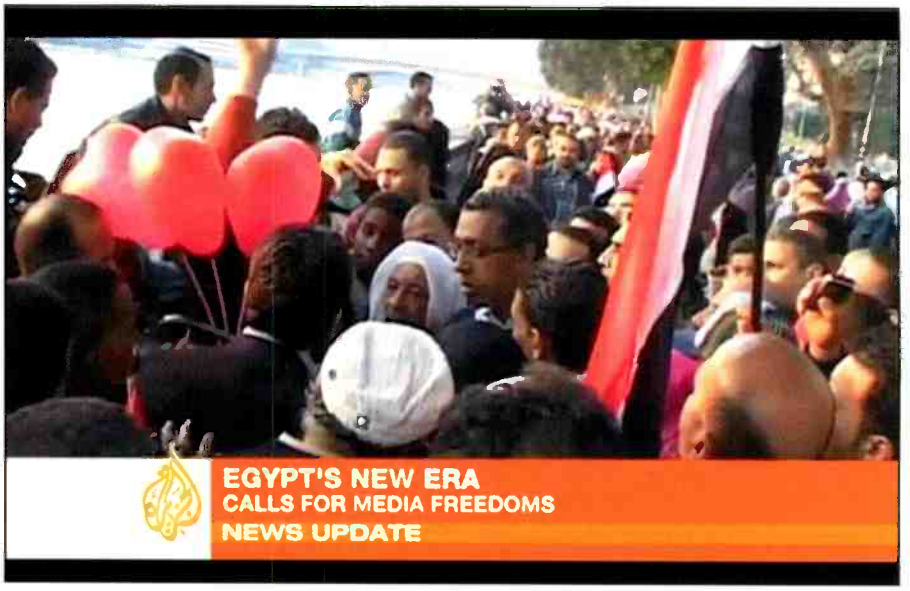


Figure 4. Al Jazeera posts lots of news content on YouTube for viewing on your schedule.

will work on the Sony Internet capable models — your television gains some Internet capabilities.

Foreign Broadcasts On YouTube? *Da!*

YouTube has content of potential interest to shortwave listeners and information junkies alike. For example, the Russia Today channel features news about Russia and coverage of the world from a Russian point of view. The channel has had more than 5 million views since 2007. According to its YouTube channel <http://www.youtube.com/user/RussiaToday>:

RT is a 24/7 English-language news channel. We are set to show you how any story can be another story altogether. Broadcasting over six continents and 100 countries, our coverage focuses on international headlines, giving an innovative angle set to challenge viewers worldwide.

The channel is government-funded but shapes its editorial policy free from political and commercial influence. Our dedicated team of news professionals unites young talent and household names in the world of broadcast journalism.

We're here to bring you another story.

Programs include *RT America*, broadcast from Washington, DC; *Prime Time Russia*, and *RT Sport*. The picture quality is great **(Figure 3)**.

YouTube was instrumental in transmitting pictures of the recent political demonstrations and chaos in Egypt, Bahrain, Libya and even Wisconsin. Al Jazeera is one news organization that does not have access to many cable systems in the U.S., so offers its content on YouTube to watch as you see fit.

YouTube was as much a part of the story in Egypt as it presented it. Internet social media sites such as Facebook, Twitter and YouTube were critical to the organization of the street protests that brought down the Mubarak government.

Social media sites are used in may repressive parts of the world as alternative communication vehicles. Facebook is not just a way to play Farmville or Mafia Wars!

Taking 'Furnace 101' via the 'Tube

YouTube is also an excellent source of instructional knowledge. For example, I had some issues with my furnace last winter and wanted to try some basic diagnostics before spending money on a so-called *expert*.

I started with a Google search on my furnace model number and ended up watching some videos that showed and explained how to replace a starter element and a temperature sensor rod.

And there is lots of hobby-related material on YouTube, as well. I did a Google search for "SWL Fest Youtube" and came up with a video of a 2009 SWL Winterfest session on interval signals, including live performances on a recorder. Another video showed the

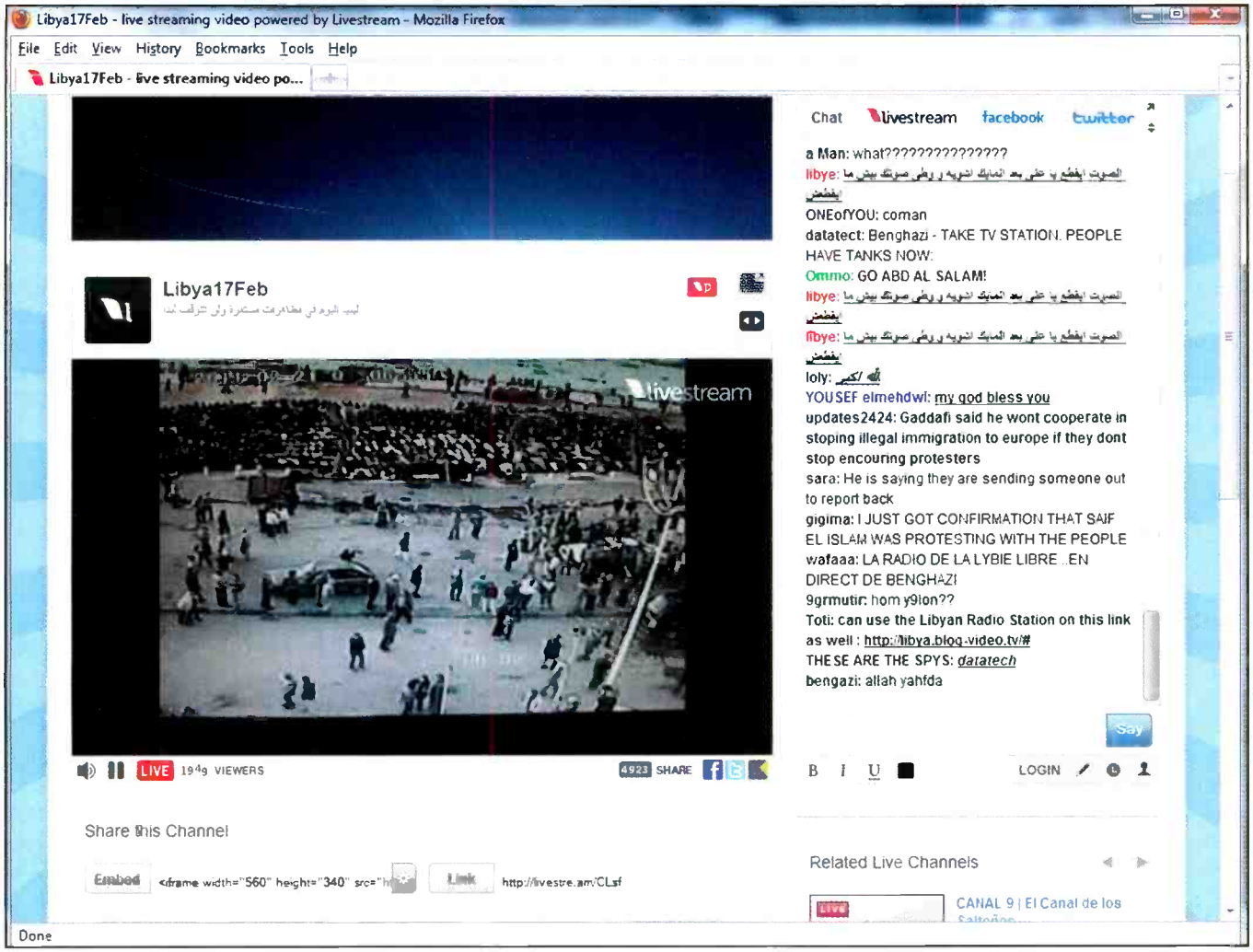


Figure 5. Livestream not only had a feed directly from Libya with a parallel chat window discussing events as they were happening, but also was a portal to get messages to and from the repressive nation.

awarding of the grand prize at the evening raffle following the banquet.

Paddling Into Livestream

Another interesting source of live content from around the world is < http://www.livestream.com >. Whether you're looking for news, sports or entertainment, you'll find it on Livestream.

You can even use Livestream to stream *your* event around the world. It supports free channels and premium channels.

A free channel is limited to a speed of 500 kilobits/second and will display advertising to your viewers. A premium channel can be had for a minimum of $350 per month, does not subject your viewers to advertising and supports widescreen HD quality at T1 speeds.

Livestream was a source of coverage of the dramatic events in Libya earlier this year, with violent street demonstrations against the dictatorial leader Gaddafi. Along with the Livestream feed comes a chat window. It flew by with accusations, talk about spies and appeals for information about loved ones **(Figure 5)**.

Other live streams during a recent check showed programming from the U.S., Spain, Greece, Mexico and other locales. It seems that many programmers are using Livestream in the way that shortwave clandestine broadcasters send messages of political opposition across borders and into their homelands.

Of course, as we learned with recent events in Egypt, Bahrain and Libya, it is perhaps easier for a dictatorial nation to disconnect from the Internet than it is to jam radio signals.

I saw a feed from Channel One, the Farsi-based Iranian expatriot station from Los Angeles. There was a live studio feed from WYSH radio, located in Clinton, Tennessee. There are music videos and even channels where the viewer can watch live video game competitions in progress.

wwiTV for the Latest from Japan

A while back we told you about wwiTV < http://wwwitv.com > as a great online source of foreign television programming via the Internet. In the days following the terrible earthquake and tsunami in Japan, I turned to wwiTV to watch NHK World. It featured in-depth programming about the situation in and around the crippled Fukushima nuclear power plants.

Now, It's Your Turn

What are you listening to and watching these days? And how are you watching it? Sometimes the medium is the message but content is still king.

Let me know via that other medium, email: < k2dls.rfbits at gmail.com >.

– 73 de K2DLS

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

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

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

UTC	Freq.	Station/Country	Notes
0000	5970	BBC, Oman Relay	
0000	6165	Radio Nederland, via Bonaire	
0000	5755	WTTW, Tennessee	
0100	11710	Radio Argentina al Exterior	JJ
0100	6100	Radio Havana Cuba	SS
0100	6005	China Radio International, via Canada	
0100	5995	Radio France International, via French Guiana	SS
0100	6025	Radio Amanecer, Dominican Republic	SS
0100	3250	Radio Luz y Vida, Honduras	SS
0100	6120	IRIB, Iran	
0100	15720	Radio New Zealand International	
0100	7250	Voice of Russia	
0100	7325	Voice of America, Sri Lanka Relay	
0100	6125	Radio Exterior Espana, Costa Rica Relay	SS
0100	5045	Radio Cultura do Para, Brazil	PP
0100	6175	Voice of Vietnam, via Canada	
0200	4905	Radio Anhanguera, Brazil	PP
0200	5035	Radio Apareceida, Brazil	PP
0200	4755	Radio Imaculada Conceicao, Brazil	PP
0200	5910	Alcaravan Radio, Colombia	SS
0200	6019	Radio Victoria, Peru	SS
0200	4828	Voice of Zimbabwe	
0200	4915	Radiodifusora Macapa, Brazil	PP
0300	4930	Voice of America Relay, Botswaa	
0300	9553	Super Radio Deus e Amor, Brazil	PP
0300	5025	Radio Rebelde, Cuba	SS
0300	7375	Voice of Croatia, via Germany	
0300	6110	Radio Fana, Ethiopia	vernacular
0300	9305	Radio Cairo, Egypt	AA
0300	9705	Radio Ethiopia	Amharic
0300	4780	Radio Djibouti	FF
0300	11935	Radio Japan, via Bonaire	JJ
0300	5010	Radio Madgasikara, Madagascar	Malagasy
0300	5915	Radio Zambia	
0300	7200	Radio Omdurman, Sudan	AA
0300	9460	BBC, Seychelles Relay	
0300	4926	UBC Radio, Uganda	
0300	3240	TWR, Swaziland	vernacular
0300	7215	TWR, via South Africa	Ormo
0400	7265	Radio Canada International, via England	AA
0400	6160	CKZN, Canada	
0400	5865	Radio Algerienne, Algeria	AA
0400	6100	Radio Tirana, Albania	
0400	3255	BBC, South Africa Relay	
0400	5905	Deutsche Welle, Germany, Portugal Relay	
0400	4052.5	Radio Verdad, Guatemala	SS
0400	6973	Galei Zahal, Israel	HH
0400	4790	Radio Vision, Peru	SS
0400	11610	Radio Voice of the People, to Zimbabwe	EE/vernacular
0400	7305	Radio Romainia International	
0400	9430	CVC-One Africa, Zambia	
0400	7320	Channel Africa, South Africa	
0400	7275	RT Tunisienne, Tunisia	AA
0400	4775	TWR, Swaziland	German
0400	6015	RFE/RL, via Germany	RR
0400	4960	Voice of America, Sao Tome Relay	
0500	4885	Radio Clube do Para, Brazil	PP
0500	4985	Radio Brazil Central	PP
0500	7295	Radio Algerienne, via France	AA
0500	4950	Radio Nacional, Angola	PP
0500	6165	RNT Tchadienne, Chad	FF
0500	6250	Radio Nacional, Equatorial Guinea	SS
0500	9755	Deutsche Welle, Germany, Rwanda Relay	
0500	6110	Radio Japan, via Canada	
0500	7335	Voice of Russia, via French Guiana	SS
0500	6165	Radio Zambia	
0500	7315	Radio Dabanga, Sudan, via France	AA
0500	3350	Radio Exterior de Espana, via Costa Rica	SS
0500	7285	Radio Sonder Grense, South Africa	Afrikaans
0600	9865	Radio Nederland Relay, Bonaire	DD
0600	6090	University Network, Anguilla	
0600	7125	Radio Guinee, Guinea	FF
0600	5790	BBC	RR
0600	7475	Voice of Greece	Grek
0600	9790	Radio France International	FF
0600	3340	Voz Missionaira, Honduras	SS
0600	9885	IBIB, Iran	Dari
0600	9770	IRIB, Iran, via Lithuania	Italian
0600	9895	Radio Nederland, via Moldova	DD
0600	9840	Radio Rossii, Russia	RR
0600	9820	Voice of Turkey	TT
0600	4990	Radio Apinte, Suriname	DD
0700	6185	Radio Educacion, Mexico	SS
0800	6050	HCJB, Ecuador	SS
0800	9635	RTV Malienne, Mali	FF

UTC	Freq.	Station/Country	Notes
0800	9690	Radio Nigeria	vernacular
0900	6135	Radio Santa Cruz, Bolivia	SS
0900	3290	Voice of Guyana	
0900	3925	Radio Nikkei, Japan	JJ
0900	9765	Radio New Zealand International	
0900	7260	Radio Vanuatu	
1000	6035	La Voz del Guaviare, Colombia	SS
1000	4755	The Cross Radio, Micronesia	
1000	3275	Radio Southern Highlands, Papua New Guinea	Tok Pisin
1000	9615	Radio Veritas Asia, Philippines	Mandarin
1000	5960	Radio Fy, Papua New Guinea	
1000	3280	La Voz del Napo, Ecuador	SS
1000	3310	Radio Mosoj Chaski, Bolivia	Quechua
1100	7400	Radio Bulgaria	
1100	2485	ABC Northern Territories Service, Australia	
1100	6185	Radio Japan	RR
1100	3365	Radio Milne Bay, Papua New Guinea	Tok Pisin
1100	3325	Radio Buka, Papua New Guinea	Tok Pisin
1100	3385	Radio East New Britain, Papua New Guinea	Tok Pisin
1100	4955	Radio Cultrural Amauta, Peru	SS
1100	11715	Radio Taiwan International	
1100	5020	SIBC, Solomon Islands	
1100	4747	Radio Huanta 2000, Peru	SS
1200	6020	Radio Australia	
1200	13665	China Radio Internaitonal, via Albania	
1200	5980	Radio Australia	
1200	9695	Radio Japan	
1200	3925	Radio Nikkei, Japan	JJ
1200	11675	Polish Radio, via Austria	
1200	7280	Sound of Hope,Taiwan, to China	CC
1200	6185	Voice of Korea, North.Korea	KK/CC
1200	11920	Radio Romaina International	Romanian
1200	15510	Voice of Russia	pashto/Dari
1200	7220	Voice of Vietnam	RR
1200	9650	KBS World Radio, South Korea	
1200	7515	Radio Free Asia, Northern Marianas Relay	Burmese
1200	4759	Radio Republik Indonesia, Makasssar	II
1300	9720	Radio Japan	Bengali
1300	9526	Voice of Indonesia	
1300	7205	Traxx FM, Malaysia	
1300	3480	Voice of the People, to North Korea	KK
1300	9800	Voice of Russia	RR
1300	9435	Radio Free Asia, via Tajikistan	Tietan
1400	15400	HCJB, Australia	
1400	7240	Radio Australia	
1400	12095	BBC, Cyprus Relay	
1400	15340	RTV Marocaine, Morocco	AA
1400	21695	Voice of Africa, Libya	
1400	15560	RDP International, Portugal	PP
1400	15245	Polish Radio, via Germany	Byelorussian
1400	9725	Radio Thailand	
1400	15435	Vatican Radio	Urdu
1400	12035	Voice of Turkey	
1400	7365	Radio Taiwan International	CC
1400	15140	Sultanate of Oman Radio	
1400	13675	China Radio International	
1500	17620	Radio France International	FF
1500	17745	Sudan Radio Service, USA, via Portugal	EE/AA
1600	9610	Radio Canada International	
1600	15605	Radio France International	
1600	15520	RDP International, Portugal	PP
1600	11905	SLBC, Sri Lanka	EE/Hindi
1800	9940	All India Radio	
1800	11800	Voice of Africa, Libya	
1800	13650	Radio Kuwait	AA
1800	13720	RDP International, Portugal	PP
1800	9765	Vatican Radio	PP
1800	9470	WTJC, North Carolina	
1900	9745	China Radio International	Espranto
1900	17790	Radio Canada International	FF
1900	21690	Radio France International, French Guiana Relay	FF
1900	11620	All India Radio	
1900	11995	Voice of Africa, Libya	Hausa
1900	15540	Radio Kuwait	
1900	15465	RDP International, Portugal	PP
2000	6200	Radio Bulgaria	GG
2000	12070	Deutsch Welle, Germamy, Rwanda Relay	GG
2000	15190	Radio Africa, Equatorial Guinea	
2000	6270	Radio Cairo, Egypt	FF
2000	13780	Deutsche Welle, Sri Lanka Relay	
2000	15275	Deutsche Welle, Germay, Sri Lanka Relay	
2000	15120	Voice of Nigeria	
2000	11610	Radio Nederland, via Rwanda	
2000	15125	Radio Exterior Espana, Costa Rica Relay	SS
2000	11945	Radio Free Asia, via Tajikistan	Chinese
2000	15550u	WJHR, Florida	
2000	15285	KJES, New Mexico	
2100	9445	All India Radio	
2100	6280	All India Radio	
2100	9705	La Voix du Sahel, Niger	FF
2100	15420	WBCQ, Maiane	
2100	9565	Radio Marti, USA	SS
2100	9555	Broadcasting Service of Kingdom of Saudi Arabia	AA
2200	11780	Radio Nacional Amazonia, Brazil	PP
2200	7390	Radiostation Belarus	
2200	15345	Radio Argentina al Exterior	AA
2200	13700	China Radio International, via Canada	SS
2200	17680	CVC-La Voz, Chile	SS
2200	11865	Deutsche Welle, Germany, Portugal Relay	GG
2200	11960	RDP International, Portugal	PP
2200	15280	Radio Veritas Asia, Philippines	Chinese
2200	11820	Broadcasting Service of the Kingdom, Saudi Arabia	AA
2200	7345	RT Tunisienne, Tunisia	AA
2300	6070	CFRX, Canada	
2300	11590	Radio Cairo, Egypt	
2300	9420	Voice of Greece	Greek
2300	6240	Radio PMR, Moldova	
2300	9730	Far East Broadcasting, Philippines	Hmong
2300	6927	Radio Nacional de la R.A.S.D., Algeria, to Morocco	AA/SS
2300	7570	Voice of Korea, North Korea	KK
2300	7220	Radio Romania International	
2300	15250	Radio Nacional, Venezuela, via Cuba	SS
2300	7520	Radio Farda, USA, Sri Lanka Relay	DFarsi

When Atoms Get All Excited: Working Sporadic-E DX

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July is one of the more active months of the year for VHF propagation between stations from about 500 to about 3,000 miles apart. *Noticeably* more active.

Strong signals appear on the lower VHF spectrum, and then quickly fade away. Experienced VHF DXers know this as the Sporadic-E season, and July is in the very peak of the yearly season phenomenon that begins in May and ends by September.

Sporadic-E propagation (abbreviated as Es or E_S) affects the highest frequencies of the shortwave spectrum, as well as the lower to (sometimes) the mid-VHF spectrum.

It occurs most frequently during late spring and early summer. Sporadic-E propagation does not typically last very long, but the openings can be quite strong. The key to E_S is the chemistry and physics of Earth's atmosphere — a mixture of gases held to the surface of the Earth by gravity.

These gases vary in density and composition as the altitude increases above the surface. As the atmosphere extends outward from Earth, it becomes thinner and blends with particles of interplanetary space.

The first 60 miles of Earth's atmosphere consists of a homogeneous mixture of various gases. It is called the *homosphere.*

Above the *homosphere* is the *heterosphere* where the gases are no longer uniformly mixed. Relatively more of heavy gas molecules such as molecular nitrogen (N2) and molecular oxygen (O2) are found near the bottom of this region, and relatively more of the lighter gases such as hydrogen and helium are found hear the top.

The atmosphere is also divided into four regions according to temperature trends: the *tro-*

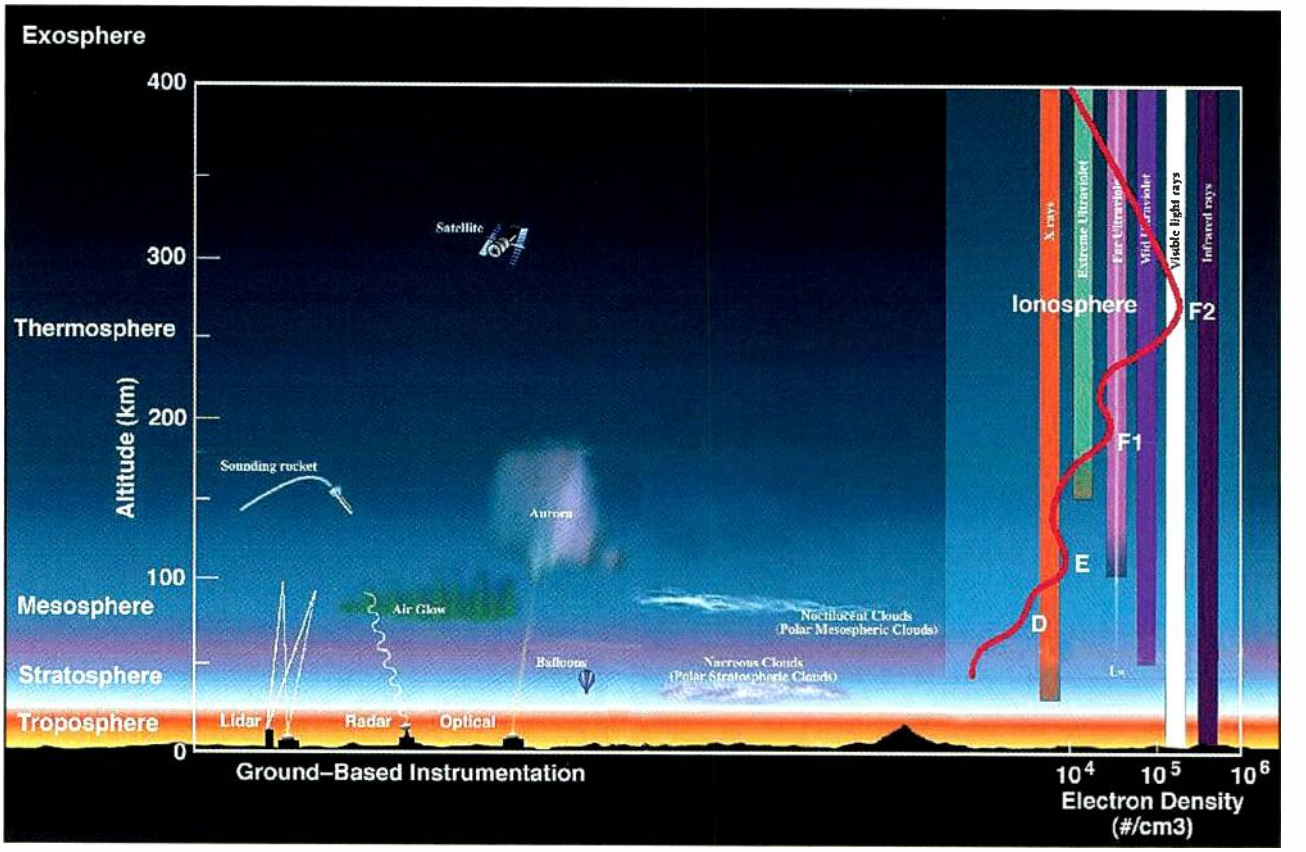

Figure 1. This diagram shows the layers within Earth's atmosphere; the Troposphere, the Stratosphere, the Mesosphere, the Thermosphere, the Ionosphere and the Exosphere. *(Courtesy of NASA)*

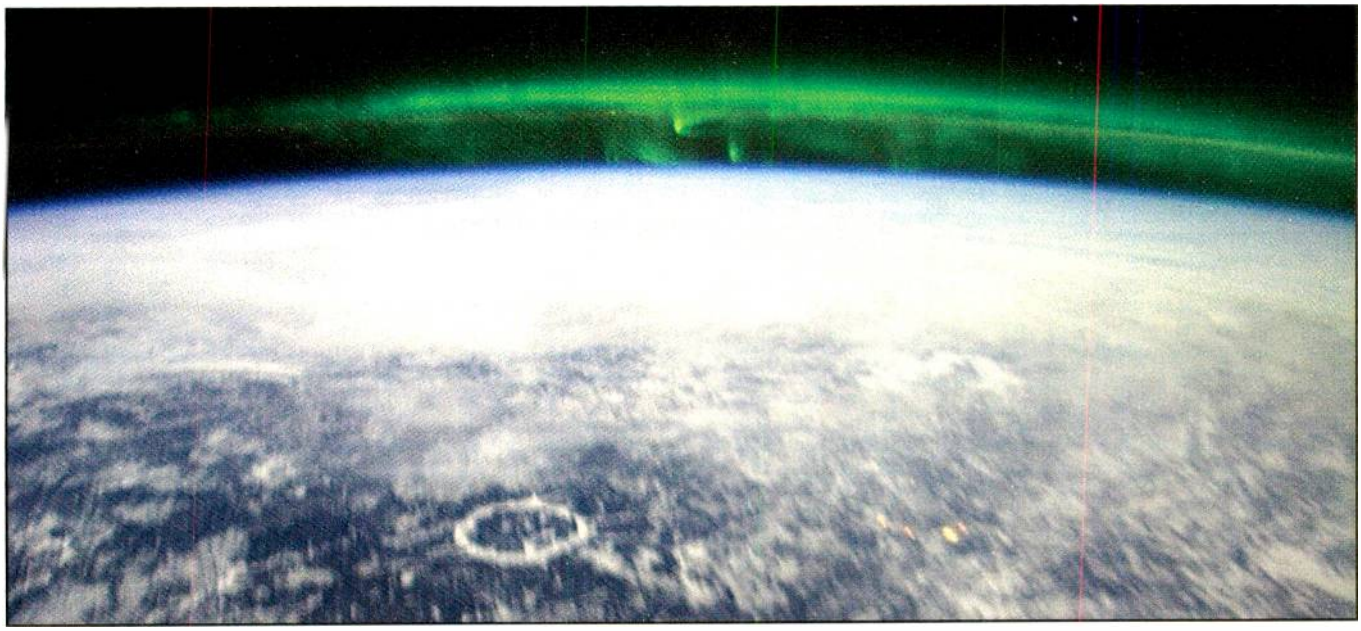

Figure 2. The Aurora Borealis (Northern Lights) occurs in the *E* region of the ionosphere — the same region in which Sporadic-E propagation occurs. *(Courtesy of NASA)*

posphere, the *stratosphere,* the *mesosphere* and the *thermosphere.* The lowest is the *troposphere* and it extends from the Earth's surface up to about six miles. The gases in this region are heavier than those in higher altitudes, and include O2 and N2.

The highest mountains are within this region, as is the high-altitude jet stream. Weather is confined to this lower region and it contains 90 percent of the Earth's atmosphere and 99 percent of the water vapor.

The atmosphere above the *troposphere* is called the *stratosphere,* starting at about six miles out. Gas composition changes slightly as the altitude increases and the air thins. Incoming solar radiation at wavelengths below 240 nanometers is able to create ozone, a molecule of oxygen consisting of three oxygen atoms (O3), in this layer. This gas reaches a peak density of a few parts per million at an altitude of about 16 miles.

At an altitude above 50 miles, the gas is so thin that free electrons can exist for short periods of time before they are captured by a nearby positive ion. The existence of charged particles at this altitude and above marks the beginning of the *ionosphere,* a region having the properties of a gas and of plasma.

Atoms in the *ionosphere* absorb the incoming solar radiation, causing them to become highly excited. When an atom becomes energized, an electron may break away from its orbit, and free electrons and positively charged ions are produced. At the highest levels of the Earth's outer atmosphere, solar radiation is very strong but there are few atoms to interact with, so ionization is small.

As the altitude decreases, more gas atoms are present so the ionization process increases. At the same time, however, an opposing process called *recombination* begins to take place in which a free electron is *captured* by a positive ion if it moves close enough to it. As the gas density increases at lower altitudes, the *recombination* process accelerates since the gas molecules and ions are closer together.

Because the composition of the atmosphere changes with height, the ion production rate also changes and this leads to the formation of several distinct ionization regions, known as the *D, E* and *F* regions. The breakdown between regions is based on which wavelengths of solar radiation are absorbed in that region most frequently.

Meet the *D* Region . . .

The *D* region is the lowest in altitude, though it absorbs the most energetic radiation, known as hard x-rays. The *D* region doesn't have a definite starting and stopping point, but includes the ionization that occurs below about 56 miles.

When this region is energized it absorbs high-frequency (HF) waves between three and 30 MHz (or wavelengths between 100 meters and 10 meters), and refracts frequencies in the range of three to 30 kilohertz (very low frequencies, VLF).

The *D* region is a daytime layer due to the density of the gases as well as the direct energizing from sunlight. Absorption of ultra-violet and visible light radiation creates more negative ions than electrons during the day. At night these ions quickly recombine with other ionic particles, allowing distant AM radio reception to occur.

. . . and Three Faces of the *F* Region

The *F* region is the largest part of the *ionosphere,* as well as the highest, and is the primary refractor of high frequency (three to 30 MHz, shortwave) frequencies. It extends from about 65 miles up through the end of our atmosphere. Since particle densities decrease as you travel away from Earth it is difficult to say exactly where our atmosphere ends.

Because it is such a large region, the *F* region is divided into two main sections: The *F1* daytime layer, and the denser *F2* region, which exists both during the day and night.

Recently, a third region, *F3,* has been identified, but more research is being done to understand its characteristics. The *F* region *reflectivity* is directly influenced by solar activity. During years of peak solar activity, the *F* region will have a much higher ionization density, allowing for higher frequencies and sharper angles of reflection of a propagated radio wave.

Six-meter amateur radio operators look forward to solar

Optimum Working Frequencies (MHz) - For July 2011 - Flux = 115, Created by NW7US

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

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

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

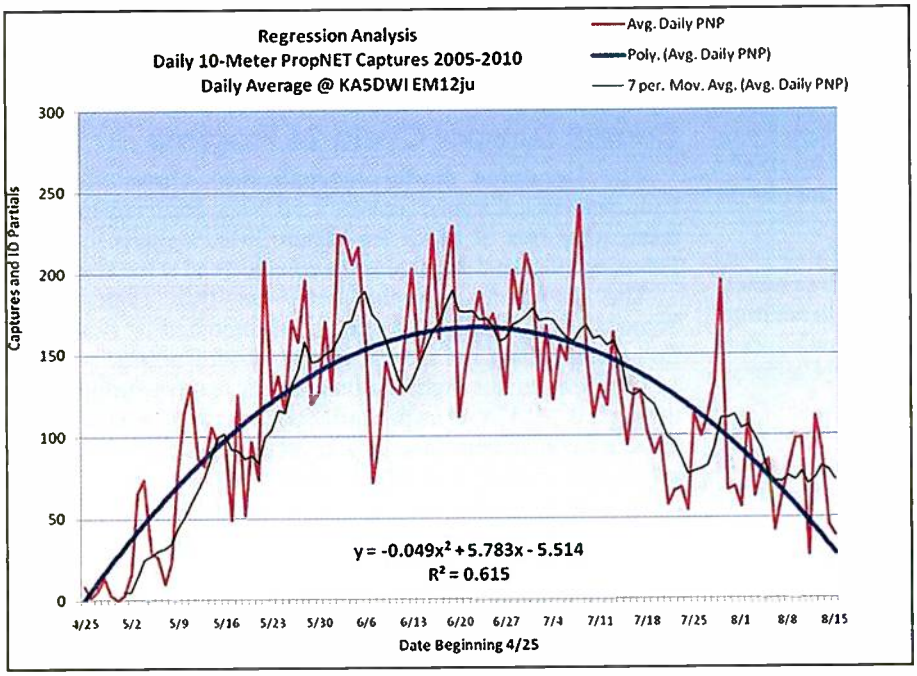

Figure 3. Sporadic-E appears around the beginning of May (as if a switch is turned on!) and lasts to about September each year. Activity-wise, it peaks very near the Summer Solstice. It rises quickly and takes its time to end. July is one of the most active months, and this year should be favorable for not only exciting Sporadic-E propagation, but some enhancements perhaps from the *F*-region propagation due to the increased sunspot activity. *(Courtesy of Art Jackson, KA5DWI < http://propnet-studies.blogspot.com >)*

cycle peaks, as those years are when the *F* region can bring DX on frequencies of up to 80 MHz.

The Magical *E* Region

Between the *D* and *F* regions is the *E* region of the *ionosphere* that extends from about 56 miles to about 65 miles. The region's height varies, and, along with electron (ionization) density, depends on solar zenith angle and solar activity.

During daylight hours, electron density (a measure of the ionization level) increases, while at night, when the supply of x-rays from the sun is cut off, ionization levels drop. These ionization densities are expected under normal conditions, absent of E_S.

Occasionally, very thin regions of extremely dense ionization can form within the *E* region. These regions can apparently be caused by several mechanisms, and have a wide variety of characteristics.

At times, these thin regions form into dense clouds, or patches, which are capable of reflecting radio waves of frequencies much higher than those reflected by the regular *E* or *F* layers. At times, these clouds make it possible to communicate over relatively long distances on frequencies as high as 220 MHz!

These clouds usually cover a rather small geographical region, approximately 50 to 100 miles in diameter. They occur more or less at random and are relatively short-lived, usually disappearing within a few hours.

Sporadic-E can occur during daytime or nighttime, and it varies markedly with latitude. It is this transient nature of these localized patches of highly dense clouds of electrons in the *E* region of the ionosphere that significantly affect radio wave propagation that led to communicators labeling this mode as *Sporadic-E propagation*.

Reflection from E_S clouds takes place with very little signal loss, resulting in exceptionally strong signal levels during most openings. Quite often it is possible to maintain communications considerably off the great circle path between two stations by means of back and side scatter from a sporadic-E cloud.

We can approximate the single-hop distance of a VHF QSO via a Sporadic-E cloud by using simple geometry: The theoretical maximum distance for a transmitted signal propagated after only one refraction off a Sporadic-E cloud is 2,100 km (746 miles).

For the HF bands (below 30 MHz), this appears to be very accurate. However, many transmissions exceeding 2,350 km (1,460 miles) have been observed in the VHF bands. This may be due to a combination of other propagation modes (*tropospheric* and *ground wave* enhancements, and so forth) which adds distance to the theoretical maximum on both sides of the typical propagation model.

If two E_S clouds exist within the signal path, the theoretical distance propagated by E_S can almost be doubled, as long as the clouds are in line with both the transmitter and receiver. This *double hop propagation* is fairly common during widespread occurrences of E_S, especially below 70 MHz.

Three or more clouds could potentially line up, providing low-loss propagation over even greater distances. Of course, the likelihood that each of the clouds are of sufficient density and ionization, and are geometrically lined up, is pretty slim — especially if your interest is in higher frequencies.

Sporadic-E propagation tends to occur in two peaks during the daylight hours centered on either side of noon.

E_S occurrence during the year seems

to follow a similar trend, with the main peak in the late summer, and a second, but weaker, peak occurring in the winter. During the winter peak E_S is most common just after sunset.

The summer daytime peak is in the morning between 7 a.m. and noon, local time. A secondary peak occurs between 8 p.m. and 10 p.m. However, observations over many decades show a slightly stronger likelihood of E_S in the morning than in the afternoon or evening.

Despite the apparent greater likelihood of E_S in the morning hours, however, this diurnal characteristic is much less noticeable in the day-to-day casual observation of DXers. In addition, check for E_S after dark. I remember many summertime E_S openings around midnight between Washington state and California on 10 meters.

Many people still remember an opening that occurred after midnight on June 19, 1992 that resulted in propagation of 144 MHz and higher signals between stations hundreds of miles apart.

A pattern of the occurrence of E_S by some observers suggest that E_S is correlated with the presence of an excess of meteor dust in the E layer, where it is pushed into dense patches on the outside of jet stream wind eddies. This possibility is loosely supported by the repeated presence of E_S above certain locations, such as is seen from the United Kingdom over Nantes in France, and to a lesser extent, over Denmark.

Several studies over the past 30 years have confirmed the presence in E_S clouds of dense patches of meteoric comet dust. It is suggested that this dust is collected in jet stream eddies. This idea is further supported by looking at the seasonal nature of E_S and how it coincides directly with those times of year when the Earth passes through the dense tracks of comet dust. This writer subscribes to this as one of the contributing factors.

Sporadic-E Propagation and You

DX enthusiasts know that during the summer months, FM radio stations (between 88 and 108 MHz), and sometimes weather radio stations in the 162 MHz band are regularly propagated long distances via E_S propagation.

The first sign that a sporadic-E event is starting is by noticing that stations that normally are not heard in your area are now present on the radio dial. As the ionization level increases, the FM band becomes filled with signals, sometimes over-riding a local station!

During E_S propagation, signals can abruptly appear or disappear. Signals are usually very strong during E_S. Ordinary *rabbit ears* are adequate for E_S reception, and are preferred by FM DXers because they can be sharply directional.

Of course, if you are observing E_S on the FM broadcast band, then the six-meter amateur band will likely be alive with sporadic-E activity.

The main factors that set the minimum and maximum distance limits for E_S DX reception are geometry of the earth, E_S cloud electron density, the number of E_S clouds and E_S ionization height.

One method to identify your single-hop E_S target area would be to obtain a great-circle map and draw two sets of boundary lines with a compass. For six-meter amateur and FM broadcast DX, draw one compass circle at approximately 500 miles, and one at 1,500 miles. This would be your prime target area for single-hop E_S.

The same method can be applied to double-hop E_S, with a boundary line drawn at 1,750 miles, and another one at about 2,800 miles. A great-circle distance calculator is also useful for submitting longitude and latitude coordinates. For example, visit: < http://www.gcmap.com >.

Current Sunspot Cycle 24 Progress

The Dominion Radio Astrophysical Observatory at Penticton, BC, Canada, reports a 10.7-cm observed monthly mean solar flux of 115.3 for March 2011, a sharp rise over February's 94.5 and continuing the upward trend of the new cycle.

The 12-month smoothed 10.7-cm flux centered on September 2010 is 82.4. The predicted smoothed 10.7-cm solar flux for July 2011 is 115, give or take about 9 points.

If we do see this high of a flux in June, expect strong openings on 10 and 12 meters primarily on paths between the northern and southern hemispheres. Expect an abundance of daytime activity on 15 and 17 meters, as well.

The Royal Observatory of Belgium reports that the monthly mean observed sunspot number for March 2011 is 56.2, up from February's 29.4 and the highest yet in new Sunspot Cycle 24.

The lowest daily sunspot value of 17 was recorded on March 21. The highest daily sunspot count was 100 on March 8. The 12-month running smoothed sunspot number centered on September 2010 is 19.6. A smoothed sunspot count of 60, give or take about 9 points, is expected for July 2011.

The observed monthly mean planetary A-Index (A_p) for February 2011 is adjusted to 6, and March is 7. These figures still indicate very quiet geomagnetic conditions overall. However, this is slowly changing now that we are seeing a rise in solar energy and sunspot activity.

The 12-month smoothed A_p index centered on September 2010 is 6.3. Expect the overall geomagnetic activity to be varying greatly between quiet to minor storm level during July, since the increased sunspot activity includes flares and related space weather.

Refer to the *Last Minute Forecast* for the outlook on conditions during this month, as published in *CQ Amateur Radio* magzine. You can find the current online version at: < http://sunspotwatch.com >.

Connections . . .

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

If you are on *Facebook,* check out < http://www.facebook.com/spacewx.hfradio > and < http://www.facebook.com/NW7US >. Speaking of *Facebook*, stop by the *Popular Communications* fan page: < http://www.facebook.com/PopComm >.

I invite you to visit my online propagation resource at < http://sunspotwatch.com/ >, where you can get the latest space data, forecasts, and more — all in an organized manner.

Please come and participate in my online propagation discussion forum, as well, at < http://forums.hfradio.org/ >.

Until next month . . .

73 de NW7US, Tomas Hood
< nw7us@NW7US.us >
@NW7US
@hfradiospacewx
(P.O. Box 1980, Hamilton, Montana 59840)

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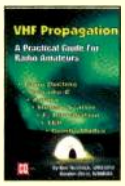

VHF Propagation

by Neubeck, WB2AMU & West WB6NOA

A comprehensive source-book on VHF propagation by two great authors. Includes: Tropo ducting, Aurora, Meteor Scatter, TEP, Sporadic-E, Combo Modes and more!

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This authoritative book on shortwave propagation is your source for easy-to-understand information on sunspot activity, propagation predictions, unusual propagation effects and do-it-yourself forecasting tips.

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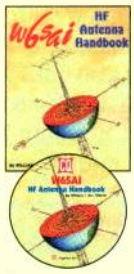
W6SAI HF Antenna Handbook

by Bill Orr, W6SAI



W6SAI was known for his easy-to-understand writing style. In keeping with this tradition, this book is a thoroughly readable text for any antenna enthusiast, jam-packed with dozens of inexpensive, practical antenna projects that work!

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Do-it-yourself electronics projects from the most basic to the fairly sophisticated. Practical tips and techniques on creating your own projects.

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By Juergen A. Weigl, OE5CWL

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With calculations and practical experience, this book shows which basi concepts have to be considered for sloper antennas for the low bands.

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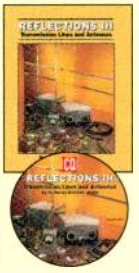
Reflections III

by Walter Maxwell, W2DU



Includes all the information in Reflections I & II and much, much more! This fully revised and updated, this 424-page, third edition is truly a must have!

8.5 X 11 Paperback $39.95
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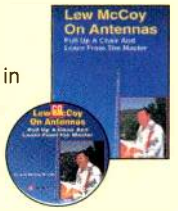
Lew McCoy on Antennas

by Lew McCoy, W1ICP



Unlike many technical publications, Lew presents his invaluable antenna info in a casual, non-intimidating way for anyone!

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Top to Bottom, Scanning the Land of Lincoln

by Ken Reiss
radioken@earthlink.net

The Chicago area of Illinois provides all the complexities of scanning and radio operations that a major sprawling metropolitan area can muster.

At the same time, the southern end of the state is very rural and about as far removed — both geographically and figuratively — from the metro area as possible. Much of the southern part of the state is covered by county sheriffs and volunteer fire departments, and supplemented by the state police.

A Chicago Police Department patrol car, ready to roll. *(Courtesy of Daniel Schwen)*

Established in 1924, the state police has authority statewide, but like many state agencies, they tend to stay out of areas that are covered with more local police services. You'll find the Illinois State Police (ISP) in rural areas and on the highways enforcing traffic.

By contrast, the Chicago Police Department was born before the city of Chicago. In 1835, a three-man police force was established to protect the town of 3,500 people.

The city wasn't incorporated until 1837 and the three men were still on the job.

By the 1920s the department was well established and tackled the gangs and mobs of the prohibition era head on. More than 220 officers were killed in the line of duty during those violent years in the city.

If you're in or around Chicago, I highly recommend the Chicago Area Radio Monitoring Association's website:< http://www.carmachicago.com/ >.

There is a wealth of detailed information about current monitoring and upcoming developments. There are also links to various online scanners that you can listen to no matter where you are.

One < http://bit.ly/fLGVGw > uses a stereo feed and multiple scanners that are shown on a

The bright red Chicago Fire Department Victor L Schlaeger fireboat strikes quite a figure in waters off the city. *(Courtesy of Jeff Zoline)*

Illinois State Police

District 1 - Sterling

Frequency	Tone	Description
764.16875	155 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.16875	412 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.68000	67.0 PL	Dispatch: Base-to-Mobiles (Old)
154.68000	110.9 PL	Dispatch: Mobiles-to-Base (Old)

District 2 - Elgin

764.19375	156 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.19375	412 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.69500	67.0 PL	Dispatch: Base-to-Mobiles / Scales
154.69500	110.9 PL	Dispatch: Mobiles-to-Base / Scales

District Chicago

764.19375	156 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.19375	412 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.93500		Special Details/Alternate/Back-up to EDACS (District 3 old HF-2)
155.46000	CSQ	Car-to-Car / contact with District 15-Tollways

District 5 - Joliet

764.21875	162 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.21875	413 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.92000	CSQ	Dispatch (Old)

District 6 - Pontiac

764.16875	155 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.16875	412 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.68000	CSQ	Dispatch (Old)

District 7 - East Moline

764.21875	162 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.21875	413 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.84500	67.0 PL	Dispatch: Base-to-Mobiles (Old)
154.84500	110.9 PL	Dispatch: Mobiles-to-Base (Old

District 8 - Peoria

764.19375	156 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.19375	412 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
155.52000	67.0 PL	Dispatch - Base (Old)
155.52000	110.9 PL	Dispatch - Mobiles (Old)
154.92000		Multi-County Enforcement Group
155.44500		Multi-County Enforcement Group
154.69500		District 8 PMRS
154.90500		CSQ District 8 PMRS
155.46000		CSQ District 8 PMRS

District 9 - Springfield

764.21875	162 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.21875	413 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.93500	67.0 PL	Dispatch: Base-to-Mobiles (Old)
155.46000	CSQ	State Fair: Main Dispatch (OLD) [HF-4] (136.5 PL on some mobiles)
154.93500	110.9 PL	Dispatch: Mobiles-to-Base (Old)
156.00000	CSQ	Unit-to-Unit (licensed only to ISP District 9)
155.44500	CSQ	Command Center - Springfield
155.44500	CSQ	Command Center - Springfield
156.00000	CSQ	Car-to-Car (Old)
460.35000	151.4 PL	ISP Headquarters - Building Maintenance (@ 801 S Seventh - Spfld)
460.45000	071 DPL	ISP Headquarters - Cleaning Crews (@ 801 S Seventh - Spfld)
857.73750	82.5 PL	ICJIA Data

District 10 - Pesotum (Champaign)

764.46875	165 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.46875	423 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.69500	CSQ	Dispatch: Champaign/Urbana area (no 67.0 PL as of 9/10)
154.69500	110.9 PL	HF-2 - Mobiles
154.95000	CSQ	DCI
39.46000	CSQ	Point-to-Point (w/ Danville city?)

video feed. It is one of the most complete monitoring experiences I have ever seen for an online scanner. The only thing missing is the ability to program the scanner yourself!

StarComm 21

In an interesting twist on commercial and government partnerships, Motorola — headquartered in Schaumburg, Illinois — has built a statewide system called StarComm 21 for both statewide public safety use and other customers.

The needs of the state police were foremost in the system's design, but it is in constant flux as new users are added and locations tweaked. It is in various phases of implementation from county to county, but it appears there is quite a bit of activity either on the system completely, or simulcast with the traditional VHF or UHF frequencies.

The Starcom system is broken into three primary zones: North, Central and South. The south zone may be split into a zone 4, and it appears, according to the CARMA web site, that a zone 5 will be created from the current Cook County trunked system once it is updated later this year.

Chicago Police Department motorcycles prepare to form a motorcade for the Chicago Marathon. *(Courtesy of Tony The Tiger)*

District 11 - Collinsville		
764.21875	162 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.21875	413 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.66500	67.0 PL	Dispatch: Base-to-Mobiles
154.66500	110.9 PL	Dispatch: Mobiles-to-Base
155.46000	CSQ	Statewide: Speed Traps (to Litchfield/Springfield, DuQuoin HQ)
155.37000	67.0 PL	Statewide Point-to-Point / Link to St Louis & MO State
154.95000	CSQ	Speed Detail (with Mary units, plane)
154.71000	67.0 PL	DCI? Mobile units (confirmed PL 10/25/05)
154.92000	110.9 PL	DCI: Car-to-Car/Surveillance
154.95000	110.9 PL	DCI: Car-to-Car/Surveillance (PL on some)
154.95000	110.9 PL	DCI: Details (still in use 2/11)
857.73750	82.5 PL	ICJIA Data
775.85625	61F NAC	Operations (heard Madison Co)
District 12 - Effingham		
764.19375	156 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.19375	412 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.68000	110.9 PL	District 12 - Effingham: High Band
154.90500	CSQ	DCI - "7-Ida" Units
District 13 - DuQuoin		
764.46875	165 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.46875	423 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.93500	67.0 PL	Dispatch (New) [HF-2]
154.93500	110.9 PL	Dispatch (Old)
855.46250		Illinois Criminal Justice Information Authority: Alerts Network
District 14 - Macomb		
764.16875	155 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.16875	412 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.69500	CSQ	Dispatch: Base-to-Mobiles
154.69500	110.9 PL	Dispatch: Mobiles-to-Base
District 15 - Tollway (Downers Grove)		
154.69500		District 2 (A2)
154.93500		District 3 (A3)
154.68000		District 4 (A4)
154.92000		District 5 (A5)
155.52000		District 16 (A-6)
155.46000	CSQ	HF-4 (A7/B7)
155.92500		Car-to-Car (A8/B8)
154.95000		Car-to-Car (B2)
154.66500		Car-to-Car (B3)
154.65000	754 DPL	Car-to-Car (B4)
155.44500		Car-to-Car (B6)
854.98750	043 DPL	ISP District 15 (Now part of StarCom21)
855.23750	043 DPL	ISP District 15 (Now part of StarCom21)
855.48750	165 DPL	ISP District 15 (Now part of StarCom21)
855.73750	165 DPL	ISP District 15 (Now part of StarCom21)
855.96250	251 DPL	ISP District 15 (Now part of StarCom21)
855.96250	263 DPL	ISP District 15 (Now part of StarCom21)
855.96250	245 DPL	ISP District 15 (Now part of StarCom21)
855.96250	043 DPL	ISP District 15 (Now part of StarCom21)
District 16 - Rockford		
764.21875	162 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.21875	413 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
155.52000	110.9 PL	Dispatch [HF-2] (Old)
District 17 - LaSalle		
764.46875	165 DPL	Vehicular Repeater - Out (to SC21)
794.46875	423 DPL	Vehicular Repeater - In (to SC21)
155.46000	67.0 PL	HF-4 (back-up to Starcom)
District 18 - Litchfield		
764.16875	155 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.16875	412 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
155.44500	67.0 PL	Dispatch: HF-2 (Beaver Dam)
155.44500	146.2 PL	Dispatch: HF-2 (mobiles)
155.44500	67.0 PL	Dispatch: HF-2 (Litchfield)
154.96500	CSQ	Car-to-Car (High Band-unofficial)

765.89375	156 NAC	Local Repeater ? [NAC 14D] (7MOB72D)
154.90500	CSQ	DCI Dispatch "18-Ida"
154.95000		DCI
857.73750	82.5 PL	ICJIA Data
953.95000		Microwave Link (ATC Harms (7m N of Carlinville)
957.55000		Microwave Link (Beaver Dam)
District 19 - Carmi		
764.16875	155 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.16875	412 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.92000		Dispatch (Old)
District 20 - Pittsfield		
764.19375	156 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.19375	412 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.68000	110.9 PL	Dispatch (High Band) (tone on mobiles only)
District 21 - Ashkum		
764.19375	156 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.19375	412 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
District 22 - Ullin		
764.21875	162 DPL	Vehicular Repeater/Mobile Extender - Out (to SC21)
794.21875	413 DPL	Vehicular Repeater/Mobile Extender - In (to SC21)
154.68000		Dispatch (Old)
154.71000		ISP (Makanda)

Frequency Of The Month

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

Let's have a listen to 154.920 this month and see what you find. Even if you don't hear anything, let me know and we'll enter you into our monthly drawing.

Send your entries to < radioken@earthlink.net > or via more traditional means to Ken Reiss, 9051 Watson Rd., No. 309, St. Louis, MO 63126. *Until next month, good listening!*

Starcom 21 Frequencies:

Site	Name	Freqs					
1-001	Du Page Co [Simulcast]	774.03125	774.28125c	774.53125a	774.78125a	775.03125	775.28125
		775.53125	775.78125				
1-002	Chicago-South [Cook]	774.09375	774.34375c	774.59375a	774.84375a	775.09375	775.34375
		775.59375	775.84375				
1-003	Andover [Henry]	852.4375	852.96250c	853.48750a	858.2125		
1-004	Ashkum [Iroquois]	851.3375	851.4375	851.86250c	853.32500a	860.8375	
1-005	Ashton [Lee]	851.75	852.21250c	853.18750a	853.8375		
1-006	Albany [Whiteside]	774.33125a	775.34375c				
1-007	E Moline [Rock Island]	851.4125	851.93750c	852.46250a	852.98750a	853.875	
1-008	Lake County [Simulcast]	851.46250a	852.4625	852.93750a	853.9875	854.0375	855.23750c
1-009	Joy [Mercer]	851.8375	852.3625	852.88750c	853.4125	853.9875	
1-010	Melvin-Sibley [Ford]	774.03125	774.28125	774.53125	852.4	853.975	855.9375
		858.33750c	860.3125				
1-011	Rockford Simulcast [Winnebago]	851.2625	851.41250c	851.7125	852.0375	852.38750a	852.8375
		853.2375	853.38750a	853.6375	853.8875		
1-012	Freeport [Stephenson]	851.0875	851.58750c	852.125	853.075	853.725	
1-013	Will County [Simulcast]	769.90625	770.15625	770.65625	770.90625c	773.33125a	774.83125a
1-014	Providence [Bureau]	852.8375	853.36250c	853.93750c	857.3375	857.48750c	858.3125
1-015	Chicago-North [Cook]	851.43750a	851.93750c	852.8875	853.4625	853.9125	854.98750a
		856.2375					
1-016	Bradley [Kankakee]	851.0125	851.4125	852.0125	852.5125	852.91250c	853.0125
		853.88750a					
1-017	Kewanee [Henry]	774.78125c	775.30625a	775.55625a	855.9375	856.3375	
1-018	Illinois City [Rock Island]	851.425	851.95000c	852.47500a	853.8875		
1-019	Mount Carroll [Carroll]	852.3375	852.86250c	853.9875	855.2125		
1-020	McHenry County [ISP Simulcast]	851.9625	852.41250c	852.91250a	853.43750a	855.9875	
1-021	Lena [Stephenson]	852.3625	852.88750c	853.4125	853.4375		
1-022	Rock Island [Rock Island]	851.4875	852.32500c	852.85	853.375	853.95	
1-023	E Moline CC [Rock Island]	852.35	852.87500c	853.40000a	853.97500a		
1-024	Forreston [Ogle]	852.5625	856.21250a	857.21250c	858.2125	859.2125	
1-025	Morris [Grundy]	851.8875	852.07500c	852.38750a	853.96250a	854.1625	
1-026	Kane County [Simulcast]	853.4125	853.93750a	855.4875	855.73750c	856.73750a	856.9875
1-027	Moline 800MHz [Rock Island]	851.3625	851.88750c	852.4125	852.9375	853.4625	
1-028	Moline 700MHz [Rock Island]	774.55625	774.81875c	775.30625a	775.33125	775.33125	775.83125a
1-029	Bonfield [Kankakee]	775.08125	775.33125c	775.58125a	775.83125a		
1-030	Grant Park [Kankakee]	852.4125	853.43750c	853.98750a	855.7125		
1-031	LaSalle [LaSalle]	851.425	851.9	851.95000c	852.47500a	853.3125	853.8875
		853.95	855.1625				
1-032	Oregon [Ogle]	851.35	852.925	853.45	860.21250c	860.7125	
1-033	Ohio [Bureau]	774.53125c	775.28125a				
1-034	Ottawa [LaSalle]	851.3125	851.83750c	852.36250a	853.9875	858.3375	860.8625

1-035	Pecatonica [Winnebago]	851.16250a	851.4625	852.4625	853.06250c		
1-036	Rochelle [Ogle]	774.56875c	775.08125	775.33125a	775.58125a	853.1625	
1-037	Savanna [Carroll]	774.31875	774.33125	774.55625c			
1-038	E Dubuque [Jo Daviess]	851.40000c	851.4	851.925	852.45	853.8375	853.8625
1-039	Galena [Jo Daviess]	851.375	851.90000c	852.42500c	852.95	853.475	
1-040	Sterling [Whiteside]	851.98750c	852.82500a	853.35000a	853.925	855.7375	
1-041	Stockton [Jo Daviess]	852.3125	852.83750c	853.3625	853.9375	855.2125	856.2125
		857.2125	858.2125	859.2125	860.2125		
1-042	Streator [LaSalle]	774.08125	774.33125	774.58125	774.79375c	774.83125	775.54375a
1-043	S Beloit [Winnebago]	851.1	851.57500c	851.8625	853.48750a	853.96250a	
1-044	Ustick [Whiteside]	851.4375	851.96250c	852.48750a	853.9		
1-045	Gilson [Knox]	851.35	851.87500c	852.40000a	855.8625	857.21250a	
1-046	McHenry County [Local Simulcast]	851.35	851.73750c	852.55000a	853.03750a	853.3125	
1-047	DeKalb City [DeKalb]	851.2	851.55000c	851.80000a	852.60000a	854.9875	
1-048	Belvidere [Boone Simulcast]	851.8875	852.075	852.3875	853.33750c	853.51250a	853.81250a
1-099	Z1 Site on Wheels	775.06875c					
1-999	DUCOMM 700 Simulcast [FUTURE]	769.33125	769.75625	770.05625	770.80625	771.10625	771.43125
		772.05625	772.45625	772.93125	773.48125	773.73125	774.18125
		774.43125					
2-001	Oreana [Macon]	851.3125	851.83750c	852.36250a	852.88750a	853.4125	853.9875
		856.2875					
2-002	LeRoy [McLean]	851.35	851.87500c	854.61250a	858.9375	859.93750a	
2-003	Champaign [Champaign]	851.4125	851.93750c	852.46250a	852.9875	854.9625	855.1625
2-004	Danville [Vermilion]	851.4625	852.83750a	853.35000a	856.3375	859.26250c	
2-005	East Lynn [Vermilion]	851.8125	852.33750c	852.86250a	855.7125	859.3375	
2-006	Pesotum [Champaign]	851.3625	852.41250a	852.93750a	853.4625	854.56250c	
2-007	Pontiac [Livingston]	851.4875	851.96250a	852.32500c	852.85000a	857.3125	
2-008	Paris [Edgar]	852.32500c	853.37500a	853.95000a	856.9875	857.2625	857.9875
		858.9875	859.9875	860.9875			
2-009	Bluff Springs [Cass]	775.28125a	775.53125c	775.79375	858.8375	860.8375	860.8875
2-010	Niota [Hancock]	851.375	851.90000c	852.42500a	852.475	852.95000a	853.475
		856.7875					
2-011	Augusta [Schuyler]	851.4125	851.93750c	852.4625	852.9875	853.875	857.3125
2-012	Quincy [Adams]	851.35	851.87500c	852.40000a	852.925	853.45	855.1625
		858.3625					
2-013	New Canton [Pike]	851.83750a	852.36250c	852.8875	853.4125	853.9875	856.9125
2-014	Lincoln [Logan]	851.3375	851.375	851.90000c	852.42500a	852.95000a	853.475
		855.3875					
2-015	Mt Sterling [Brown]	851.38750c	851.91250c	852.4375	852.9625	853.4875	854.8625
2-016	Metamora [Woodford]	774.29375	775.04375c	775.31875a	775.81875a	853.425	
2-017	Chatham [Sangamon]	851.2125	851.4	851.575	851.92500c	852.45000a	852.97500a
		853.8625	855.1875				
2-018	Kingston [Adams]	851.4625	851.98750c	852.8125	853.45		
2-019	Pittsfield [Pike]	851.8125	852.33750a	852.86250c	853.38750a	853.9625	855.3625
2-020	Farmington [Fulton]	774.03213	774.05625	774.28125	774.31875c	774.80625a	775.06875a
		854.8375	859.3375				
2-021	Monmouth [Warren]	852.825	853.35000c	853.92500a	855.3875	855.5125	
2-022	Blyton [Fulton] *	851.8625	852.38750c	852.91250a	853.43750a		
2-023	Manito [Mason]	851.47500a	852.31250c	852.8375	856.21250a	860.2125	860.3625
2-024	Macomb [McDonough]	851.4375	851.96250c	852.48750a	853.325	853.9	855.6625
2-025	Warsaw [Hancock]	851.825	852.35000c	853.4	853.9	853.975	854.8375
2-026	Lakewood [Shelby]	851.82500a	852.35000c	852.875	853.4	853.975	
2-027	Taylorville [Christian]	852.375	852.90000c	853.42500a	857.21250a	859.3125	860.2125
2-028	Decatur North [Macon]	851.3375	851.86250c	852.38750a	855.21250a	858.3125	
2-029	Normal [McLean]	852.875	853.40000c	854.2875	856.7625	857.76250a	858.7625
		859.7625					
2-030	Springfield [Sangamon]	851.1125	851.4875	852.075	852.32500c	852.675	852.85000a
		853.37500a	857.3625	858.2125			
2-031	Congerville [Woodford]	851.325	851.85000c	852.90000a	853.452	854.0375	858.2375
		859.2375					
2-032	Atterberry [Menard]	851.425	851.95000c	852.47500a	853.3125	853.8875	859.3625
2-033	Mendon [Adams]	851.325	851.85000c	852.37500a	852.9	853.425	858.3375
2-034	Mattoon [Coles]	851.3875	851.91250c	852.43750a	852.96250a	853.4875	855.1875
		858.7375	858.8625	859.7375	860.7375		
2-035	Pleasant Hill [Pike]	851.3375	851.86250c	852.3875	852.9125	853.4375	856.3375
2-036	Decatur South [Macon]	851.4375	851.96250c	852.48750a	853.32500a	853.9	856.3125
2-037	Peoria County [Simulcast]	851.925	852.45000c	852.97500a	853.86250a	856.3625	859.2125
2-038	Lynville [Morgan]	851.3625	851.88750c	852.41250a	852.93750a	853.4625	858.3375
2-094	Site on Wheels?	774.29375c					
2-095	Site on Wheels?	775.06875c					
2-099	Z2 Site on Wheels	775.06875c					
3-001	Mascoutah [St Clair] (OFF AIR)	774.78125	775.34375c	775.55625a	775.80625a	855.1625	859.3375

3-002	Sumner [Lawrence]	851.38750a	851.91250c	853.4875			
3-003	Mt Carmel [Wabash]	851.85	852.37500c	852.90000a	857.8875		
3-004	Ina [Jefferson]	851.425	851.95000c	852.47500a	853.31250a	853.8875	857.8375
3-005	Belleville [St Clair] (OFFLINE)	851.3375	851.86250c	852.38750a	852.91250a		
3-006	Brussels [Calhoun]	852.35	852.87500c	853.4	855.5125		
3-007	Beaver Dam [Macoupin]	851.37500a	851.90000c	852.42500a	859.2125		
3-008	Carmi [White]	851.35	851.87500c	852.40000a	852.92500a	853.45	
3-009	Flatrock [Crawford]	851.3625	851.725	851.88750c	852.41250a	852.9375	853.4625
3-010	Chester [Randolph]	851.325	851.85000c	852.37500a	852.90000a	853.425	
3-011	Lawrenceville [Lawrence]	852.87500a	853.40000c	853.975	858.2125		
3-012	Mount Olive [Macoupin]	774.03125	775.03125c	775.53125a	775.84375a	855.3875	855.7375
		858.90625					
3-013	Newton [Jasper]	851.33750a	851.86250c	852.38750a	852.91250a	853.4375	
3-014	Junction City [Clinton]	774.31875	774.53125c	775.28125	855.6625	860.8125	
3-015	Cobden [Union]	851.8125	852.33750c	852.86250c	855.7125		
3-016	Cora [Jackson]	851.35000a	851.87500c	852.4	852.925	853.45	860.3375
3-017	Cypress [Johnson]	851.46250a	851.98750c	852.825	853.925		
3-018	DuQuoin [Perry]	851.91250a	852.43750c	852.96250c	855.3625	858.9125	
3-019	Herod [Pope]	852.4875	852.98750c	853.325	853.90000a	856.2125	859.3375
3-020	S Golconda [Pope]	851.38750a	852.96250c	853.4875			
3-021	Vienna [Johnson]	774.55625c	775.08125	775.33125a	775.58125	860.8875	
3-022	Robinson [Crawford]	851.425	851.725	851.95000c	852.47500a	853.3125	
3-023	E St. Louis [St Clair]	851.8375	852.36250c	852.88750a	853.98750a	858.3375	
3-024	Nilwood [Macoupin]	774.03125	774.30625	774.54375c	774.79375a	775.29375a	856.3375
		857.3375					
3-025	Edwardsville [Madison]	851.25	852.11250c	852.77500a	853.66250a	854.0125	860.3375
3-026	Eaton [Crawford]	851.8125	852.33750c	853.38750a	853.9625		
3-027	Mason [Effingham]	851.4125	852.4625	852.98750c	853.87500a	860.8875	
3-028	Fairfield [Wayne]	852.825	853.35000c	853.92500a	857.2125		
3-029	Makanda [Jackson]	851.3375	851.86250c	852.38750a	852.91250a		
3-030	Vandalia [Fayette]	851.45	851.97500c	852.81250a	853.3375	853.9125	854.1875
3-031	Mount Vernon [Jefferson]	851.4	851.92500c	852.45000a	852.97500a	853.8625	858.8625
3-032	Gorham [Jackson]	851.475	852.31250c	852.83750a	853.36250a		
3-033	Evansville [Randolph]	851.41250a	851.93750c	853.87500a	855.3675	856.2125	
3-034	New Roy [Johnson]	774.08125	774.33125c	774.58125	774.80625c	774.83125	775.08125
3-035	Baungart [Saline]	774.28125a	774.53125a	775.30625c			
3-036	Marshall [Clark]	851.45	853.33750a	853.91250a	854.71250c		
3-037	Cave-In-Rock [Hardin]	851.475	852.31250c	852.425	852.8375	853.9375	
3-038	Nebo [Pike/Calhoun]	851.4375	851.96250c	852.4875	853.9		
3-039	Rock Creek [Hardin]	851.37500c	851.90000c	853.47500c			
3-040	Phillipstown [White]	851.4875	852.32500c	852.85000a	853.37500a	853.95	
3-041	Elco [Alexander-N]	851.4	851.92500c	852.45000c			
3-042	McClure [Alexander]	852.425	852.95000c	853.47500c			
3-043	Bluford [Jefferson]	852.425	852.45	852.95000c	853.47500a	855.1625	860.3375
3-044	Alto Pass [Union]	852.8875	853.41250c	853.98750a	857.21250a		
3-045	Thompsonville [Franklin]	851.97500c	852.875	853.40000c	853.8875	858.3375	
3-046	Flora [Clay]	851.3125	851.83750c	852.36250a	859.2125		
3-047	Equality [Gallatin]	851.8375	852.36250c	853.87500c	860.8375		
3-048	Metropolis [Massac]	851.4875	852.32500c	852.85000a	860.3375		
3-049	Sparta [Monroe]	852.325	852.85000c	853.37500a	859.2125		
3-050	Greenup [Cumberland]	851.475	852.31250c	852.83750a			
3-051	Villa Ridge [Pulaski]	851.425	851.88750a	851.95	852.47500c		
3-052	Kampsville [Calhoun]	851.4125	851.93750c	852.98750a	853.87500a		
3-053	Caseyville [St Clair] (OFFLINE)	774.05625	774.28125c	774.59375a	774.81875a		
3-054	Martinsville [Clark]	851.35	851.87500c	852.40000a	852.925	853.45	
3-055	Godfrey [Madison]	851.35000a	851.87500c	852.40000a	852.6625	853.0875	858.2125
3-056	Kritesville [Calhoun]	851.325	851.85000c	852.37500a	855.6625		
3-057	N Golconda [Pope]	851.325	851.85000c	852.37500a			
3-058	Waterloo [Monroe]	774.56875	775.31875c	775.59375a	775.78125a	854.3125	854.4375
3-059	St. Clair County [Simulcast]	851.075	851.22500c	851.56250a	851.7	851.8	852.0875
		852.16250a	852.1875	852.5875	852.7	852.75	853.1375
		853.6375	853.85	857.7375			
3-060	Greenville [Bond]	851.125	851.58750c	852.8	853.25	853.725	
3-061	Effingham [Future]	851.6375	852.1625	852.6875	853.6375		
3-095	Z3 Site on Wheels (?)	774.29375c					
3-099	Z3 Site on Wheels	774.29375c	776.28750c				
5-001	Cook - North Simulcast	851.125	851.175	851.6125	851.725	852.05	852.2125
		852.28750a	852.56250a	853.13750a	853.26250c		
5-002	Cook - South Simulcast	851.1	851.15	851.3125	851.7	852.2375	852.2625
		852.61250a	853.50000a	853.52500a	853.77500c		
5-003	Cook - Schaumburg IR	851.20000c	852.33750c				
5-004	Cook - Northfield IR	851.22500c	852.18750c				
5-005	Cook - Maywood IR	851.75000c	852.16250c				

5-006	Cook - Bridgeview IR	852.08750a	853.73750c
5-007	Cook - Oak Forest IR	853.06250c	853.68750c

Chicago Fire

Frequency	Tone	Description
154.1300	156.7 PL	Main (North) [Ch 1]
153.7700	156.7 PL	Englewood (South) [F-2]
154.2200	156.7 PL	Administrative Simplex [F-3]
153.8300	156.7 PL	Fireground 1 [F-4] / Mutual Aid Fireground [F-7]
154.2950	91.5 PL	Fireground Blue (May be new F-4)
154.3850	156.7 PL	Command Simplex [F-5]
158.8950	203.5 PL	Command & Shops [New F-5?]
154.3850	131.8 PL	Haz Mat [F-6]
154.2650	210.7 PL	Fire: Statewide Mutual Aid (MABAS) Mutual Aid North [F-8]
154.2800	74.4 PL	Fireground White (MABAS) // Mutual Aid South [F-9]
155.4000	250.3 PL	MERCI North [F-10]
155.3400	250.3 PL	MERCI South [F-11]
155.4750	CSQ	Nationwide Law Enforcement Emergency [F-12]
155.0250	CSQ	EMA: Statewide Highband [F-14]
156.6000	CSQ	Marine 12 [F-15]
156.8000	CSQ	Marine 16 [F-16]
157.1000	CSQ	Marine 22 [F-17]
157.1500	CSQ	Marine 23 [F-18]
156.4250	CSQ	Marine 68 [F-19]
158.8800	411 DPL	Water Department North [F-20] [also KC5285 High Rise Tac Police/Fire]
158.2500	412 DPL	Water Department South [F-21]
162.5500	CSQ	National Weather Service [F-2]
153.7925		Fire
153.9275		Fire
153.9500		Fire
154.0100		Fire
476.6875	293 NAC	Fire: City Wide (CW South)
476.6875	293 NAC	Fire: City Wide (CW South)
477.7875	293 NAC	Fire: Main - North
477.7875	293 NAC	Fire: Main - North
477.7875	293 NAC	Fire: Main - North
477.7875	293 NAC	Fire: Main - North
478.2125	293 NAC	Fire: Englewood - South
478.2125	293 NAC	Fire: Englewood - South
478.2125	293 NAC	Fire: Englewood - South
478.2125	293 NAC	Fire: Englewood - South
478.2125	293 NAC	Fire: Englewood - South
854.5875		Fire:
855.4375		Fire:
855.8625		Fire: Hard Data (CSQ)
855.9125		Fire:
856.6875		Fire:

Chicago Police

Frequency	Tone	Description
460.4750	107.2 PL	Police: Dispatch Zone 1 - Districts 16 17
460.0500	127.3 PL	Police: Dispatch Zone 2 - Districts 19 23
460.2250	110.9 PL	Police: Dispatch Zone 3 - Districts 13 14
460.1500	114.8 PL	Police: Dispatch Zone 4 - Districts 1 18
460.5000	167.9 PL	Police: Dispatch Zone 5 - Districts 2 21
460.4000	156.7 PL	Police: Dispatch Zone 6 - Districts 7 8
460.0750	146.2 PL	Police: Dispatch Zone 7 - District 3
460.2000	136.5 PL	Police: Dispatch Zone 8 - Districts 4 6
460.0250	91.5 PL	Police: Dispatch Zone 9 - Districts 5 22
460.1000	151.4 PL	Police: Dispatch Zone 10 - Districts 10 11
460.3750	186.2 PL	Police: Dispatch Zone 11 - Districts 20 24
460.4250	94.8 PL	Police: Dispatch Zone 12 - Districts 15 25
460.4500	103.5 PL	Police: Dispatch Zone 13 - Districts 9 12
154.6500	CSQ	Chicago area Law Enforcement Emergency [F-2]
460.1250	173.8 PL	Police: Citywide 1
460.1750	123.0 PL	Police: Citywide 2
460.2750	141.3 PL	Police: Citywide 3
460.3250	192.8 PL	Police: Citywide 4
460.3500	97.4 PL	Police: Citywide 5
460.2500	162.2 PL	Police: Citywide 6
460.3000	131.8 PL	Police: Citywide 7
460.5250	179.9 PL	Police: Citywide 8 - Car-to-Car (250-5wt)
460.5875	91.5 PL	Police: Mounted Units

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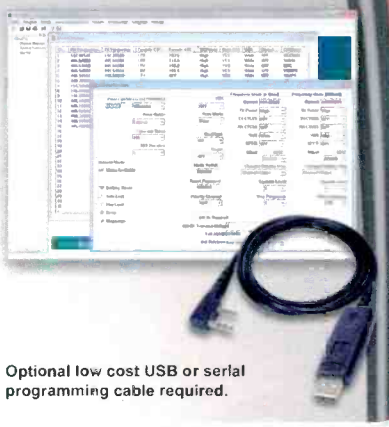

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Trail of Tears (cont.): Fiscal Belt Gets Even Tighter at BBC

Also: Radio Activity from Ukraine, Algeria, Bangladesh, Germany, Sudan and RCI

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

As is so often the case, I'll have to begin with negative news. And, again, the focus is on the BBC.

Despite the previously announced huge cutbacks in language services, the situation in the Middle East has caused the bean counters in London to rethink things a bit and sheath the knives which were threatening to make cuts to the Arabic service. *Huh?*

It seems shortwave broadcasts can be a valuable tool, after all! Still, the writing remains on the wall at Broadcasting House. Namely, that funding cuts of 16 to 19 percent are happening. Many language and services have not survived — never mind the howls of protest from the affected audiences.

Further, **BBC Monitoring** is facing the same fate, with dozens of employees made redundant. This *trail of tears* is scheduled to continue until at least 2014, so this won't be the last lament you'll likely read on the topic.

Reductions have also hit Ukraine. In fact, **Radio Ukraine International** is hardly that anymore. Already the station is down to just one frequency and one broadcast to one area: to Russia from 1500-1800 on 7435. The other regions of the world are told to listen via satellite or stream from their website.

Radio Romania's QSL to Rick Barton pictures the Fortress of Prejmer.

For nearly 10 years, **Radio TV Algerienne** has been transmitting via the Issoudun, France site, rather from its own shores. But now comes word that two homegrown sites (using 250 kilowatts) are nearly operational: One at Ourgla, capital of Ourgla province in the southern Sahara; the other at Bechar, capital of Bechar Province, although Morocco has also made claims on that area.

It's not known when we should expect the switch to take place, but Algeria has registered frequencies for the current A-11 broadcast season. Likely usage will be 7265, 7415, 9420, 9705, 9815, 9835,11715 and 11855. That represents a slightly increased schedule.

Another 250-kilowatt *big boy* is due to go to work for **Bangladesh Betar** in September. The transmitter will be installed at its Kabirpur site and — once the rotatable/directional antenna is installed next spring — will extend the broadcast range to the Middle East, Central Asia, China, Indonesia, Malaysia and the Indian subcontinent. *Let's hope some of the signal spills on North America, too!*

A new shortwave station from Germany is **Radio 6150,** named after the frequency it's using. Initially the station is running a whopping *five watts*, but plans to power up to a full six kilowatts. The first broadcasts consisted of just a test loop with rotating IDs in German, English and Dutch. I've seen a couple of people report reception of this one already, so I suspect that *five watt business* is over and done with by now!

A Sudanese opposition station has gone on the air. **Shararah ("Spark") Radio** was to have begun broadcasts at the end of March using 15540 on Tuedays and Saturdays at 0330. The broadcasts are operated by a group calling itself *Youth For Change,* dedicated to replacing the current leadership in the Sudan.

The group has email: <sry.radio@gmail.com>. The broadcasts are very likely relayed from outside Sudan, although the specific site is as yet unclear.

Radio Canada International has apparently ceased all French and English language services

Rich D'Angelo's card from China's Qinghai People's Broadcasting Station on 4220 doesn't even show a shortwave frequency.

to the Americas, leaving the only broadcasts to this hemisphere in Spanish. *How the once mighty have stumbled!*

Let's Hear From You

Remember, your shortwave broadcast station logs are always welcome. But *please* be sure to double or triple space between the items, list each logging according to home country and include your last name and state abbreviation after each.

Also needed are spare QSLs or good copies you don't need returned, station schedules, brochures, pennants, station photos and anything else you think would be of interest. And where is that photo of you at your listening post? *Do you not desire fame (if not fortune)?*

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

ALBANIA—Radio Tirana, 6100 at 0440 on the end of the dictatorship there and 9895 at 1930 on how important shortwave is in times of unrest. (Maxant, WV)

ALGERIA—Radio Algerienne, 5865 via France in AA with Koran heard at 0408. (Coady, ON) 7295 via France with Koran at 0522. (Parker, PA)

ANGOLA—Radio Nacional, 4949.8 heard at 0235 with M in PP. (Parker, PA)

ANGUILLA—Caribbean Beacon, 6090 at 0950 with Gene Scott preaching. (Maxant, WV)

ARGENTINA—Radio Argentina al Exterior, 9690 in SS with Argentine vocals at 1810, also 15345. (Maxant, WV) 11710 with JJ service at 0113. (Strawman, IA) 0320 in FF. Also,15345 in SS at 2120. (Parker, PA)

ASCENSION ISLAND—BBC South Atlantic Relay, 6005 at 0412, 7255 at 0448 with *Network Africa*, 7305 in Hausa at 0530 and 17885 in Hausa at 1947. (Parker, PA) 7255 on the Tea Party at 0447, 11810 at 2018 and 15400 with news at 1930. (Brossell, WI) 7255 at 0426 and 12095 at 2200. (MacKenzie, CA) 7445 opening *Network Africa* at 0330. (Coady, ON)

AUSTRALIA—Radio Australia, 6010-Shepparton at 1240. (Fraser, ME) 1216, also, 7240 at *1400 with news, ham QRM. (Yohnicki, ON) 9580 at 0900. (Michael, OH) 1726, //9710 and 11880 all from Shepparton. (MacKenzie, CA) 9580 on Libya at 1810, 9590 with sports at 0920, 13690 on Libya at 0110, 15160 on cyclones at 0525 and 21725 on New Guinea at 0435. (Maxant, WV) 11695-Shepparton at 2125. (Ng, Malaysia) 11945-Shepparton at 1253 with country songs. (Brossell, WI) 13590 via Palau at 2225 on Cambodia and Thailand. Also,13630-Shepparton with financial talk at 2220 and 15515-Shepparton at 2132. (Parker, PA)

ABC Northern Territories Service: 2310-Tennant Creek at 1155 with pops. (Strawman, IA) 2485-Katherine at 1110 on flooding. (Brossell, WI)

HCJB Global, 15400-Kununurra with W talk at 1405. (Yohnicki, ON)

BAHRAIN—Radio Bahrain, 9745 at 0020 with Mideastern music and AA anmts. Just fair on peaks and needs USB. (Alexander, PA)

BELARUS—Radiostation Belarus, 7390 at 2235 with local music, ID, //6155 and 7360 both weak with QRM. (Alexander, PA)

BOLIVIA—Radio San Miguel, Riberalta, 4700 at 0915 in SS with indigenous songs. (Sellers,BC) 0945 with excellent CP music. (Wilkner, FL) 1015 with SS talks, man mentions of Bolivia. Apparently a news pgm with remote actualities. (Perry, IL)

Radio Yura, Yura, 4717 seems to sign on about 1020. (Wilkner, FL) Noted through ambient noise level at 1025 with W and patriotic talks. (Perry, IL)

Radio Lipez, Uyuni, 4796 in SS at 0825 with lively Andean vocals. (Sellers, BC) Fair at 1025 in SS and Quechua or Aymara, but with CODAR QRM (Perry, IL)

Radio Santa Cruz, Santa Cruz, 6135 at 0900 with sign on and M with ID and frequencies, Andean flutes. (Sellers, BC) 0923 with lively CP instls. (D'Angelo, PA)

BONAIRE—Radio Nederland Relay, 9865 with DD talks at 0617. (Parker, PA)

BOTSWANA—Voice of America Relay, Mopeng Hill, 4930 at 0350 on African politics, 15225 in FF at 2052 and 15580 at 2140 with pgm of hip-hop. (Parker, PA) 15185 in FF at 2045, (Brossell, WI) 1857. (Michael, OH)

BRAZIL—(All in PP – gld)

Radio Municipal, Sao Gabriel da Cachoeira, 3375.4 at 0922 with M and W vocal, more talks and ad string. (D'Angelo, PA)

Radio Imaculada Conceicao, Campo Grande, 4755 at 0202 with ID and extended talk by W. (Taylor, WI) 0540 with slow song, M talk. (Parker, PA)

Radio Difusora Amazonas, Manaus, 4805 at 1010 with M talk, CODAR QRM. (Wilkner, FL) (t) with news and actualities at 1015. (Perry, IL)

Radio Alvorada, Londrina, 4865 with M talking at 0535. (Parker, PA) (t) at 1023 with insipid ballads, peaking to a huge signal at 1045. (Perry, IL)

Radio Clube do Para, Belem, 4885 at 0526 with M ancr, reggae, long, canned ID. (Parker, PA) 1008 with biggest signal on the band. M yelled the ID between songs. (Perry, IL)

Radio Novo Tempo, Campo Grande, 4895 at 0513 with slow music. (Parker, PA)

Help Wanted

We believe the Global Information Guide — month after month — offers more logs than any other monthly SW publication! (665 shortwave broadcast station logs were processed this month!) Why not join the fun and add your name to the list of GIG reporters? Send your logs to Gerry Dexter, Global Information Guide, 213 Forest St., Lake Geneva, WI 53147 or email them to < gdex@wi.rr.com >. See the column text for formatting suggestions. And please check them over before submitting. Thank you!

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

Another attractive reply from Guatemala's Radio Verdad to Rich D'Angelo.

Radio Anhanguera, Araguania, 4905 (p) at 0220 with W ancr, but at poor level. (Taylor, WI)

Radio Capixaba, Vitoria, 4935 at 0342 with M speaking to a crowd over a PA. (Parker, PA)

Radio Brazil Central, Goiania, 4985 at 0512 with a slow ballad. Also, 11815 at 0314. (Parker, PA)

Radio Aparecida, Aparecida, 5035 with talks monitored at 0235. (Brossell, WI)

Radio Senado, Rio de Janeiro, 5990 at *0850 sign on with jazz music, opening ID at 0900 and back to light jazz. (Alexander, PA)

Radio Record, Sao Paulo, (p) 9505 at 2250 with comls by M/W. (Strawman, IA)

Super Radio Deus e Amor, Curitiba, 6059.9 at 0811 with M and (p) sermon. (Taylor, WI) 9592.8 at 0305 with a preacher, //9565 and 11765 all weak but readable. (Alexander, PA) 9593 (p) but poor at 2236 with seeming sports news. (Perry, IL)

Radio Bandeirantes, Sao Paulo, 9654.3 at 2300 with two M dialogue. (Perry, IL) 2303 with futebol p-b-p. (Alexander, PA) 0247 with W talk. (Parker, PA)

Voz Missionaria, Camboriu, 5939.9 at 0202 with theme type music and ID. (Taylor, WI) 9665 at 0010 with an extended talk. Also, 11750 with M/W talking. (Strawman, IA) 2310 with Christian pops, M with long inspirational talk. (Perry, IL)

Radio Cancao Nova, Cachoeira Paulista, 9675 at 2359 with singing comls and anmts. (Strawman, IA)

Radio Nacional Amazonas, Brasilia, 11780 at 0100. (Michael, OH) 0233 with ID jingle and Brazil-pops. (Yohnicki, ON) 0304 with several IDs and M talk. (D'Angelo, PA) 2257 with frequent mentions of Brazil. (MacKenzie, CA)

Radio Inconfidencia, Belo Horizonte, 15190 at 2046 with some kind of game show. (Parker, PA) 2245 with PP pops, mixing with Radio Africa, and //6010. (Alexander, PA) 2345 with an extended talk by M. (Strawman, IA)

BULGARIA—Radio Bulgaria, 6200 in GG at 2230. (Brossell, WI) 7400, //6200 at 2200 with IS, fanfare, ID, schedule and news by a W. (Coady, ON)

CANADA—Radio Canada International, 6005 via China at 0106, 6190 at 0550 and 17765 in PP at 2218 and 17790 in FF at 1934. (MacKenzie, CA) 7265 via Skelton in AA at 0457-0500*, 9610 at 1740 and 17765 in PP at 2005. (Parker, PA) 9610 at 1630. (Maxant, WV)

CFRX, Toronto, 6070 with a comedy pgm at 0747. (Sellers, BC) Weather and news at 0945. (Maxant, WV)

CKZU, Vancouver, 6160 ending RCI's *The Link* at 0658 and into *CBC News*. (Sellers, BC)

CKZN, St, John's (Newfoundland), 6160 on dating rituals at 0035. (Strawman, IA) 0440 on nuclear bombing of Japan. (Maxant, WV)

CHU, Ottawa, 3330 with time anmts at 0618. (Parker, PA) 0955, also, 7580 at 2115. (Maxant, WV)

Bible Voice Network, 6225 via Kazakhstan with scripture reading at 1408. (Sellers, BC)

CHAD—Radio Tchadienne, 6165 at 2200 to 2233* with FF talk and pops. (Alexander, PA) 2227-2301* with lively local vocals and M ancr in FF, orchestral anthem. (D'Angelo, PA)

CHILE—CVC-La Voz, 17680 in SS at 1500. (Michael, OH) 1509. (Yohnicki, ON) 1831. (Parker, PA) 2222. (MacKenzie, CA)

COLOMBIA—Alcaravan Radio, Puerto Lleras, 5910 in SS at 0257 in fast-moving sequence, 3 + 1 time pips at 0200 and repeated IDs. (Taylor, WI) 0351 with Colombian music and SS ancr. Time pips at 0400 with frequent IDs and frequency anmts. (D'Angelo, PA) 1104 with romantic *canciones*, M mentioning "la radio Columbiana," but specific station name not noted. (Perry, IL)

La Voz del Guaviare, San Jose del Guaviare, (p) 6035 at 1003 with SS talks, religious recitations, local music. (Alexander, PA)

CHINA—China Radio International, 5955 at 1248. (Sellers, BC) 7205-Kashi in CC at 1215, 7390-Beijing in CC at 1250, 7435-Nanning in CC at 1227, 9745-Urumqi in (l) Esperanto at 1930, 11660-Kashi in FF at 2158, 9870-Xi'an in RR at 1305, 11675-Urumqi in (l) Hindi at *1300 and 11875-Kunming in CC at 1145. (Brossell, WI) 9410-Kashi at 0124, //9570 via Albania and 9580 via Cuba. (Taylor, WI) 13665 via Albania with *People in the Know* at 1220. (Coady, ON) 9570 via Cuba at 1300. (Michael, OH) 13740 via Cuba at 1410. (Fraser, ME) 13700 via Canada in SS at 2245. (MacKenzie, CA)

CPBS, 7265-Baoji in CC at 1247, 7375-Beijing in CC at 1203 and 7620-Beijing in CC at 1235. (Brossell, WI) 7385 in CC at 1802 and 11750 in CC at 2300. (MacKenzie, CA)

Voice of Pujiang, Shanghai, 3280 in Mandarin heard at 1410. (Sellers, BC)

Hulun Buir PBS, Hailar, 3900 in CC at 1404. (Sellers, BC)

Xinjiang PBS, 3950-Urumqi in Mandarin at 1342, 3990-Urumqi in Mandarin at 1352 and 4330-Urumqi in Mandarin at 1431. (Sellers, BC) 4980-Urumqi with M/W in Mandarin at 0040. (Strawman, IA)

Qinghai PBS, Xiniing, 4220 in Mandarin at 1423. (Sellers, BC)

Voice of China, 4800-Ge'ermu with features by M-W in CC at 1121. (Sellers, BC)

Voice of the Strait, 4940-Fuzhou in CC at 1500 with time pips, CC anmts. (Sellers, BC)

Beibu Bay Radio, 5050-Nanning in VV at 1241. (Taylor, WI)

Xizang PBS, 6200-Baiding (p) in Tibetan at 2357 with M ancr talk. (Taylor, WI) 7240-Lhasa in CC at 2220. (Parker, PA) 7255-Lhasa in (l) Tibetan at 1140. (Brossell, WI)

CNR-6, 6165-Beijing in Mandarin at 1239. (Taylor, WI)

CNR-1 (jammer) 7470 in Mandarin at 1321 M/W ancrs, //7345-Beijing legit CNR-1. (Taylor, WI)

Firedrake jammer, 7470 apparently on RFA-Tajikistan in Tibetan (?) at 1230. (Brossell, WI)

CONGO (Dem. Rep)—Radio Tele Candip, Bunia, 5066.3 in (p) FF at 0443. Barely above the noise floor, but just audible. (Parker, PA)

CROATIA—Hrvatski Radio/Voice of Croatia, 3985-Deanovic with news in Croatian at 0003. (Padazopulos, Greece) 0550 with jazz. (Parker, PA)

CUBA—Radio Havana Cuba, 5040 in SS at *0100, 15230 in SS at 1530 and 15360 in SS at *1530. (Yohnicki, ON) 6060 in SS at 0112, 6100 in SS at 0106, 6140 in SS at 2325, 6150 in EE at 0543, 12040 in SS at 2147 and 15230 in SS at 2353. (MacKenzie, CA) 6145 in SS at 0011. (Padazopulos, Greece)

Radio Rebelde, 5025 in SS at 0518. (MacKenzie, CA)

DIEGO GARCIA—AFN/AFRTS, 4319u at 1426 on food and nutrition. (Sellers, BC) 2347 with NPR's *Marketplace*, heavy QRM from a ute (NMG, New Orleans). (Parker, PA)

DJIBOUTI—Radio Djibouti, 4780 with 2 M in Afar at 0315. (Taylor, WI) 0357 with W ancr and HOA pops. (Parker, PA)

In Times Past...

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

Ondas del Mayo, Nueva Cajamarca, Peru, 6798 in SS at 0130 on March 22, 2001.

DOMINICAN REPUBLIC—Radio Amanecer, Santo Domingo, 6025 in SS at 0106 with classical music pgm but heavy splatter from 6020 and 6030. (Strawman, IA)

ECUADOR—HCJB, 6050-Pichincha, in SS at 0844 with Andean music and children singing, (Sellers, BC)

EGYPT—Radio Cairo, 6270 in FF at 2036. (Brossell, WI) 9280 in FF at 2110. (Ng, Malaysia) 9305 with Koran and AA at 0330. (Parker, PA) 9305 in AA at 2350. (MacKenzie, CA) 11590 at 2333 with comments on Libya and Ghaddafi, but with low audio. (Coady, ON) 12170 at 1715 on their new government. (Maxant, WV)

ENGLAND—3255 via South Africa at 0410, //9460 and 9410 Thailand Relay with *World Briefing* at 0025. (Coady, ON) 5970 Oman Relay at 0053 with W hosting AA dance music. Suddenly off at 0357. Also, 12095 on Libya at 2250. (MacKenzie, CA) 5970-Rampisham in RR at 0640, 7325-Rampisham in AA at 0541 and 7425-Rampisham in RR at 0613. (Parker, PA) 7400 Thailand in Mandarin at 2315. (Strawman, IA) 9410 Oman Relay at 1441 with *Spots Roundup*. (Sellers, BC) 9410 Thailand Relay with news at 2011 and 12095 Cyprus Relay in AA at 2011. (Strawman, IA) 9460 on refugees in Liberia and 11860 at 1225 on Libya. (Maxant, WV) 15105 and 15400 with sports at 1635. (Padazopulos, Greece)

CVC Intl, 6260 via Uzbekistan in Hindi at 1406. (Sellers, BC)

EQUATORIAL GUINEA—Radio Nacional, Malabo, 6250 heard at 0536 with vocals, f/by M ancr in SS and more vocals. (D'Angelo, PA)

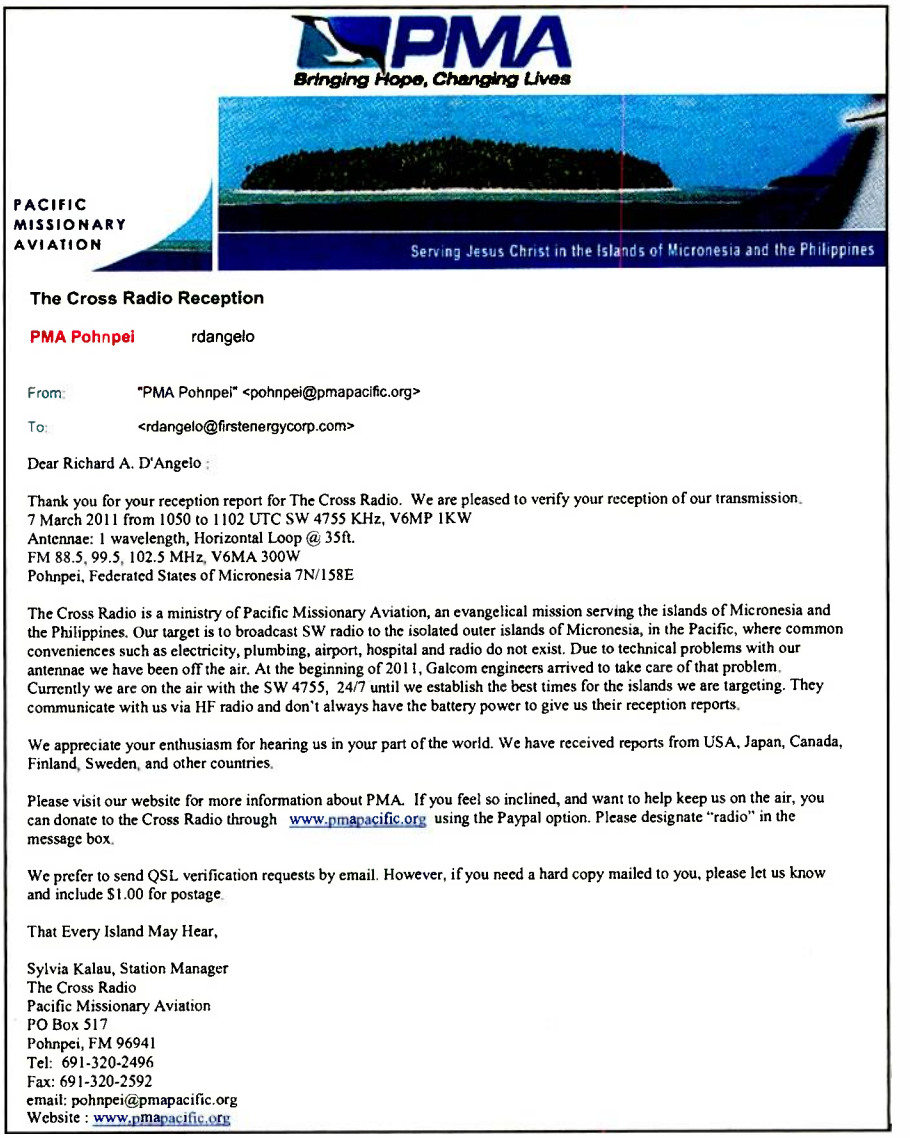
Radio Africa, Bata, 15190 at 1915 with *Gospel of the Kingdom* EE pgm. Had sign off anmts with contact info at 2255 and closed at 2256*. (Alexander, PA) 2015 with long EE preacher. Pgm change without ID at 2044. (D'Angelo, PA) 2037 with hymns and a sermon. (Brossell, WI)

ETHIOPIA—Radio Ethiopia, 9705 at 2015 to 2100* with HOA music, anmts in Amharic, possible news at 2056 and NA at sign off. Also noted at 0325. (Alexander, PA)

Radio Fana, 6110 *0256 with IS, vernacular talk, some HOA music, //7210 both poor. (Alexander, PA)

FRANCE—Radio France Intl, 5995 French Guiana Relay in SS at 0102. (MacKenzie, CA) 7205-Issoudun in FF at 2148, 9790-Issoudun in FF at 0630, 21690 FG Relay in FF at 1928. (Parker, PA) 15605 at 1625 with sports in EE. (Padazopulos, Greece) 17620 in FF at 1553 and abruptly off at 1557. (Yohnicki, ON) 21750 at 1900. (Michael, OH)

GERMANY—Deutsche Welle, 3995 via Skelton in GG at 0652. (Sellers, BC) 3995 at 0554 in GG with EE sound bites, 11605 Kigali Relay in GG at 2136, 13780 via Rampisham in GG at 1755 and 15275 Sri Lanka Relay at 2055 with *Inbox* listener mail pgm. (Parker, PA) 5905 Portugal Relay at 0400, //5945 Portugal and 6180//9450 both Kigali, 12070 Rwanda Relay at 2130 with *Hits in Germany* and 13780 Sri Lanka Relay with *Pulse* pgm at 2035. (Coady, ON) 5905 at 0425 and 9755 with sports news. (Maxant, WV) 11865 Portugal Relay in GG at 2248 and 12070 at 2154. (MacKenzie, CA) 12070 Rwanda Relay in GG at 2059. (Brossell, WI) 12070 Rwanda Relay with EE at 2141. (Strawman, IA)


PMA
Bringing Hope, Changing Lives

PACIFIC MISSIONARY AVIATION

Serving Jesus Christ in the Islands of Micronesia and the Philippines

The Cross Radio Reception

PMA Pohnpei rdangelo

From: "PMA Pohnpei" <pohnpei@pmapacific.org>

To: <rdangelo@firstenergycorp.com>

Dear Richard A. D'Angelo :

Thank you for your reception report for The Cross Radio. We are pleased to verify your reception of our transmission.
7 March 2011 from 1050 to 1102 UTC SW 4755 KHz, V6MP 1KW
Antennae: 1 wavelength, Horizontal Loop @ 35ft.
FM 88.5, 99.5, 102.5 MHz, V6MA 300W
Pohnpei, Federated States of Micronesia 7N/158E

The Cross Radio is a ministry of Pacific Missionary Aviation, an evangelical mission serving the islands of Micronesia and the Philippines. Our target is to broadcast SW radio to the isolated outer islands of Micronesia, in the Pacific, where common conveniences such as electricity, plumbing, airport, hospital and radio do not exist. Due to technical problems with our antennae we have been off the air. At the beginning of 2011, Galcom engineers arrived to take care of that problem. Currently we are on the air with the SW 4755, 24/7 until we establish the best times for the islands we are targeting. They communicate with us via HF radio and don't always have the battery power to give us their reception reports.

We appreciate your enthusiasm for hearing us in your part of the world. We have received reports from USA, Japan, Canada, Finland, Sweden, and other countries.

Please visit our website for more information about PMA. If you feel so inclined, and want to help keep us on the air, you can donate to the Cross Radio through www.pmapacific.org using the Paypal option. Please designate "radio" in the message box.

We prefer to send QSL verification requests by email. However, if you need a hard copy mailed to you, please let us know and include $1.00 for postage.

That Every Island May Hear,

Sylvia Kalau, Station Manager
The Cross Radio
Pacific Missionary Aviation
PO Box 517
Pohnpei, FM 96941
Tel: 691-320-2496
Fax: 691-320-2592
email: pohnpei@pmapacific.org
Website : www.pmapacific.org

The Cross Radio confirmed D'Angelo's reception on 4755 using only one kilowatt.

GREECE—Voice of Greece, 7475, Avlis in Greek at 0619 and 9420 in Greek at 0345. (Parker, PA) 2355. (Michael, OH) 2356, //7475. (MacKenzie, CA)

GUINEA—Radio Guinee, 7125 in FF at 0605 with Afro-pops. (Alexander, PA) 0645 with M in FF and balafon-like instrument. (Taylor, WI)

GUATEMALA—Radio Verdad, Chiquimula, 4052.5 at 0404 with M preaching in SS f/by choir. (D'Angelo, PA) 0601 with M talk and children singing anthem. Off at 0606*. (Parker, PA)

GUYANA—Voice of Guyana, Sparendaam, 3290 at 0150 w/very laidback EE anmts, variety of music types. I believe they may have recently made some xmtr adjustments. (Perry, IL) 0245 with mostly continuous local music, BBC news at 0400 with a surprisingly good signal. (Alexander, PA) 0315 with continuous pops; best ever heard here. (Strawman, IA) 0612 with a BBC pgm on Broadway musicals. (Parker, PA) 0727 with BBC pgms, into a Christian pgm. 0820 with Hindi music. (Sellers, BC) 0930 with possible cricket coverage. (Wilkner, FL) 2316 with an interview and EZL selections. (Coady, ON)

HONDURAS—Radio Luz y Vida, San Luis, 3250 at 1211 with SS talks and weak signal. (Brossell, WI) (p) at 1249 with ongoing SS comments by W. (Strawman, IA)

Radio Missiones Intl/HRMI, 3340 at 0610 with M/W in a fast-paced discussion and weak audio. (Parker, PA)

INDIA—All India Radio: 4800-Hyderabad at 1442 with W in Hindi, 4810-Bhopal at 1441 with M/W in Hindi, 4840-Mumbai at 1439 with W in Hindi, 4880-Lucknow at 1449 with M in Hindi discussing sports, 4895-Kurseong with Hindi songs at 1453, 4910-Jaipur with cricket cov-

IBB's Thailand Relay site carries five different U.S. government broadcasters. (Thanks: D'Angelo)

erage at 1454, //4880, 4920-Chennai with Hindi songs 1501 and W beginning EE news, 4965-Shimla at 1505 with W and Hindi-like vocals, 4970-Shillong (t) at 1507 with possible Hindi music at 1507, 5010-Thiruvananthapuram at 1509 very weak with M in Lang, 5040-Jeypore poor at 1514 with M in Hindi. (Sellers, BC) 4920-Chennai with vocals at 1415. (Barton, AZ) 4940-Gawhati in Hindi at 1228 and 4950-Srinagar (p) at 1238 in (l) Hindi. (Taylor, WI) 4920-Chennai at 0138 but ruined by CODAR, 5010-Thiruvananthapuram with music and talk at 0136, just above the noise floor, 6155-Bangaluru in (l) Urdu service at 0118, 9445-Bangaluru with the General Overseas Service at 2221. (Strawman, IA) 6280-Bangaluru at 2135 with music and talk, also 11620-Aligarh with world news at 1905. (Brossell, WI) 9445-Bangaluru at 2120 on water treatment there and 9940 at 1805 with frequencies for the General Overseas Service, f/b news. Also,11620 at 1830. (Maxant, WV) 11985-Bangaluru at 0243 in (l) Kannada with Indian music. (Parker, PA)

INDONESIA—Radio Republik Indonesia: 3325-Palangkaraya (Kalimantan) with W and interview in II at 1331, 3345-Ternate (Maluku) at 1335 with II pops vocals and W ancr, and 3995-Kendari (Sulawesi) at 1354 with II vocals, W ancr and (p) news at 1400. (Sellers, BC) 4750-Makassar (Sulawesi) at 1222 with long W talk in II. (Taylor, WI) 1115 in II with orch music and ballads, possible headline summary at 1131, Jakarta news feed at 1200. (Perry, IL)

Voice of Indonesia 9525v at 1259 with opening EE anmts and news at 1301. (Alexander, PA) 1301 with music, IDs in II, EE opening at 1302. (Sellers, BC) 1302 with a nice ID at 1331. (Perry, IL) 2130 with CC/II language lesson. (Ng, Malaysia)

IRAN—IRIB, 6120-Sirjan at 0145 with M/W with negative news about the U.S. (Coady, ON) 7240-Kalamabad at 0125 in SS service. (Strawman, IA) 9770 via Lithuania in II at 0635. (Parker, PA) 9885-Kalamabad in Dari at 0615. (Parker, PA) 9895-Zahedan (l) in AA at 0253. (Taylor, WI)

ISRAEL—Galei Zahal, 6973 in HH at 2338. (Parker, PA)

ITALY—Italian Radio Relay Service/NEXUS, 9435 via Slovakia at 1948-2000* with *Word for the World* pgm. (D'Angelo, PA) 9510 with U.S. vocals and 9670 with U.S. vocals at 0515. (Maxant, WV)

JAPAN—Radio Japan, 6110 via Japan with news at 0505 and 9695 at 1215 with news. (Maxant, WV) 6185 in RR at 1135. (Brossell, WI) 9835 in JJ at 1732, 11665 in JJ at 2305, 11945 in JJ at 1737, 13650 in JJ at 2246, 15195 in JJ at 2344 and 17605 in JJ at 2228. (MacKenzie, CA) 0720 in Bengali at 1301. (Coady, ON) 9840 in EE at 1003. (Sellers, BC) 11935 in JJ at 0307. (Parker, PA)

Radio Nikkei, 3925 in JJ at 0816. (Sellers, BC) 1251 in JJ. (Strawman, IA) 6055 in JJ at 1228. (Alexander, PA)

KUWAIT—Radio Kuwait, 13650 with ME vocals at 1730. (Barton, AZ) 1822 in AA. (Parker, PA) 15540 with *Theater in Kuwait at 1940.* (Coady, ON)

KYRGYSTAN—Kyrgyz Radio (p) 4010 at 0042, but very low level audio, too weak for details. (Strawman, IA)

LIBYA—Voice of Africa, 11800 in (l) Hausa at 1835. Also, 21695 at 1415 in EE with African folk songs, talks on various aspects of their government, //17725. (Alexander, PA) 11995 in (l) Hausa at 1923. (Brossell, WI) 21695 at 1405 with ID, choral number, commentary. (Fraser, ME) 1450 on growing peanuts. (Maxant, WV)

MADAGASCAR—Radio Madagasikara, 5010 at 0232 with talks in (p) Malagasy. (Brossell, WI) 0327 with W talk over music, later M over the same music. (Taylor, WI)

MALI—RTVM /Radio Malienne, 9635 at *0759 sign on in FF and flute IS, vernacular talk and light instls. (Alexander, PA)

MALAYSIA—RTV Malaysia, 5030, Sarawak at 1237 with Muslim call to prayer, M/W talking between prayer segments. Also, poor on //9835. (Sellers, BC) 1510 in (l) Bislama. (Maxant, WV)

Traxx FM, 7295 at 1510 with M in EE and pops. (Sellers, BC)

MICRONESIA—The Cross Radio, Pohnpei, 4755.4 at 0743 with Christian music and preacher. (Sellers, BC) (p) 0940 with better audio than in the past. (Wilkner, FL) 1050-1102* with continuous inspirational music, ID at 1100. Local time given as 10 pm. (D'Angelo, PA)

MEXICO—Radio Educacion, Mexico City, 6185 in SS at 0155 with contemporary vocals. (Taylor, WI) 0252 with ballads, rancheras. (Strawman, IA) 0548 in SS with vocals. (MacKenzie, CA) 0706 with numerous IDs and promos. (Sellers, BC)

MOLDOVA—Radio PMR, 6240 with world news heard at 2032. (Brossell, WI) 7290 monitored at 2229 with time pips, fanfare and ID. (Coady, ON)

MOROCCO—RTV Marocaine, 15340 in AA monitored at 1446. (Brossell, WI)

NETHERLANDS—Radio Nederland, 6145 at 0012 with an interview in DD add 6165 with an interview and commentary in SS. (Padazopulos Greece) 9895 via Moldova in DD at 0620. (Parker, PA) 11610 via Rwanda at 2035 on treatments for healthy hair. (Brossell, WI)

NEW ZEALAND—Radio New Zealand Intl, 5950 at 1305 on the earthquake, 9765 with classical music at 0925, 11725 on the Morocco riots at 0520, 13730 at 0430 about down time for transmitter work, and 15720 at 0120 on rebuilding Christchurch. (Maxant, WV) 9765 with EE sign on at 0659. (Yohnicki, ON) 0753. (Michael, OH) 1040 on the earthquake. (Coady, ON) 15720 at 0340 with DX info in the *Mailbox* pgm. (Barton, AZ)

NIGER—La Voix du Sahel, 9705 at 2101 after Ethiopia signs off. Local, rustic tribal music, FF and vernacular talk, Koran at 2255, flute IS and NA at 2258, off at 2259*. (Alexander, PA)

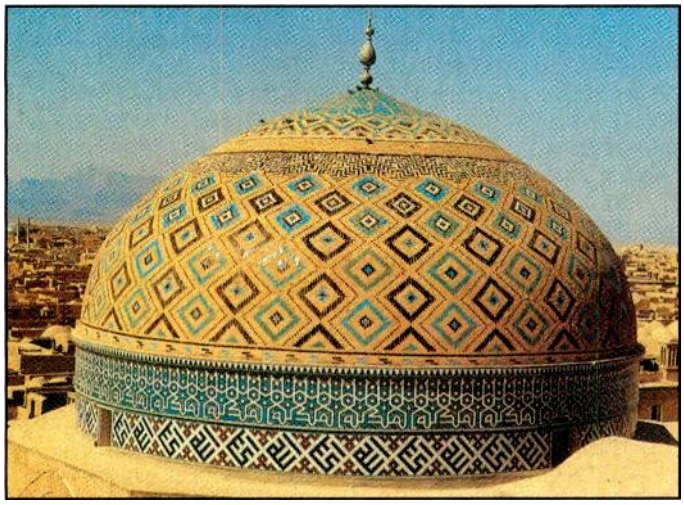
NIGERIA—Voice of Nigeria, 9690 at 0838 discussing a local language, tribal vocals. M/W talk, more vocals, then news at 0900. (D'Angelo, PA) 15120 at 0505 with news and weather. (Maxant, WV) 1508 with talk by M. (Yohnicki, ON) 1530. (Michael, OH)

NORTH KOREA—Korean Central Broadcasting Station, 2850-Pyongyang in KK at 1417, 3250-Pyongyang in KK at 1413, 3959.7-Kanggye with Korean opera at 1350. (Sellers, BC) 3975-Pyongyang with KK vocals at 0047. (Strawman, IA)

This Month's Winner

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

This month's prize-winner is **Rich Parker** who now boasts a 2011 copy of the world Radio TV Handbook next to his Collins 51S-1 receiver. If people like Parker rely on the WRTH, what are you doing without it? This essential reference is available at practically any radio hobbyist supplier, your favorite online book source or your local walk-in bookstore can order it for you. Don't turn on your radio without it!



Paul Gager, Austria, received this card picturing the Jama Kibir mosque from Iran's IRIB.

Voice of Korea, 6185 at 1246 with impassioned comments in KK. (Strawman, IA) 6185-Kujang at 1257 with typical instls, KK ancr, 1300 with IS, ID, NA and ancr in KK and 7570-Kujang in KK at 2320, poor. (Taylor, WI) 9325 in RR at 1713, 9335 in KK at 1715, 11545 in KK at 1745 then off suddenly at 1747. (MacKenzie, CA) 6285 at 1001 with anthem and M with EE sign on and W with news. //9335. (Sellers, BC)

OPPOSITION—Gunaz Radio (to Azerbaijan), 7610 via Ukraine at 1455 with M in Azeri and traditional music. (Sellers, BC)

Radio Voice of Kashmir, 4870 at 1445 with Indian-sounding vocals, W ancr. (Sellers, BC)

Voice of the People (to South Korea), 3480 at 1205 in KK with music and KK talk, // 3912 very poor and 4450 also poor. (Taylor, WI) 3480 at 1340 with M/W in KK and 4450 with a KK drama at 1433. (Sellers, BC)

Denge Mesopotamia (to Iran), 11530 via Ukraine at 1306 with talks in (l) Kurdish. (Brossell, WI) 1441 in Kurdish with great local music. (Strawman, IA)

Radio Nacional de la R.A.S.D. (to Morocco), 6297 in AA at 0711 with Koran and local vocals. (D'Angelo, PA)

Sound of Hope (to China), 7280 at 1209 with children's songs in CC. (Brossell, WI)

Radio Y'Abaganda (to Uganda), 17725 via France at *1700-1715* with local singing, talk at 1711. Saturdays only. (Anderson, PA)

Hamada Radio Intl (to Nigeria), 7350 via Germany at 0551-0559* with talk in a local language, several clear IDs with drums between segments, W ancr with closing anmts. (D'Angelo, PA)

Democratic Voice of Burma, 5905 via Germany at 2359 in BB, theme-type flute and ancr over music. (Taylor, WI)

Radio Voice of the People (to Zimbabwe), 11610 at 0425 in vernacular, EE at 0436 with ID and contact info. (Alexander, PA)

PAPUA NEW GUINEA—Radio Southern Highlands, Mendi, (Papua), 3275 at 0934 with M in possible EE, //3325 and 3365, but not 3385. (Sellers, BC)

Radio Buka, Buka (Bougainville), 3325 with M/W in Tok Pisin at 0932. (Sellers, BC)

Radio Milne Bay, Aloatu (New Guinea), 3365 at 0808 with talk, //3385 but not by 0821, then again at 0903 during news (Sellers, BC)

Radio East New Britain, Rabaul, (New Britain), 3385 at 0807 with possible EE news, //3365. (Sellers, BC)

PERU—Radio Huanta dos Mil, Huanta, 4747 daily in the mornings with fine SS OA folkloric pgm from 1042 check. (Perry, IL)

Radio Vision, Chiclayo, 4790 at 0555 with long huayno, M/W SS talk, f/by the usual preacher. (Parker, PA) 0724 with usual SS preacher. (Taylor, WI)

La Voz de la Selva, Iquitos, 4824 at 1058 with big carrier, lower modulation. Musica folklorica, vocals and quenas, 1101 with yelling in echo chamber and more music del campo. (Perry, IL)

Radio Cultural Amauta, Huanta, 4955 at 1043 with M SS talks, "sermon-ish" dialogue, musica folklorica and ID at 1052. (Perry, IL)

Radio Libertad de Junin, 5039 at 1009 with hyanos, echo chamber SS anmts. Suddenly cut off this day at 1030 — possibly a transmitter problem. (Perry, IL)

La Voz de los Huarinjas, Huancabamba, 5059.9 (t) heard at 0426 in SS. Strong signal but low audio. Occ. M/W in SS coming through. (Parker, PA)

Radio Bolivar, Cd. Bolivar, 5459.7 at 2330 in SS but weakly. Also noted at 1010 a few days later. (Wilkner, FL)

Radio Bethel, Arequipa, 5921 at 1000 in SS with a good signal. (Wilkner, FL)

Radio Victoria, Lima, 6019.2 in SS at 0428 with ID, long M talk. (Taylor, WI)

Radio Santa Rosa, Lima, 6047.1 with an 1100 sign on. (Wilkner, FL)

Radio Tawantinsuyo, Cusco, 6173.7 at 1000 with Radio Nacional, f/by local IDs, various SS anmts, time checks and upcoming events. (Wilkner, FL)

PHILIPPINES—Radio Veritas Asia, 9625 at 0959 with ID and sked of several broadcast times and languages before going into a broadcast in Mandarin. (Sellers, BC) 11850 at 1000, into Khmer. (Ng, Malaysia) 15435 via Vatican in (l) Urdu at 1450. (Brossell WI)

Far East Broadcasting Co., 9730 in (l) Hmong service at 2317 and off at 2329. (Strawman, IA)

PIRATES—Radio Mushroom, 6925u at *2103-2128* and *0036-0101* said they were using 25 watts of nuclear power for a pgm of classic rock. (Zeller, OH) 2113-2128 with folk/pop items. Email to < radiomushroom@gmail.com >. (D'Angelo, PA)

Wolverine Radio, 6925u *0031-0110 with usual "Help Me 1-2-3" IS at open and into 1920s pops f/by more recent things. Also noted at 0143-0213* with ancient pop and rock. One minute of SSTV at close. (Zeller, OH) 0130 with soft rock. FSK, SSTV and FAX tones at close. (Hassig, IL)

Radio GaGa, 6925u at 1944-1959 and 2332-0029* with various rock things, one novelty bit criticizing the FCC, SSTV xmsn at close. (Zeller, OH)

Captain Morgan Shortwave, 6925 at *0248-0258* mixing various numbers with many < captainmorganshortwave@gmail.com > IDs. (D'Angelo, PA)

Radio Ronin, 6924v at 2147-2232 with some audio distortion and various selections. < radioroninshortwave@gmail.com >. (Hassig, IL) 2235-2250 with various rock things. (Alexander, PA) 0021. (Hassig, IL)

Voice of Kaos, 6925u at *2202-2223* with Maxwell Smart theme, pgm #26 on chaos in Japan and Saudi Arabia. < voiceofkaos@gmail.com >. (Zeller, OH)

Radio Casablanca, 6940 at 1420-1455 with WWII music. (Alexander, PA)

Sycko Radio, 6925.3 with a radio drama and rock at 1929-2000. (Alexander, PA)

WBNY Relay Service, 6374.8//6875.3 at 2215-2222 with little copyable on the stations being relayed. (Zeller, OH)

Radio Azteca, 6925 at 2305-2328 with letters from listeners. Said was pgm #27 with weird news, Monty Python and other themes. Then some kind of relay at the end of the broadcast. (Hassig, IL)

Radio Free Mars, 6924.7 at *0120-0200* with disco and rock mixed with stories. Difficult to copy ID but, according to FRN, it was this. (Zeller, OH)

Radio Rainbow, 6925.3 at 0125 with various pop and rock, heavy metal and doo-wop. "Timtron" was the DJ. (Hassig, IL)

The Crystal Ship, 6815 at 2204 to past 2300, "Yo ho ho and a bottle of rum" alternating with "Before you slip into unconsciousness" many times and "official radio of the blue states republic" slogan plus audio clips from cartoon characters. < tcsshortwave@gmail.com >. (Hassig, IL)

Random Radio, 6925u at 0043-0051 with jazz and blues. (Zeller, OH) 6929.9 at 0130 with various Irish tunes. (Hassig, IL)

WDDR, 6920 at 0348-0415* with loud, abrasive rock. Periodically taken out by a very strong UTE. (Parker, PA)

I'd hesitate to plug this radio into an outlet. It's pictured on a Radio Romania QSL, received by Paul Gager.

"WBCQ" relay, 6952.2 at *0005-0035 with rock and pop, WBCQ ID at 0030. (Zeller, OH)

President's Day, 6925, *2109-2134* with "Hail to the Chief" IS, audio of presidents taking the oath of office. < Presidentsdayradio6925 @yaoo.com > for reports. (Zeller, OH)

Radio Appalachia, 6935.6 at 2345-0051 "broadcasting from high atop Moundsville, WV" and "free voice of the Ohio Valley," bluegrass and religious numbers and Three Stooges audio clips. (Hassig, IL)

POLAND—Polish Radio, 11675 via Austria with U.S. pops at 1255 and 15245 in (l) Byelorussian at 1445. (Brossell, WI)

PORTUGAL—RDP Intl, 7345 at *0600 in PP with anthem, sked anmt and 2 + 1 time pips. Also, 13720 in PP at 1815 with sports event coverage. (Parker, PA) 11960 in PP with 2 M and comments at 2242 and 15465 in PP at 1924. (MacKenzie, CA) 15520 with sports in PP at 1635. (Padazopulos, Greece) 15550 in PP at 1430. (Michael, OH)

ROMANIA—Radio Romania International, 7220 at 2300 with ID, *Radio Newsreel.* (Coady, ON) 7305 on wild animals in Hungary at 0420. (Maxant, WV) 7370-Galbeni in FF at 0609. (Parker, PA) 11920 in listed Romanian at 1256. (Brossell, WI)

RUSSIA—Voice of Russia, 4975 (Tajikistan) with news in EE at 1508. (Sellers, BC) 7250 at 2315 on declining tourism. (Maxant, WV) 2347. (Michael, OH) 0126 with news. (Yohnicki, ON) 0135 in RR, 7290 via Moldova in EE at 0120, 9800-Irkutsk in RR at 1310. (Strawman, IA) 7280-Krasnodar on a phone link between London and Moscow, 7315 via French Guiana in SS at 0547. (Parker, PA) 15510-Samara in (l) Pashto/Dari at 1238. (Brossell, WI) 7335 via French Guiana in SS at 0423. (MacKenzie, CA)

Kamchatka Radio, 6075 in RR at 1128. (Brossell, WI)

Radio Rossii, 9840-Moscow in RR at 0621. (Parker, PA)

SAUDI ARABIA—Broadcasting Service of the Kingdom, 11820 at 2254 with the Holy Koran service. (MacKenzie, CA)

SAO TOME—Voice of America Relay, Pinheira, 4960 at 0416 with an interview. (Brossell, WI) 0459 with pgm anmt, news. (Taylor, WI) 0515 with talks in Hausa. (Parker, PA)

SEYCHELLES—BBC Indian Ocean Relay, 9410 with news and at 2106 into *Assignment.* (Coady, ON) 0321 on Thailand's National People's Congress. (Strawman, IA) 9460 at 0336 with EE features. (D'Angelo, PA)

SOLOMON ISLANDS—SIBC, Honiara (t) 5019 at 1125 singing and piano music, anmts at 1200, country song, more anmts until carrier off at 1205. (Perry, IL) 1200 with relay of BBC news. (Brossell, WI)

SOUTH AFRICA—Channel Africa, 7230 on African unrest at 0425. (Maxant, WV) 0437 on cocaine distribution there. (MacKenzie, CA) 0440 on African politics. (Taylor, WI; Parker, PA)

Radio Sonder Grense, 7285 at 0545 in Afrikaans, with songs and talks. (Parker, PA)

SOUTH KOREA—KBS World Radio, 9650 with news feature at 1220. (Maxant, WV)

SPAIN—Radio Exterior Espana, 3350 Costa Rica Relay in SS at 0545. (Parker, PA) 0538, and 5970 with SS sports at 0008. (Coady, ON) 6055 in SS at 0008. (Michael, OH) 3250 in SS at 0525, 6125 in SS at 0125, 9535 in SS at 0445, 11680 in SS at 2303 and 17850 Costa Riica in SS at 2212. (MacKenzie, CA) 12030 in AA at 2026. (Brossell, WI) 15125 in SS at 2043, 17595 in SS at 1929 and 17850 Costa Rica in SS at 2001. (Parker, PA) 17595 in SS at 1605. (Yohnicki, ON)

SRI LANKA—SLBC, 11905 at 1530 sudden sign on with anmt, business news, ID and time check. (Sellers, BC)

SUDAN—Radio Omdurman, 7200 at *0325 with Koran, AA talk, chirping birds, local pops and ME-style music. (Anderson, PA)

Radio Miraya, 11510 via Slovakia at *1400 with African music, AA talk, some HOA music. Also, 15710 at *1359 sign on with African music, "Miraya" jingles and AA talk. (Alexander, PA)

Radio Dabanga, 7315 via Issoudun at 0536 with AA talks. (Parker, PA) 11615 via Germany (?) at *1629 on with ID, jingles, AA talk; 13740 at 1615-1627* with AA talk, ID jingles. (Alexander, PA)

SURINAME—Radio Apinte, 4990 in DD at 0320 with M/W voices rising out of the noise for about 30 seconds every two minutes. (Taylor, WI)

SWAZILAND—TWR, Manzini, 3240 at 0336-0340* with choir and preaching in (l) Ndebele. (D'Angelo, PA) 0329 in Ndau. Also, 4775 at 0358 with IS, off at 0400 as scheduled for GG. (Taylor, WI) 0420 in GG. (Parker, PA) 0422. 0442 with EE preaching. (Coady, ON; D'Angelo, PA)

TAIWAN—Radio Taiwan International, 7365 in CC at 1700, //7415 and 7465. (MacKenzie, CA) 9735 in JJ at 1308. (Brossell, WI) 11715 to SE Asia at 1150. (Barton, AZ)

TAJIKISTAN—Radio Tajikistan, 4765 with (p) anmts in Tajik at 0058. (Strawman, IA)

THAILAND—Radio Thailand, 9725 in EE with news and local features, ID at 1415. (Strawman, IA)

TURKEY—Voice of Turkey, 7240-Cakirlar at 0443 with TT music and 9820-Emirler in TT with M/W talking. (Parker, PA) 9665-Cakirlar at 0403 with W and EE news, commentary and *DX Corner* on BBC cutbacks. (D'Angelo, PA) 12035-Ermiler at 1415 with TT pops and report on protests in Africa. (Fraser, ME) 12035 and //11735 at 1415 with *Question of the Month.* (Coady, ON)

TUNISIA—RT Tunisienne, 7275 at 0430 in AA with lamenting vocals, chorals. (Coady, ON) 0502 in AA. (Parker, PA) 7345 in AA at 2240. (Brossell, WI)

UGANDA—UBC Radio, 4976 with Afro-pops at 0303. (Brossell, WI) 0503 with M talk. (Parker, PA)

UNITED STATES—Voice of America, 7235 -Northern Marianas in (l) Korean at 1220. (Brossell, WI) *7325* Sri Lanka Relay on U.S. population at 0111. (Strawman, IA) 7470 Sri Lanka in Special English at 2040. (Ng, Malaysia) 7520 at 1505 in "new dynamic English." And 9315 Thailand Relay in Tibetan at 1435 with indigenous folk music. (Sellers, BC)) 17740 via Sackville at 1841. (Parker, PA) 15580 at 1759 via Bonaire. (Fraser, ME)

Radio Free Asia, 7480 at 1018 via Tajikistan in (l) Uighur service. (Strawman, IA) 7515 Northern Marianas in (l) Burmese at 1235 and 11945 via Tajikistan in CC at 2024. (Brossell, WI) 9435 via Tajikistan in (l) Tibetan at 1322. (Coady, ON) 11980 via Tajikistan in CC at 0303. (Parker, PA)

Radio Free Europe/Radio Liberty, 7285 via Lampertheim in (l) Tatar-Bashkir at 0445 W over music. (Taylor, WI) 6015 Biblis Relay in RR at 0420. (Parker, PA) 9370 via Sri Lanka in Pashto at 0335 colliding with WTJC. Also, 9760 Lampertheim Relay in RR at 0640. (Parker, PA) 12005 in (l) Kazakh at 1339. (Brossell, WI)

Radio Marti, 7405 via Greenville in SS at 2342, 9565 in SS at 2118 and 15330 in SS at 1917. (MacKenzie, CA)

Radio Farda, 7520 Sri Lanka Relay in Farsi at 2311. (Taylor, WI)

Sudan Radio Service, 17745 via Portugal heard at 1500 in Sudanese. No English heard, though it's supposedly scheduled at this time. (Fraser, ME)

TWR, 7215 via South Africa at 0329 in Omro, IS, ID and after 0343 into Sidamo. (Taylor, WI) 7320 via Novosibirsk in EE being translated into Hindi at 1421. (Sellers, BC) 7320 via Novosibirsk at 1309 with 5

This Voice of Turkey QSL shows the terminal station of the Istanbul-Baghdad railway. (Thanks: Paul Gager, Austria)

seconds of tone, 5 off, then repeated. Sign on at 1315 with music and into listed Dogri. Also, 9800 –Monaco at 0756 with IS, 0800 with W then a M, but too weak to understand. (Sellers, BC)

Family Radio/WYFR, 6105-Okeechobee at 0934 with M with W periodically alternating in PP. (D'Angelo, PA) 7730-Okeechobee in SS at 0410, //9985. (MacKenzie, CA) 9310 via Almay (Kazakhstan) at 1326 with Harold Camping taking phone calls. (Taylor, WI) 11855 via Ascension in (l) Yoruba to Nigeria. (Brossell, WI) 17505 via Ascension in (l) Shona at 1725. (Parker, PA)

WWCR, Tennessee, 3215 heard at 0536. (MacKenzie, CA)

WTWW, Tennessee, 5755 monitored at 0047. (MacKenzie, CA) 9480 at 2251. (Michael, OH)

WTJC, North Carolina, 9370 monitored at 1800. (Michael, OH)

WBCQ, Maine, 15420 heard at 2127. (Parker, PA)

WJHR, Florida, 15550u at 1405 in unid lang. (Maxant, WV) 2017 in USB with usual preacher. (Alexander, PA)

KJES, New Mexico, 15285 at 2000. (Michael, OH)

WEWN, Alabama, 9690 at 0930 and 11520 at 0130. (Maxant, WV)

VATICAN—Vatican Radio, 7360 in FF at 0606 and 13765 in PP at 1800. (Parker, PA)

VENEZUELA—Radio Nacional, 15250 via Cuba at 2303 with W and news in EE, who later translates an "evils of capitalism" speech from SS to EE. (D'Angelo, PA) 13570 with "Alo Presidente" pgm and 17705 in SS at 2007. (Parker, PA) 15290 in SS at 1913. (MacKenzie CA)

VIETNAM—Voice of Vietnam, 7210-Daclac (p) at 0650 in VV and 7220-Santoy at 1251. (Taylor, WI)

ZAMBIA—Radio Zambia/ZNBC – 5915 at *0241 sign on with fish eagle bird call, choral anthem, vernacular talk, then covered by IRIB at their *0259 sign on. Also, 6165 at 0249 weakly under Radio Nederland with IS heard weakly underneath. (Alexander, PA) 0427 with tribal vocals after Netherlands closes. (D'Angelo, PA)

ZIMBABWE—Voice of Zimbabwe, 4828 at 0354 with talks. (Parker, PA)

And, once again, order is restored! Endless thanks to those who helped out this month, namely: Charles Maxant, Hinton, WV; Michael Yohnicki, London, ON, Canada; William Hassig, Mt. Prospect, IL; Stewart MacKenzie, Huntington Beach, CA; Brian Alexander, Mechanicsburg, PA; Jerry Strawman, Des Moines, IA; Rick Barton, El Mirage, AZ; Robert Wilkner, Pompano Beach, FL; Rich D'Angelo, Wyomissing, PA; Ralph Perry, Wheaton, IL; George Zeller, Cleveland, OH; Mark Coady, Peterborough, ON, Canada; Harold Sellers, Vernon, BC, Canada; Mark Taylor, Madison, WI; Richard Michael, Akron, OH; Robert Brossell, Pewaukee, WI; Peter Ng, Johor Bauru, Malaysia; Robert Fraser, Belfast, ME; Richard Parker, Pennsburg, PA and Fotios Padazopulos, Zahro, Greece. Thanks to each of you and, until next month, good listening!

Owning a Ham Shack: No Longer Required

by Kirk Kleinschmidt, NTØZ
kirk@cloudnet.com

Owning a car is *so last year*. At least that's what the folks at zipcar.com will tell you. The company has "auto sharing" centers in major US cities and at many universities. Instead of having the expense and hassle of owning a car, you become a Zipcar member to get "as needed" access to any Zipcar facility nationwide.

Costs vary somewhat by region, but members pay $8 to $10 dollars an hour (or $60 to $80 a day) to use a vehicle when they need one. The fees include gas (within reasonable daily mileage limits), insurance, maintenance — the whole nine yards.

Most locations are in cities and at universities, where owning, parking and driving vehicles can be expensive or impossible. But with Zipcar, when you need a minivan to pick up your auction purchase — or whatever — your driver's license and your Zipcar membership have you covered. With enough Zipcar locations, actually owning a car might one day be unnecessary!

This trend isn't limited to vehicles, either. Many communities now sport "tool sharing libraries" and other resource sharing operations of every type. If you have a small garden plot, why waste money and storage resources on owning a tiller you will only need once or twice a year?

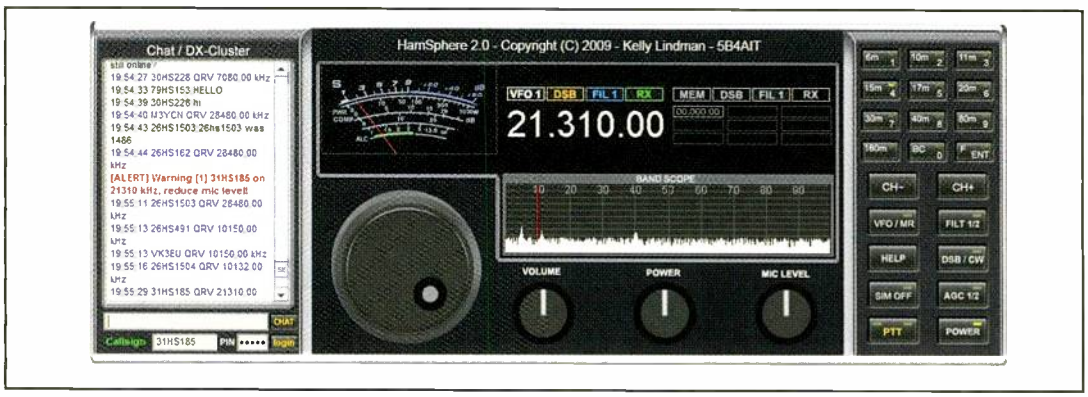
It probably makes sense to pool your resources with friends and neighbors who have similar needs. I'm sure some economists and captains of industry are becoming concerned about these "disturbing" trends, but for much of the population they make a lot of sense.

Hams do this too, of course. Many clubs purchase higher-priced goodies such as network, spectrum and SWR analyzers that members can use — and not have to purchase individually. Maintenance, scheduling and handling the consequences of unintentional damage, destruction and loss of community gear can make things interesting at times, but the benefits to members are easy to see. In that sense, sophisticated and slightly more expensive "professional sharing" operations such as Zipcar have the staff and resources to handle the potential downsides of communal property.

For hams, however, our society's changing trends aren't always driven by positive forces. For decades hams have mostly operated from home-based shacks, but thanks to a variety of evolutionary pressures, that's not necessarily true today. Modern hams may be completely *shackless* and may not even own a radio!

Deed restrictions. Covenants. Uncooperative spouses. Transient lifestyles. Financial crises. These things add up.

But thanks to technology and changing social norms, with a little ingenuity you can still enjoy amateur radio even if you don't *own* a shack or *own* a radio. Some of your options may be uncon-



You can't buy this transceiver in any store — complete with a built-in DX cluster and band scope — but you can download it free from < http://hamsphere.com > and use it to talk to other hams and radio enthusiasts from around the world on a virtualized ionosphere, thanks to Kelly Lindman, 5B4AIT, HamSphere's founder. The feature-rich virtual radio runs on Windows, Mac and Linux PCs and requires a reliable Internet connection for best performance. On the site's homepage you can read about HamSphere DX Guru Vic Loewen, VE3JAR, a Canadian ham who has made more than 6,000 HamSphere contacts with operators in more than 200 countries.

A pair of compact *remoterig* modules, an Internet connection and a supported mobile transceiver provide the easiest way to set up a remote station. The model RRC-1258s pictured here support certain Yaesu models. Check out the full line at: < http://www.remoterig.com >.

ventional, but be sure to keep an open mind, because any one of them could turn out to be your new "favorite thing!"

Mobile Radio

Modern, full-featured mobile radios are tiny, and most have price tags to match. If you can't wrangle a shack at home you can almost certainly set one up in your car or camper.

Back in the day, mobile rigs were the size of dorm fridges and required power supplies that were even bigger. But today's mobile radios are microscopic in comparison. They're also loaded with features, perform well and are amazingly affordable. Because they run on 12-volt DC, you can take them to Field Day, camping, boating or on exotic island vacations.

Many of today's mobile rigs handle AM, FM, SSB, CW and data modes from 1.8 through 440 MHz, receive from DC to daylight and can be remotely mounted, with the radio bunking in the trunk or under the seat while the control head and the microphone mount to the dashboard. These little rigs are as flexible as their whip antennas.

Contests and Special Events

Some lucky ops don't own their own shack — not even a 2-meter hand-held — yet they operate the latest and greatest stations almost every weekend.

One friend of mine regularly works the world from his friend's contest superstation, which is lavishly equipped and strategically located in the beautiful countryside — scenically beautiful and *RF noiselessly* beautiful.

When I asked him why he didn't have a station of his own, he thought I was crazy. Weekend contesting was the only kind of radio he was interested in. Like many Zipcar members who adamantly insist they don't miss the hassle of owning vehicles, he wasn't missing out on anything by not having his own shack.

A growing number of hams do the same, or similar, things to enjoy the hobby their way — or the best way they can under the given circumstances. Some operate from friends' stations, some from university club stations and some only get on the air when vacationing in one Caribbean DX hotspot or another. It's a tough life, *but somebody's gotta live it!*

Shackless weekend warriors have plenty of operating opportunities with contests, special-event operations and Field Day. Cultivate club station contacts and generous ham buddies!

Club Stations

Although they're not as prevalent as they once were, unless you live in the outback, there's probably at least one club station in your area. It may be lightly attended and may be just waiting for you to twist the knobs and provide a little *TLC*, which involves actually using the station and exercising its equipment, of course.

In Europe, some countries still require a period of club station operation as a licensing requirement, but in the United States, club stations are often used primarily for license instruction and contesting.

Look for club stations at colleges, universities, technical schools and even high schools. Many Emergency Operation Centers, law enforcement agencies and even service agencies such as the Salvation Army and the Red Cross have ham stations that may be accessible.

You might have to join a club, find the right contact person or do a little volunteering to gain access — but that's probably a step in the right direction anyway. Club stations are great for contesting and a great way to get on the air with other hams.

Public Service Communications

Providing communications at public events is an amateur radio tradition. Although FCC rules prohibit amateurs from relaying specific "commercial" information, hams can help safety officials at aid stations, operations centers, checkpoints and emergency vehicles.

To get involved, all you need is a handheld transceiver. Most public service communications are handled on VHF and UHF because few activities spread out beyond repeater range. Two meters is most popular, but other bands are also used.

If you're a member of a ham radio club you've probably already been asked to help out at public events. If you aren't in a club yet, or if your club isn't service oriented, keep looking for one that is. They're out there!

Hams should be prepared as responders to larger — regional or national — emergencies such as floods, fires and earthquakes, most of which are handled by members of the Amateur Radio Emergency Service (ARES) and the Radio Amateur Civil Emergency Service (RACES). Another popular public service opportunity is through SKYWARN. Its local chapters spot and track tornadoes and often work closely with the National Weather Service.

Other than tower work, SKYWARN is probably the best way to really get your adrenaline flowing as a ham operator. Just try to sound calm while reporting on the status of the tornado you can see through the windshield of your car!

If you want to serve your fellow citizens, public-service communications will provide the opportunity — no home station required. For information on how

to get started, point your web browser to: < http://www.arrl.org/ares >.

Foxhunting and Radio Orienteering

Foxhunting — finding hidden transmitters as part of a friendly competition — is a popular weekend activity in certain parts of the country, especially on both coasts and in larger metropolitan areas.

Hams, usually radio club members and often grouped in age- or experience-related teams, gather to search for one or more hidden transmitters — known as *foxes*. The search area may be as small as a schoolyard or as big as a small state!

Typically, competitors compete to find all of the foxes in the least amount of time. Common frequencies are on two and 80 meters. Participants use hand-held radios and compact directional antennas. Larger competitions may cover several square miles of forest or park land and may require maps and orienteering skills.

In the motorsport variant, hunters drive cars or off-road vehicles, the foxes are typically hidden on mountaintops or wayside rest areas, and the field of competition may cover several hundred square miles. Mobile foxhunters often use GPS navigation systems and sophisticated receiving gear, including multi-antenna Doppler arrays with computerized graphical displays.

Whether the atmosphere is casual or highly competitive, foxhunting has something for everyone, including a shack that encompasses the great outdoors.

Foxhunting guru and unofficial sport spokesperson Joe Moell, KØOV, has a website that provides an excellent introduction to the sport, a calendar of major foxhunting events and plenty of information about technique and technology. Check it out at: < http://www.homingin.com >.

Far, Far Afield

ARRL Field Day comprises but one June weekend a year, but you can take your radio gear to a near-infinite number of *expedition destinations* during the others that will definitely be appreciated by your fellow hams.

You can go camping, canoeing or motorcycling. Or fishing, hunting or hiking. Whether on foot or in a 60-foot diesel RV, with a compact mobile rig or an even-smaller QRP transceiver you can be on the air from just about anywhere. Stay in touch with friends and family, make new friends or both.

During the ARRL November Sweepstakes, for example, instead of operating from your home state (which may have scads of hams), why not take your radio gear to a neighboring state or province where hams are scarce?

By working the contest from a rare state you'll *be the DX* for a change, and other ops will be chasing you.

In college, I lived in Moorhead, Minnesota. From my shack window I could see Fargo and the *promised land* of North Dakota 100 yards to the west. Although I had a decent station at home, I almost always worked Sweepstakes from the university club station in Fargo. Why? To *be* the DX, of course!

Your expedition activities don't have to be limited to contests, either. You can: set up at a scenic overlook at an out-of-the-way mountain pass to help other operators collect a new grid square, operate from a nearby island (inland or coastal) to work ops looking for Islands on the Air (IOTA) QSOs and more.

QTH Here is the Internet

If you don't have a shack, but do have a PC and a decent Internet connection, you can operate through repeaters located across town, across the country or in many foreign countries and have PC-to-radio QSOs that are indistinguishable from the *real thing*.

Some systems also allow ham-only, PC-to-PC voice chats. All of this is made possible by Voice Over Internet Protocol (VoIP) technology developed to facilitate digital telephone calls.

Using Internet/radio links in this way is still controversial in some circles, but ham radio VoIP contacts are here to stay. Perhaps the most popular VoIP system today is Echolink < http://www.echolink.org >.

Using this Internet-linked system, licensed hams can talk with other hams over thousands of repeaters worldwide — plus the thousands of hams who can link over VoIP alone, with no radios at either end of the QSO.

Perhaps the niftiest ham radio VoIP systems are QSONet < http://qsonet.com > and HamSphere < http://hamsphere.com >. Unlike Echolink, there's not a radio or repeater in sight, except for the downloadable software transceiver hams use to access these *virtual ionospheres*. QSONet and HamSphere virtualize the entire ham radio experience — radio, ionosphere and all.

Users — licensed radio amateurs on QSONet and hams and non-hams on Hamsphere — work each other via each sites' virtual transceivers using voice, digital or even Morse code.

Both systems use conventional HF operating practices and even keep CW signals in the proper parts of the bands.

Think of these as *video games* for radio enthusiasts. Of the two, HamSphere is the *most hammy*, as it simulates noise and propagation on various virtual bands.

Working DX on HamSphere *feels* just like working DX in real life. If you don't have a shack or you're not yet licensed, HamSphere is as close to real radio as you're likely to get without violating a gaggle of FCC regulations.

VoIP solutions aren't ideal, but everyone on these systems is a licensed ham or a ham wannabe, talking about hammy stuff, using hammy protocols and procedures. So, if your deed restrictions are killing your mood — and your air time — you should at least give them a try.

Remote Stations

Speaking of the Internet, because it's so mature, speedy and ubiquitous, you can now use it, and a handful of off-the-shelf parts and software, to make your own remote station.

The idea is to set up a station at an out-of-town location (a family member's house, farm, etc.) and operate it via the Internet from your home, deed-restricted shack.

Ten-Tec designed its Omni VII transceiver with a built-in LAN (local area network) port to make this as simple as possible and other manufacturers offer several different methods of accomplishing remote operation. A relatively new device, however, from < http://www.remoterig.com >, allows true *no-computer-required* remote station operation with a variety of mobile transceivers.

You install the transceiver and a remote rig device at your remote station and install the mobile transceiver's detachable control head and a second remote rig device in your shack. The Internet serves as a giant extender cable between the two. *Nifty!*

Think Out of the Box

These are just a few ideas on how to enjoy amateur radio without owning a shack. There are others, of course, and if you get creative you can undoubtedly find a few that work for your particular situation.

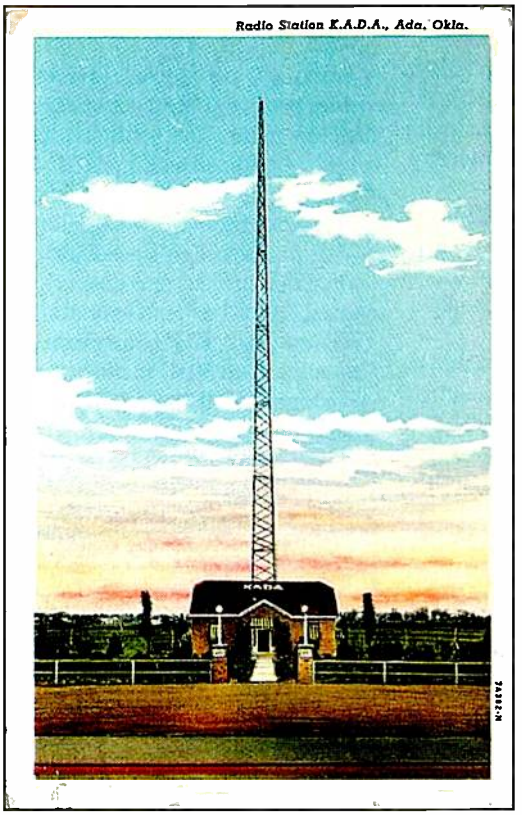
Connecting Random Dots From a Dash of Radio and TV Past

by Shannon Huniwell
melodyfm@yahoo.com

"Great Armstrong's FM Ghost!" my father exclaimed to the smiley old-timer sitting ramrod straight on a nursing home couch. "Where did you get that postcard of station K-A-D-A?"

Dressed nattily in a tweed vest, white shirt, sharply pressed trousers and a sky-blue tie, the 90-something gentleman appeared pleased that Dad had noticed the colorful broadcast studio/transmitter site image he held out for inspection.

It was obvious that he'd been expecting my father to visit the nursing home, as was my folks' custom most Sundays for a half hour or so after church. Perhaps he had heard Dad discussing radio there with Walt Thompson, a talkative neighbor whose mother resided in the senior care facility. Whatever the catalyst, the old guy beamed with anticipation of father's interest in the KADA image.



Here's the cottage-like KADA studio-transmitter site. When this image was rendered, the Ada, Oklahoma AM station boasted just 100 watts, roughly equivalent to the wattage of each bulb atop the lampposts on either side of the cute station's front walkway.

"Believe it or not, Sir," Dad offered, "I'm familiar with the KADA card. My daughter and I have a whole collection of such memorabilia. Did you listen to KADA, work there or live in the Ada, Oklahoma area?"

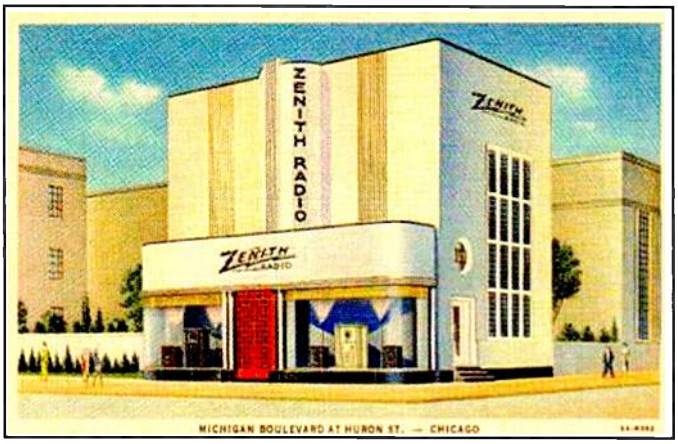
Five seconds went by, then 10, but there was no response other than a slight brightening of the man's denture smile. My father leaned toward the fellow's ear and repeated his questions. Nothing but that smile.

Though not meaning to be patronizing, one of the nurse's aides caught Dad's attempt and provided a honey-sweet explanation:

"Mr. Huniwell, I see you've met Chuck, our most fashionable resident. Chuck likes to smile, but he don't talk, do you, honey. He's happy and might seem like he is getting what you're saying, but Chuck has had some strokes and probably don't understand a word of it. It's awful nice of you to try, though. Chuck usually don't get any visitors, so I bet he's glad for anybody's company, aren't you, honey. Drives people nuts at dinner because he insists on tapping his fork on the table. Chuck, I think you must have played drums in a jazz band years ago," she laughed.

Dad waited for the aide to disappear around the corner and then declared, "Chuck, my friend, some people can really get on one's nerves!" With a captive audience, my father — who had coincidentally recently read a KADA archive I'd loaned him from my latest care package from broadcast historian, Jan Lowry — then launched into a mini-exposé about the modest Ada, Oklahoma AM station. Dad's 15-minute address on the topic must have been eloquent enough to have motivated the other trio of the TV lounge's occupants to turn off the blaring set and tune in on father's animated lecture.

My mother reports that everyone in the little



While stationed at a Chicago-area Naval installation, Chuck reportedly worked as a part-time, entry-level repairman with Zenith's main retail store in the Windy City.

audience — except for Chuck — was applauding when she returned from her visiting rounds. Though silent, Chuck maintained his smile and had politely folded his hands right in back of the KADA postcard he'd carefully placed in his lap.

Dad promised him he'd stop by again. That's when the chubby orderly reappeared and suggested that, "Chuck might like it if Mr. Huniwell would come back next Saturday night for the ice cream social . . . wouldn't ya, honey."

Lots of Changes, Though Never On Sunday

It was a church pastor who brought the radio gospel to Ada, Oklahoma, some 70 miles southeast of Oklahoma City. Thoughts of establishing a broadcast facility had no doubt been inspiring the Rev. Dr. C. C. Morris after hearing how the technology could transmit the Bible's gospel to places missed by even the most evangelical preacher.

Besides, like the Apostle Paul, who supported his 1st Century Christian ministry by practicing his tent-making trade, Dr. Morris might have recognized the value of a revenue-producing commercial outlet — at least on the six weekdays that Ada's stores conducted business.

To those ends, in the summer of 1934, Dr. Morris secured from the Federal Communications Commission, "a construction permit for a 100-watt, daytime-only operation on 1200 kilocycles." With a three-lettered name for this CP's city-of-license, Dr. Morris took the opportunity to incorporate all of it in his subsequently approved callsign, *KADA*. Only a few other stations/venues would be so mnemonic, for example: Ware, Massachusetts' WARE, and the Lone Star State's WACO.

While a crew hammered together KADA's cottage-style studio/transmitter building just off Highway 48 (or North Broadway), about a mile north of downtown Ada, another erected a 180-foot, self-supporting, Lehigh-brand antenna tower out back.

The station made its debut on September 24, 1934, quite possibly with a prayer from its theologian owner. Programming was local in nature and included church services on Sundays, the only part of the week when KADA management refused to broadcast commercials.

A neat snippet from the February 7, 1935 edition of the (Oklahoma) *Baptist Messenger* reveals KADA's owner's religious and secular endeavors were linked. Touring the state to see how various church congregations were progressing, the Oklahoma Baptist Convention's president stopped in Ada and noted that "Dr. and Mrs. C. C. Morris and members of their church proved gracious hosts, indeed. Dr. Morris took (the president) to visit his new radio station, KADA, and suggested that he would be happy for us to use his station at any time for the benefit of (Christian) work." One can assume that such an airtime loan would have been offered free of charge.

Sometime in winter 1937, KADA offered a presence bigger than its hometown when the sunrise-sunsetter joined both the Mutual and the Oklahoma radio networks. Also in '37, offices and studios were relocated closer to the heart of downtown Ada.

The following year, FCC officials approved the little station's request to stay up later. In fact, this 1938 reclassification to *unlimited hours* was sweetened with the Commission's 1940 OK for KADA to jump power to 250 watts day and night. This increase coincided with the remote studios-offices being moved back to the transmitter site.

The third leg in what might be considered as KADA's pre-World War II licensing trifecta was its late March 1941 North American Radio Broadcasting Agreement (NARBA) Treaty frequency reallocation up the band a bit to 1230 kilocycles. Using the station identification subtitle, *broadcasting in Oklahoma's fastest growing city*, KADA's network offerings had recently begun sounding a little different, as the regional Oklahoma news network flagship station (KTOK Oklahoma City) from which KADA network programming was fed, dropped Mutual in favor of National Broadcasting Company's Blue Network.

And just when listeners were accustomed to associating KADA with NBC-Blue (NBC's *also-ran* line that featured a lot of sustaining-spot advertising sponsored or public service programming), the federal government sued NBC (the Blue and wildly profitable Red networks) for being too large of an influence on radio. The result on Ada folks' radios (as well as on receivers of those hearing NBC-Blue elsewhere in the U.S.) was the mid-June 1945 disappearance of the NBC brand.

At first, Blue Network audiences were told they were listening to American Broadcasting Company, Blue, but that ID soon faded into further obscurity when the new outfit that purchased "the Blue" and essentially two and a half stations (WJZ 770 New York, KGO San Francisco, and timeshare WENR 890 Chicago) from NBC in the government-ordered sell-off, decided to simply call itself ABC.

Chuck never specified in which Detroit radio and TV shop he was employed, but it could have been in Beech's Motor City establishment. Looks like there's just enough of that blue Ford Mustang to the right to date the image circa 1965.

There are still "cable guys" making the rounds, but when was the last time you saw a genuine radio-dispatched TV shop's brightly painted Dodge service van cruising the neighborhood in search of an anxious client with a video ailment? When my Dad and his buddy Chuck mused about the good old days of television repair house calls, they agreed that the only curb service a faulty TV might get today is its owner placing it at the curb on trash day. Then again, many municipalities no longer tolerate dead sets in the garbage.

With all the network and dial position changes, KADA must have spent a small fortune on letterhead. Another request to the print shop resulted from KADA's 1944 addition of a suite of business offices in downtown Ada's 1st National Bank Building. Small print on station correspondence noted, however, that studios and transmitter were still housed at the North Broadway site.

Years of Status Quo With Just a Little Characteristic AM Static

Things on Ada's local radio dials were relatively routine for about a decade until the 1953 closure of the station's downtown offices and the re-introduction of Mutual Network fare in late 1954. The relationship with Mutual was short-lived. In 1956, KADA management got rid of it — and the connection with the Oklahoma Network — so that the ABC output could be better showcased.

No doubt, KADA's own newsroom sent word that the station's minister/founder, Dr. C. C. Morris, went to be with the Lord "at age 71 on October 24, 1956." And another bulletin was sounded shortly thereafter when the pastor's widow, Stella Katherine Morris, joined him in the hereafter.

Following several years as part of the senior Morris' estate, ownership of KADA was allowed to be officially transferred to their adult children in 1959. From a survey of *Broadcasting Yearbooks*, it appears that the spouse of one of these principals, Katherine Morris Hoover, would go on to found another station (KTEN-FM) in Ada, as well as a directional 5-KW daytimer (KEOR 1100 kHz.) some 40 miles southeast of Ada in Atoka. Bill Hoover had enjoyed an executive post with KADA as early as 1947.

Footnotes in the Ada AM's latter history include a slight shifting in operating schedules. A 1954 listing indicates broadcast hours were 6 a.m. until midnight. Records in 1964 note the transmitter was hot from 5 a.m. to 11 p.m., with a 7 a.m. to 10:30 p.m. Sunday slate.

Its affiliation with ABC ended — for a while — in 1965 so that a return to independent roots could be tried again. This go-it-alone approach got rethought in 1970 when KADA made peace with ABC and took on the network's new *American Information Radio* feed plus output from the Oklahoma News Network.

These outside sources were melded with the station's middle-of-the-road music format and a daytime power boost to 1,000 watts. Nighttime RF remained at a quarter kilowatt, modest enough for management to experiment with Top-40 *rock* music for post-sunset listeners circa 1972. Jan Lowry's files show that programming was tweaked in 1974 via the mixture of some country favorites into the daylight *middle of the road* fare and then a full-scale entry into country and western music in 1983.

Meantime, KADA had debuted — during 1979 — a Class "A" (then categorized as a maximum of 3 kW with an antenna at 300-feet above the average terrain) FM sister at 96.7 MHz. In 1988, KADA parted with ABC and was FCC-authorized to keep its 1,000-watt output after sundown.

By 1993, the FM was considered as KADA ownership's main thrust. Consequently the AM side simulcasted the FM's hit-oriented country format 100 percent, along with local news, CNN and Oklahoma News Network.

From Family to Chickasaw Nation

After some 63 years under Morris family ownership, KADA (and related FM) became the broadcast property of the Chickasaw Nation's Chickasaw Enterprises. This 1997 sale included a deal with the stations' general manager that he'd remain at his post to assist the new licensee tweak KADA's approach to an ever-increasing FM marketplace.

An example of such modification was the 2003 move from simulcasting country music to the rebranding of 1230 KADA as a sports outlet via the Sporting News' Sports Talk offering.

News and regional sports remained the province of KADA's association with the Oklahoma News Network. Licensed to the Chickasaw Nation, KADA still broadcasts from the cute little site first depicted in that postcard.

Forking Over Some Strange Sounding Signals

As suggested by the nursing home aide, my Dad returned to the facility for its ice cream social, and to regale his silent friend, Chuck, with additional radio station factoids. They'd been seated for only a few moments when Chuck commenced playing with his fork. *Tap, tap, tappity, tap*, it went as he held down the tines with his thumb and pushed the other end of it on the tabletop. All the while, the old gentleman beamed at my father, as if expecting a response.

"There goes our jazz drummer!" the aide announced in an annoyed tone. She put her hand over Chuck's fingers in order to put a quick stop to the noise. But as soon as she stepped away, Chuck started up again.

The fact that he never broke his broad smile and looked at father in anticipation got Dad thinking . . . and listening for a pattern that might confirm a hunch. Something in the incessant rhythm sounded like a crude rendition of, *CQ, CQ, Calling CQ.*

Chuck ended his session and pointed to the left-hand side of Dad's place setting. My father took the fork and tapped out in Morse code the words, *Hi Chuck.*

At least a dozen years ago, Dad spotted a *Knight Kit* code oscillator, like the one cataloged here, on the rainy, final afternoon of some hamfest. He remembers it being tangled-up in hook-up wire near the bottom of a box of sundry electronics stuff and under the vendor's table. Maybe that's why he was able to snag it for a paltry $2. In any event, the beep box is now in the possession of Chuck, his 90-year-old buddy who inspired this month's column.

The good natured geezer's face lit up brighter than a final tube in an AM transmitter while modulating the '60s surfing hit, *Wipe Out*, and he carefully reciprocated with the poignant message, "Hi Sid. Welcome to my world."

When Dad finally deciphered the breakthrough communiqué, after three clumsy flatware transmissions, Chuck threw his fork in the air like a new graduate might ecstatically toss mortarboard and tassel to the wind.

To be sure, the plastic utensil served only as the most rudimentary of code keys, lacking the tone to produce a decent dash. My father was so delighted with his discovery of Chuck's voice, he returned the next day with one of his prize hamfest bargains — a *Knight Kit* oscillator and basic code key. Armed with this nine-volt wonder, Chuck enthusiastically communicated his life story and how a series of strokes subtracted his speech and ability to write.

Strangely, though, his recollection of Morse code had vividly remained.

From Church Services in Ada to Servicing Electronics Here and There

Here's why that KADA card represented a real keepsake for Oklahoma native, Chuck:

As a teen, he attended the Ada Baptist church pastored by Dr. Morris. When the minister invited the congregation to tour his new broadcast station, Chuck was quickly bitten by the radio bug and, via hanging around KADA a lot, spent most of his spare time as a volunteer *go-fer* and then a modestly-paid engineering intern.

Upon completing high school in 1937, Chuck joined the Navy and signed up for all of the electronics education that the blue branch of the service had to offer. He quickly mastered code and found himself assigned to just about everything from testing transmitters and receivers in submarines, to monitoring radar installations on the Hawaiian Islands.

Chuck says he felt like a VIP in the war due to a high-ranking Naval official who liked his work and positive demeanor and saw to it that Chuck saw an interesting variety of military electronics venues.

Because he enjoyed the Navy, he stayed on after peace was declared in 1945. In fact, he made a career of the service, though retired in the late 1950s.

Then were another 40+ years to find something to do until a stroke sidelined him about a decade ago. He recalled being an engineer for a couple of *little sun-setters*. That was his term for several daytime AM stations either in Wisconsin or Minnesota — he couldn't specifically remember. Nor did the call letters he hazily stated show up in any of my radio listings. Chuck did know the Pennsylvania towns where he worked as a radio/TV service technician, before buying out a fellow tech's lakeside cottage, test gear and repair business (headquartered in the cottage's remodeled front porch).

He'd read about the upstate New York *lock, stock and barrel* opportunity in the classified section of the trade publication, *Radio & Television News*.

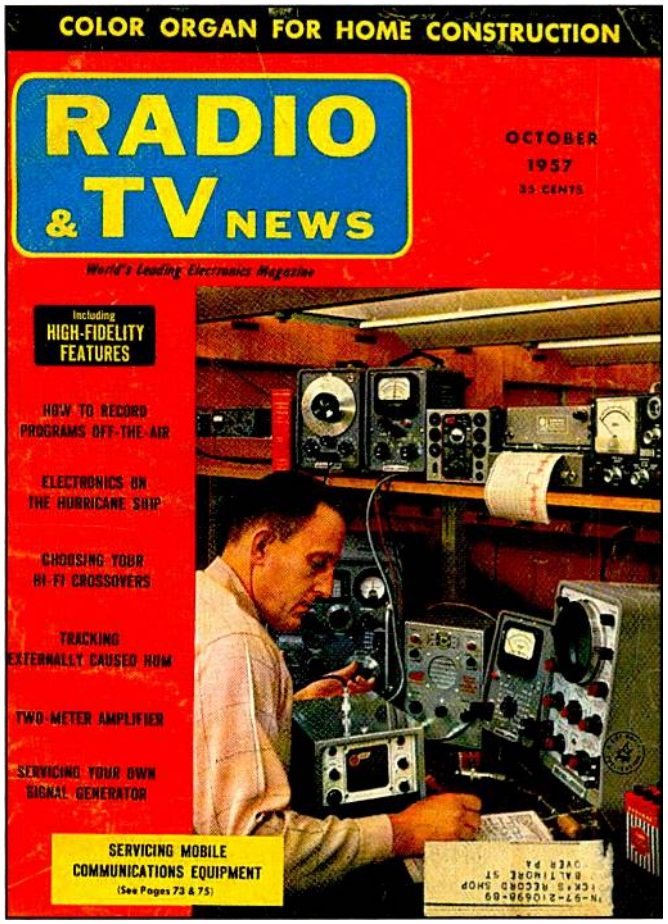
175 Pages of Almost Everything Electronic

Chuck still had a pile of these magazines in his room at the nursing home. The best way to describe their style is by taking a look at a random issue's table of contents: The *Radio & Television News*' October 1952 edition features healthy doses of radio/TV service industry insider information; articles about Yagi antennas, mobile radio, eliminating 21 Mc. interference, selenium rectifiers, transistor development updates, speaker systems, radar and cathode-ray tube rejuvenators.

Included for the do-it-yourselfer are plans and schematics and *how-tos*, covering a midget radio-controlled car, subminiature 75-meter mobile converter, and 35-watt Novice transmitter.

The magazine's regular departments offered the latest in the worlds of shortwave broadcasting, technical books, manufacturers' literature releases, recently-released radio and TV sets

With just enough rust to hint that it has had lots of outdoor experience, this vintage Motorola sign probably spent decades silently promoting the professional radio repair service offered inside the building on which the sheet metal advertising was affixed.



Chuck bequeathed a fascinating stack of old *Radio & TV News* editions — like this one from the late 1950s — to my Dad and me. Touted as the "world's leading electronics magazine," the publication was primarily geared toward readers who serviced audio and video equipment for a living. Knowing that many of these folks also enjoyed amateur radio, high-fidelity sound, tape recording and shortwave listening, the magazine included articles related to those hobby interests. Characteristic of the publication's claimed 220,000 "paid circulation" readership, was the sole proprietor of the small Pennsylvania record shop to which this issue was originally mailed.

and even a review of pre-recorded reel-to-reel tape selections — truly cutting edge in that late Truman-era.

Most interesting to pursuers of these vintage publications today are the hundreds of ads sandwiched between the editorial copy. Largest of the advertisers were electronics schools — De Forest's Training, Inc., of Chicago for example — and manufacturers such as Hallicrafters, GE, Hickok Instrument and Heath.

Tiny outfits were welcomed in *Radio & Television News*' income stream, as well. Among this fascinating flash-in-the-pan legion is C & H Sales Co. of Pasadena, California selling *surplus* 500-kc. crystals in an FT 241-A holder with 1/2-inch pin space for $1.95 apiece.

"Saving the best for last," is the way Chuck told my father he would savor each edition of *Radio & Television News*. That meant enjoying John T. Frye's monthly feature, *Mac's Radio Shop*, when he had time to relax.

The series surrounded the misadventures of a young, hapless 75-cents-an-hour (when he was actually engaged in repair work) radio technician named Barney who was employed by wise old shop owner, Mac.

Typically, after getting his wires crossed, as well as those of whatever equipment he tried to revitalize, Barney would turn to a very patient Mac, who'd then use the mess-up as a teachable moment.

Mac's solution also served to reveal *hints and kinks* valuable not only to the fictitious Barney, but for the thousands of readers who used the stories' cleverly-conveyed information at their workbenches.

Chuck insisted that Dad take a copy to introduce me to Mac's world — a place now virtually extinct. The old-timer then told my father he could return the magazine in seven to 14 days. It was Chuck's kidding way of ensuring that Dad keep him as a regular in his neighborly schedule.

A Time to Hear About an Unexpected *'Goodbye'*

My parents' weekly visits to the nursing home were interrupted by six weeks down south and another three helping Mom's sister move to a downsized condo in suburban Phoenix. When they got back in town, Dad headed over to check up on Chuck the next morning. He hadn't scheduled anything, so simply announced to the nurse's aide, "Hello. I'm looking for Chuck."

"Ohhhh," she practically moaned. "Haven't you been notified? Your friend Chuck is no longer among us."

According to the sad account, which he wove as if it were in one of those *Mac's Radio Shop* tales in a 1950 edition of *Radio & Television News*, my father simply didn't know what to say to the aide. His stunned silence caused her to pat his shoulder as a gesture of condolence.

"Here," she said in a further effort to comfort him while fumbling for something in her smock pocket. "Chuck's last request to me was that I give you this." It was the KADA card.

"You see," she continued, "a couple of weeks ago, a spry old lady stopped by to visit a friend who's one of our residents. Her husband, who died years back, was one of them ham radio operators. Anyway, she understood Morse code like you do. She heard Chuck beeping away and they hit it off fast. Yesterday, bright and early, Chuck was sitting in the lobby with his suitcase and code thing looking like he's waiting for a taxi. Not too much time goes by and that fancy old lady comes blasting in here and helps him check out. He beeped and she translated. Said they were off on an adventure. That's when he gave me this card for you. His girlfriend said he wanted you to take a stack of radio magazines, too. We got them in the office."

Incredulous, my father read the brief note on the message side of the postcard. It was apparently scribbled in the *getaway* woman's hand:

Sid,

Big 73's to you. Hope you and your daughter enjoy the bunch of Radio & Television News magazines. Thanks for my new voice. It found me a possible new XYL.

Chuck

"Great Armstrong's FM Ghost!" my Dad exclaimed. "For a long moment I thought poor old Chuck went to that big transmitter shack in the sky. But it turns out he's actually shacking up!"

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

Trivia And Toons

by R.B. Sturtevant, AD7IL

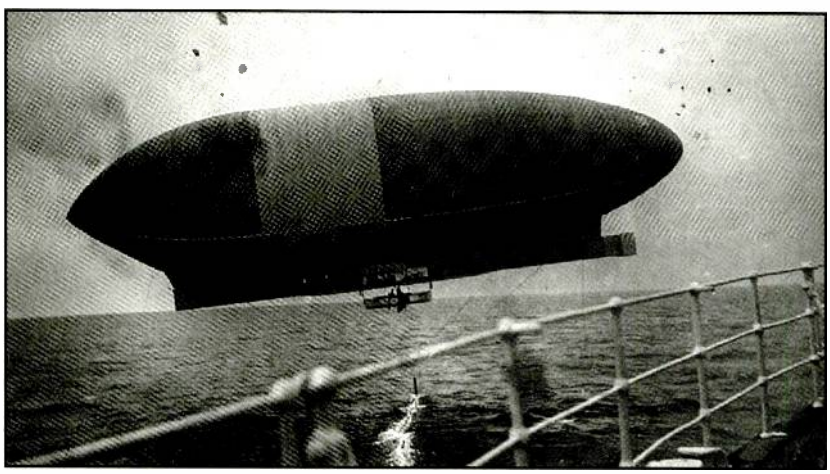
Q. *How far out to sea was Charles Lindberg able to make radio contact with Paris during his historic flight in the '20s?*

A. Lucky Lindy never made radio contact with Paris or anyone else. The *Spirit of St. Louis* did not have radio equipment on board. When Lindberg took off from New York he was truly alone. The first plane to fly from California to Australia, however, carried a crew of four and had radio equipment. The radio operator onboard *The Southern Cross* communicated with ground stations all the way to *down under.*

The first experimental flying craft to carry radio gear was the airship *America* during an unsuccessful attempt to reach Europe in 1910. After only a short flight the radio was able to send out distress signals and direct rescue vessels to safely bring home the downed crew.

Q: *Where do radio stations get all their news pictures for their websites?*

A. Some are sent in by listeners, of course, but that brings up an interesting story. Back in the '50s and '60s when a *copy boy* (editorial assistant in the newsroom) did something outstanding, he was always promised the next opening in the station's Photo Department. It was a hollow promise back in the days when radio was *really radio*. Now radio reporters can't leave the station to cover a news story without their digital cameras. Got to get those pictures for the stations website! That is progress for you.



Airship America, as seen from the rescue steamship *Trent* during an attempt to cross the Atlantic in 1910. *(WikiMedia Commons)*

Q. *It seems like all the major discoveries in earth sciences started happening about 1900. Does that have anything to do with the communications of the era?*

A. It sure does. The first major natural disaster happened in1887 when the volcano Krakatoa erupted on Indonesia. Because telegraphy had been introduced into the area, news of the eruption got out to the world at large immediately. Geologists, climatologists and other scientists were able to start making observations as soon as the news reached them.

Before that, scientists had to recreate large-scale events by combing records all over the world — after the fact. It was like the invention of the microscope for bacteriologists and people studying germs.

Q. *Who was it who started the DXCC system that got us all trying to get "one more country" on our list? And who set up the DXCC scoring system determining what constitutes a country?*

A. The effort to list all the countries in the world where amateurs were active was started in 1932. It was finalized and announced in a *QST* article in October 1935. Titled *How to Count Countries Worked, A New DX Scoring System,* by Clinton B. DeSoto, Assistant Secretary of the ARRL, the article laid out a scoring system much like the one we use today. At the time there were only 150 countries where amateurs were thought to be transmitting and receiving. At the time it was felt that some entities like Australia and Tasmania, although legally one country, should be counted as two countries. A quick look at the original article will explain this and get you started on a quest for DXCC.

Q. *You recently mentioned the different systems of telegraphy were American and International which is also called Continental. Are there any other differences between how Morse is sent here and overseas?*

A. I have heard that there is a European style for sending but I don't know how commonly it is used. Historically, Americans send while resting their forearm on a table or some flat surface whenever possible.

European style is to hold the arm off the table and rest only the hand on the key. Nobody sends like they show you in the movies — lifting the finger off the key before each dot or dash is sent.

Q. *What was the first World Series game broadcast over the radio?*

A. The first time the World Series was broadcast over radio was the first game of the 1921 series. It was heard over WJZ from station transmitters in Newark, New Jersey. WJZ, I think, was the first station in the New York/New Jersey area and the game was a local affair. The eight game series was between the New York Giants and the New York Yankees.

The Giants took the series five games to three. For years afterwards stations would send out telegraph operators to send the progress of the games back to the studio at the station so the announcer could detail the game over the air. This led to a lot of guys winning bar bets about what would happen next.

If they listened to the code report instead of the announcer they were a little ahead of the rest of the crowd. It pays to know code.

Q. *Do you remember RSA (Radio South Africa)? Wasn't there some kind of scandal about its programming that led to its demise?*

A. Yes, Radio South Africa was one of my favorite stations back in the late 1960s. And yes, there was quite a scandal that almost brought it to the point of going off the air.

The South African Broadcasting Corp. was part of the government's Department of Information that had been established after the National Party victory in 1948.

This was when apartheid was established in South Africa. The Department of Information's job was to improve South Africa's image in the world and to *explain* apartheid to the rest of the world. RSA went on the air in 1966 to help further this effort. Signal reception was very good in the United States.

In the '70s it was discovered that 64 million Rand (about $9 million at today's exchange rates) had been improperly diverted from the Ministry of Defense funds to finance the propaganda war and support the apartheid policies of the government.

The plan allegedly included bribes to foreign news services and broadcasters as well as the establishment of a newspaper called the *Citizen*, the only paper written in English, to back the National Party.

The result of the inquiries came out in 1979 with Prime Minister Vorster leaving office in disgrace and RSA being put under control of the Department of Foreign Affairs and had a strictly controlled budget. Things continued this way until 1992 with the end of apartheid.

SPURIOUS SIGNALS By Jason Togyer KB3CNM

When Life's a Beach, Don't Forget the Portable Radio

by Bruce A. Conti
contiba@gmail.com

Whether it's monitoring the latest weather forecast while camping, listening to music on the beach or catching baseball play-by-play at the backyard barbecue, portable radios have always been a part of outdoor summer fun.

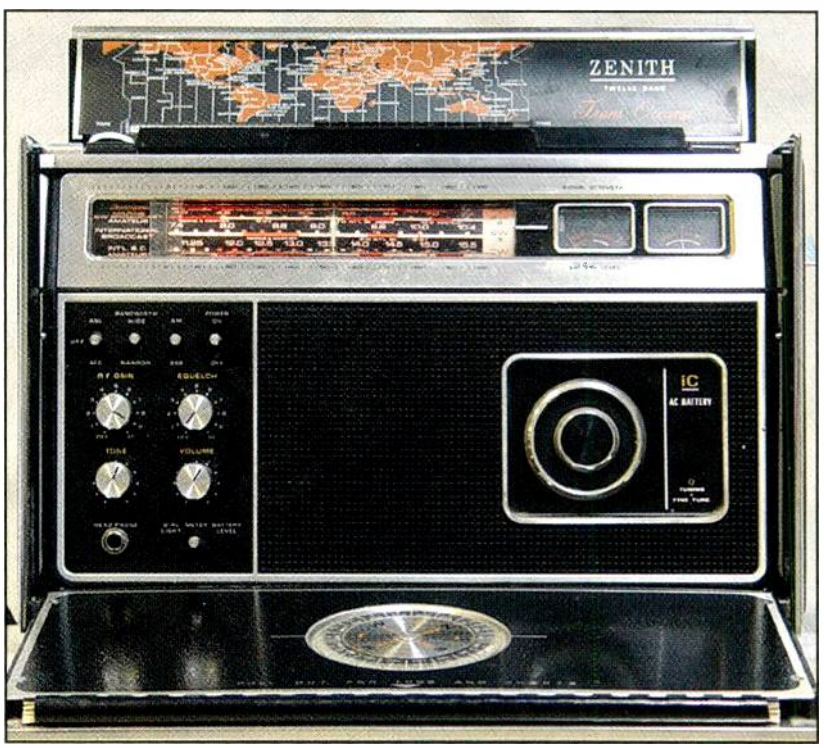
These are not ultra-light, earphone-only pocket radios, but full-size portables with an internal speaker large enough to be enjoyed by all.

Here's an overview of just a few of the top-rated portables of the past and present.

All Hail: Zenith Royalty

The Zenith Royal line of portable AM radios was perhaps the most prolific of transistorized portables, but the top of the line from Zenith was the Trans-Oceanic. For many of us it was our first shortwave DX receiver.

Zenith Trans-Oceanic receivers go as far back as the 1940s, with the most collectable being the limited run R-7000 portable. It was the last of the Trans-Oceanics to be manufactured, from 1979 to 1981, of which there were three versions: the R-7000, R-7000-1 and R-7000-2.



The R-7000 was the last of the Trans-Oceanic line from Zenith.

The -2 is the more durable model with a gear drive replacing the rubber belt of earlier versions for the slide rule tuning. Minor changes to the internal AC power supply differentiate the first from the -1.

The R-7000 is powered by eight D batteries or an internal AC power supply. A frequency range of 150 kHz to 30 MHz is covered without the bandspread control of previous Trans-Oceanic models, plus FM broadcast and VHF bands.

Interest in Trans-Oceanic radios is high, so expect to pay a few hundred dollars for an R-7000 in good working condition. To learn more about the history of the Trans-Oceanic, check out the ultimate reference book by John Bryant and Harold Cones, *The Zenith Trans-Oceanic: The Royalty of Radios.*

The Classic Realistic TRF

The Realistic TRF portable AM radio is definitely Radio Shack's single most successful triumph in a long and varied history of radio receivers. This rather unassuming portable doesn't offer many extra features, but it's still a favorite among long distance AM radio listeners.

Manufactured in the 1970s, the design features a long-range, tuned radio frequency (TRF) circuit. TRF refers to a tuned RF amplifier stage using field effect transistors and a ceramic filter for high performance sensitivity and selectivity.

Analog slide rule dial tuning covers 520 to 1620 kHz. The TRF is powered by four C batteries or plugs directly into an AC outlet.

Radio Shack model number 12-655 was the original. The follow-up replacement model number 12-656 is reported to be not quite as good. This wasn't the first TRF model from Radio Shack either, as there were a number of TRF receivers introduced by the Shack in the 1960s. The Realistic TRF 12-655, though, is the classic.

Many DXers got their first experience in electronics by modifying the TRF with a digital dis-

The Barlow Wadley XCR-30, a rare piece of radio history.

A wind-up clockwork spring powers the Baygen Freeplay.

play, external antenna and ceramic filter upgrades, so it's become somewhat harder to find one in good, original condition. But they are out there to be found — usually for less than $50. Not bad for a vintage radio that once sold off the shelf for just under $30.

Remember the Eclectic Barlow Wadley?

The Barlow Wadley XCR-30 is probably the most eclectic portable AM/SW DX receiver ever made. It was developed by Dr. Trevor Lloyd Wadley of Racal and Tellurometer fame, and manufactured in South Africa during the 1970s.

The XCR-30 was discontinued by 1981 due to the growing popularity of digital displays, although the 1980 World Radio TV Handbook indicated an earlier demise.

This radio incorporated the infamous Wadley Loop triple conversion superhet design. Tuning is quite different for a portable radio, consisting of two rotary tuning dials, one to tune to the nearest 1 MHz and the other for fine tuning in kilohertz, plus an antenna trimmer to peak the desired signal.

This Month in Broadcast History

75 Years Ago (1936): RCA demonstrated 343-line electronic television broadcasting from an antenna atop the Empire State Building in New York City.

50 Years Ago (1961): The FCC called for the orderly development of FM radio broadcasting. *Billboard* magazine introduced an easy listening music survey to differentiate from rock 'n' roll, and the first number one on the chart was "Boll Weevil" by Brook Benton. Meanwhile, "Hats Off to Larry" by Del Shannon was tops on 1490 WOLF Syracuse, New York.

25 Years Ago (1986): Great American Electronics opened for business as a supplier of obsolete, discontinued and hard to find RF transistors.

– Bruce A. Conti

Analog dial tuning from 0.500 to 30 MHz is continuous without a band switch, the only one of its kind among portable radios of the same era. The XCR-30 is now highly coveted by radio enthusiasts, considered an historically significant and rare collector's item, selling at online auction for well over $600 if you can find one.

Baygen Freeplay: Wound-Up Like a Clock

The Baygen Freeplay AM/FM/SW wind-up portable radio represents another innovation from South Africa.

The original Freeplay was introduced in 1995, powered by winding up a clockwork spring that would spin an internal generator, no batteries required. The wind-up spring has since been replaced by a hand-crank generator, which charges internal batteries of present-day emergency radios.

The Freeplay was by no means a super DX receiver, instead primarily designed for reception of local radio in under-developed regions of Africa. The Freeplay chassis is also rather bulky, necessary to accommodate the large spring, and a primary reason for the evolution to a smaller hand-crank generator and rechargeable batteries.

The hand-crank generator concept has since been implemented by other manufacturers. C.Crane now offers its own improved version of a hand-crank emergency radio/flashlight combo, called the CC Observer, which includes AM, FM and weather bands. But to a collector, there's nothing like having an original like the Freeplay clockwork spring powered radio. Another piece of radio history.

GE Superadio — High Performance in a *Boom Box*

The General Electric (GE) Superadio is often described as the *boom box* of high performance portable AM/FM radios. There were three versions manufactured by GE and later RCA, from 1979 until 2008: the Superadio, Superadio II and III.

There isn't much difference between the original Superadio and the II except for the addition of a tweeter to improve the audio performance.

The Superadio III was more or less revised for manufacturability and cost reduction, replacing the air core variable capacitor with noisy varactor tuning. As a result, the Superadio and II are considered better for long distance AM reception, although only the III includes the AM expanded band frequencies above 1600 kHz.

The Superadio features separate bass and treble controls, analog slide rule tuning, wide and narrow AM bandwidths and it's powered by six D batteries or AC.

Radio Shack introduced similar Superadio-style portables: the Optimus 12-603 which was an obvious clone of a Superadio, and the Optimus 12-604 Tuned RF AM/FM/TV Extended Range Receiver, popular for reception of all the TV, VHF and UHF channels before the switch to DTV.

Tuned RF portables from Radio Shack: The Realistic TRF, Radio Shack 12-903, and Optimus — clone of a Superadio.

Super Sony, Part I

The Sony ICF-2010 is a true legend among portable receivers. Manufactured from 1985 to 2001, it had to be one of the longest production runs in the history of portable radios.

Not just another portable radio, the 2010 is a true communications receiver comparable in performance to high-end tabletop gear. The 2010 covers long, medium and shortwave frequencies up to 30 MHz, plus FM broadcast and the VHF air band, tunable by direct keypad entry, a tuning dial, scanning and 32 user preset pushbuttons.

An LCD displays frequency to 100 Hz. The high performance of the synchronous detection is what separates the 2010 from the rest, an industry standard to which all others are still compared today.

Synchronous detection in simplest terms is like an automated ECSS mode, locking-on to the upper or lower sideband for a clearer signal. At online auctions the 2010 still commands a relatively high price. Expect to pay anywhere from $150 to $400 depending upon its cosmetic and operating condition.

The one weak point in the 2010 design is the susceptibility of the front-end, MPF102 field-effect transistors, to static electricity, exhibited by poor sensitivity. If you're not handy with a soldering iron, then be extra cautious when purchasing a used 2010. Buy from a known, reputable dealer, otherwise you may get stuck with a deaf radio.

The Sony ICF-S5W and ICF-2010. Inset: Close-up of the S5W tuning dial.

The vintage-style CCRadio 2, a modern classic.

A simple diode protection circuit can be added across the external antenna input of a good 2010 to prevent damage when connected to big antennas. Two 1N914 or 1N4148 diodes in series are installed across the antenna jack with the anode to the antenna and cathode to ground, and another series pair with cathode to antenna and anode to ground.

If the transistors identified as Q302 and Q303 on the printed circuit board are determined to be blown, direct replacement MPF102 transistors can still be found or they can be replaced with 2SK152 transistors, which are reported to improve sensitivity.

Installation of a Kiwa IF filter module makes the 2010 a true hard-core DX machine. Popularity continues to be strong with an active online Yahoo Group dedicated to the 2010. It's well worth joining for technical support.

Super Sony, Part II

The ICF-S5W FM/AM receiver is another highly sought after portable radio from Sony, manufactured in the early 1980s. Analog dial slide rule tuning covers 87.5 to 108 MHz FM and 530 to 1605 kHz AM.

An LED tuning indicator on the slide rule changes color from green to red with increasing signal strength. The overall performance is good, using a field effect transistor RF amplifier design that Sony referred to as SSP — Sensitivity, Selectivity, Portability.

An AM dial selection switch allows the listener to manually change the AM scale to show prominent radio station call letters for various regions of the U.S. making the S5W of particular interest to collectors and radio history buffs.

Stations from the past listed on the dial include 560 WIS, South Carolina; 790 WEAN, Rhode Island; 940 CBM, Montreal; 1050 WHN, New York; 1210 WCAU, Philadelphia; and 1500 WTOP, Washington, DC.

C.Crane's Modern Classic: The CCRadio 2

The CCRadio 2 is a modern classic among portable radios. It combines vintage style with digital features.

The original CCRadio — co-developed by Sangean and C.Crane — covered AM, FM, TV and NOAA weather. TV reception was replaced with the 144 to 148 MHz VHF amateur radio band on the current CCRadio 2 model, coinciding with the switch from analog to digital TV broadcasting in the U.S.

Also, the AM performance is improved in the CCRadio 2, and stereo line inputs are provided for hook-up to external audio sources such as an mp3 player.

Additional features include five preset buttons reminiscent of vintage radios, separate bass and treble controls, a digital clock with alarm and timer functions and an internal C.Crane trademark twin-coil ferrite antenna.

The CCRadio 2 is powered by four D batteries or an internal AC power supply. The chassis feels substantial and rugged. Though the FM reception is said to be typical of portable radios, the AM reception is outstanding — comparable to many top-rated receivers like the Realistic TRF and Sony ICF-2010.

Take a look at the entire C.Crane line: < http://www.ccrane.com >. Or call 800-522-8863 to request a catalog.

So Many More . . .

Of course, as they say, this is just the *tip of the whip* (antenna).

The Grundig Yacht Boy and Satellit series including the Satellit 750 featuring a rotating AM antenna, the Heathkit GR-151A AM radio with its large ferrite loop stick, the singular crystal calibrator of the Panasonic RF-2200 communications receiver, the Sangean ATS-818ACS with a built-in cassette recorder popular for air-checking . . .

So many great portable radios over the years. I'll take one of each. Wherever you go this summer, *don't forget the radio!*

73 and Good DX!

Unwired

(from page 6)

Violence Plagues Radio Stations in Philippines and Colombia

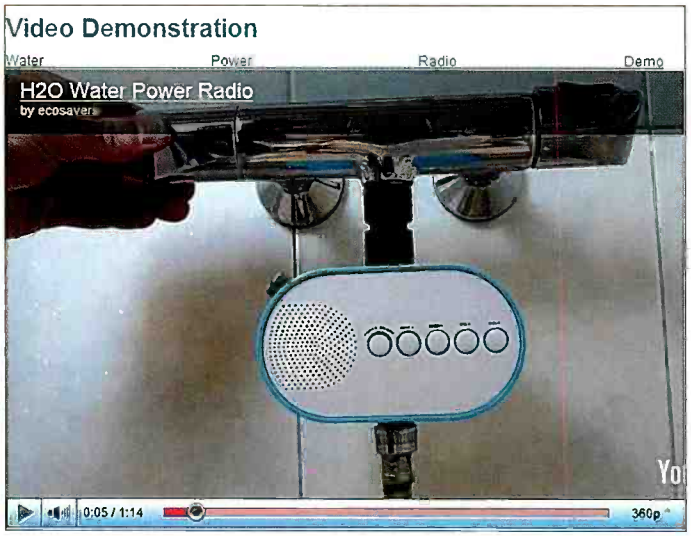
Radio stations outside the United States are dealing with challenges unimagined here — for the most part: extreme violence.

According to a published report online by *Radio Ink*, a radio station staff member in the Philippines was fatally injured when a man "went on a stabbing rampage in Dagat-Dagatan, Caloocan City."

"Edwin Ramos, a program coordinator of *Super Radio DZBB*, died after being stabbed in the abdomen. Police are looking for the suspect who was drinking with friends when he began attacking everyone in sight with a bladed weapon."

Meanwhile, in Colombia, five armed men stormed a station in Valledupar "destroying all the transmitters as they held two people hostage. *La Voz de Cañaguate* — 860 kHz — was attacked by the armed group where they gagged and restrained a guard and an employee."

A motive was not known, "but the group apparently set out to destroy the transmitters in particular. Damage to the equipment was estimated at about $170,000. *(Source: Radio Ink)*



A demonstration video shows the H2O™ Shower Powered Radio in action. *(Screen grab from Internet video < http://bit.ly/gBL6lW >.)*

Shower-Powered Radio Makes Its Splash

The team behind the Wind-Up Radio, using new micro turbine technology, has launched a water-powered radio — the H2O™.

"The H2O™ Shower Powered Radio provides users with a convenient and energy-efficient means of listening to their favorite radio stations whilst in the shower," the product's owner — Tango Group Ltd. — says. "Using a patented micro turbine concept, the FM radio is powered solely through the motion of water flowing through a small H2O™ micro turbine; driving a generator that creates energy to power the radio. The radio dispels the need for disposable batteries, as the integral battery recharges as the shower runs.

"Turning on automatically when the shower is used, the H2O™ Shower Powered Radio memorizes the last chosen radio station and speaker volume. The radio even allows users to carry on listening after the shower is turned off; using any excess energy stored in an integral Ni-Mh rechargeable cell." *(A demonstration video can be viewed at: < http://bit.ly/gBL6lW >. – Ed.)*

Deutsche Welle Ethiopian Service Jammed in Ethiopia

Deutsche Welle (DW) has condemned the latest case of jamming of its Amharic service for Ethiopia. Germany's international broadcaster has appealed to the Ethiopian administration to ensure that an undisturbed shortwave signal remain available for listeners in the region.

DW's shortwave signal for Ethiopia has been jammed since April 6. Programming from the *Voice of America* has also been affected. This has led DW officials to believe it is a concentrated effort to block critical international media.

Several individual broadcasters were also jammed in Ethiopia in May 2010 around the time of local elections.

DW has been broadcasting its Amharic service in Ethiopia since 1965 and, along with the *Voice of America*, is the most popular international source of information. *(Source: Deutsche Welle)*

HFCC Now Offers Station-by-Station Schedules

The problem of some international broadcasters not updating their websites in a timely manner, as well as the fustration of missing a broadcast because you don't know its frequency, has been solved — at least for those stations participating in the High Frequency Coordination Conference (HFCC).

Listeners can now access the current HF frequency schedules of individual broadcasters by visiting: < http://www.hfcc.org/data/a11/index.phtml >.

As broadcasters and frequency management organizations upload changes to their schedules, the data displayed via the TX links on the page will automatically be updated.

BBC Reinstates Additional Hindi Shortwave Broadcasts

Beginning May 1, the BBC World Service reinstated shortwave broadcasts in Hindi that were discontinued March 27.

The revised schedule shows Hindi broadcasts:

- 0100-0130 UTC on 6065, 9425, 11995, 13745, 15510 kHz
- 0230-0300 UTC on 11995, 15660, 17510, 17655 kHz
- 1400-1500 UTC on 1413, 7565, 9685, 11795, 15470 kHz
- 1700-1730 UTC on 1413, 5910, 7460, 9605, 11740 kHz

(Source: BBC frequency schedule via HFCC)

Washington Beat

(from page 8)

September. The FCC is preparing for a national test of CAP-EAS, according to FCC Public Safety and Homeland Security Bureau Chief Jamie Barnett. Broadcasters will be alerted two months or more in advance of the nationwide test, he said.

Barnett reassured broadcasters that during the national test, "We're not looking for enforcement actions. We're looking to make sure the system works."

Senators Reintroduce FCC Technical Expertise Legislation

A bill "to provide greater technical resources to FCC Commissioners," has been introduced by a bipartisan pair of U.S. Senators to replace a bill offered in 2010 that succumbed to procedural issues.

Senator Olympia Snowe (R-Maine) and Senator Mark Warner (D-Virginia) have introduced Senate Bill 611, that is, "in effect, a replacement bill for S.2881 that was introduced by the same two senators last year," according to a *Radio World* online report.

The Society of Broadcast Engineers (SBE) has been working "to encourage a companion bill in the House."

"The primary objective of S.611 is to add scientific expertise at the FCC's policy level by authorizing each FCC Commissioner to add one additional professional assistant to the three they currently have," the *RW* story reported. "The bill would require that the new assistants be either electrical engineers or computer scientists. The three professional assistants each commissioner now has are either lawyers or economists."

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FOR SALE - DRAKE TR-7/TR-7A/R-7/R-7A Service kit. Includes 13 Extender Boards and Digital Jumper Card. $64.95 includes postage. See http://wb4hfn.com/Services/W7AVK/tr7ext2.htm Bob W7AVK, 5581 Panorama Drive, Moses Lake, WA 98837, w7avk@arrl.net, 509-750-7589.

SuperBertha.com CUSTOM ROTATING POLES: No guy wires, entire pole rotates, stack all your antennas, rotor at ground level. 50ft to 300ft high. EIA-TIA-222-G. Starting at $37,799.00. Scott W3TX. 814-881-9258.

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Bill Goes to the Dogs, the Dogs Go to Bill and *Woof!*

by Bill Price, N3AVY
chrodoc@gmail.com

So, did I mention that I'm a *rescue dog driver?* I don't sit on the beach and wait for them to wave their paws for help, but a friend once asked me to pick up a shelter dog from one volunteer driver, keep him overnight and take him to another driver the next day. It's how I get my *dog-fix* without actually owning a dog.

This probably could only have been handled by hams before the proliferation of cell phones, and you would think that cell phones are just the be-all and end-all of "non-ham" communication. They are not.

My van and I are old and feeble. This was to be a long trip, something like 350 miles, and I agreed to take it if no one else could. It turned out that no one else could. All the arrangements took place by email. I don't *text,* nor do I *IM* or *Flitter,* or *Nosebook* or anything like that. If email is not fast enough for you, dial 9-1-1.

And if my cell phone were any older, it would have two brass bells and a crank on the side. It's just a phone. I only recently upgraded from a rotary dial.

These rescue trips always take place on Saturday, Sunday or both. Friday night came, and after I convinced the long-suffering Mrs. N3AVY that it would be fun to ride with me and help hold the dogs, I came to this very computer to find out who I would meet at each end of this adventure. And when, and where and their cell phone numbers.

Do you know that feeling you get when you're answering an email and you get your mouse-arrow on the send button, and the screen makes the same noise as it does when you turn the monitor on and it degausses itself, then goes black?

No? I didn't think you did. I didn't either.

Even though the room light was still on, I thought for a moment it was a power failure. In a way, I was right. It was a failure of the power supply in the monitor. It was as dead as Marley.

If it had been a matter pressing a certain key sequence, I'd still have been out of luck, because I needed a reply. All the contact information, schedules — even the dogs' names — were now beyond my reach.

No, I did not have a spare monitor. But wait, I did have an old LCD monitor from work — deemed unfit for anyone to use in the office. *Aha!* I lugged out the old CRT behemoth and lugged in the old LCD behemoth.

Video cable? Check! Power cord? . . . Power cord? Where's the socket for the `power cord`?

You know the answer: It wanted a 12-volt power supply.

I've been collecting *wall-wart* power supplies since Eisenhower was a sergeant. I got the biggest one from my supply of supplies, and the plug was close enough for a fit.

Monitor on! Email on screen! Screen goes black.

FOUR AMPS? They've *gotta* be kidding. The power supply for this monitor was still in my truck — at work.

Panic. No neighbors up at this hour. Can't use their computers or borrow a cup of monitor.

The Plan: Call son, 2,000 miles (and two time-zones) away. Have him get into my email account. Find the message and tell everyone I'm *off the air* and give them my cell phone number.

Great idea. Too bad he wasn't home.

Eventually, his lovely wife is home, and does my emailing for me, and I spend the night on the cell phone setting up times and places.

Two happy English Setters were waiting for us the next day, and although they were a little unruly in the car (the big one kept trying to sit on my lap) we got them home where they would have rather chased cows and birds and cats — and finally got them inside where they ate and drank like, well, *like hungry dogs.*

Once we put a gate across the kitchen door, they eventually dozed off, except for some time when one of them chewed open a can of diet soda (which they lapped up off the floor) and the other chewed the cord off the vacuum cleaner. They didn't harm a hair on the TS-520, which was holding their gate in place.

They are now both at their new homes, probably helping open soda cans and repairing appliances. *Woof,* you guys, it was nice knowing you.

AR2300 "Black Box" Professional Grade Communications Receiver

Introducing a new generation of software controlled "black box" receivers!

Available in professional and consumer versions, the AR2300 covers 40 KHz to 3.15 GHz*

With the new AR2300 "black box" receiver from AOR, up to three channels can be monitored simultaneously. Fast Fourier Transform algorithms provide a very fast and high level of signal processing, allowing the receiver to scan through large frequency segments quickly and accurately. All functions can be controlled through a PC running Windows XP or higher. The AR2300 features advanced signal detection capabilities which can detect hidden transmitters. An optional external IP control unit enables the AR2300 to be fully controlled from a remote location and send received signals to the control point via the internet. It can also be used for unattended long-term monitoring by an internal SD audio recorder or spectrum recording with optional AR-IQ software for laboratory signal analysis. The AR2300 appeals to federal, state and local law enforcement agencies, the military, emergency managers, diplomatic service, news-gathering operations, and home monitoring enthusiasts.

Discover exceptional performance, state of the art specifications and a receiver with a menu of optional extras that can be configured to your own needs and specifications.

- Receives AM, wide and narrow FM, upper and lower sideband, CW modes, and optional APCO-25
- Up to 2000 memory channels (50 channels X 40 banks) can be stored in the receiver
- Alphanumeric channel labels
- Fast Fourier Transform algorithms
- Operated by a Windows XP or higher computer through a USB interface using a provided software package that controls all receiver functions
- An I/Q output port that allows the user to capture up to 1 MHz of bandwidth onto a computer hard drive or external storage device
- An SD memory card port that can be used to store recorded audio
- Analog composite video output connector
- CTCSS and DCS squelch operation
- Two selectable Type N antenna input ports
- Adjustable analog 45 MHz IF output with 15 MHz bandwidth
- Optional AR-I/Q Windows software facilitates the easy storage and playback of transmissions captured within up to 1 MHz bandwidth or, signals can be subjected to further analysis.
- An optional GPS board can be used for an accurate time base and for time stamping digital I/Q data.
- The triple-conversion receiver exhibits excellent sensitivity across its tuning range.
- Powered by 12 volts DC (AC Adapter included), it may be operated as a base or mobile unit.
- Software-driven operating selections include IF bandwidth, frequency, mode, filters, a screen-displayed graphical "S-meter," memory inputs, volume and squelch settings and more
- Professional (government) version is equipped with a standard voice-inversion monitoring feature

Cellular blocked for US consumer version. Unblocked version available to qualified purchasers with documentation. Specifications subject to change without notice or obligation.

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HF/50MHz ALL MODE TRANSCEIVER TS-590

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Kenwood has essentially redefined HF performance with the TS-590S compact HF transceiver. The TS-590S RX section sports IMD (intermodulation distortion) characteristics that are on par with those "top of the line" transceivers, not to mention having the best dynamic range in its class when handling unwanted, adjacent off-frequency signals.*

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* For 1.8/3.5/7/14/21 MHz Amateur bands, when receiving in CW/FSK/SSB modes, down conversion is automatically selected if the final passband is 2.7KHz or less.