POPULAR COMMUNICATIONS

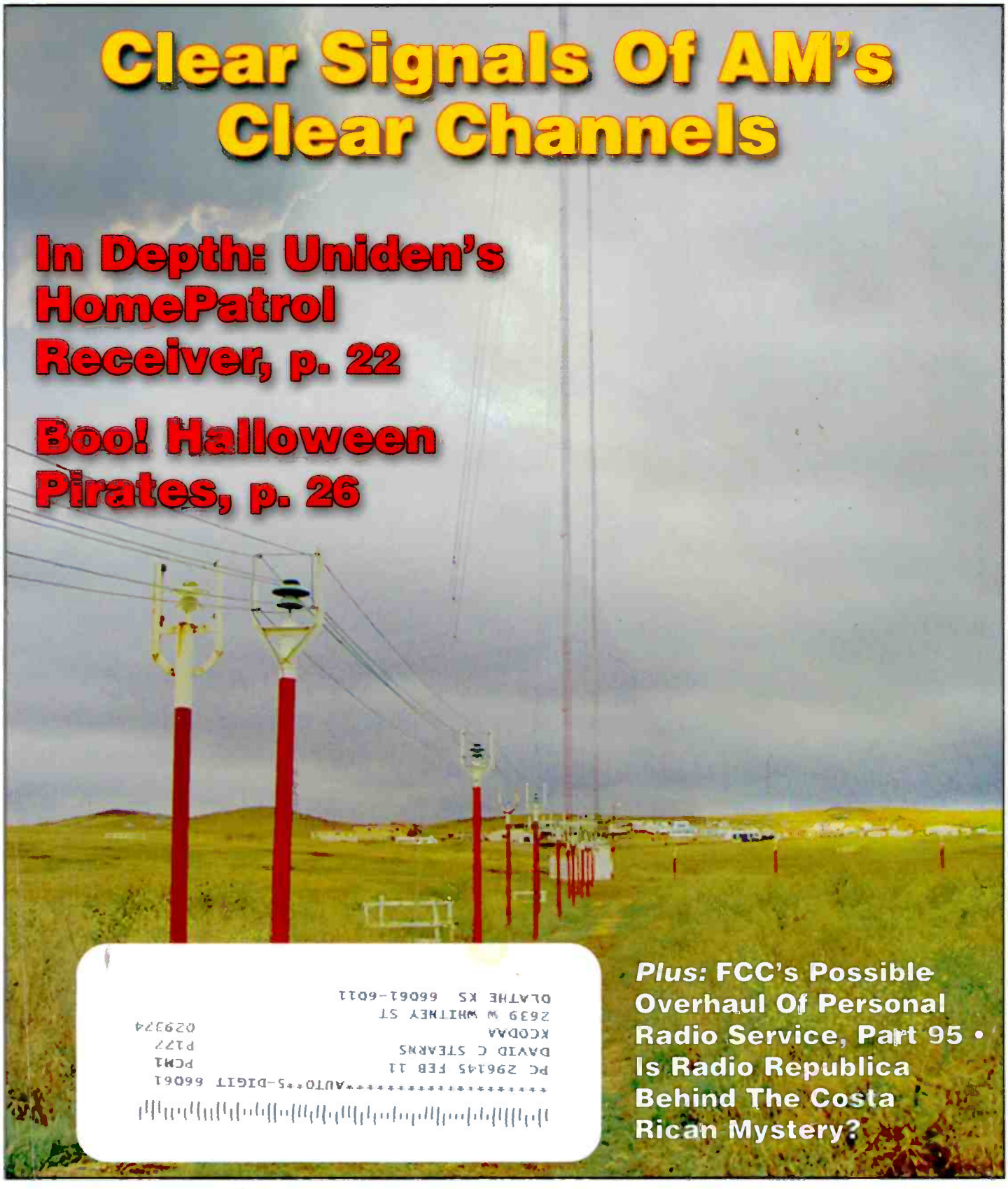
OCTOBER 2010

Shortwave Listening • Scanning • AM & FM • Radio History

Clear Signals Of AM's Clear Channels

In Depth: Uniden's HomePatrol Receiver, p. 22

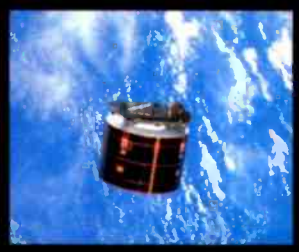
Boo! Halloween Pirates, p. 26



Plus: FCC's Possible Overhaul Of Personal Radio Service, Part 95 • Is Radio Republica Behind The Costa Rican Mystery?

THE PROFESSIONAL STANDARD






- Continuous Frequency Coverage: 100 kHz ~ 2.6 GHz / LSB, USB, CW, AM-Narrow, AM, Wide AM, FM-Narrow, and Wide FM (cellular frequencies are blocked)
- 2000 Memory Channels / 100 Memory Groups
- Dual Receive
- Digital Signal Processing / Bandpass Filter,Noise Reduction, Notch Filter, Narrow CW Peak Filter (Optional DSP-1 requires)
- Real-Time Spectrum Scope
- World Clock with UTC/Local Settings
- Preset Shortwave Broadcast Station Memory Bank
- Extensive Scanning Capability/Smart Search™

COMMUNICATIONS RECEIVER
VR-5000

0.1~2599.99998MHz*
LSB/USB/CW/AM-N/AM/
WAM/FM-N/WFM
*Cellular blocked

CARRY THE WORLD WITH YOU!

- Frequency coverage : 0.1-1299.99995 MHz
- Modes : NFM, WFM, AM, USB, LSB, CW
- Huge Memory Capacity: 1091 Channels
- Multiple Power Source Capability ·Polycarbonate Case
- Real-Time 60-ch Band Scope Range 6 MHz / Step 100 kHz
- Full Illumination For Display And Keypad
- Convenient "Preset" Operating Mode
- Front-end 20 dB Attenuator

ALL-MODE WIDEBAND RECEIVER
VR-500

YAESU
Choice of the World's top DX'ers

Vertex Standard
US Headquarters
10900 Walker Street
Cypress, CA 90630 (714)827-7600

For the latest Yaesu news, visit us on the Internet:
http://www.vertexstandard.com

Specifications subject to change without notice. Some accessories and/or options may be standard in certain areas. Frequency coverage may differ in some countries. Check with your local Yaesu Dealer for specific details.

Universal Radio — Quality equipment since 1942.

ICOM

IC-R75

✔ **FREE Icom Ball Cap**

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

R6

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

Call or visit website for price.

R20

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

The **Icom R9500** raises the bar for professional receivers. Visit the Universal website for full details on this state-of-the-art instrument.

ICOM

ICOM IC-RX7 SUPER SPECIAL

IC-RX7

This is the best deal you will find on a wideband portable receiver!

Buy the Icom IC-RX7 at our special sale price of $199.95 *and* we will also include:

✔ **FREE Race Scanning book**
This book will help you be properly equipped and informed to enjoy the race from a new perspective.

✔ **FREE Go Bag**
Plenty of room for your IC-RX7, batteries, accessories, directories and more. With carry strap and open front pocket.

The **Icom IC-RX7**-05 is a slim and smart wideband receiver that tunes from 150 kHz to 1300 MHz (less cellular and gaps) in these modes: AM, FM Narrow and FM wide. This allows you to hear regular AM and FM radio, longwave, international shortwave transmissions from around the world as well as local VHF/UHF communications. It features a large, backlit LCD plus a nice keypad. It is splash resistant to equivalent IPX4 standard. CTCSS and DTSC decode is built in. Other features include: keypad, RF Gain, Attenuator, Auto Power save and voice squelch control. A built-in ferrite rod antenna provides good medium wave reception. A total of 1650 scannable alphanumeric memories are available. Many sophisticated forms of scanning and searching are supported. Comes with: BP-244 Li-Ion battery, MB-122G belt clip and BC-149A charger. Regular price $299.95.

Icom IC-RX7, Go Bag & Race Scanning Order #5007 **$199.95**

www.universal-radio.com

◆ **Visit our website or request our free 128 page catalog for other exciting Icom products.**

Universal Radio is also pleased to carry the complete Icom **amateur radio** equipment line. The **IC-7700** shown.

universal radio inc.

Universal Radio, Inc.
6830 Americana Pkwy.
Reynoldsburg, Ohio
43068-4113 U.S.A.
☎ **800 431-3939** Orders & Prices
☎ 614 866-4267 Information
614 866-2339 FAX Line
dx@universal-radio.com

- Visa
- MasterCard
- Discover
- JCB

- Prices and specs. are subject to change.
- Special offers are subject to change.
- Returns subject to a 15% restocking fee.
- Prices shown are after mfg. coupons.

POPULAR COMMUNICATIONS

OCTOBER 2010
VOLUME 29, NUMBER 2

CONTENTS

FEATURES

FEATURED COLUMNS

ON THE COVER

From the early days of broadcast radio, a number of AM stations beamed strong signals on certain frequencies, known as "clear channels," to provide reliable coverage, especially at night, to underserved regions. Longtime DXer Karl D. Forth revisits these powerhouses from the past (and present) in his feature "Silent Nights And Distant Signals: AM Clear Channels, Then And Now," starting on page 10. (Cover photo of clear channel station XEPRS tower along the U.S-Mexico border by Larry Mulvehill, WB2ZPI)

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 AMTOR (FEC) turn into exciting text messages as they scroll across an easy-to-read LCD display.

You'll *read* interesting commercial, military, diplomatic, weather, aeronautical, maritime and amateur traffic . . .

Eavesdrop on the World

Eavesdrop on the world's press agencies transmitting *unedited* late breaking news in English -- China News in Taiwan, Tanjug Press in Serbia, Iraqui News in Iraq -- all on RTTY.

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

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. 18Wx2¾Hx1¼D 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.

Super Active Antenna

"World Radio TV Handbook" says MFJ-1024 is a *"first-rate easy-to-operate active antenna ...quiet... excellent dynamic range... good gain... low noise... broad frequency coverage."* Mount it outdoors away from elec- trical noise for maximum signal, mini- mum 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.

MFJ-1024 **$159.95**

Indoor Active Antenna

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

MFJ-1020C **$99.95**

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

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.

MFJ-1022 **$69.95**

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

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

MFJ-959C **$119.95**

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

High-Gain Preselector

High-gain, high-Q receiver 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.

MFJ-1045C **$89.95**

Dual Tunable Audio Filter

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

MFJ-752C **$119.95**

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

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

MFJ-956 **$69.95**

Super Passive Preselector

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

MFJ-1046 **$119.95**

MFJ Shortwave Speaker

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

MFJ-281 **$12.95**

MFJ All Band Doublet

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

MFJ-1777 **$59.95**

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

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

MFJ-461 **$89.95**

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.

Dealer/Catalog/Manuals

Visit: http://www.mfjenterprises.com or call toll-free 800-647-1800

• 1 Year *No Matter What*™ warranty • 30 day money back guarantee (less s/h) on orders direct from MFJ

MFJ ENTERPRISES, INC.
300 Industrial Pk Rd, Starkville, MS 39759 **PH:** (662) 323-5869
Tech Help: (662) 323-0549
FAX:(662)323-6551 8-4:30 CST, Mon.-Fri. ***Add shipping.***

POPULAR COMMUNICATIONS

EDITORIAL STAFF
Edith Lennon, N2ZRW, Editor
(E-mail: editor@popular-communications.com)
Richard S. Moseson, W2VU, Editorial Director
(E-mail: w2vu@popular-communications.com)

CONTRIBUTING EDITORS
Peter J. Bertini, K1ZJH, Restoration/Electronics
Kent Britain, WA5VJB, Antennas And Accessories
Bruce A. Conti, AM/FM Broadcasts
Rob de Santos, Trends In Technology
Gerry L. Dexter, Shortwave Broadcast
Richard Fisher KI6SN, Capitol Hill News
Mitch Gill, NA7US, Homeland Security
Tomas Hood, NW7US, Propagation
Shannon Huniwell, Classic Radio
Kirk Kleinschmidt, NTØZ, Amateur Radio
Mark Meece, N8ICW, Military Monitoring
D. Prabakaran, News
Bill Price, N3AVY, Humor/Communications
Ken Reiss, Technical/Scanning
Dan Srebnick, K2DLS, Computers And Radio
Bob Sturtevant, AD7IL, Puzzles And Trivia
Tom Swisher, WA8PYR, Civil Aviation
Jason Togyer, KB3CNM, Cartoons
Gordon West, WB6NOA, General Radio Comm.

BUSINESS STAFF
Richard A. Ross, K2MGA, Publisher
Arnold Sposato, N2IQO, Advertising Manager
Emily Leary, Sales Coordinator
Sal Del Grosso, Accounting Manager
Doris Watts, Accounting Department

CIRCULATION STAFF
Melissa Gilligan, Operations Manager
Cheryl DiLorenzo, Customer Service Manager
Ann Marie Auer, Customer Service

PRODUCTION STAFF
Elizabeth Ryan, Art Director
Barbara McGowan, Associate Art Director
Dorothy Kehrwieder, Production Director
Emily Leary, Production Manager
Hal Keith, Technical Illustrator
Larry Mulvehill, WB2ZPI, Photographer

A publication of

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

Popular Communications (ISSN-0733-3315), Vol. 29, No. 2, 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 Edith Lennon, N2ZRW
editor@popular-communications.com

Cross Service Interoperability Proposal

By Don Wingo, R&D Manager
Kenwood USA Corporation
Communications Sector

With the recent FCC Notice of Proposed Rulemaking on a possibly sweeping restructuring of Part 95—and its potential impact on cross service radios—we believe that it's critical that the ongoing issue of system interoperability take a prominent place in the discussions to come. As an excellent starting point for the dialogue, we turn this page over to Don Wingo of Kenwood USA Corporation and a proposal he presents. For more on the FCC NPRM, see "Gordon West's Radio Ways," elsewhere in this issue.—ed.

Overview

Interoperability has been the goal of the public safety service since 9/11 made it apparent that issues existed between many agencies sharing the same geographic areas of responsibility. While great strides have been made to mitigate these issues and recent disaster scenes have shown the improvement, the Amateur Radio Service continues to augment public safety and public service entities on the same scenes, yet the ability to cross communicate does not exist. The methods used to date have been to assign an amateur radio operator to "shadow" a public safety/service person and/or to place the amateur operator in a dispatch area or emergency operations center/trailer. Information is then relayed from the public safety/service radio operator to the amateur service operator. While effective and viable, it does not always work well in the field and can create issues of missed or wrongly directed information. This proposal will make recommendations on how to provide cross service interoperability at the field and dispatch level. This should not be considered a condemnation of current methodologies, but an extension to improve communications and better serve the community at large.

Public Safety/Service Interoperability

The FCC and NTIA in rule making set aside interoperability frequencies to be used between State, Local, and Federal agencies as required. These frequencies and more useful information have been detailed by the U.S. Department of Homeland Security, Office of Emergency

(Continued on page 72)

INTEROPERABILITY CHANNELS

Non-Federal VHF National Interoperability Channels			
Description	NPSTC ID	Channel (MHz)	CTCSS Tone ±
VHF Low Band			
Law Enforcement	LLAW1	39.4600	CSQ /156.7 (5A)
Fire (Proposed)	LFIRE2	39.4800	
Law Enforcement	LLAW3	45.8600	
Fire	LFIRE4	45.8800	
VHF			
Calling	VCALL10	155.7525 base/mobile	CSQ /156.7 (5A)
Tactical	VTAC11 *	151.1375 base/mobile	CSQ /156.7 (5A)
Tactical	VTAC12 *	154.4525 base/mobile	CSQ /156.7 (5A)
Tactical	VTAC13	158.7375 base/mobile	CSQ /156.7 (5A)
Tactical	VTAC14	159.4725 base/mobile	CSQ /156.7 (5A)

*VTAC11 and VTAC12 may not be used in PR/VI.
±Default operation should be carrier squelch receive, CTCSS transmit. If the user can enable/disable without reprogramming the radio, the indicated CTCSS tone should also be programmed for receive, and the user instructed how and when to enable/disable.

REAL TIME DRAMA.
LIVE & UNEDITED.

Find out what's going on around you with the first scanner for everybody.

With our HomePatrol-1 scanner, you will need:
~~Control Channels, Talk Group IDs, CTCSS, DCS, NAC, P25 Status Bits, EDACS, LTR, Logical Channel Numbers,~~ or Zip Code. Only

Uniden's HomePatrol-1 is a revolutionary touchscreen receiver that lets you instantly listen to police, fire, ambulance, military, weather reports & more.* Visit **www.HomePatrol.com** to learn more.

HOMEPATROL
SIMPLY INFORMED

Uniden®

The Weirder Side Of Wireless

by Staff

Weather Broadcasts Called On Account Of Weather

Violent weather crippled NOAA Weather Radio in the Baltimore area when the Pikesville, Maryland, antenna that broadcasts the weather forecasts, and the all-important weather watches and warnings for the region was struck by lightning during a July storm, according to a report by the *Baltimore Sun*. The lightning bolt knocked out the full-power, robotic-sounding broadcasts at 162.4 MHz, reducing the signal to a poor-quality 500 watts. The pre-strike transmissions were apparently badly missed, at least by the news item's reporter, who described the post-strike content as "punctuated by a series of beeps and little or no content from the synthetic announcers: sweet and sultry Donna, next-door neighbor Tom, and the older, and vaguely Scandinavian Paul," the report said.

Riding Shotgun: Scanners And Tow Trucks Don't Mix In Philly

Violators of radio communications monitoring laws got violent in the city of brotherly love when a private tow-truck operator shot a competitor in the leg while arguing over business at the scene of an accident. One towing company was subsequently firebombed and 13 towed cars were torched, according to the *Philadelphia Inquirer*. Philly tow-truck operators have long used radio scanners in their trucks to overhear police dispatches about accidents and then race to the scene to get the tow job, running red lights at 70mph and thrusting towing contracts at injured accident victims to sign, according to police. But that was when things were friendly. It is, of course, illegal to use intercepted radio communications for private gain, according to section 705 of the Communications Act of 1934, and the law provides up to two years in federal prison and up to $50,000 in fines for a first offense. FCC spokesperson Eric Bash, however, said that prosecutions under Section 705 are rare and that enforcement is difficult. The Philadelphia Police Department's solution is to dispatch officers to accidents via computers in police cars and have dispatchers telephone for a tow truck when they dispatch police. I guess losing the tow is better than possibly losing a toe.

An App-y Ending

A man accused of swiping an Apple iPhone out of a woman's hand in San Francisco and peddling furiously away on a bicycle was found by police less than 10 minutes after the crime. As reported in the *San Francisco Chronicle*, the bicycle thief really didn't have a chance: the phone had been tracking his every move. The iPhone was being used to test a new, real-time GPS tracking application, and the woman holding it was an intern for the software's maker, Mountain View, California-based Covia Labs. Covia CEO David Kahn had sent the intern into the street to demonstrate the software, according to the *Chronicle*. Police say Horatio Toure snatched it and sped away on a bicycle. Khan, who was watching a live map of the phone's location on a computer, says he was immediately struck by how quickly the image began moving down the street. Police arrested Toure nine minutes later, and the intern identified him as the thief. Now *that's* a field test.

In Name Only— National Public Radio Says Goodbye To "Radio"

National Public Radio says it wants to be known simply as NPR, thank you very much. The *Washington Post* reported that its fellow Beltway organization "quietly changed its name to its familiar initials. Much like the corporate names KFC or AT&T, the initials now stand for the initials." Hey, why waste letters, right? NPR says it's abbreviating the name it has used since its debut in 1971 because "it's more than radio these days." At press time, NPR hadn't formally announced the change but had told its staff and some 900 affiliated stations to use only the initials on the air or online, according to the report. Wonder if they informed them via radio...

News, Trends, And Short Takes

by D. Prabakaran

Ambitious U.S. Wireless Broadband Scheme Unveiled

An investment firm has unveiled an ambitious plan to build a high-speed wireless broadband network that would cover more than 90 percent of the United States by 2015. New York-based Harbinger Capital Partners said it has signed a seven billion dollar agreement with Finnish-German giant Nokia Siemens Networks to "deploy, install, operate, and maintain" a broadband network called "LightSquared." If implemented, the nationwide LightSquared network, consisting of approximately 40,000 cellular base stations, would cover 92 percent of the U.S. population by 2015. Its satellite and mobile broadband network would offer broadband capacity to wireless providers, retailers, cable operators, device makers, content providers, and other businesses. LightSquared said it expects to launch commercially in the second half of 2011 and to cover at least 100 million Americans by December 2012.

(Source: AFP)

Bolivia Signs Up To Adopt Japanese Digital TV System

Bolivia and Japan have signed an accord to switch Bolivia's TV system from analog to digital. Analog technology will be switched off in 10 years' time, said Walter Delgadillo, Bolivian Minister of Public Works, at a ceremony with Masanitsu Nait, Japan's Secretary of State for Internal Affairs and Communication. The Japanese digital television system, ISDB-T, with Brazilian modifications, was more convenient than formats offered by the United States, China, and Europe, Mr. Delgadillo said.

(Source: AFP)

Vatican Radio Rejects Radiation Claim

Inhabitants around the Vatican Radio's transmission center in Santa Maria di Galeria, outside of Rome, have alleged that the radiation levels had increased the risk of cancer, especially in children. An international panel, commissioned by Italy's health ministry, concluded in 2001 that there was no connection between the broadcaster's antennas' radiation and child leukemia rates. However, a recent report commissioned by an Italian judge said data suggested there is "an important, consistent, and significant association between residents' exposure to Vatican Radio facilities and an increased risk of the illnesses leukemia and lymphoma in children." The report, leaked to the press, studied the incidence of leukemia-related deaths of residents who lived within a seven-mile radius of the facilities over the past 30 years.

In 2005, Cardinal Roberto Tucci, former president of Vatican Radio's management committee, and Jesuit Father Pasquale Borgomeo, formerly the general director, were found guilty of the criminal charge of "dangerously showering objects" on residents near the Santa Maria di Galeria transmission center. In 2007, an Italian appeals court overturned the convictions.

Vatican Radio has dismissed press reports about the new medical research.

(Source: Independent Catholic News)

UK Abandons 2015 Date For Digital Radio Switch

The UK government said that it is dropping a 2015 target date for switching radio transmission to digital from analog, saying the timing must be decided by the pace of public demand. Communications Minister Ed Vaizey said listeners need to be persuaded of the case for abandoning their old radios and buying new DAB digital ones. A decision on the date for the switchover would not be taken until half of the radio listening in Britain was digital, he said. DAB radios currently account for 15 percent of listening now. He said industry believed 2015 was an achievable target date and the government would work to support that, provided there was sufficient public demand.

(Source: Reuters)

All India Radio Tender Notice For DRM Transmitters

India's public service broadcaster All India Radio (AIR) is putting into practice its plans for digitalization of radio and has placed a global tender notice for the procurement of several DRM digital transmitters. AIR has invited bids for the supply of 34 new mediumwave transmitters, for the upgrade of 36 mediumwave transmitters and the purchase of five shortwave transmitters and other associated equipment. The Research Department of AIR is also going ahead with the purchase of a 500-watt DRM shortwave transmitter for conducting trials on 26-MHz DRM transmissions for local coverage. The details of the tender advertisement can be found on the official AIR website.

(Source: DRM Consortium)

Saudi Arabia To Acquire DRM-ready 250-kW HF Transmitters

Continental Electronics will supply four 250-kW HF DRM-ready transmitters and associated equipment to the Saudi Arabia Ministry of Information (MOI) through First Gulf Company of Riyadh. First Gulf will construct an entirely new HF station where the transmitters, antennas, and other equipment will be installed at the existing Al Khumra site outside Jeddah. The transmitters will be delivered in the latter part of 2010 and the station is planned to be fully operational by mid-2011.

(Source: DRM Consortium)

Capitol Hill And FCC Actions Affecting Communications

by Richard Fisher, KI6SN

Employee Participation In Emergency Drills OK'd By FCC

About a month after the comment deadline, the Federal Communications Commission adopted a Report and Order (R&O) allowing radio amateurs who are employed by both government agencies and non-government agencies such as hospitals to participate in emergency and disaster drills on behalf of their employers. The July 14 ruling—made with unusual speed for the Commission—came in response to petitions arising from a strict interpretation in March by the FCC's Enforcement Bureau of the prohibition on amateurs communicating on behalf of their employers based on a Notice of Proposed Rule Making, WP-10-72, according to a report from *CQ Amateur Radio* magazine. No specific date for implementation was given in the R&O, so it will presumably become effective upon publication in the Federal Register. The complete text of the R&O may be accessed online at www.fcc.gov/Daily_Releases/Daily_Business/2010/db0714/FCC-10-124A1.pdf.

Broadcast Indecency Ban Thrown Out On Appeal

Saying it creates a "chilling effect" that violates the First Amendment protection of free speech, a federal appeals court in July struck down the government's prohibition against indecency on broadcast television and radio. A three-judge panel of the U.S. Second Circuit Court of Appeals in New York in its ruling called the policy "unconstitutionally vague." According to a report in the *Los Angeles Times*, the July ruling "is a major victory for the broadcast TV networks, which jointly sued the Federal Communications Commission in 2006 in the wake of a tougher crackdown on indecency over the airwaves. The suit stemmed from an FCC ruling in March 2006 that unscripted expletives uttered impromptu on live broadcasts violated indecency rules and were subject to fines." In reaction, FCC Commissioner Michael J. Copps said he was "shocked by such an anti-family decision coming out of the Second Circuit Court of Appeals. Sadly, the court focused its energies on the purported chilling effect our indecency policy has on broadcasters of indecent programming, and no time focusing on the chilling effect today's decision will have on the ability of American parents to safeguard the interests of their children."

U.S. Senators Call For Sweeping Spectrum Assessment

U.S. Senators John Kerry (D-MA) and Olympia Snowe (R-ME) have called on the Federal Communications Commission and National Telecommunications and Information Administration to assess use of frequency spectrum in the wake of a White House plan to free up 500 MHz over the next decade. The Senators' Spectrum Measurement and Policy Reform Act "wants the agencies to work together to figure out who is using what on the electromagnetic spectrum and how often they use it, which will lay the groundwork for a national strategic plan for spectrum," according to a report on *PC Magazine*'s website, PCmag.com. "Our nation's competitiveness, economic growth, and national security demand that we allocate the necessary attention to current policy shortcomings, and enactment of this vital legislation will help avert the looming spectrum crisis and allow us to continue to enjoy the boundless benefits of spectrum-based services," Senator Snowe said in a statement. Senator Kerry added that "Our nation's airwaves are finite resources, and we need to use them as efficiently as possible. This analysis will help us empower innovation, encourage competition, and lower prices for emerging technologies nationwide."

Boston-area Trio Hit With $10,000 Fine For Illegal Broadcast

Three Massachusetts men have jointly been fined $10,000 for "operating and providing services and facilities incidental to the operation of an unlicensed transmitter" in Boston's Hyde Park neighborhood and the town of Dorchester, FCC documents said. The Commission found Delroy Johnson, Paul Parara, and Richard Parara operated an "unlicensed radio station on 97.5 MHz in Boston...which identified itself as WPOT, 'Hot97' and advertised its website—hot97boston.com" and that the unauthorized operation was causing interference to a licensed broadcaster in the area. After issuing a Notice of Unauthorized Operation (NOUO) to Richard Parara for the station's operation from a Hyde Park commercial building, FCC agents received more interference complaints and traced the FM signal to a different location—a Dorchester, Massachusetts, residential address where Johnson "sometimes lived," according to documents. Subsequently, an NOUO was issued by the Commission to Johnson and his stepmother, as well.

3D-TV

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

If you pick up any of the television industry's publications, you can't avoid it—it's in headlines almost daily: 3D-TV. Hot on the heels of our move to HD TV, we're seeing a rush by manufacturers to make 3D televisions and by producers to make 3D programming. If you're of my age or older, you'll recall the 3D movies of the 1950s and '60s. The movies weren't very good and the audiences, sporting their poor-quality paper and cellophane glasses to view them, were almost as silly. What's changed and why would we want to have a 3D image on our televisions?

Unless you've lost your depth perception or are blind, everything you see is in three dimensions. That's the world we live in (possible physics questions about multi-dimensional universes aside for now). From the moment we're born we interact with this three-dimensional world. Once we're old enough to watch TV or begin writing, things change. The written word and the television screen are two-dimensional. We have to imagine the third dimension. It's this disconnect between the "flat picture" representation and the actual physical world that motivates the drive toward three-dimensional broadcasting.

How is 3D different now from in the past? Two major developments, both technological, have drastically altered the way we experience simulated 3D. The first is that improved picture quality and digital televisions (with a greater numbers of pixels per frame) allow us to produce an image close enough to "real life" that viewers will be encouraged to watch. The other is bandwidth, and it is only partially there.

To produce a digital image with sufficient frames and in something at standard-definition resolution or better requires considerable room for data. At minimum, data rates are doubled, and in many cases quadrupled. As any communications lover knows, you can never have too much bandwidth. Since 3D television is even more sensitive than HD to problems that occur when objects in the image are moving, the more pixels and the better the quality, the less likely it is that the result will be "jerky" or have other defects. At this early stage, we will see only gradual deployment of 3D channels by television networks because of the bandwidth limitations.

That's today's state of the art. But since this column is called "Horizons" we want to know where this is heading tomorrow? It's tempting to think of the *Star Trek* "holodeck" as the future, and in fact, in a limited way, that's one direction research is trending.

"Much as a hologram allows you to 'rotate' the image by looking at it from a different angle, so, too, would a true holographic TV. (Think of the remote control required!)"

Today's 3D-TVs (and likely those of the immediate future) have shortcomings. The perspective you can get from the image is constrained by the points of view of the recording devices. If the image is recorded from one or two cameras, those are the only angles from which you can see the 3D effect. It isn't possible to see "around the side," or to combine all the camera images into one continuous image that lets the viewer make choices, say to watch the football game from the other side of the field. Much as a hologram allows you to "rotate" the image by looking at it from a different angle, so, too, would a true holographic TV. (Think of the remote control required!)

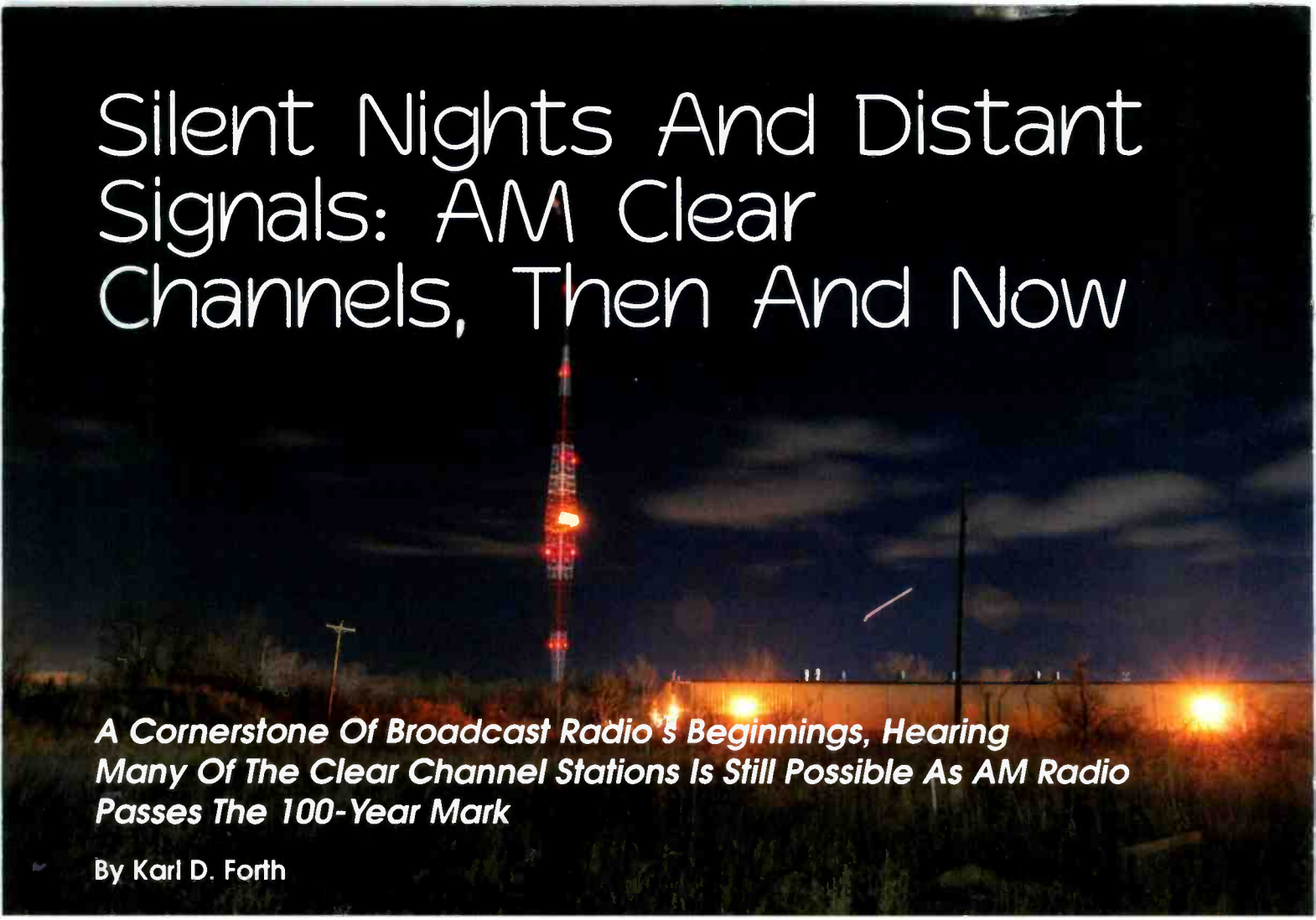
The initial holographic TVs are still many years from reality, at least a decade or more by some estimates. The bandwidth requirements are obviously huge, as are the production costs for programming. In the shorter term, we can expect that 3D-TVs will continue to improve in quality and that the programs, now mostly 3D but standard definition, will move to high definition.

If you choose to invest in a 3D-TV now, know that you're in the "early adopter" category, and chances are that the technology will change and make your hardware obsolete sooner rather than later. In addition, all the early models still require the use of special glasses (though not quite as silly) with typical prices of $50 or more. Development of "glasses-free" 3D-TV is underway.

A closing word on possible health issues associated with the technology: It's believed that some individuals viewing 3D-TV may experience unpleasant effects, such as disorientation and nausea. Some reports suggest that it may induce epileptic seizures, as rapidly flashing light may, in sensitive individuals. Research in this area is just beginning and it's too early to say how common these problems will be or if technological improvements or better "glasses" can remedy them.

Are you a 2D person or a 3D person? Would this column be better in 3D? Share your thoughts on the future of television with me. Until next month, good viewing!

Silent Nights And Distant Signals: AM Clear Channels, Then And Now



A Cornerstone Of Broadcast Radio's Beginnings, Hearing Many Of The Clear Channel Stations Is Still Possible As AM Radio Passes The 100-Year Mark

By Karl D. Forth

WLW Cincinnati's Blaw-Knox tower in Mason, Ohio. From 1934 to 1939, WLW was the only U.S. clear channel that was authorized to operate with 500,000 watts. (Courtesy R.P. Piper, via Wikimedia Commons)

"I got Cincinnati!" Exclamations like that were the mark of diehard AM DXers from radio's early days. But can you still hear Cincinnati from afar on your AM radio? If you're east of the Rocky Mountains, the answer is probably, yes, thanks to the strong signals sent out over the uncluttered frequencies of AM clear channels. What else can you hear on the clear channels today? Depending on where you live, you may hear New York, Chicago, Atlanta, St. Louis, Dallas, Salt Lake City, or Los Angeles.

Not to be confused with the global media giant that borrows its name from this broadcast category, a clear channel refers to a frequency that has a few broadcast stations with high power (often 50,000 watts) and few interfering nearby stations. The purpose of establishing such channels was so some stations could be heard at a greater distance at night, when AM signals can travel hundreds of miles, to serve communities far afield from radio transmitter sites.

Karl D. Forth has been interested in AM DXing since the 1970s and has been a member and contributor to the National Radio Club and International Radio Club of America for many years.

The Sounds From Silence

Some clear channel frequencies were set aside for one or two stations in North America as far back as the early 1920s in order to provide coverage, especially at night, to "white areas" where no nearby stations existed. From those early days, radio stations would observe "silent night" in the evenings so listeners could try to hear stations in other cities that were still on the air. In Chicago, where my family is from, "silent night" was Monday evening, as my grandfather recounted to me.

Except for the 1620–1700 kHz expanded band, the current AM configuration dates from 1941, when a treaty allocated clear channel frequencies and divided them between the United States, Canada, Mexico, Cuba, and the Bahamas. At that time, and for a long time afterward, many frequencies had only a single station in all of North America. You can't get any clearer than that.

In the 1960s and 1970s, most of the clear channels could still be heard across large areas of the country, even though addi-

The studio of WGN. (Courtesy TonyTheTiger, via Wikimedia Commons)

tional stations were being located on these frequencies, especially in the west. Later, in the 1980s and 1990s, more low-power stations with authority to broadcast at night were added to the clear channels. For instance, WLW in Cincinnati was the only North American station on 700 kHz for many years; now, there are a dozen stations here.

Fifty years after my grandfather experienced Silent Mondays, as I was embarking on my DXing hobby, my silent night was Sunday, after midnight. Most AM stations still had weekly silent periods into the late 1960s and early 1970s. In 1971, all the major Chicago stations, except for WLS, had weekly silent periods; and all of those, except for WGN's, were on Monday morning. I have vivid memories from those days of the stations I heard emanating from the surrounding silence.

Still A Clear Choice Today

In today's teeming media environment, is there still a useful role for the clear channel stations in our broadcast spectrum? I submit an equally strong and clear, "Yes" in answer to the question.

I travel a fair amount and have found that the clear channels are often the only signals audible in many places. Other frequencies are a jumble of many signals, even a few miles outside of a town with a regional or local station. Being able to tune a single, strong station from the clutter can seem like a visit from an old friend for a radio lover far from home.

There's a far greater value as well, one that is at the heart of broadcasting's original mission. As an obvious case in point, when Hurricane Katrina hit Louisiana and Mississippi in 2005 many stations were knocked off the air or lost power. Clear channel WWL in New Orleans was able to keep transmitting using emergency facilities, providing information to thousands of people who were otherwise cut off.

What can *you* hear on the clear channels today? There's one sure way to find out: try listening to them yourself. Even though the AM band is more crowded at night than it once was, and the landscape has changed since the 1970s when I was first glued to the dial, you can still achieve good results in listening to many of the clear channel stations. You can improve your luck if you use a small portable with good selectivity, known as an ultralight radio. Check out the information and tips on AM listening that are available from the National Radio Club (www.nrxdxas.org) and the International Radio Club of America (www.ircaonline.com). You can also learn more about ultralight DXing at www.dxer.ca.

For now, though, let's celebrate AM broadcasting as it enters its second century by exploring some clear channel AM stations, then—when I started logging them—and now.

540 Saskatchewan's CBK was the strong nighttime dominant in the early 1970s in Chicago. It can still be heard, but the channel is mostly covered by WAUK in Jackson, Wisconsin, near Milwaukee. This was WYLO, a 250-watt daytimer in the 1970s. XEWA in San Luis Potosi, Mexico, was heard in the evenings.

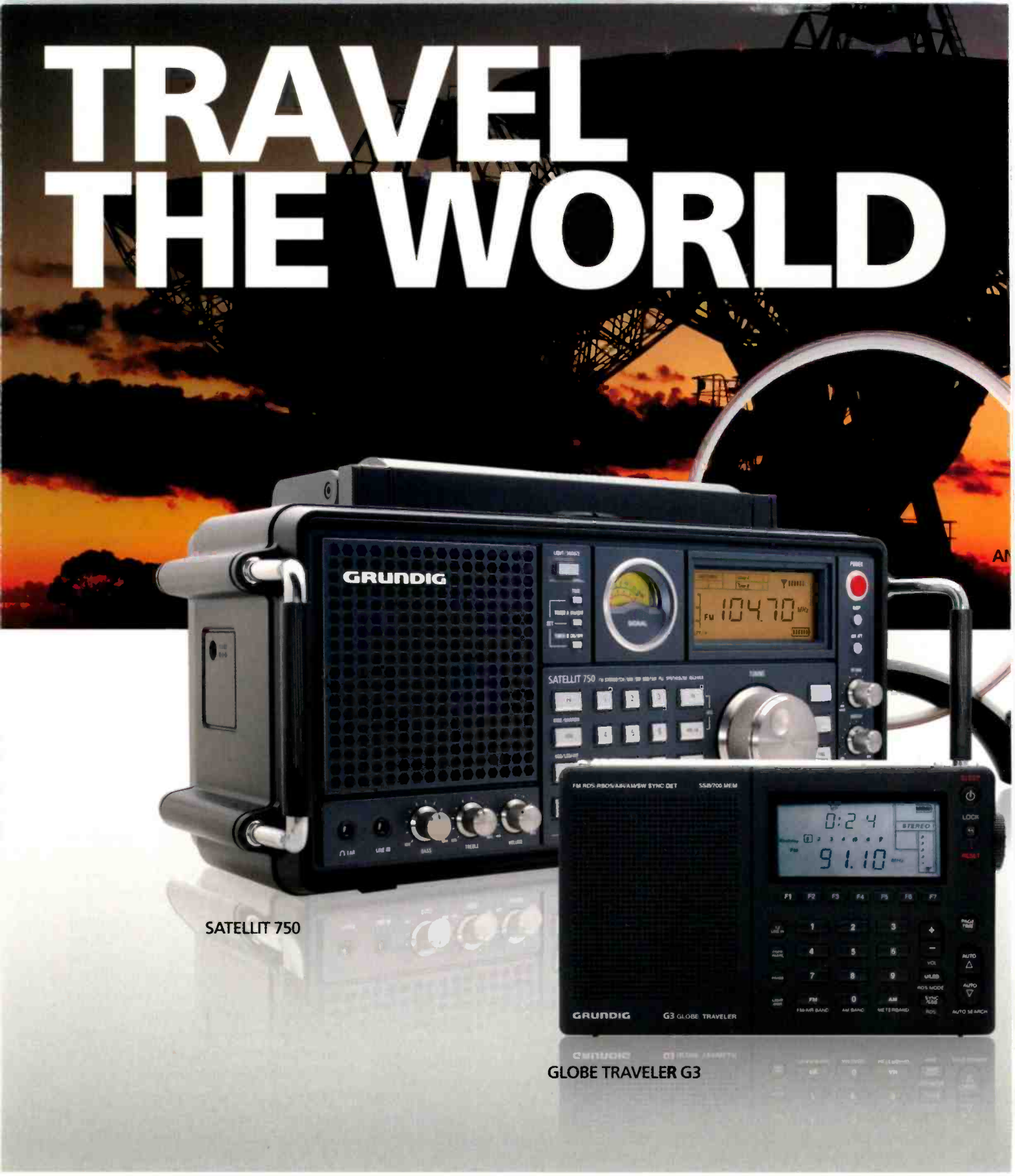
640 This was a great distance frequency. Radio Liberacion in Havana, Cuba, was the strong dominant, and KFI in Los Angeles would fade up in the late evening. Listeners also had a shot at a number of interesting Latins, and even Newfoundland. Today, the dominant nighttime signal is still Spanish, but it's WMFN in Zeeland, Michigan, with Mexican programming. You might get WOI in Ames, Iowa. There are some 20 stations on this frequency in North America today.

650 I remember listening to WSM's broadcasts of the Grand Ole Opry from the Ryman Auditorium in Nashville. The Grand Ole Opry moved to Opryland some time ago, but WSM is still the dominant on this frequency. Were they really considering changing WSM to news/talk? During WSM's Monday morning silent period (SP), listeners could try for KORL in Honolulu. Stations in Venezuela and Colombia were often heard when WSM was off. There are 15 stations here today.

660 WNBC was never the strongest New York clear, and now as WFAN the signals are barely audible through the WSCR-670 in-band on-channel (IBOC) digital-analog signal, which creates loud noise on adjacent frequencies. KSKY, a powerful daytimer in Dallas, was the only other station sometimes heard here. There are more than 20 stations here now.

670 Local WMAQ in Chicago was only a few miles away from where I started DXing. Its silent period was on Monday morning and a Cuban, and sometimes a Venezuelan, were heard, but never the much-wanted KBOI in Boise. This silent period ended about 1973. This station is sports talker WSCR now, and I as attended a live remote of Terry Boers

TRAVEL THE WORLD



SATELLIT 750

GLOBE TRAVELER G3

GRUNDIG

Available at:

amazon.com

RadioShack

To Order: 1.800.793.6542 | www.etoncorp.com | ext. NW0607108

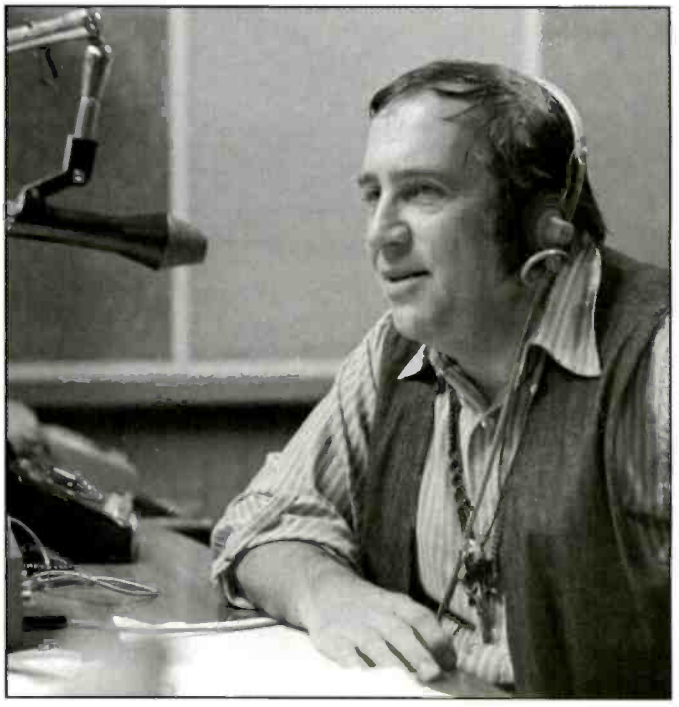
THE SOURCE

universal radio inc.

Grundig Product Line by:

ETÓN CORPORATION

WWL-TV station building on Rampart Street at the edge of the French Quarter, New Orleans. (Courtesy Infrogmation, via Wikimedia Commons)



Jean Shepherd in the WOR studio in 1970. (Courtesy Ofindsen, via Wikimedia Commons)

and Dan Bernstein at a tavern a few weeks back, I couldn't help thinking about how AM has survived and, in some cases even thrived.

680 CFTR in Toronto and WPTF in Raleigh were the dominants in the early 1970s, and KNBR in San Francisco could sometimes be heard along with a few others. There's not much here with WSCR's IBOC, but I have heard CJOB in Winnipeg sometimes at night. WSCR's IBOC was off one week in January 2010, and I heard KNBR on a small ultralight pocket radio.

690 CBF in Montreal was the clear dominant on this Canadian clear with Radio Progreso from Cuba also strong. Birmingham, Jacksonville, and New Orleans were sometimes heard at sunset. CBF's successor, the French-language CINF, was the dominant until January 2010 when this station went silent. It looks like WIST in New Orleans will be the new top dog here until Montreal is back.

700 "I got Cincinnati once!" That was the frequent outburst when you tried to explain the mediumwave hobby to the uninitiated. You probably still can get WLW, "The Big One," in Cincinnati, but there are about a dozen stations here now. WLW was the only one in the early 1970s. Costa Rica, Jamaica and Guatemala were also sometimes heard.

710 I remember WOR in New York as the dominant. KEEL in Shreveport is sometimes heard here. My proximity to WGN's transmitter affected how well I received this frequency. Today, IBOC proponent WOR can be heard again—since WGN turned its IBOC off.

720 Chicago's WGN was only a few miles away, and I was rarely up for its Tuesday morning silent period. This SP ended sometime in the mid-1970s, and KDWN in Las Vegas and CHTN in Charlottetown were heard much later here during unscheduled SPs. WGN turned the IBOC on the first day nighttime authorization was given, and they were one of the first to turn it off.

730 This Mexican clear usually had XEX in Mexico City in the evenings with CKAC in Montreal often heard. This was a fairly good sunset and sunrise frequency, and the station lineup here is very similar to what it was in the early 1970s.

740 CBL in Toronto was the dominant on this Canadian clear. When it signed off with its detailed Ontario weather report every night, there were many targets to try for, including KCBS in San Francisco and CBX in Edmonton. Also, CBNM, Marystown, Newfoundland, was a target at its sign-on. Today, CFZM is the station that replaced CBL and it delivers a stronger signal with its interesting and varied oldies format.

750 WSB in Atlanta is still the clear dominant, and there were a half-dozen others (including WHEB from Portsmouth, New Hampshire) that could be heard at sunrise and sunset. I never heard KFQD from Alaska during WSB's old Monday morning silent period. There are many more stations here now (about 25), including a strong daytime semi-local signal from WNDZ in Portage, Indiana.

760 WJR in Detroit is still the strongest signal here, and it can be heard most of the day. In the 1970s, we used to hear the Tigers' play-by-play with Ernie Harwell and Red Wings broadcasts with Bruce Martyn. Today, there are more than 20 stations here, and signals from Arkansas and Texas can sometimes be heard at sunset.

770 WABC in New York put a strong Top 40 signal into Chicago, and KOB (now KKOB) in Albuquerque could be heard during WABC's Monday morning SP. WABC and KOB were once the only stations on this channel. Now, there are more than 20 here, and this frequency is mostly IBOC noise from WBBM.

780 Local WBBM in Chicago ended its SP in April 1972. I remember this well because I was trying for Reno's KCRL (now KKOH) every Monday morning. I often listen to WBBM's all-news format (which started in 1968), but I'd like a chance to try for some of the dozen or so stations that are here now, including Reno.

800 A Mexican clear, but the 1970s dominants were CKLW in Windsor, Ontario, and PJB all the way down in Bonaire, Netherlands Antilles, a few miles off the South American coast. Then-XELO in Ciudad Juarez, one of the border blasters, was also heard in the evenings with English programming. This could also be a decent sunset and sunrise frequency for U.S. daytime stations. Today, many of the U.S. stations here have low-power night operations, but CKLW is the dominant.

810 WGY in Schenectady is still the strong dominant and is not affected by the few new low-power authorizations here. When WGY went off on Monday morning you could try for KGO in San Francisco. This was also a surprisingly good sunrise frequency, with many low-powered targets. A strong Colombian was heard during auroral conditions. Today, the Spanish sometimes heard at sunrise comes from WSYW in Indianapolis.

820 This was the frequency where many non-DXers learned about distant reception. Chicago's WAIT was a limited-time station playing easy listening music and signed off at Fort Worth sunset. (I bought my HQ-160 from WAIT's chief engineer, an amateur operator!) The DXing experience came right after WAIT left the air and a strong signal from WBAP in Fort Worth boomed in on car radios while commuters were stuck in traffic. Today, this frequency is WCPT, Chicago's Progressive Talk, during the day. A couple of years ago it switched frequencies with WAIT (now on 850), and the political announcers had fun explaining that the station was "moving to the left."

830 WCCO in Minneapolis was the dominant with a strong signal and North Stars hockey. They and three others (including KIKI in Honolulu) were the only stations on this frequency. Now there are more than 20, but they don't affect WCCO much here. There has been a strong Cuban signal here in some years. If you hear Spanish at sunset, it's WFNO in Norco, Louisiana, not Havana.

840 Louisville's WHAS was the strong signal here with not much else heard, not even any Latin American of note. This frequency is typical of the changes of the past 30 years. In the 1970s there were four stations here, now there are 20. But there is no change at night—it's still Louisville.

850 KOA in Denver is still the dominant here, with Clayton, Missouri, sometimes heard at sunset when WAIT in Crystal Lake, Illinois, signs off. In the 1970s this frequency produced a variety of interesting catches in special situations, such as unusual sunrise conditions or equipment tests.

860 CJBC in Toronto is one of the more distinctive clear channel voices because it is the strongest French signal. This could be a very good sunrise frequency (no U.S. pre-sunrise authority because it was a Canadian clear) and a so-so sunset channel. It was also possible to hear six Latin American countries here, from the Dominican Republic to Panama. When CJBC was off, it was possible to get KONO in San Antonio or KOAM in Pittsburg, Kansas, or then-XEMO, all the way from Tijuana.

870 Station number one in the logbook is still number one on this frequency: WWL in New Orleans. Hurricane Katrina demonstrated the role the clear channel stations still can play. After the hurricane raged through, WWL remained on the air using a standby transmitter when many smaller stations were knocked out and electricity was down over a wide area. WWL is the only station heard here at night, but there are more than 20 stations here, some that can be caught at sunrise and sunset.

880 WCBS in New York still delivers a strong all-news signal as it did in the 1970s. KRVN in Lexington, Nebraska, is sometimes heard, usually behind WCBS. There are now 25 stations on this frequency.

890 Chicago's WLS ended its SP around 1969 or 1970, before I started DXing, and has rarely been off air since. It was one of the country's best-known Top 40 stations in those days.

The WSM tower and transmitter building in Brentwood, Tennessee. The station once broadcast the Grand Ole Opry from the Ryman Auditorium in Nashville. (Courtesy Garrett A. Wollman, via Wikimedia Commons)

WLS was the area's only big clear channel transmitter that wasn't nearby.

900 On this Mexican clear, CHML in Hamilton is the dominant, along with XEW in Mexico City. The daytimers with low-power night operations are not showing up here. This can be a good sunset or sunrise frequency.

940 CBM in Montreal was the strong dominant and was the first Canadian station heard on this Mexican and Canadian clear. Since CBC left the AM band here, CINW was heard. But they in turn left the air in January 2010. Nearby WFAW in Fort Atkinson won nighttime authorization and is usually here with a fair signal. Sometimes CJGX from Yorkton, Saskatchewan, is heard, along with Des Moines, now KPSZ. XEQ in Mexico City was often heard in the 1970s, and Fresno and Tucson were sometimes heard.

A closeup of WLW's transmitter tower in Mason. The guyed, diamond-shaped radio mast broadcasts the clear channel radio station on 700 kHz.

990 On this Canadian clear CBW in Winnipeg still delivers a strong, clear signal from the north, but this channel is bothered by WMVP's IBOC. This was never a good frequency for me because of my proximity to WMVP.

1000 WCFL in Chicago had three towers only a few miles from where I grew up, and I spent many days listening to its Top 40 format in the late 1960s and early '70s. It was one of the last big clears to have a Monday morning SP, extending into the 1980s. At that time KTOK in Oklahoma City was normally heard, sometimes with XEOY in Mexico City and rarely KOMO in Seattle. One of my best catches came from here when I heard WHWB in Rutland, Vermont, sign-on just before WCFL one April morning. This is now all-sports WMVP, by the way.

1010 This Canadian-Mexican clear was also not a good DX frequency because of my proximity to WMVP. Now, WMVP's IBOC locks out anything else. On Monday mornings I used to hear CFRB in Toronto and WINS in New York, and sometimes CBR in Calgary.

1020 Pioneer broadcaster KDKA in Pittsburgh still delivers a strong, clear signal as it did in the 1970s. During KDKA's SP it was possible to hear KSWS in Roswell, New Mexico (now KCKN), and KGBS in Los Angeles (now KTNQ). A Colombian and a Venezuelan were sometimes also heard on Monday mornings. There are now more than 20 stations here.

1030 WBZ in Boston, another pioneer station, delivers a good signal to Chicago and is one of the most distant clears still heard here with good strength—and about the last signal from New England. KTWO in Casper, Wyoming, could be heard Monday mornings, along with XEQR in Mexico City. Today there are some 25 U.S. stations here, compared to three in the early 1970s. One of our locals, WNVR in Vernon Hills, is trying to get low-power night authorization for this frequency. If so, it could be bye-bye WBZ.

1040 WHO in Des Moines was and is the dominant here. It had a Sunday morning SP, but I don't remember hearing much else. A Colombian, Radio Tropical, was often heard during an aurora. Today the only exotic signal is East Indian programming heard sometimes after sunset, from Atlanta. There are 25 stations here now.

1050 I used to get CHUM in Toronto and WHN (now WEPN) in New York, and sometimes XEG in Monterey in the evenings. This was also a good sunrise frequency. There were about 50 former U.S. daytimers here that now have night authorization. One is WLIP in nearby Kenosha, Wisconsin, which provides the strongest signal day and night. I still get CHUM sometimes in the evenings, and the French-language signal from CKSB near Winnipeg is sometimes heard.

1060 An interesting DX frequency, with Florida, Arizona, and Alberta all possible in the 1970s. Chicago's old KYW call, now in Philadelphia after stopping in Cleveland, still is the dominant with its all-news format, but WLNO in New Orleans is sometimes heard, as is Radio Educacion in Mexico City.

1070 WIBC (now WFNI) in Indianapolis and WTSO in Madison dueled for dominance on this good frequency. CHOK in Sarnia is sometimes heard in the evenings. KNX in Los Angeles could be heard late at night in the 1970s, and you also might be lucky enough to hear CBA in Moncton, New Brunswick, at sign-on. CBA reportedly left the air recently.

1080 KRLD in Dallas and WTIC in Hartford were the strongest night signals, with WKLO in Louisville sometimes heard. There used to be two semi-local daytimers in Pontiac, Illinois, and Valparaiso, Indiana. Now there's one local, WNWI in Oak Lawn, Illinois, which pretty much takes this frequency out. You can still get Dallas, but Hartford is difficult.

1090 Remember KAAY in Little Rock and its wonderful late-night Beaker Street program, one of the first album-rock programs? KAAY had a strong signal in the Midwest. It's still the dominant, with a religious format, but not as strong. Monday mornings would sometimes produce XEPRS in Tijuana, WBAL in Baltimore, and occasionally Panama.

1100 WTAM in Cleveland puts out a strong, clear signal, as it did when it was WKYC in the early 1970s. Actually, its signal seems stronger today. On Monday mornings you could hear KREX in Grand Junction, Colorado, and KFAX in San Francisco if conditions were good. A Colombian was also often here.

1110 KFAB in Omaha and WBT in Charlotte were the nighttime dominants here, and this could be a good sunset frequency. Today, it's mostly KFAB at night.

Entrance to the studios of KSTP television/radio along University Avenue in Saint Paul, Minnesota. (Courtesy Mulad, via Wikimedia Commons)

1120 KMOX in St. Louis was one of the stronger Midwestern clear channels, and still is. During its Monday SP you could sometimes hear KPNW in Eugene, Oregon. Today, there are 20 stations here.

1130 This frequency is chock-full of high-powered stations and complicated antenna arrays. At night there were many powerful stations, but no clear dominant. WISN in Milwaukee was the daytime dominant but was barely heard at night. KWKH in Shreveport, Louisiana, was on top at sunset, and WNEW (now WBBR) in New York was often heard at night. CKWX in Vancouver was sometimes heard. KWKH and WBBR are the dominants today.

1140 WRVA in Richmond continues to deliver a strong signal, with several small Midwestern stations audible at sunrise and sunset. During WRVA's SPs in the early 1970s there were many interesting targets, including KRAK in Sacramento (now KHTK), KGEM in Boise and KLUC in Las Vegas (now KYDZ).

1160 Country music WJJD in Chicago was a 50,000-watt local with a nearby transmitter, but it went off the air at Salt Lake City sunset, leaving Utah's KSL to fade in a little later in the evening. After a few changes, WYLL is the local, and it's 24 hours. After WYLL moved its night transmitter site to the southwest suburbs, KSL could be heard in WYLL's null, and there are other new stations here at night I haven't been able to identify. This frequency has about 25 stations now and many new targets.

1170 This frequency was dominated by three stations in the early 1970s: KVOO in Tulsa, WWVA in Wheeling, and KSTT (now KJOC) in Davenport, Iowa. A strong Colombian was also heard here. Today, Tulsa's KFAQ is the strongest nighttime signal.

1180 WHAM in Rochester, New York, was the strong dominant here, then and now. We have a semi-local (WSQR in Sycamore, Illinois) during the day. I remember trying for KOFI in Kalispell, Montana, many times during WHAM's Sunday morning SP before finally getting it. The Voice of America could sometimes be heard from Florida in the 1970s (it's still there), and a Dominican Republic station was also heard. There were three stations here in the 1970s, now there are 20.

1190 WOWO in Fort Wayne had a different pattern and stronger signal in the early 1970s, but it's still the strongest signal here. This could also be a good sunrise and sunset frequency, and KLIF in Dallas was heard Monday mornings. Later, KEX in Portland and CHTN in Charlottetown, Prince Edward Island, were heard here. A new St. Louis area station, KQQZ, started new nighttime service in early 2010.

1200 O.K., I have a powerful new local station on this frequency, but WOAI in San Antonio actually seems stronger than when it was the only station in North America here. How can this be? New WRTO is actually in Chicago, but its transmitter is some 30 miles away and the null angle is right on San Antonio. It also moved its transmitter to a different site on the far South Side in 2009 and isn't quite as strong. WOAI puts in a better signal than it used to, but I don't know why. There are 25 other stations here now. We used to get Spanish here in the 1970s, but it was from Venezuela in South America, not from the South Side.

1210 WPHT in Philadelphia (then WCAU) was and is the dominant here, but never with as strong a signal as Philly's KYW. Also, KGYN in Guymon, Oklahoma, can still be heard sometimes at night. There are some 25 stations listed here today.

1220 Cleveland's WGAR (now WHKW) had a loud signal in the 1970s, but is not as strong now. This also used to be a great sunset channel, but it seems more of a jumble now, maybe with too many nighttime signals.

1500 KSTP in St. Paul and WTOP (now WFED) in Washington were the two nighttime dominants and they still are. This was a fairly good sunrise and sunset channel, despite my proximity to WOPA-1490 and its transmitter on top of the Oak Park Arms hotel. During an aurora XERH in Mexico City could be heard. Once, when both were off on a Monday morning SP, CKAY in Duncan, British Columbia, was heard. Canada has since left this frequency.

1510 Another Nashville favorite, WLAC, is still the dominant at night. I remember the evening R&B show with soulful-voiced John R. and the Ernie's Record Mart ads in the early 1970s. WLAC's SP sometimes produced WMEX (now WWZN) in Boston or KGA in Spokane, Washington.

1520 An unlikely triumvirate of stations from disparate locations dominated this frequency in the 1970s and still does: KOMA (now KOKC) in Oklahoma City, WKBW in Buffalo (now WWKB) and KMPL in Sikeston, Missouri (now KRHW)

Transmitter tower for sports talk station WSCR-670 in Bloomingdale, Illinois, as seen in July 2010. If you're east of the Rockies, give the station a try. The author heard it in early 2010 in New Mexico.

are still heard here. Sometimes another station would slip in at sunset or during the evening.

1530 Cincinnati's WCKY is the strong dominant. During its Monday SP you could sometimes hear KFBK in Sacramento or KCHY in Cheyenne, Wyoming. This was also a good sunset frequency, and a good frequency for tests and checks for some reason.

1540 Listed as a Bahamas clear, ZNS1 in Nassau could be heard only during the Monday morning SP of KXEL in Waterloo, Iowa. WPTR in Albany, New York, was sometimes heard on Mondays also. KXEL is still the dominant, with stations from Texas sometimes coming in at sunset. I recently heard China Radio International here, from CHIN in Toronto.

1550 One of the best overall DX frequencies, it was possible to hear many stations at different times on this Mexican clear. There was no clear dominant. CBE in Windsor, Ontario, which was still heard in early 2010, came closest. KKHI (now KFRC) in San Francisco could be heard if conditions were right. Now, the unlikely dominant at night is WDLR in Delaware, Ohio, with a Spanish/Mexican format. KLFJ in Springfield, Missouri, is also heard with its Branson travel information.

1560 This Cuban clear was a very good sunrise and sunset frequency, with many targets. WDXR (now WPAD) in Paducah, Kentucky, and WQXR (now WQEW) in New York were the primary signals, with KPMC (now KNZR) in Bakersfield, California, sometimes heard. Today, WQEW's Radio Disney is the strongest signal. One Monday morning in 1973 the first DX test I arranged, KDDA in Dumas, Arkansas, was heard coast-to-coast on a wide-open frequency.

1570 This Mexican clear channel was dominated at night by English-language broadcasts from 250,000-watt XERF in Ciudad Acuna, one of the most famous Mexican border stations. CHLO in St. Thomas, Ontario, and CKLM in Montreal were also heard at night. This was also a very good sunrise and sunset frequency. Today the channel is a jumble at night with no clear dominant. The Mexican station is here, but in Spanish and at lower power than the border blaster days.

1580 Perhaps the best DX frequency on mediumwave, it was possible to

A selection of four QSL cards from stations with three-letter calls from each time zone. Some AM stations still verify correct reports with cards similar to amateur or shortwave QSLs.

receive almost every station in North America on this channel. CBJ in Chicoutimi, Quebec, was the most consistent signal on this Canadian clear, though not really strong, and KLOU in Lake Charles, Louisiana, would show up in an aurora. Otherwise, it was possible to log dozens of stations at sunrise and sunset in 15-minute intervals all the way to KTUF (now KMIK) in Tempe, Arizona. The new evening dominant here is CKDO in Oshawa, Ontario.

Some very good portables can be had for less than $50, such as this Tecsun PL-310 (left) and Sangean DT-200VX. The author heard KNBR in San Francisco in early 2010 on a PL-310.

AR-ALPHA

Professional Grade Communications Receiver

With New I/Q Control Software!

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

- Multi-mode unit capable of receiving AM (synchronous), ISB, RZ-SSB, USB, LSB, CW, WFM including FM stereo, NFM, APCO-25 digital, and TV in both NTSC and PAL formats
- Up to 1MHz of bandwidth can be recorded for later playback and review
- 6-inch TFT color panel can display received video signals or depict spectrum activity over a wide choice of bandwidths including a "waterfall" function to show signal activity over a specified time period
- Composite video output on the rear panel of the unit
- Selectable IF bandwidths:200 Hz, 500 Hz, 1 KHz, 3 KHz, 6 KHz, 15 KHz, 30 KHz, 100 KHz, 200 KHz and 300 KHz along with the ability to shift the IF
- CTCSS and DCS selectable squelch functions; DTMF tone decode
- Built-in voice-inversion descrambling**
- CW pitch control, AGC, AFC
- Auto-notch feature
- User selectable spectrum display function from 250 KHz through 10 MHz in 1 KHz increments. Above 10 MHz bandwidth, it can display 20 MHz, 50 MHz, 100 MHz or 1 GHz, but above 20 MHz bandwidth, no audio will be available
- Resolution bandwidth is also user-selectable in increments of 1 KHz, 4 KHz, 32 KHz, 64 KHz, and 128 KHz
- Fast Fourier Transform (FFT)
- Rear panel connections include 12 VDC power, RS-232C, USB 2.0, I/Q output with 1 MHz bandwidth, two antenna ports (one SO-239 and one Type N) and up to four antennas may be selected through the receiver's controls with the optional AS5000 antenna relay selector
- Use desktop or with 19" rack mount

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

AOR®
Authority On Radio Communications

AOR U.S.A., Inc.
20655 S. Western Ave., Suite 112
Torrance, CA 90501, USA
Tel: 310-787-8615 Fax: 310-787-8619
info@aorusa.com • www.aorusa.com

Specifications subject to change without notice or obligation.
*Documentation required for qualified purchasers in the USA.
**Not available on US consumer version.*

Advanced AR-IQ Software Allows High Speed I/Q Recording Up to 1MHz Bandwidth!

Signal searching is easy with playback capabilities through a PC

PC screen displays waterfall function to capture signal bursts

*AOR has brought a new level of receiver control to the AR-ALPHA with the addition of AR-IQ software. This free software enables the AR-ALPHA to store and playback a full 1MHz of bandwidth activity without any loss of quality. Raw data can be easily transferred from the AR-ALPHA to the hard drive of almost any computer*** for later analysis and review. It is even possible to listen to a frequency off-line by recording data and storing it on a PC. Operators can also create loops to cover a particular time frame so that no signal is missed. Signal bursts are easily seen with the full color waterfall display function.*

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

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

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

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

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

In Depth: Uniden's HomePatrol Receiver

Bringing Scanning Back To The Masses (And Introducing It To Everyone Else)

by Tom Swisher, WA8PYR

"...the HomePatrol represents a giant leap forward that will open up the hobby to many people who have been scared away until now, and will make scanning even more enjoyable for advanced hobbyists."

It looks like a GPS unit for your car. It has a touch-screen display like a GPS. It can even use GPS data to figure out where you are—but it's not a GPS. It's the new HomePatrol receiver from Uniden, and you have not seen "easy to use" until you've seen the HomePatrol.

Remember crystal scanners? In those days, all you had to do was go to Radio Shack or a similar consumer electronics, store like Olson, Lafayette, or Heathkit to buy a scanner. You could get them in CB shops and even Sears (along with really delicious toffee roasted peanuts from the snack counter at the foot of the escalator from the second floor). You then simply told the sales clerk who you wanted to listen to. The clerk then selected the proper crystals (you usually only needed a half-dozen or so), plugged them into the receiver for you, and you were off and running.

I know, I'm dating myself with reminiscences of stores like Olson, Lafayette, and Heathkit, but when I was a budding young radio geek in the early 1970s these, along with Radio Shack, were the places to go if you were a radio hobbyist. We didn't have big box stores like Best Buy or HH Gregg, and our discount retailers were K Mart, Woolworth and Woolco, or Gold Circle; Walmart was just a relatively small regional retailer back then, not the worldwide behemoth of today. Basically, what I'm getting at is that back then we had places to go for help and advice from knowledgeable sales folks who actually knew what "megahertz" means.

You can still buy scanners at Radio Shack (aka "The Shack) and some of the big box stores today, but there aren't too many of those knowledgeable sales folks in those places (and those who are there are under pressure to sell us cell phones we really don't need). Fortunately, there is a thriving online community for help and support, especially since scanners and radio systems in general have become so complex that the average Bob would find it difficult at best to program the latest whiz-bang scanner he just bought without *a lot* of help and support from that community. To make matters worse, Bob often can't just take the gadget home and start scanning right away like the old days. Enter the HomePatrol.

The Uniden HomePatrol is a great new concept in scanning, and it aims to help Bob make monitoring the neighborhood almost as easy as it was "back in the day." All Bob needs to know when he gets his new HomePatrol back to central headquarters (his house) is where he is. It's that easy.

Tom Swisher, WA8PYR, is *Pop'Comm*'s "Civil Aviation Monitoring" columnist.

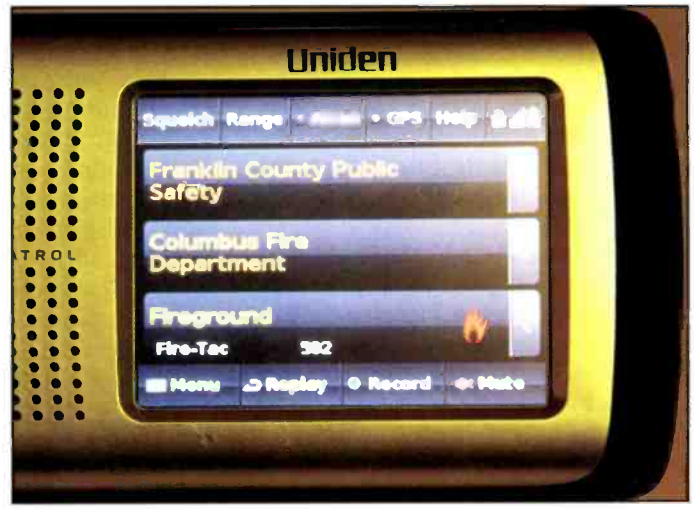
The City entry screen of the HomePatrol. Zip Code entry is similar but uses a numeric keypad instead of the alpha keypad. (All photos by the author, © 2010 Tom Swisher)

Great Things, Small Package

The HomePatrol measures about 3-3/8 x 5-7/8 x 1-3/8 inches (HWD), and with the included nickel-metal-hydride batteries weighs in at 1 pound. It comes complete with a desk stand, angled SMA-mount antenna, 2GB Secure Digital memory card, wall-wart style charger and auto adapter. The radio retrieves its information from the RadioReference database, a complete version of which for the United States and Canada is included on the SD card along, with the HomePatrol software (which allows you to keep the radio firmware and internal database up to date).

When you first take it from the box, all that's needed is to attach the antenna, install the batteries, and plug in the charger. Upon power up, you'll be presented with a series of six questions which

The Main Menu.



The scanning display, showing activity on a local trunked system channel.

prompt you to connect the radio to your computer, then walk you through installing the HomePatrol Sentinel software, also included on the radio's SD card. This step will install the software, and prompt you to update the firmware and database.

Once you have completed that process, the radio prompts you to enter information for the home screen (where you can list your name, address, callsign, and phone number along with other identifying information). Next, you're prompted to enter the local time. Once you've completed that, you're asked for your location by either zip code or city/state. The radio also looks for a connected GPS receiver, and if it finds one it will ask if you wish to use your current location (see sidebar). Once the location has been entered and accepted, the radio will read the appropriate internal database files and set up a scan list and begin scanning.

GPS Location Interface—One *Very* Cool Option

One really, really handy feature is the GPS location interface, which uses information from an external GPS unit to determine location and thus what is scanned. Uniden elected to make GPS an optional extra, reasoning that most users will be scanning in a fixed location and won't need it, and enabling the company to keep the cost down.

To put this feature to the test I used my Garmin eTrex Legend handheld GPS unit, which isn't the latest and greatest but still works fine for my needs. The interface uses the NMEA standard 4800 baud RS232 connection and data format, and a cable is needed to connect the two units.

Since the HomePatrol is not yet on the market there are no accessories available, but I was fortunate enough to have everything I needed on hand. The GPS connector on the side of the HomePatrol is the same as that used on the BC246T, BCD396T, and other recent handheld scanners, so the RS232 programming cable for my BCD396T scanner would work. I also had on hand the RS232 interface cable for my Garmin eTrex GPS unit. To get it to work at this early pre-release stage I had to activate my Do-It-Yourself skills and track down two gender changers and a null modem adapter. Being a propeller head from way back, I fortunately had all these in a container on my Useful Bits and Pieces shelf.

The GPS feature works flawlessly. I connected everything and fired up the Garmin; once that had an accurate position fix, I switched on the HomePatrol. It almost instantly recognized the GPS connection and asked if I wanted to use the GPS location. I selected yes, the radio loaded the appropriate systems and counties, and started to scan. By using the external antenna on my car I was able to ensure decent reception, and the HomePatrol did not disappoint.

I put the GPS capability to the test during a trip to Southeastern Ohio to visit relatives. My travels took me through some rather sparsely settled areas on quite twisty roads, so not having to manually change scan files every 20 miles (thus diverting attention from the road ahead) was a definite plus.

As I traveled down the road, the HomePatrol periodically received position updates from the Garmin, and automatically changed what was being scanned as I traveled—without any effort on my part. When I was within four or five miles of a county line, the HomePatrol began to scan the new county I was about to enter, and a few miles later the county I had just left was no longer being scanned.

Once I arrived at my destination (with West Virginia just on the other side of the Ohio River), the HomePatrol started scanning the adjacent areas in West Virginia; it even remembered my last known location after I disconnected the GPS unit. On the return trip I took a different route home, and again, the HomePatrol/GPS combination performed flawlessly. Very, very cool!

The HomePatrol Difference

Unlike other scanners, which can require considerable input from the user regarding system types and frequencies and take quite a while to get started, the HomePatrol is very fast. When I timed myself, it took me one minute, 57 seconds from power up to the start of scanning, skipping the software installation and database update steps (to see just how quick and easy it is, check out the video I posted at www.youtube.com/watch?v=i3AFlGTh7G8). Updating the firmware and database adds about five or six minutes, but this step is only necessary occasionally.

Once you begin scanning, the Listen screen shows three horizontal bars that indicate the System, Department and Channels being scanned, with the top bar indicating the System. When an active channel is found, the center bar shows the Department, and the lower bar shows the specific Channel in use. If you wish to hold on one particular system, department or channel, simply tap the bar on the screen while the desired monitoring target is displayed; the radio will show the name with a lock on that bar to indicate it's locked on that one system, department or channel.

While the lock is displayed you can also tap the far right side of the bar, which causes a menu to pop up, allowing you to step through the systems, departments, or channels to select a different one. Basically, this is somewhat similar to the "Manual" function found in other receivers.

Since the early days of scanners, there have invariably been times when monitors did not wish to hear the inane babble from certain channels at certain times of the day. With crystal scanners, it was as easy as pressing a button to de-select scanning that particular channel. With programmable scanners, you selected the channel you wished to avoid and pressed Lockout. With the HomePatrol, however, we don't lock out channels—we Avoid them.

The Avoid feature lets you temporarily skip certain channels until the next time the radio is shut off and powered back on again; this allows you to pass over the inane babble while it's going on and resume scanning. When stopped on a channel you wish to avoid, simply tap the right end of the channel bar, selecting Avoid. You will then be presented with a menu asking you to select Temporary or Permanent Avoid. Temporary is the inane babble avoidance mode; Permanent lets you skip a channel comprised of nothing but inane babble, or simply noise (sometimes there isn't a lot of difference between the two).

The System, Department, and Channel button bar also have submenus, accessible by pressing the far right end of the bar. Each menu allows you to scroll through the systems; select sites in a multi-site system to monitor or avoid; and retrieve information on that System, Department, or Channel; or avoid it altogether.

In addition to the System, Department, and Channel information, the top and bottom of the display show various menu settings. The top has touch buttons for Squelch (which lets you adjust the squelch); Range (to increase or decrease the monitoring radius); Atten (attenuator, which lets you reduce interference in high-noise environments); GPS (for changing GPS settings when GPS is in use); and Help, which activates descriptor help screens. The upper right corner also shows a signal strength meter and a battery meter, and when pressed locks the screen against an accidental keypress.

The lower portion of the display has selections for Menu, Replay, Record, and Mute.

The Menu selection is where you can change most of the detailed settings of the radio. Settings include Location, where you can change your location manually if you're not using GPS; Audio Options (the Audio AGC and screen tap click settings); Weather mode (monitoring the local weather channel and entering SAME codes); Display options (contrast, backlight, and so on); Owner Information; Favorites lists; and Advanced.

Also in the Menu is the Service Types setting, the defaults of which enable the Law Dispatch, Fire Dispatch, and EMS Dispatch service types, but you can also choose from a variety of other services, including Aircraft; Emergency Ops; EMS, Fire and Law Tactical and Talk channels; Ham Radio; and Railroads, as well as other common services.

The Audio AGC (Automatic Gain Control) setting works very nicely; it's a particularly useful feature to have when you're in an area heavily populated with SHOUTERS and whisperers. These individuals are particularly annoying when you turn up the volume to hear a whisperer and are shortly thereafter blown through the opposite wall by the blast of noise from a SHOUTER. The Audio AGC works automatically to smooth out these dramatic differences in volume, making listening more enjoyable.

The Advanced menu is where you can inspect the radio's current firmware version information. You can change the auto shutoff settings, clock settings, battery charge time, as well as set Channel Avoid options (which set the minimum time a channel will be skipped during scan), Audio Mute options, and Replay options. You can also manually enter frequencies of interest. Most of these settings won't need to be changed as the defaults are generally sufficient; however, it's sometimes useful to be able to change the Mute settings. The Audio Mute can be changed to mute the audio in varying levels for time intervals ranging from five seconds to two minutes, or until the mute button is pressed again (Permanent). I found it useful to set the mute to Permanent with a level of 3, which enabled me to mute the audio to take phone calls in the office, yet still be able to hear what was going on without it being obtrusive.

And The Hits Just Keep On Coming...

Have you ever heard the tail end of a transmission and wanted a replay feature so you could hear it again? With this scanner, you've got one. The HomePatrol lets you replay received audio it records; the total amount of time it will record what it hears is selectable in 30-second increments from 30 seconds to 240 seconds. Once this is set, HomePatrol will record the transmissions it hears up to that length of time, then as available space on the internal SD card is used up, it will start to

At A Glance: The Uniden HomePatrol Receiver

Major Features:

- TrunkTracker IV (all scannable systems, including digital)
- Factory programmed for all known radio systems in U.S. and Canada
- No programming necessary
- Zip code entry for instant reception of local Police, Fire and EMS (ambulance)
- City selection for instant reception of local services (using USGS database)
- Patent-Pending "locate me" mode determines local systems to scan with no user input
- Option to connect accessory GPS for precise system selection and continuing reselection when traveling
- Weather Alert Standby (SAME)
- Database updated weekly
- Temporary or Permanent Avoid
- Temporary or Permanent Mute
- Instant Replay (up to 4 minutes)
- Session Recording (up to limits of memory)
- User Favorites List (up to 1 MB of radio data per list)
- 2 GB Micro SD Memory slot for storing recorded transmissions and saving custom profiles

List Price:

TBD*

Contact/Info:

www.uniden.com
www.HomePatrol.com

** FCC Authorization had not yet been received by presstime, so pricing is not yet available.*

replace the oldest recordings. The recording feature itself works great and is very easy to use. After a transmission ends, simply press "Review" and use the arrow keys to scroll through the recordings until you hear the one you want. You can also press "Record" on the display during an active transmission and the radio will record all transmissions from that channel up to the limit of the memory card or until you stop recording. This is a very handy feature!

You can also create your own favorites lists with the HomePatrol, either when scanning or using the software. When scanning, you can select the channel bar and scroll through the channels, hitting the Fave button to add that channel to your favorites list. In the software, you can create a favorites list, then select systems, departments and channels to add to your favorites list. This useful feature could be used to create function-specific favorites lists. For example, you could scan all channels normally, and switch to your "Tactical" favorites list when there is a working fire so you can monitor only the fire department tactical channels. The radio will allow you to add multiple Favorites lists, so you can create lists for several purposes.

Now The Nits

Throughout my testing, I've found the reception on the HomePatrol to be very good, even with the included antenna. While no scanner is perfect, this one performed better than most, and seems to be quite immune to interference and other unpleasantness. The display illumination is excellent, and the audio quality is quite good as well, with both being more than sufficient for home or office use. Even digital audio quality is quite good with no fiddling required, which is something I've not had much luck with on previous Uniden digital scanners (I've always had to tweak the settings to get it right for my area). If you're going to use the HomePatrol for mobile purposes, however, plan on getting an amplified external speaker—the audio output just isn't sufficient for mobile use with an ordinary external speaker.

While the feature set of the HomePatrol is excellent and well suited for the vast majority of users, there are some serious scanner types out there for whom it just won't be enough; such folks typically need to control every aspect of their scanner, right down to the spelling of the channel names and descriptions. For those advanced users, Uniden has promised that additional advanced capabilities will be coming, once the HomePatrol has hit store shelves and its capabilities become apparent.

Accessories will also be available, such as a reasonably priced external GPS unit, and mobile mounting brackets suitable for attaching to suction cup windshield mounts, or bracket post mounts attached to the dashboard or seat rails (for those really advanced users).

Also down the road, from Uniden and other third-party software providers, will be more feature-rich software that allows the user to create systems and favorites lists locally. This will permit serious customization of what you scan, as well as variable settings based on the profile in use.

A Giant Leap For Monitoring Kind

With a rich feature set for both the novice user and advanced scanner technophile alike, the HomePatrol receiver represents a giant leap forward that will open up the hobby to many people who have been scared away until now, and it will make scanning even more enjoyable for advanced hobbyists. The scanner has not yet received FCC approval, nor has Uniden announced a list price, but look for the HomePatrol on store shelves around October 1. Then start looking for big changes in the monitoring hobby.

Halloween Pirate Radio Tricks!

Once The Last Of The Trick-Or-Treaters Dissolve Back Into The Night, Settle In With Your Shortwave Radio For Some Real, Honest-To-Goodness S-C-A-R-Y Fun!

by Pat Murphy, frnpatmurphy@gmail.com

Halloween is without question, the most popular pirate radio holiday. Pirates tend to broadcast on holidays (and weekends), but Halloween has long been the one that really brings them out of the ionosphere. There are even some pirates who only broadcast on Halloween. To help you tune into the All Hallows hijinks, let's cover the basics for listening to pirates on October 31.

Trappings For The Night

First, naturally, you need a shortwave radio, preferably with sideband capability) and an antenna. There are many fine portables on the market today that will pick up pirate broadcasts without a problem, and your antenna can be a simple long wire that you hang out the window and into a tree. I use a Grundig G3 that does a bang-up job with a Kaito KA33 loop antenna hung in the window. But face it, if you really want to listen to pirate radio, you need a good tabletop radio (ICOM, Kenwood, Collins, Drake, for instance) and a dipole antenna strung up high in a tree. Good radios and antennas always equal better reception for pirate radio broadcasts.

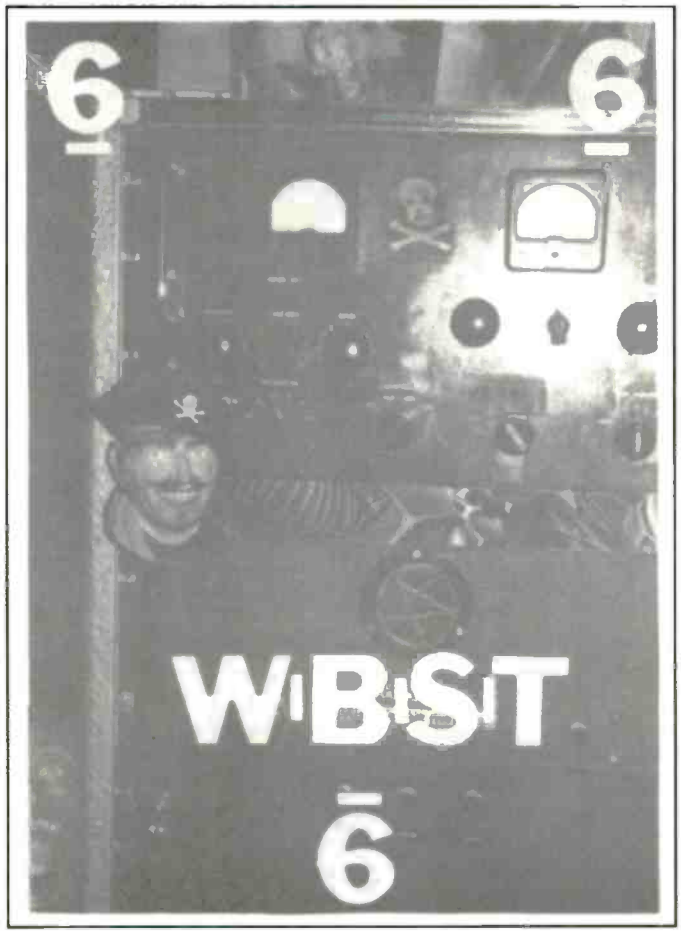
Prolific pirate DXer Pat Murphy was president of the *ACE Newsletter* and administrator for the Free Radio Network (www.frn.net/vines) for 15 years.

Favorite Pirate Haunts

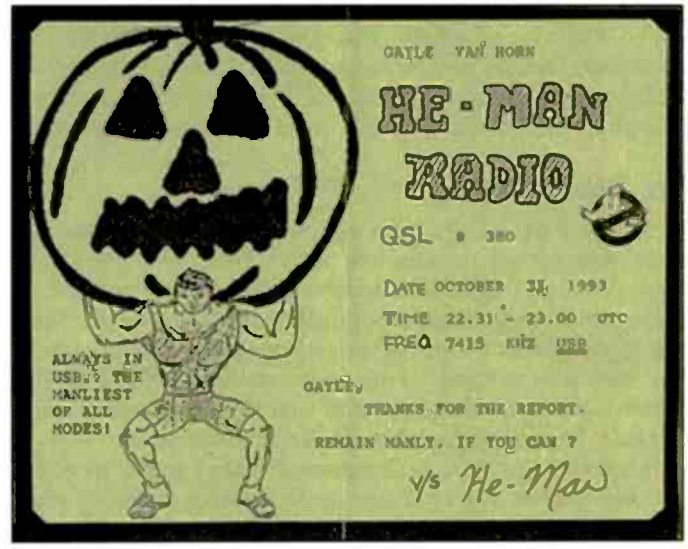
Fortunately, you stand more than a ghost of a chance because there are some favorite pirate haunts to keep a watch on for Halloween pirate appearances. For instance, 6925 kHz (primary) upper sideband (USB) seems to be the choice of pirate operators who use sideband. AM is just as popular and used by many current pirate broadcasters. There have been some pirate operators who use FM, RTTY, SITOR, and CW, but for Halloween, expect USB and AM. Start your pirate hunt by tuning into 6925 kHz and you'll almost certainly be rewarded with a treat.

When that frequency gets busy, you can find pirates (in this order) on 6930, 6950, 6990, 6900, 6875, 6850, 6800, 6775. Usually by 9 p.m. in the evening, all these frequencies are busy with pirate broadcasts. If you're looking for the Euro-Pirates, try listening around 6000 to 6300 kHz.

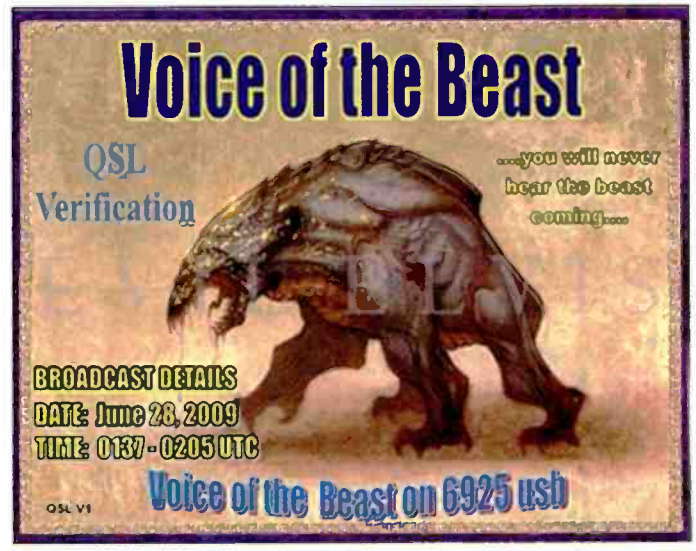
Most localities end trick-or-treating by 8 p.m., but that's when the pirate radio bands are just starting to warm up. The pirate broadcasts usually start by 4 p.m. EST and go late into



Probably the hardest catch of my Halloween pirate QSLing career, this one took almost a decade to come in the mail.



"He Man Radio" was very active in the '80s and '90s and claimed that "sideband is the maniliest mode."



Another tough one, not only to get a QSL from but also to hear. This was for a 2009 listen.

the night. If Halloween is on a weekend, the broadcasts go all night long.

Spooky Sounds

Pretty much all of the pirate operators have a Halloween show they either produce uniquely for the occasion or will replay the same program year after year. One that I recall was done in the mid-1990s by Bill O. Rights of Radio Free Speech, where he took dozens of Halloween songs and movie clips and spliced them together to produce a very interesting collage of Halloween sounds and songs. You can find old Radio Free Speech shows in mp3 format at http://shortwavepirate.info/wordpress/?page_id=9. Here Ragnar Danesjold, an editor of Radio Free Weekly, has put together a nice library of both old and new pirate broadcasts with studio-quality recordings of their shows. Ragnar also does a weekly program called "Pirates Week," which can be heard not only on pirate radio but on commercial stations around the world.

For many years the strangest Halloween pirate was WBST, the Beast. While it sounded like it was produced in a professional studio, it used the slogan "WBST, it brings out the beast in me." The station identified itself as being with the "Lucifer Network in cooperation with the Devil's Children Commission in Salem, Massachusetts." "The Beast" first came on the air on Halloween 1983, and pirate listeners would look forward to its re-appearance each year.

While the station itself hasn't broadcast in years, someone has been relaying old tapes of the shows in the past few years. (Relaying, by the way, is when a pirate operator with a transmitter plays a program of a pirate who has no transmitter.) If you catch it on Halloween, you'll hear lots of eerie music, an evil-sounding voice with lots of echo, and programs about "trouble dolls" and a call to a "satanic grocery" somewhere in California. The Beast was known to QSL—very rarely—to a maildrop in Washington, D.C. Luckily, I sent for one of these QSLs from a 1987 Halloween broadcast I heard and received the coveted verification shown here in 1994!

Another station, the Voice of the Purple Pumpkin, is a legend in pirate radio. While it started out with regular broadcasts that were labeled "anti-establishment" as far back as 1971, it ended up by the late 1980s as a Halloween-only station. Occasionally, you'll hear an old show relayed on Halloween night.

Witch City Radio had a few memorable Halloween broadcasts "from the town of witches, Salem Massachusetts." It was active in the early '90s

Again, most of the pirate stations currently active on the air have Halloween programs. WHYP, WBNY, The Crystal Ship,

Radio Pigmeat, Undercover Radio, Outhouse, Partial India Radio, Radio Free Euphoria, Radio Jamba Intl, Grasscutter, The Mechanic, Old Vampire Radio, and MAC Radio all show up on Halloween to do special broadcasts. If you want to hear a bona fide pirate radio broadcast, Halloween is the best time to do it.

For The Record

If you want a QSL from a pirate broadcast you hear on Halloween (or any time for that matter) there are some simple rules you must follow. Make sure to give the pirate operator as many details as you can about the broadcast you heard. Send that report with three (3) first class stamps to the mailing address the station broadcasts. If for some reason you missed the address, here's a website that may well have the station's mailing info: http://sites.google.com/ site/piratedatabase/.

Most of all, *be patient*. Sometimes it takes a year or more for a pirate operator to get back to you. Remember, this is not what they do for a living. For pirates this is also a hobby, and aside from producing programs, putting up antennas, and tuning transmitters, they have jobs and lives, too. It may take a while before they answer your request.

Continuing The Hunt

And as you're waiting for that Halloween QSL, you can while away the time by continuing the hunt for pirates. You've got the gear, you've got the frequencies, now all you need to do is keep on listening for radio pirates and enjoy (all right, you can also send a log to *Pop'Comm* with your find). On Halloween or at any other time, catching pirate radio is the most fun you will ever have with a shortwave radio!

The Voice of the Robots is a relatively new pirate offering big, colorful QSLs.

From a 1986 listen. For this spin-off of the British TV show *Doctor Who*, the voice was altered to sound like a Dalek, the extraterrestrial race of mutants from the program.

The oldest, most active pirate broadcaster ever, Commander Bunny has been on pirate shortwave since the 1960s.

HF/50MHz ALL MODE TRANSCEIVER TS-590

The All New TS-590S

High Performance RX, World Renowned Kenwood TX Audio

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.*

- HF-50MHz 100W
- Digital IF Filters
- Built-in Antenna Tuner
- Advanced DSP from the IF stage forward
- Heavy-duty TX section
- 500Hz and 2.7KHz roofing filters included

- 2" Color LCD

KENWOOD
Listen to the Future

www.kenwoodusa.com

KENWOOD U.S.A. CORPORATION
Communications Sector Headquarters
3970 Johns Creek Court, Suite 100, Suwanee, GA 30024
Customer Support/Distribution
P.O. Box 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745
ADS#29010 Customer Support: (310) 639-4200 Fax: (310) 537-8235

* For 1.8/3.5/7/14/21 MHz Amateur bands, when receiving in CW/RSK/SSB modes, down conversion is automatically selected if the final passband is 2.7KHz or less.

FCC Explores Overhaul Of Personal Radio Service, Part 95

by Gordon West,
WB6NOA
WB6NOA@arrl.net

"Narrow banding for most radio services below 800 MHz is inevitable, but when will the phase-in period of new equipment begin, and maybe more important to you, when will your favorite GMRS HT phase out?"

There may be big regulation changes coming down the road that will affect many radio operators. The Federal Communications Commission has issued a 92-page Notice of Proposed Rule Making that affects the following Part 95 Personal Radio Service (PRS) users:

General Mobile Radio Service (GMRS)
Family Radio Service (FRS)
Radio Control Radio Service (R/C)
Citizens Band Radio Service (CB)
218–219 MHz Service
Low Power Radio Service (LPRS)
Wireless Medical Telemetry Service (WMTS)
Medical Device Radio Communications Service (Med Radio)
Multi-Use Radio Service (MURS)
Personal Locator Beacons (PLB)
Short Range Transportation Service Applications

Each of these radio services has its own subpart under Part 95. The FCC has been seeking comments on whether changes to the Part 95 Rules are needed to account for technological developments and changes in how these radio services are being used by the public.

Plainly Speaking—WT Docket No. 10-119/FCC 10-106

"We note that the current Rules governing the FRS, R/C, and the CB radio services are written in a plain language question and answer format, to facilitate the public's understanding of the rules," says the FCC. The Commission is seeking input on whether *all* of these different services under Part 95 would benefit from a plain language Rules format, taking some of the mystery out of what's legal or not.

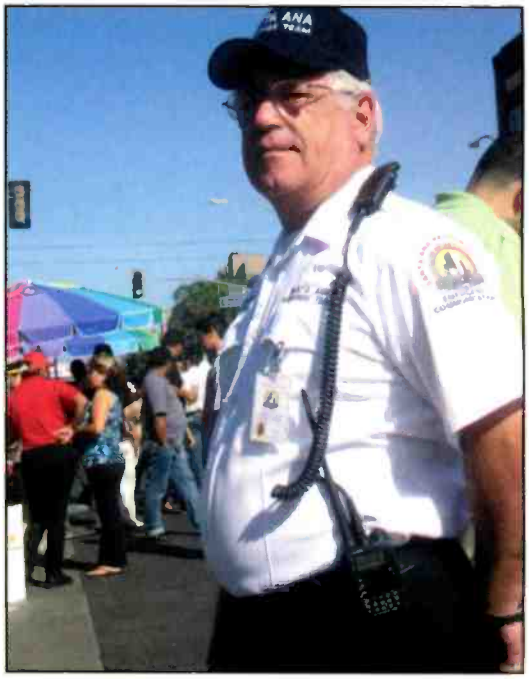
In its 90-plus page Notice of Proposed Rulemaking, the FCC asked for our comments. Even after the initial comment period closes, *you* can still make a difference by making your voice heard all the way in Washington, D.C.

You can read the entire NPRM at www.gmrs.org/images/FCC-10-106A1.pdf to fully understand some of the big changes that may be in store for us. For now, though, here are some highlights to consider as you formulate your comments to the Commission:

Power Levels—Should devices be measured according power output, or the current mix of power output, ERP (effective radiated power), and EIRP (reference to an isotropic radiator). Should there be a standard power level measurement?

Scrambling—Several GMRS and FRS radios have been certified with an optional voice scram-

These GRMS rigs may soon need to meet tighter narrowband rules for the GMRS service.



Grandfathered GMRS operators allow security agents to communicate via repeaters.

bling feature. The Commission appears not to favor scrambling, as it thwarts the channel sharing protocols of these services. Should scrambling in the personal radio service be outlawed?

GMRS Station Licensing—The Commission has received reports (gosh golly!) that most purchasers of portable FRS/GMRS combo radios operate on the licensed GMRS channels without obtaining the required license. It is, therefore, evaluating GMRS licensing rules and seems to believe that licensing GMRS "by Rule" (no license required) would reduce administrative and other burdens on GMRS users, as well as on the Commission itself.

"We propose to eliminate the requirement for individual station licenses in the GMRS. We seek comment on the proposal to license GMRS 'by Rule,' including whether all classes of GMRS stations should be licensed 'by Rule,' or only handheld portable units," states the FCC. I'm sure we'll have strong comments from REACT as well as the Personal Radio Steering Group, which has well-planned repeater stations on the air, with the potential of chaos if GMRS licensing requirements go out the door.

"Alternatively, if we were to maintain the individual licensing requirement for all or some types of GMRS operations, we propose to extend the license term from 5 to 10 years..." adds the FCC.

GMRS Eligibility—If GMRS licensing continues, the FCC may propose no age restriction for operating a GMRS radio or obtaining a GMRS license.

"Furthermore...the current Rules have not permitted businesses to obtain GMRS license since July 31, 1987...Should we remove the prohibition on business use of GMRS devices?" asks the FCC. It points to the success of businesses in using FRS radios within the workplace, so why not allow them to use GMRS?

GMRS Handheld Power Levels—The FCC proposes to limit handheld power output to no more than 2 watts ERP. This would fall in line with how Canada's license-exempt radios operate in this band. It is also looking at those GMRS stations that may transmit with up to 50 watts of output power.

Narrow Banding Of GMRS Channels—"Narrow banding of GMRS could foster more efficient spectrum use and reduce the interference potential between GMRS and FRS," says the FCC. Currently, primary GMRS channels are spaced 25 kHz apart, with an authorized bandwidth of 20 kHz. The Commission feels that 12.5 kHz technology would not impose an undo burden on GMRS manufacturers, and could even reduce manufacturing cost. "At this time, we do not propose to implement a date after which 25 kHz operation is no longer permitted in the GMRS," adds the FCC, seeking comments to assist in the transition to narrowband technology.

Let's digress just a little bit now and think digital. Garmin International wants to employ GPS digital data bursts along with text messaging using emission type F2D on the 462 MHz GMRS channels. Garmin correctly contends that the safety of life and property benefits associated with allowing the transmission of GPS in text information can be obtained while still maintaining the integrity of GMRS without causing interference. The Personal Radio Steering Group (PRSG) acknowledges a role for the transmission of GPS information, but only on those GMRS interstitial channels shared with FRS.

"We see similar benefits in allowing such transmissions on GMRS spectrum and propose to amend the GMRS Rules to permit the transmission of GPS location information and user-generated text messaging under the same limitations that apply to FRS," says the FCC.

Family Radio Service—This was established in 1996 when Bob Miller, K2RM (see sidebar), a vice president with RadioShack, petitioned the Commission for 14 channels, narrow band, within the GMRS spectrum.

The no-license FRS equipment is generally inexpensive, small, reasonably rugged, and easy to use. Most FRS radios also have adequate voice quality, and use common inexpensive disposable batteries. "Recently, more elaborate FRS radios have been developed that incorporate GPS capabilities to enable users to determine their location, and automatically pass that information to nearby similarly equipped FRS radios," says the FCC, and it rightly worries about the multi-band combination FRS radios.

It's generally acknowledged that the average end user has little concept of the difference between FRS and GMRS channels. Generally, it is not life threatening when users stray up into channels that currently require a license. What *can* be a life threatening, however, are the people who use combination FRS/Marine VHF transceivers and may, while fishing off a jetty with friends, mistakenly go on yak-yak-yakking on Channel 14 (not FRS Channel 14, but Marine Channel 14, 156.700). Unknowingly they are talking right on top of the US Coast Guard Vessel Traffic System radar approach marine VHF channel!

And it could get worse. Say these jetty fishermen, with a combo FRS/GMRS

Yakking on Channel 14 marine could interfere with important ship-to-ship communications.

Sitting Down With A Founding Father: Bob Miller, K2RM, And The Family Radio Service

I recently had the opportunity to chat with the original petitioner for the 14 channels of the Family Radio Service, Bob Miller, K2RM. Bob, who retired as a vice president at RadioShack, joined me in my shack to talk FRS.

gw: Bob, where did you get the idea to ask the FCC for the 14 FRS channels?

bm: It was at the '94 Dayton Hamvention where I was discussing, in a group, the need for some UHF channels for CB-type communications, clear of the common interference on 27-MHz CB channels.

gw: So what made you think the FCC would be interested in the idea you had?

bm: John Johnson, W3BE, who was with the FCC for many years, was part of this group, and he suggested we continue our pursuit for low-power UHF narrowband channels.

gw: Then what happened?

bm: I was a VP for RadioShack, and I had their support, so we petitioned for a Family Radio Service, under Part 95, for 14 low-power narrowband channels, interstitial to existing GMRS channels, and in short order, the Commission acted on our petition, in May of '95, docket 95-102.

gw: Who had the first FRS radio?

bm: Motorola was first, and they jumped on to this market big time at the [1997] Consumer Electronics Show in Las Vegas. Although they had other ideas for a low-power radio service, our 14-channel idea was the winner.

gw: I think I remember that '97 CES show, where FRS radios were the hot radio, from Motorola, Cobra, Maxon, and Midland.

bm: Yup, for around $150 a pop! Initially, somewhat expensive.

gw: Wow, prices sure dropped after all these years.

bm: I remember seeing my quote from your article in *Pop'Comm* many years ago, which was something like, "Until today, there has been no legal, relatively low-cost license-free communications available to the public that provides quality, short-distance communications."

gw: Better than Class D CB?

Bob Miller, K2RM, sitting in Gordo's shack, holds his first FRS radio.

bm: Class D CB is AM and subject to noise and skip interference, and is a big radio to handle. With FRS, the gear is FM and CTCSS can quiet all conversations other than the ones you're waiting for to come over your tiny little radio in the palm of your hand.

gw: And what do you think of the proposed FCC matters at hand?

bm: I'm glad they see the value of FRS communications for the general public, and the enhancement of GPS signaling too, for safety [the Garmin proposal; see main text]. We have a lot of products out there, over these last fun 13 years of FRS production!

Bob and his wife Sandy currently live in Arizona, where Bob plays ham radio daily on our 7250 kHz morning net. We at *Pop'Comm* would like to take this opportunity to thank him for all he's done for the radio hobby.

radio accidentally dial up the *wrong* Channel 16 and end up on the International Distress and Safety channel, guarded by rescue agencies throughout the world! Don't expect to see marine radio manufacturers continue with added FRS capabilities.

Citizens' Band Radio Service—The FCC received a petition from Omnitronics, LLC, to authorize the manufacture, sale, and use of wireless microphones to permit hands-free operation of CB transmitters. The company believes that the use of CB hands-free microphones does not constitute remote control. The Commission appears to agree, but only if the device works only in the immediate view of the CB radio, much like the Bluetooth headset. Don't we have a CB radio that takes a Bluetooth headset now?

More CB Proposals—Should the FCC strike down the Rule that prohibits the transmission of music on CB, whistling on Channel 19, sound effects on Channel 14, or any material to amuse or entertain and attract attention? And what about the time limit on a continuous CB transmission—keep it or can it?

The Commission stands firm on *no* tinkering with internal circuits that expand CB channel coverage. No Way, José!

But on that 153-mile DX Rule, it says: "...is there harm in allowing CB operators to communicate in skywave mode, or would such an allowance tempt the use of illegal amplifiers which cause interference?" It is encouraging comments on how to best deal with skywave chatter and a virtually unenforceable rule.

Radio-Control Service—The FCC might strike down the Rule on no continuous signal for more than three minutes.

218–219 MHz—There are tons of rules that I personally feel impede some sensible low-power transmitting devices, such as pet locator collars. One prominent manufacturer finally vacated this band with these popular pet collars because of the complex technical requirements for these 1/2-mW signals that don't go more than a few hundred feet. Now that TV channels have gone digital, the likelihood of a Fido pet tag screwing up analog TV channel 13 is relatively remote.

"We seek comment on any other steps that can be taken to provide a more efficient and flexible regulatory environment, to promote more expansive use of the 218–219 MHz service," says the FCC.

CB rules may soon change how we operate on the 40 CB channels.

The SPOT satellite transponder (left) is not the same as a Personal Locator Beacon (right). The public needs to know the difference.

Personal Locator Beacon—This term applies only for those devices that operate through the COSPAS-SARSAT satellite system and are used by the search and rescue authorities for a specific geographic region. Other signaling devices, sometimes referred to as PLBs, do not work with COSPAS-SARSAT, and the public gets confused. What benefit is there in buying an ACR $400 PLB versus a $99 subscription locator with a rescue center that is a private operation? The FCC wants the public to know the difference between a PLB associated with COSPAS-SARSAT, and those less expensive pocket locator subscription signaling devices.

Stand Up And Be Heard

Most likely, the GMRS FCC proposals will generate the most comments. While all the other Part 95 proposals make improvement tweaks to the individual radio services, the GMRS proposals represent a major overhaul. If you're a member of a local GMRS repeater group, work closely with your repeater licensee to develop unified comments to the Commission.

Narrow banding for most radio services below 800 MHz is inevitable, but when will the phase-in period of new equipment begin, and maybe more important to you, when will your favorite GMRS HT phase out?

The marine radio remains non-narrow band, except for selected Coast Guard and Coast Guard Auxiliary frequencies from the National Telecommunications and Information Administration. However, purchasing a marine VHF handheld with included transmit and receive FRS channels will likely be curtailed shortly. If you know the difference between marine Channel 12 and FRS Channel 12, better get your combo unit *today*!

Remember, the FCC is seeking *your input* on all of these matters. Voice your concerns or show your support for its 92-page document. It's *our* radio service, so read over the NPRM carefully, and then let the FCC hear your constructive comments.

October 2010 Reader Survey Questions

This month we'd like to go a little deeper about how well we're meeting your needs as a hobbyist. Please use the Reader Survey Card and circle all appropriate numbers. We'll pick one respondent at random for a free one-year subscription, or extension, to *Pop'Comm*, so don't forget your address. Thanks for participating.

Overall, I find the content of *Pop'Comm*...

Interesting/Enjoyable
- Yes 1
- No 2
- Undecided 3

Accurate
- Yes 4
- No 5
- Unsure 6

Fresh
- Yes 7
- No 8
- Undecided 9

Well-presented
- Yes 10
- No 11
- Undecided 12

Worth the price of admission
- Yes 13
- No 14
- Undecided 15

I best like the...
- Features 16
- Columns 17
- Departments 18

In the last few years, I'd say the magazine has...
- Improved 19
- Declined 20
- Stayed about the same 21

Please add specific comments where indicated on the card.

June Survey Highlights

June's survey asked how prepared you would be in the event of an emergency, so let's see if our readers are Ants or Grasshoppers (we all remember our Aesop's Fables, don't we?).

Eleven percent said they'd be up a creek—assuming the emergency was water-related. Nearly half (45%) said they were set with the basics; 35% could ride out a situation for many days. Only 9% of readers said the bunker was well stocked (hopefully, they'll have room for the other 91% of us—just show your copy of *Pop'Comm* at the bunker hatch to get in). How has the radio hobby made us better prepared? Scanners (22%) and receivers (23%) are the tools most of us have, 17% have ham radio equipment, 14% have two-way radios, 15% have backup power; 9% have received specialized training (I'm guessing it's the same 9%). Finally we asked if our readers had ever been involved in an emergency situation in which they used their radio skills/equipment: 40% already have, 22% said they have not; and 38% of readers said, "not yet." We're nothing if not realistic.

The winner of a free subscription or extension to *Pop'Comm* for sending in a response to our June Reader Survey is **James Casto, Jr., of Topeka, Kansas**. Congratulations, James!

The *2010 Pirate Radio Annual,*

By Andrew Yoder

Reviewed by George Zeller

"Those intriguing shows range from widely heard pirates like WBNY and Radio Jamba International to a relay of a 20-year-old program from The Crooked Man, perhaps the most famous stream of consciousness station that ever broadcast on shortwave."

There's good news out there for shortwave listeners in general, and free radio fans in particular: Veteran pirate radio DXer Andrew Yoder has published the *2010 Pirate Radio Annual*. This successor to the formerly annual *Pirate Radio Directory* has set off a deserved positive stir in the unlicensed broadcasting DX community.

Regular readers of Gerry Dexter's monthly "Global Information Guide" here in *Popular Communications* are probably already aware that shortwave pirate broadcasting is one of the few growth areas in contemporary shortwave DXing. The number of shortwave pirate stations hit an all-time record in 2009, and the blistering pace of attendant transmissions has continued into this year. While some international broadcasters have abandoned their former shortwave transmissions entirely and the likes of Swiss Radio International and the BBC have stopped broadcasting to North America, their places have been taken in the roster of international shortwave broadcasters by scores of unlicensed shortwave pirates.

Radio broadcasting without a legitimate license from either the U.S. Federal Communications Commission or Canadian telecommunications authorities is expressly prohibited throughout North America. Thus, the covert nature of pirate radio broadcasting adds a mystique and challenge to pirate radio DXing.

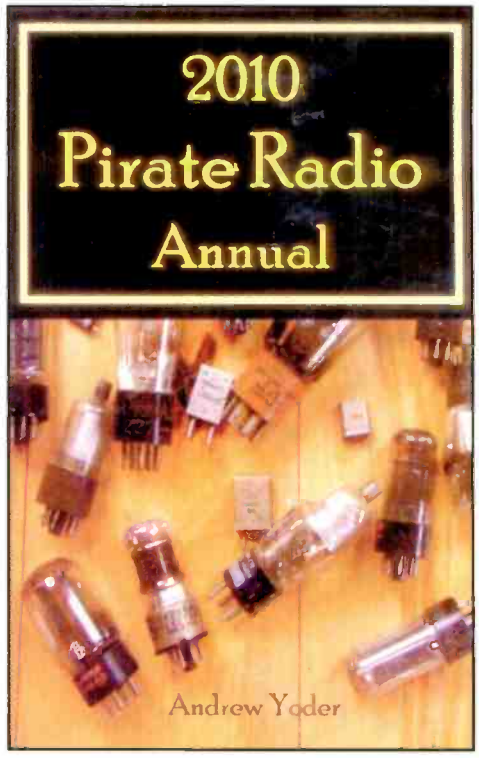
Many DXers long ago discovered the fun of listening to actual pirate transmissions on 6925 kHz shortwave, or any of the other frequencies pirates occasionally select. For those new to the chase, Yoder's book contains information that enhances a DXer's chances of hearing a North American pirate.

Old hands as well as newcomers will benefit from Yoder's vast experience, acquired over decades as one of the top pirate radio DXers, which clearly shows through in this must-have book. Not only is Yoder one of the most prominent pirate authorities, but he also is clearly one of the genre's leading advocates. In commenting on the rationale behind these admittedly illegal broadcasters, Yoder says, "I feel strongly about the role of shortwave radio in general and pirate radio in the democratic process."

George Zeller is a veteran pirate and clandestine DXer and journalist.

Inside The *2010 Pirate Radio Annual*

For many years, Yoder also published the monthly magazine *Hobby Broadcasting*, which mainly covered FM pirate broadcasting. Fans of that publication will be pleased to see the *Hobby Broadcasting* logo return on the inside front cover of the new book.



The *2010 Pirate Radio Annual*, by renowned pirate DXer Andrew Yoder, comes with a CD of airchecks from 75 different North American pirate radio stations that were active in 2009.

The *2010 Pirate Radio Annual* contains station descriptions of more than 170 pirate radio stations that were heard in North America during 2009, including a section identifying several European pirate broadcasters whose programming was also heard here last year. Contact information is provided for the stations, which are also rated on their reliability at sending QSLs in return for reception reports. Profusely illustrated with pirate logos and QSLs, the book is an entertaining read for both veteran pirate DXers and for those who have never heard a pirate broadcast.

Pirate radio is a particularly engaging area of the hobby because of its unpredictability, so Yoder identifies many dozens of pirate radio formats in his book. These range from hyper-creative program producers like MAC Radio (the best replication of old top 40 radio that is broadcast via any transmitter today, licensed or pirate), to overt political stations like the multi-decade stalwart The Crystal Ship, and many others.

Rock music and comedy remain the staples of pirate radio and receive due coverage in the book. This year's crop in those entertaining formats includes Captain Ganga's veteran drug advocacy station Radio Free Euphoria and the groundhog's annual Punxsutawney Pothead Radio. Relays of R. F. Burns' classic shortwave pirate Radio Clandestine also appeared on the North American shortwave bands during 2009.

Despite the fact that Commander Bunny at WBNY lost his campaign for President of the United States to Barack Obama, his bumper stickers advertising that candidacy remained in widespread circulation last year. The Commander's Vice Presidential candidate, Kracker from Kracker Radio, also lost to Joe Biden. Despite this unfavorable news on the political front, the Bunny-Kracker ticket still fills the airwaves with very slick radio productions that rival and sometimes exceed the production quality of many licensed commercial radio stations. Their political aspirations, as well as the antics of other free radio rowdies, are chronicled in Yoder's book in all their piratical glory.

Pirate station names themselves can be rather, um, thought provoking, to say the least, whether or not their signals clearly emerge in your receiver. This year's lineup boasts evocative monikers like 2000 Flushes Radio, Outhouse Radio, Moonshine Radio, Radio Pigmeat International, Dead Cat Radio, the Voice of Indigestion, and numerous other odd identifications. This is not the sort of thing you'd hear from the Excellence in Broadcasting Network of Rush Limbaugh's imagination, but it makes for interesting reading.

The *2010 Pirate Radio Annual* abounds with uplifting news from the pirate scene, such as Yoder's tip that *Radio Is My Friend*, the drama broadcast from the Cherokee Mental Health Institute in Cherokee, Iowa, returned to the shortwave band last year. You never know what pirate radio producers will transmit over the air!

Of course, if you prefer more predictable fare, your favorite radio station may be WWV. Somehow the classic "WWV Parody" pirate was left out of this year's list, despite the fact that it broadcast during 2009. When it's on, "All Time, All The Time" is its marketing slogan.

As with many of Yoder's previous books on pirate radio, the *2010 Pirate Radio Annual* comes with a CD containing airchecks from 75 different North American pirate stations that were active in 2009. Those intriguing shows range from widely heard pirates like WBNY and Radio Jamba International to a relay of a 20-year-old program from The Crooked Man, perhaps the most famous stream of consciousness station that ever broadcast on shortwave. The accompanying CD adds a tremendous value to the book. Even if you don't own a working shortwave radio, you can now hear the pirate productions on your CD player.

A Must For The Hobby Library

The *2010 Pirate Radio Annual* weighs in at 126 pages, which are bound in quite a sturdy fashion so you will not immediately notice that the book is in paperback. This is a good thing as fans of covert broadcasting trends on shortwave will want to refer to this excellent resource very often.

The *2010 Pirate Radio Annual* is available for $15, plus $3 shipping to the U.S. ($4 Canada; $9 elsewhere), from Cabinet Communications, Post Office Box 109, Blue Ridge Summit, Pennsylvania 17214. The modest price includes both the book and the audio CD. Go get your copy right away.

Broadcast DXing Is A Year 'Round Pursuit: A Look Back At The Summer Of 2010

by Bruce A. Conti
contiba@gmail.com

The noise heard on the radio wasn't the crackle of summertime lightning. Nor was it interference from DRM and HD digital. It was the hum of the South African vuvuzelas at the World Cup of soccer and it kept countless fans glued to their radios. Maybe you'd rather forget about the vuvuzela, but that wasn't the only buzz during this past summer. Broadcast DXers were humming away at the dials, and one group in particular, ABDX, was a beehive of activity. Now just imagine the World Cup of DX taking place in the heat of summer as you read on (¡Gol, gol, gol, DX desde Paraguay, go-o-o-o-o-l!).

American Broadcast DX

American Broadcast DX (ABDX) is a Yahoo Group email list with a membership of over 200 DXers, and growing. ABDX was started back in May 2001 by moderator Kevin Redding, covering the broadcast bands from DC-to-daylight since its inception. "We cover all broadcast DX from longwave, mediumwave, and shortwave, to TV, FM, satellite, and Internet radio," Kevin told "Broadcast Technology." "We have all sorts of DXers, from newbies to grizzled veterans, and even some of the fathers of DX who started in the 1940s. We also have broadcasters on the list who will run an occasional DX test for the monitoring community."

ABDX moderator Kevin Redding.

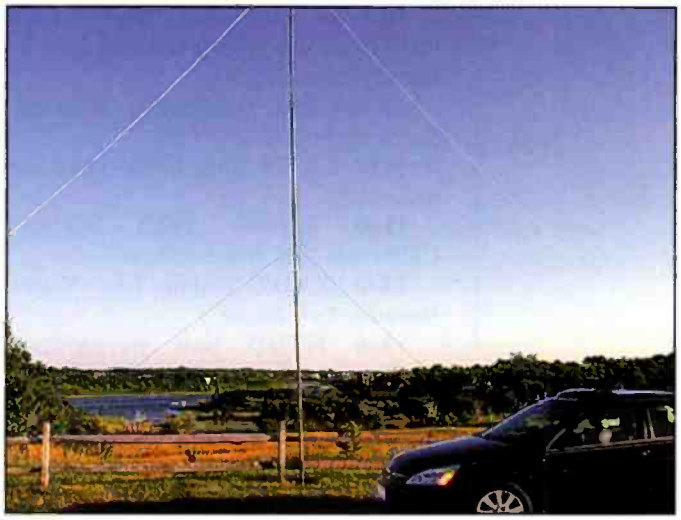
"I've never seen anything like this before. Everywhere on the FM dial was a station, sometimes three at once."—ABDXer Dean Wayman of O'Neill, Nebraska.

ABDX maintains a website at www.abdx.org, where the results of organized events, receiver reviews, and station lists are archived. Redding continued his description of the group, saying:

Every month ABDX has what we call a CME (Coordinated Monitoring Event). Some events cover portions of bands or selected frequencies, Friday night lights high school football and the miracle atmospheric conditions that help some stations get the local team on the air, and emergency broadcasts during hurricanes, tornadoes, earthquakes and the like. It's a lot of fun and the results get published each month in the *ABDX Journal*, which can be downloaded for free at www.abdx.org.

ABDX has tackled mediumwave on the hardest days to DX during the year and that would be during the summer solstice. We call this CME "Hell Week" because the days are the longest and nights are shortest, and we all know mediumwave is always much better at night. During the summer there usually is a tremendous amount of lightning and natural electrical interference adding to the difficulty. We say if you can get some great DX when it's this tough, you can get great DX anytime.

DXers across North America from New England, to the Appalachians, the Sonoran Desert, Texas Gulf Coast, Rocky Mountains, Canadian Maritimes, Mid-Atlantic states, American Plains, and West Coast got in on the fun of Hell Week. We had mediumwave captures of Venezuela from Canada, Cuba from Tennessee, England, Portugal, and Greenland from the Canadian Maritimes, great Mexican DX from the Sonoran Desert, Brazil, France, and Saudi Arabia from Cape Cod, just to name a few super catches. Spectacular DX on FM was



The Delta antenna deployed by Chris Black, N1CP, at Fort Hill, Cape Cod, Massachusetts, for the ABDX summer CME (see text).

observed during several *E*-skip sessions. Texas, Florida, and Nebraska were heard from Delaware. Mexico was heard from Oklahoma, the Virginia coast was heard from the Mississippi River, and Indiana from Texas, while skip was noted from Seattle and the Canadian Prairies into Wyoming. Who says you can't get DX on FM?

Summer FM DX

The widely known but little understood phenomenon of *E*-skip is the long-distance VHF propagation resulting from ionization of the *E* layer of the ionosphere. FM broadcast *E*-skip is most prevalent during the warm weather months, especially around the summer solstice, but it can happen anytime of year. FM *E*-skip usually first shows up at the low end of the band, impacting higher frequencies as skip conditions grow stronger and the maximum usable frequency (MUF) increases. ABDXers took advantage of outstanding *E*-skip openings during the summer CME. Following is a sampling of FM DX reports and logs.

"I've never seen anything like this before," reported ABDXer Dean Wayman of O'Neill, Nebraska. "Everywhere on the FM dial was a station, sometimes three at once. The propagation map was solid red from here to the East Coast. One duct went from Nova Scotia to the eastern tip of Cuba, another from Toronto to La Paz, Mexico! Logs from Florida to California." These stations were received on a Grundig Satellit 600 Pro with a scanner antenna and Archer booster:

91.1 XETRA Tijuana, Mexico, "91-X" 1215 miles.

91.5 KUNV Las Vegas, Nevada, "Your jazz spot in southern Nevada" 985 miles.

92.9 KISM Bellingham, Washington, "Classic Rock" 1226 miles.

93.3 KDKB Mesa, Arizona, "Everything that rocks" 947 miles.

93.5 KSNX Show Low, Arizona, "Oldies 93.5" 728 miles.

95.1 WAPE-FM Jacksonville, Florida, "The Big Ape" 1258 miles.

97.6 WYYX Bonifay, Florida, "Panama City's Rock Station" 1078 miles.

98.1 WHWY Holt, Florida, "Highway 98" 1044 miles.

97.3 KAJA San Antonio, Texas, "San Antonio's Country Station" 898 miles.

97.3 WGEX Bainbridge, Georgia, "Gen-X Radio" 1113 miles.

ABDXer Eric Berger of Carleton, Michigan, also caught *E*-skip FM signals, sometimes swapping between multiple stations on a single frequency from Canada to Florida, using a MacIntosh MR65 receiver. He logged the following:

88.5 WFCH Charleston, South Carolina, "Family Radio," new catch!

90.3 CBNM-FM Marystown, Newfoundland, CBC Radio One, new catch!

90.7 WYFH North Charleston, South Carolina, "Bible Broadcasting Network," new catch!

92.1 WZEW Fairhope, Alabama, "92 Zoo" rock music.

92.1 WFFY Destin, Florida, "Fly 92-1" dance music.

92.9 KKPK Colorado Springs, Colorado, "Peak FM."

92.9 KDCD San Angelo, Texas, "Lonestar FM," faded up over KKPK.

93.5 CBGA8F Cap-aux-Meules, Quebec, French CBC, new catch!

94.1 WLLD Lakeland, Florida, "Wild 94-1, The Hip Hop," new catch!

94.3 CBAL5-FM Edmunston, New Brunswick, Espace Musique.

97.5 WPCV Winter Haven, Florida, "97 Country," lost to pest WYDM.

100.9 KXGL Amarillo, Texas, "The Eagle" new catch!

102.7 KJXK San Antonio, Texas, "Jack FM" classic hits, wiped out local WHTD!

102.7 KJYO Oklahoma City, Oklahoma, "KJ 103" overtook KJXK, new catch!

103.1 WMXZ Valparaiso, Florida, "Today's best music on Mix 103-1." New catch!

103.5 WAKT-FM Callaway, Florida, "Hank FM" poking in and out with local WMUZ. New catch, first *E*-skip on 103.5, and first station noted while a local was on!

104.5 KZEP-FM San Antonio, Texas, "K-Zep" classic rock, new catch!

105.3 KRLD-FM Dallas, Texas, "The Fan," new catch!

105.3 KSMG Seguin, Texas, "San Antonio's Magic 105.3" overtook KRLD-FM, new catch!

Steven Wiseblood of Boca Chica Beach, Texas, the southernmost ABDX member, reported a couple of interesting Mexican FM catches, received on a Roadmaster VRCD400-SDU with an FM-6 Yagi antenna at 15 feet:

90.7 XHLDC Magdalena de Kino, Sonora, Mexico, "Fiesta Mexicana."

90.7 XHMOE Mexicali, Baja California Norte, Mexico, "Los 40 Principales."

Kevin Redding, DXing from Adamsville, Tennessee, joined the fun, too, logging FM stations from six states with the Sangean HDR-1 receiver, CM3032 amp, and APS9 antenna:

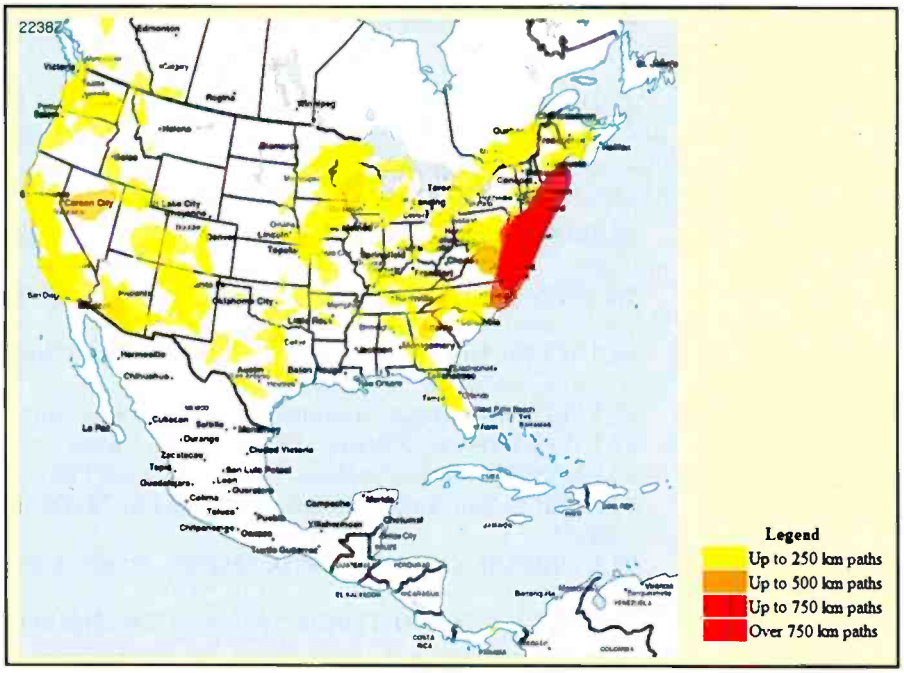
88.7 WQPR Muscle Shoals, Alabama, NPR classical music.

89.9 WMAB-FM Mississippi State, Mississippi, NPR *News at Noon*.

92.5 WBKR Owensboro, Kentucky, WBKI 25 weather.

92.5 WVBW Suffolk, Virginia, "The Wave," new log!

98.3 WRIK-FM Metropolis, Illinois, with co-channel interference.



The experimental VHF Propagation Map by Jon Harder, NGØE, using APRS-IS data to identify potential *E*-skip openings.

103.7 WFGS Murray, Kentucky, "Froggy 103."

105.9 WNRQ Nashville, Tennessee, rock on HD1, Depeche Mode on HD2, and WLAC relay on HD3.

AM Broadcast DX

As if on a mission to prove that AM broadcast DXing is a year 'round pursuit, dedicated DXers battled the lightning noise and short hours of darkness to discover that it really can be done. Chris Black, N1CP, set up his portable Delta antenna and Perseus software-defined radio (SDR) at Fort Hill on Cape Cod National Seashore in Massachusetts, where he captured exotic tropical signals. "Transatlantic DX was a disappointment," said Chris. "The unexpected bright spot was eight Brazilians and a new country, Paraguay on 780 kHz."

760 ZYH588 Fortaleza, Brazil, Radio Uirapuru, talk.

780 ZP70 Asunción, Paraguay, Radio Primero de Marzo 780 AM.

840 ZYK687 São Paulo, Brazil, Radio Bandeirantes with Brazilian music.

860 ZYJ459 Rio de Janeiro, Brazil, CBN telephone talk.

940 ZYJ453 Rio de Janeiro, Brazil, Super Radio Brasil.

1000 ZYK522 São Paulo, Brazil, Radio Record, religion.

1020.107 ZP14 Asunción, Paraguay, identified by offset frequency.

1100 ZYK694 São Paulo, Brazil, Globo, good after WHLI sign-off.

1130 ZYJ460 Rio de Janeiro, Brazil, heard under WBBR.

1220 ZYJ458 Rio de Janeiro, Brazil, Globo.

Bogdan Chiochiu of Pierrefonds, Quebec, also caught tropical DX. "I did some listening for the Hell Week CME and bagged the following South American stations," writes Bogdan. "The most impressive was 550 YVKE...the outage of co-channel semi-local CHLN Trois-Rivières, Quebec, definitely helped."

550 YVKE Caracas, Venezuela, interference from WGR Buffalo, New York.

760 HJAJ Barranquilla, Colombia, RCN, almost impossible copy through nulled WJR Detroit.

780 YVNM Coro, Venezuela, "Radio Coro" with "Ruta Musical 780" program.

Rick Barton monitored the AM dial in the desert southwest from Cave Creek, Arizona, with the Panasonic RF-2200 receiver:

660 KTNN Window Rock, Arizona, Navajo program.

760 XENY Nogales, Sonora, Mexico, tentative log.

810 KGO San Francisco, California, Ray Taliaferro program.

990 KTKT Tucson, Arizona, ESPN Deportes.

1030 XESDD Puerto Nuevo, Baja California Norte, Mexico, no sign of KTWO Wyoming.

1060 KDUS Guadalupe, Arizona, *Sporting News Radio*.

1120 KANN Roy, Utah, Christian rock music.

1140 KNWQ Palm Springs, California, *Bill Handel Show*.

1140 KYDZ North Las Vegas, Nevada, *Kidz Radio*.

1350 KTDD San Bernardino, California, "The Toad" country music.

1350 KABQ Albuquerque, New Mexico, talk and CNN news.

1580 KMIK Tempe, Arizona, Radio Disney.

Back on the East Coast, inspired by the Chris Black logs, Mark Connelly, WA1ION, went out to Windmill Beach, Cape Cod, Massachusetts, to catch more tropical DX using a Perseus SDR with a car roof-mounted terminated broadband loop antenna:

670 CMQ Arroyo Arenas, Cuba, Radio Rebelde sounder and news.

690 HJCZ Bogotá, Colombia, Radio Recuerdos.

740 ZYH446 Salvador, Brazil, "Close Encounters" signature ID.

750 YVKS Caracas, Venezuela, "Deportes Venezolana" baseball.

760 HJAJ Barranquilla, Colombia, RCN news.

770 Las Mercedes, Cuba, Radio Rebelde sounder, over WABC.

780 ZBVI Tortola, British Virgin Islands, "This is station Zed-B-V-I."

810 ZNS3 Freeport, Bahamas, "810 AM, we're hot!"

840 4VEH Cap Haitien, Haiti, "Ici Radio 4VEH."

900 Bridgetown, Barbados, "Caribbean Broadcasting."

980 ZYH707 Brasilia, Brazil, over WCAP.

1039.62 YVLB Valencia, Venezuela, ID by distinctive offset frequency.

1090 YVSZ Caracas, Venezuela, Union Radio.

1160 VSB3 Hamilton, Bermuda, BBC.

1280 VSB2 Hamilton, Bermuda, Wadesboro, South Carolina, FM relay.

1280 ZYJ455 Rio de Janeiro, Brazil, Super Radio Tupi.

1309.675 HJAK Barranquilla, Colombia, ID by offset frequency.

OK, so I just couldn't resist. With all this DX going on in the middle of summer, I had to make an effort. With the

RFSpace SDR IQ and terminated Delta antennas deployed at a campsite in Camden Hills State Park on the coast of Maine, here are a few of the transatlantic and tropical signals I logged:

690 Radio Progreso, Jovellanos, Cuba, Tu noticiero RP.

860 ZYJ459 Rio de Janeiro, Brazil, CBN Total.

900 COPE Spain, Servicios informativos, parallel 837 and 999 kHz.

910 YVRQ Caracas, Venezuela, RQ 910.

954 Onda Cero, Madrid, Spain, Noticias de Onda Cero.

963 Biribilando, Spain, Radio Euskadi y Radio Vitoria.

1026 SER Spain, Cadena Ser, servicios informativos.

1088 Radio Nacional, Mulenvos, Angola, African highlife music.

1110 YVQT Carúpano, Venezuela, ¡En Venezuela, Carúpano!

1242 Marseille, France, France Info, le journal.

VHF *E*-Skip Forecasting

Successful FM DXing often requires being in the right place at the right time along with a bit of luck. The Internet has taken some of the gamble out of FM DXing with an abundance of email alert services and real-time *E*-skip mapping. Membership in a Yahoo Group like ABDX is a good place to start for instant email alerts and tips when DX is happening. A number of Internet mapping tools designed primarily for VHF amateur radio have proven to be useful for predicting FM DX openings as well. VHF Propagation Maps by Jon Harder, NGØE, is a favorite site, providing maps derived from networks of amateur radio packet stations on the Automatic Packet Reporting System - Internet Service (APRS-IS). Though voids in the mapping exist due to a lack of packet stations in some regions, the real-time maps are a reliable indicator of overall conditions. Here's the URL: www.mountainlake. k12.mn.us/ham/aprs/index.html.

Make More DX Connections

This was fun! Thanks to Kevin Redding and everyone at ABDX for sharing part of their summer with us. Be sure to visit www.abdx.org to check out the latest ABDX activities and join the group.

Follow another type of CME, coronal mass ejection of the sun, with "Propagation Corner" columnist Tomas Hood, NW7US, and go to his Internet resource page at http://propagation. hfradio.org to learn more about the science of propagation.

Another Yahoo Group, MW Offsets, keeps a database of off-frequency AM broadcast stations, handy for identification of offset stations such as Paraguay on 1020.107 and Venezuela on 1040.62 kHz. The latest online MW offset station list, compiled by Günter Lorenz, is available at www.myradiobase.de/ mediumwave/mwoffset.txt. And while online, remember to let us know what you're hearing by email. You'll find links on our newly designed webpage (www.popular-communications.com/) under "Contact Us." You can also connect with *Popular Communications* on Facebook.

Be sure to stay tuned next month for a special DXpedition edition of "Broadcast Technology." Until then, 73 and Good DX!

This Month In Broadcast History

75 Years Ago (1935)—Cavalcade of America premiered on CBS radio, beginning what was to be an 18-year run. KNX Los Angeles, then on 1050 kHz with 50 kW of power, applied for a construction permit to increase power to 500 kW. The application was later dismissed.

50 Years Ago (1960)—The Andy Griffith Show premiered on CBS television. "Shortnin' Bread" by Paul Chaplain topped the first issue of the WLS Silver Dollar Survey after the Chicago station switched from country music to a Top 40 format.

25 Years Ago (1985)—The FCC eliminated the assignment of discrete power levels (0.25 kW, 1.0 kW, 5.0 kW, etc.) for AM radio stations, allowing greater flexibility in setting maximum power. The Michigan Antique Radio Club was founded to preserve the history and enhance the knowledge of radio, television, and related disciplines. The first of many legendary Sheigra, Scotland, DXpeditions made history with the first known recorded reception of Alaska in the UK, logging KBRW Barrow on 680 kHz.

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	9860	Radio Tirana, Albania	
0000	4985	Radio Brazil Central	PP
0000	5954	ELCOR, Costa Rica	SS
0000	11590	Radio Cairo, Egypt	AA
0000	9325	Radio Cairo, Egypt	AA
0000	15360	BBC, Thailand Relay	
0000	15335	BBC, Singapore Relay	
0000	9420	Voice of Greece	Greek
0000	9665	Radio PMR, Moldava	various
0000	13730	Radio New Zealand	
0000	9715	RDP Intl, Portugal	PP
0000	7385	Radio Romania International	
0000	9890	Voice of Russia	
0000	9955	WRMI, Florida	
0000	15275	Radio Thailand	
0000	15180	Voice of Korea, North Korea	SS
0030	6135	Radio Santa Cruz, Bolivia	SS
0030	9870	All India Radio	HH
0030	9905	Islamic Republic of Iran Broadcasting	SS
0030	9675	International Radio of Serbia	
0100	15345	Radio Nacional/RAE, Argentina	SS
0100	4755	Radio Imaculada Conceicao, Brazil	PP
0100	7355	Radio Prague, Czech Republic	
0100	3250	Radio Luz y Vida, Honduras	SS
0100	5930	Radio Slovakia International	
0100	9675	Radio Cancao Nova, Brazil	PP
0100	4865	Radio Logos, Bolivia	SS
0200	5045	Radio Cultura do Para, Brazil	pp
0200	5025	Radio Rebelde, Cuba	SS
0200	6020	China Radio Intl, via Albania	CC
0200	6270	Radio Cairo, Egypt	
0200	6195	BBC, Cyprus Relay	
0200	6025	Radio Amanecer, Dominican Republic	SS
0200	5960	Radio Japan, via Canada	JJ
0200	11960	Radio Jordan	AA
0200	11935	Radio Japan	JJ
0200	6185	Radio Educacion, Mexico	SS
0200	15355	Radio Sultanate of Oman	AA
0200	9665	Voice of Russia, via Moldova	
0200	5950	Radio Taiwan Intl, via Florida	
0200	3320	Radio Sondergrense, South Africa	Afrikaans
0200	6010	Radio Sweden, via Canada	
0200	7200	Sudan Radio Television	AA
0200	6055	Radio Exterior de Espana, Spain	SS
0200	7415	WBCQ, Maine	
0200	7365	Radio Marti, USA (to Cuba)	SS
0200	7305	Vatican Radio	SS
0200	6175	Voice of Vietnam, via Canada	
0200	4915	Radio Difusora Macapa, Brazil	PP
0200	7200	Radio Rossii, Russia	RR
0200	7245	Islamic Republic of Iran Broadcasting	
0300	6175	Radio Nederland, Bonaire Relay	SS
0300	15515	Radio Australia	
0300	6010	Radio Inconfidencia, Brazil	PP
0300	6090	Caribbean Beacon, Anguilla	
0300	6000	Radio Havana Cuba	SS
0300	5040	Radio Havana Cuba	SS
0300	7110	Radio Ethiopia	Amharic
0300	4780	Radio Djibouti	AA
0300	5010	Radio Madagasikara, Madagascar	Malagasy
0300	15425	Voice of Russia	
0300	6125	Radio Exterior de Espana, Spain	SS
0300	9740	Miraya FM, Sudan, via Serbia	
0300	7200	Radio Farda, USA (to Iran)	Farsi
0300	7595	WRNO, Louisiana	
0300	4965	CVC-One Africa, Zambia	
0300	6030	Radio Oromiya, Ethiopia	Oromo
0300	4875	Radio Difusora Roraima, Brazil	PP
0300	6135	Channel Africa, South Africa	
0330	9635	Radio Liberty, via Lithuania	Tatar/Bashkir
0400	4930	VOA, Botswana Relay	
0400	3255	BBC, via South Africa	
0400	7310	BBC, via South Africa	
0400	9875	Radio Voice of the People, (to Zimbabwe)	
0400	4790	Radio Vision, Peru	SS
0400	4775	TWR, Swaziland	GG
0400	9855	VOA, via Madagascar	
0400	4976	UBC Radio, Uganda	
0400	7275	RT Tunisienne, Tunisia	AA
0500	6160	CKZN, Canada (Newfoundland)	
0500	5005	Radio Nacional, Equatorial Guinea	SS
0500	5446.5	Armed Forces Network, Florida	USB
0600	4025	Star Radio, Liberia	

UTC	Freq.	Station/Country	Notes
0600	3290	Voice of Guyana	
0600	5995	RTV Malienne, Mali	AA
0700	9710	Radio Australia	
0700	7125	Radio Guinee, Guinea	FF
0700	6070	CFRX, Canada	
0900	6170	Radio New Zealand	
0900	15450	FEBC, Philippines	II
0900	5990	Radio Senado, Brazil	PP
1000	3310	Radio Mosoj Chaski, Bolivia	SS
1000	4815	Radio El Buen Pastor, Ecuador	SS
1000	9615	Radio Veritas Asia, Philippines	CC
1000	4747	Radio Huanta 2000, Peru	SS
1000	5020	SIBC, Solomon Islands	
1000	9930	T8WH, Palau	
1100	3340	Radio Misiones Intl, Honduras	SS
1100	9655	Radio New Zealand	
1100	11785	VOA, Thailand Relay	CC
1100	15240	Voice of Turkey	CC
1200	9580	Radio Australia	
1200	11860	BBC, via French Guiana	
1200	6120	Radio Japan, via Canada	
1200	3925	Radio Nikkei, Japan	JJ
1200	7295	RTM /Traxx FM, Malaysia	Malay
1200	6010	Radio Mil, Mexico	SS
1200	3365	Radio Milne Bay, Papua New Guinea	Pidgin
1200	11675	Polish Radio, via Germany	
1200	9650	KBS World Radio, S. Korea, via Canada	
1200	15435	Adventist World Radio, USA, via Germany	
1200	12005	Gospel for Asia, USA	
1200	11500	Radio Free Asia, USA	
1200	15450	Voice of Turkey	
1200	3290	NBC Central, Papua New Guinea	Pidgin
1300	6020	Radio Australia	
1300	9570	China Radio International, via Cuba	
1300	6125	China Radio International	CC
1300	9820	Guanxi Beibu Bay Radio, China	VV
1300	6095	BBC, via South Korea	Mandarin
1300	7535	BBC,Thailand Relay	Mandadrin
1300	17560	Islamic Republic of Iran Broadcasting	
1300	9425	All India Radio	HH
1300	6165	All India Radio	HH
1300	9525	Voice of Indonesia	
1300	9935	RS Makedonias, Greece	Greek
1300	7260	Voice of Russia	RR
1300	17600	Radio Romania International	
1300	11940	Radio Romania International	Romanian
1300	15380	BSKSA, Saudi Arabia	AA
1300	9990	Radio Free Afghanistan, via Sri Lanka	Pashto
1300	11705	VOA, Philippines Relay	
1300	13580	VOA, via Germany	Somali
1300	7340	Family Radio, FL, via Russia	VV
1300	15350	Voice of Turkey	TT
1300	11715	KJES, New Mexico	
1400	17640	BBC Relay, Ascension Is.	
1400	9485	KFBS, Saipan, No. Marianas	RR
1400	11710	Voice of Korea, North Korea	KK
1400	11895	BBC, Singapore Relay	Mandarin
1400	9465	KFBS, Saipan, No. Marianas	
1500	9895	Radio Nederland	DD
1500	15550	WJHR, Florida	usb
1700	17680	CVC-La Voz, Chile	SS
1700	11660	China Radio International	CC
1700	13650	Deutsche Welle, Germany via England	AA
1700	9835	Radio Japan	JJ
1700	15435	BSKSA, Saudi Arabia	AA
1700	13625	Radio Free Asia, N. Marianas Relay	CC
1700	13750	WINB, Pennsylvania	
1700	15570	Vatican Radio	
1700	13750	Radio Nacional Venezuela, via Cuba	SS
1800	15275	Deutsche Welle, Germany, Rwanda Relay	
1900	12080	VOA, Botswana Relay	FF
1900	15540	Radio Kuwait	
1900	11690	Deutsche Welle, Germany via South Africa	
1900	11705	Radio France International	FF
1900	9830	Radio Jordan	AA
1900	11655	Radio Nederland, Madagascar Relay	
1900	15345	RT Marocaine, Morocco	AA
1900	12040	RDP Intl, Portugal	PP
1900	12030	Voice of Russia	CC
2000	17735	Radio Canada International	
2000	11865	Deutsche Welle, Germant, Rwanda Relay	
2000	15730	VOA, Sao Tome Relay	FF
2000	13280	Radio Marti, USA (to Cuba)	SS
2100	11760	Radio Havana Cuba	FF
2100	9660	Radio Havana Cuba	SS
2100	15190	Radio Africa, Equatorial Guinea	
2100	12085	Radio Damascus, Syria	
2200	9660	Radio Havana Cuba	SS
2200	7375	Voice of Croatia, via Germany	
2200	7435	Radio Romania International	
2200	11815	Radio Exterior Espana, Costa Rica Relay	
2200	11805	VOA, Philippine Relay	Indonesian
2200	11670	Radio Nacional Venezuela, via Cuba	SS
2200	12080	BBC, via Australia	
2220	12095	BBC, Ascension Is.Relay	
2230	9440	Radio Prague, Czech Republic	
2300	11700	Radio Bulgaria	
2300	17795	Radio Australia	
2300	11780	Radio Nacional Amazonas, Brazil	PP
2300	9700	Radio Bulgaria	
2300	7350	China Radio International	
2300	11665	CVC-La Voz, Chile	SS
2300	11840	China Radio Intl, via Canada	
2300	12020	Radio Havana Cuba	SS
2300	11990	Radio Canada International	SS
2300	6100	Radio Canada International	
2300	15785	Galei Zahal, Israel	HH
2300	15265	Radio Japan, via Bonaire	JJ
2300	4845	Radio Mauritanie, Mauritania	AA
2300	11630	RDP Intl, Portugal	PP
2300	7250	Voice of Russia	
2300	11850	BBC, Singapore Relay	
2300	15160	Radio Exterior de Espana, Spain	SS
2300	15250	Radio Nacional Venezuela, via Cuba	SS
2300	7345	RT Tunisienne, Tunisia	AA
z9399	7210	Radio Fana, Ethiopia	Amharic

Trivia And Toons

by R.B. Sturtevant, AD7IL

Q. Why do amateur radio operators and other radio listeners call the area or room where their equipment is located a "shack"?

A. That goes back to the 1920s when a lot of our traditions had their beginnings. Back then the only radio context most people knew about was associated with the military field operations or the merchant marine. In those situations the room that the radio operator worked out of was usually something thrown together as almost an afterthought and usually for temporary or semi-temporary use. Craftsmanship was secondary at best. In short, it was called a shack because it *was* a shack. The name stuck.

Q. Hiram Percy Maxim is acknowledged as the first and greatest amateur radio operator. What did he do for a living when he wasn't on the air? Did he have any interests besides amateur radio?

A. As you would expect, the pioneering amateur came from an inventive family. Hiram's father was Hiram Steven Maxim, who in 1881 invented the Maxim gun, one of the first fully portable and fully automatic machine guns. There's an old soldier's saying from those pre-World War I days that tells the story pretty well: "Come what may, we have got, the Maxim gun, and they have not." Hiram P. himself graduated from MIT as a mechanical engineer. He worked in the early automotive field and invented the automotive muffler. Using related technology he invented the fire suppressor, also known as the firearms silencer.

As far as other interests go, in 1925 he took advantage of Kodak's release of an easy-to-use 16mm movie camera (in 1924) to start the Amateur Cinema League, which launched the amateur filmmaking hobby.

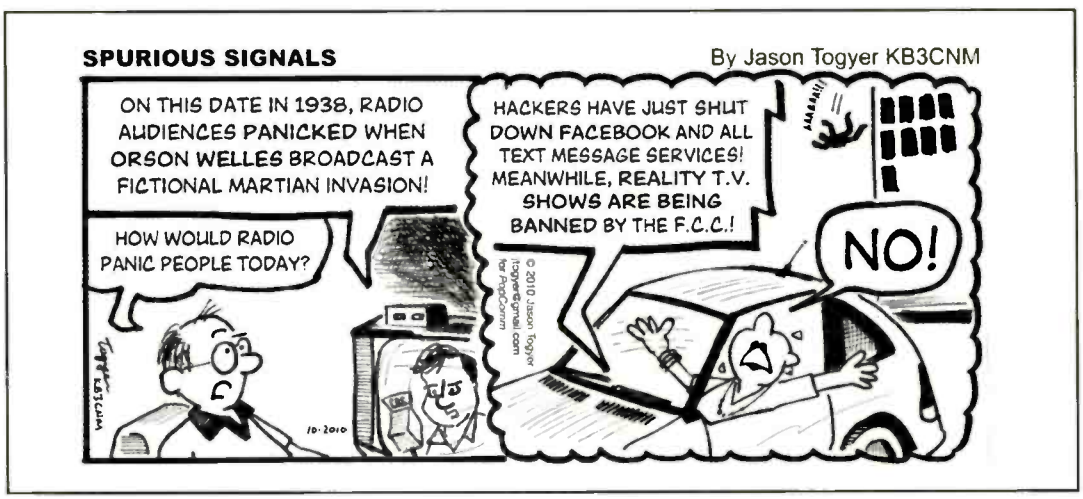
Q. Is it true that people who have musical talents have an edge in learning Morse code?

A. I've heard that also, and it sure does seem to be true in the case of Johnny Cash, who joined the Air Force in 1950. He was trained at Brooks Air Force Base in Texas and did quite well—in fact, he finished the Morse code portion of one course four weeks ahead of his classmates. Selected to be a Radio Intercept Operator, Cash spent his time in West Germany listening to CW traffic coming from Soviet air and ground forces. He was Honorably Discharged in 1954.

Q. Simply speaking, what is a battery?

A. When you boil it down to its simplest level, a battery is a nonconductive container filled with an acidic fluid and two dissimilar metals. Devices meeting this description, housed in clay pots, were used in ancient Egypt. Their application in those bygone days isn't really understood, but they were definitely batteries.

The acidic fluid sets up a condition where the two different metals will create a current between them. Stick a piece of copper and a piece of zinc into a lemon and a VOM meter can read the current on wires attached to the two pieces of metal. Since the saliva in your mouth is slightly acidic you may pick up a real shock if you have a gold filling too close to a silver filling.



by Staff

New, Interesting, And Useful Communications Products

Cobra's 29 LX LE 50th Anniversary CB Radio

Cobra Electronics has introduced a CB radio to commemorate the 50th anniversary of its entry into the CB radio market. The new 29 LX LE CB Radio boasts a fresh, modern design with a selectable four-color LCD display, center scroll knob, customizable night and day settings, and ergonomic microphone.

Internally, based on the classic 29 LTD, the 29 LX LE also offers some brand new features. A new weather alert scan automatically advances to the next clear NOAA weather channel when driving cross-country, ensuring the driver is always getting the latest weather alerts and warnings. Also new in the 29 LX LE is the industry's first and only Radio Check Diagnostic, which lets drivers continuously monitor their radio's RF output, SWR setting, and battery voltage. Like previous Cobra 29 models, the 29 LX LE includes 4 watts AM RF power output, the maximum allowed by law, instant access to emergency Channel 9 and information Channel 19, as well as Delta Tune to clarify incoming signals and adjustable Dynamike boost, which increases the microphone's sensitivity for increased voice clarity. The 29 LX LE also includes all 40-channel scan and memory channel programming.

At press time, the 50th anniversary limited edition 29 LX LE CB Radio was planned to be available at travel centers, CB shops, and truck dealers nationwide for $149.95 in September 2010. For more information, visit www.cobra.com.

In celebration of 50 years of being a pillar of CB Radio, Cobra Electronics has introduced the limited edition 29 LX LE rig. According to the manufacturer, it is "a culmination of performance, style and innovation in Citizens Band radios."

Heil Sound Pro Set Elite Boomsets

The Heil Sound Pro Set Elite boomsets, for commercial sportscasters, podcasters, and amateur radio operators, uses the newly designed Heil HC 6 wide-response microphone element. The new technology of the Heil HC 6 is designed for full-range commercial AM or FM network broadcasts or can be adjusted for bright articulate audio to cut through amateur radio noise and signal pileups. The Pro Set Elite offers dual side, highly efficient speakers mounted in acoustically tuned chambers, which produces a high rejection of outside noise. The Exclusive Heil Phase Reversal feature allows the user to acoustically move the signal, creating a spatial widening of the sound field that makes it easier to "see" a signal inside a pileup and alleviates listener fatigue in prolonged use. The Pro Set Elite works with all Heil AD-1 adapter cables which mate with just about every type of amateur radio transceiver. There are two different models:

The newly designed HC 6 wide-response microphone element in Heil Sound's Pro Set Elite Boomsets offers professional-grade performance for broadcasters and serious hobbyists.

Pro Set Elite - 6 ($165) contains the Heil HC 6 full range dynamic broadcast element. It can be EQ adjusted to match just about any requirement from full range commercial broadcasting to serious contest and DXing.

Pro Set Elite - iC ($175.00) contains a specially designed high-performance electret condenser for the low-level mic inputs used in many ICOM amateur radio transceivers.

For more information, visit www.heilsound.com.

Radio Republica In Costa Rica? Plus Radio Cultural Coatan Returns, And Speak Up To NASB

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

"...there is word that Guatemala's Radio Cultural Coatan in San Sebastian Coatan has returned to the air after having been silent for months."

The 5954 Costa Rica mystery is solved—perhaps! This still-puzzling Elcor transmitter has begun carrying programming from the anti-Castro Radio Republica, which has used various international transmitter sites in the past. The Elcor outlet is still being heard in the late afternoons and on through most of the evening hours...if you can get past the horrendous QRM on 5950 emitted by WYFR. Radio Republica is operated by the Directorio Democratico Cubano (Cuban Democratic Directorate), which has offices in Hialeah, Florida.

St. Helena Day 2010 was tentatively set for October 2, probably from around 2000 UTC on 11092.5 USB. Poor propagation conditions ruined last year's broadcast for most people. Let's hope that this year brings a better performance. Radio St. Helena issues QSLs only for postal reports sent to Radio St. Helena, P.O. Box 93, Jamestown, St. Helena Island, STHL 1ZZ, South Atlantic Ocean, via UK and Ascension Island (include that last phrase!). Be prepared to wait a l-o-o-o-n-g time for its reply.

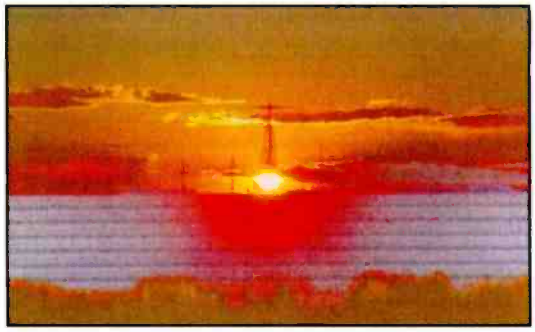
We *may* be getting some action out of the Central African Republic one of these days. HCJB is said to be installing a transmitter for Radio Centrafrique at Bangui, possibly using 5035 (or the more recently used 7220 frequency), which formerly operated from 0700 to 1700. But the power to be used is said to be very low, probably 1 kW or less.

HCJB is also involved with a station calling itself Familia SW, another low power (1 kW) operation, this one in Guinea, using 4900 kHz. With no access to electrical power the station has to rely on wind and solar energy. It relays the programs from the co-owned Familia FM station in Conakry on 105.3.

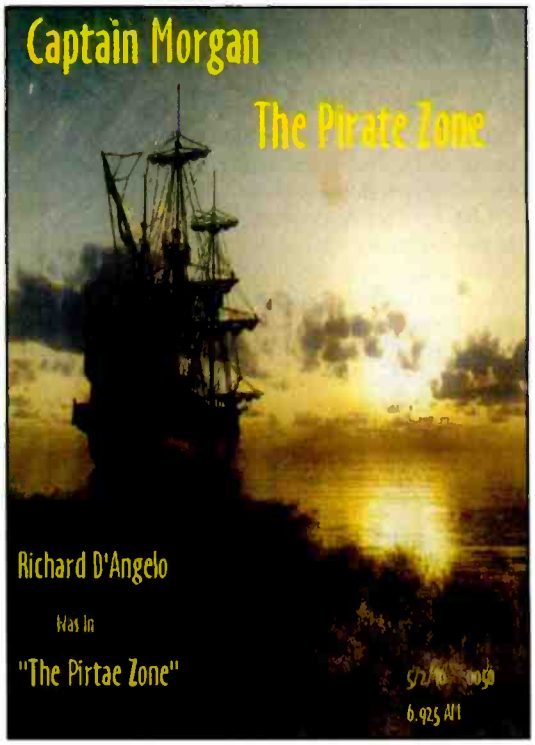
The AFN/AFRTS outlet in Hawaii is said to be off the air. Why that's so is unknown, but nothing is being heard from the Pearl Harbor outlet, which most recently used 10320. Its website says "out of service for an indefinite period."

Some decidedly good news: there is word that Guatemala's Radio Cultural Coatan in San Sebastian Coatan has returned to the air after having been silent for months. The station uses 4780 and operates from 1100 to 1500 and 2000 to 0230. You can email them at radiocoatan@live.com.

ZNBC, the Zambia National Broadcasting Corporation, has been silent for the past few months and will continue in that state for a few more. Seems its shortwave transmitter gave up the ghost and it's in the midst of the long and tedious bureaucratic process of arranging for replacement parts. ZNBC, we're assured, will return!



Sunset at the KJES tower in Vado, New Mexico. (Thanks Rich D'Angelo)



The pirate Captain Morgan sent this attractive QSL to Rich D'Angelo.

Help Wanted

We believe the "Global Information Guide" offers more logs than any other monthly SW publication (480* shortwave broadcast station logs were processed this month!). Why not join the fun and add your name to the list of "GIG" reporters? Send your logs to "Global Information Guide," 213 Forest St., Lake Geneva, WI 53147. Or you can email them to gdex@wi.rr.com. Please note that attachment files do not always go through. See the column text for formatting tips.

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

The National Association of (U.S.) Shortwave Broadcasters (NASB) is conducting a shortwave listener survey and is seeking your opinion about shortwave stations, the programming they offer, shortwave receivers, the use of DRM, and many other areas of interest. Visit www.surveymonkey.com/s/6LRVLJ7 to participate. Here's a chance to have your say about some of the stuff that goes out over our airwaves.

Some months there just isn't enough space to include the "A Guide to GIG-speak" abbreviations list within the col-

A Guide To "GIG-Speak"

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

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

A 1979 QSL from Radio Exterior de Espana. (Thanks Doug Brown, ON)

An FEBC QSL received by Rich D'Angelo for reception on 5990.

umn. If you would like to keep a copy handy to help translate this stuff drop me a self-addressed, stamped envelope (SASE), or send me an email, and I'll be glad to send you a copy.

Reader Logs

Remember, your shortwave broadcast station logs are always welcome. But *please* be sure to double or triple space between the items, list each logging according to its home country, and include your last name and state abbreviation after each. Also needed are spare QSLs or good copies you don't need returned, station schedules, brochures, pennants, station photos, and anything else you think would be of interest. And how about sending a photo of you at your listening post? It's high time you graced these pages!

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

ALBANIA—Radio Tirana, 9860 with news at 0025. (Maxant, WV)

ANGUILLA—Caribbean Beacon, 6090 at 0130 with Melissa Scott preaching. (Linonis, PA) 0326 with preaching. (MacKenzie, CA)

ARGENTINA—Radio Nacional, 15345 with tangos and SS ancr at 0049. (Taylor, WI)

ASCENSION IS.—BBC South Atlantic Relay, 11810 with African news at 1927 and 11890 in (l) Hausa at 1931. (Brossell, WI) 12095 at 2200 with time pips and news. (Coady, ON) 2120 on their new prime minister. Also 17640 with a sports pgm at 1442. (Fraser, ME)

AUSTRALIA—Radio Australia, 5995-Shepparton at 1408, 6170 at 1423, 9580 at 1723, 9710 at 0706, 11660 at 2132 and 11840 at 2340. Also, 12080-Brandon at 2103, 15230 at 2340, 15515 at 0315 and 17795 at 2308. (MacKenzie, CA) 6020 at 1315 after Vatican closes with ID and *Asia Pacific* pgm. (Barton, AZ) 6080 at 2020 and 11660 via Singapore in CC at 1315. (Ng, Malaysia) 9560 at 1115 and 15515 with rugby at 0405. (Yohnicki, ON) 9580 at 1200 with news and *Saturday Night Country*. (Coady, ON)

ABC Northern Territories Service: 2310-Alice Springs weak at 1020, 2325-Tennant Creek weak at 1000 and 2485-Katherine fair to good at 1025. (Wilkner, FL) 2485 at 1130 barely heard above the noise. (Barton, AZ)

BOLIVIA—(*All in SS—gld*) Radio Mosoj Chaski, Cochabamba, 3310 is a regular at 1000 and 0000. (Wilkner, FL)

Radio Eco, Reyes, 4409.8 at 0030. (Wilkner, FL)

Radio Santa Ana, Santa Ana del Yacuma, 4451.2 lately seems to close before 0100. (Wilkner, FL)

Radio San Miguel, Riberalta, 4700 with SS discussion at 1000. (Wilkner, FL)

Radio Yura, Yura, 4716.2 at 1000 with Andean flutes. (Wilkner, FL)

Radio San Jose, SJ de Chiquitos, 5580.2 noted irregularly around 0010–0020. (Wilkner, FL)

Radio Logos, Santa Cruz, 4864.9 in SS at 0142 with a religious talk. (Taylor, WI)

Radio Santa Cruz, Santa Cruz, 6134.8 at 0040 with SS ballads and pops, local folk and many IDs, QRM from Radio Aparecida. (Alexander, PA)

BONAIRE—Radio Nederland Relay, 6165 in SS heard at 0255. ID at 0317. (MacKenzie, CA)

BOTSWANA—VOA Relay, 4930 with news at 0400, //4960-Sao Tome. (Coady, ON) 12080 in FF at 1940. (Brossell, WI)

BRAZIL—(*All in PP—gld*) Radio Municipal, Sao Gabriel da Cachoeira, 3375 at 1000 and noted around 0000 most evenings. (Wilkner, FL)

Radio Imaculata Conceicao, Campo Grande (p), 4754.9 with mellow music and a talk at 0151. (Taylor, WI)

Radio Difusora do Amazonas, Manaus, 4805 at 0950. (Wilkner, FL)

Radio Difusora Roraima, Boa Vista, 4876 is a regular lately around 1000 and 2300. (Wilkner, FL)

Radio Clube do Para, Belem, 4885 at 0405. (Brossell, WI)

Radio Novo Tempo (p), 4894.9 with repetitive Brazilian music at 0140. (Taylor, WI)

Radio Anhanguera, Araguaina, 4905 at 2340. (Wilkner, FL)

Radio Brazil Central, Goiania, 4895 is strong most nights around 2300–0000. (Wilkner, FL) 2338 with M ancr, jingles and music. (Montgomery, PA)

Radio Cultura do Para, Belem, 5045 at 0215 with a romantic ballad, ancr and ads. (Taylor, WI)

Radio Voz Missionaria, 5940 heard at 0010 with a preacher. Weaker on //11750. (Alexander, PA)

Radio Senado, Brasilia, 5990 from *0852 opening with local music, ID and anmts at 0900. (Alexander, PA)

Radio Inconfidencia, Belo Horizonte, 6010 at 0400 after Sweden closes. (Paszkiewicz, WI)

Radio Cancao Nova, Cachoeira Paulista, 9675 at 0030 with music. (Linonis, PA)

0035 with preaching and hymn-like songs. (Taylor, WI)

Radio Marumby, Florinapolis (p) 11749.9 at 0126 with W ancr, music interlude, longer talk. (Taylor, WI)

Radio Nacional da Amazonia, Brasilia, 11780 with talk at 2342. (MacKenzie, CA)

BULGARIA—Radio Bulgaria, 9700 at 2300 with *Keyword Bulgaria* pgm, //11700. (Coady, ON) 11700 at 2325 with pops, //9700. (Fraser, ME)

CANADA—Radio Canada Intl, 6100 at 2324 on rock and roll women. (Montgomery, PA) 9525 via South Korea in FF at 2305. (Ng, Malaysia) 11840 at 2350 and 11990 in SS at 2340. (MacKenzie, CA)

CKZN, St. John's (Newfoundland), 6160 heard at 0000 with pgm called *Women in Terror*. (Montgomery, PA) 0120 with talk and "CBC-Radio One" IDs. (Alexander, PA)

CHU, 3330//14760 heard at 0513. (Yohnicki, ON)

CHILE—CVC-La Voz, 11665 in SS at 2317 and 17680 in SS at 1723. (MacKenzie, CA) 1454 in SS with phone talk, promo anmts, IDs. (Coady, ON)

CHINA—China Radio Intl, 5955 at 1405, 6020 via Albania in CC at 0244, 6075 in Urdu at 1433, 9695 in CC at 1730, 9790 via Cuba in Cantonese at 0436, 11660 in CC at 1745, 11840 via Canada at 2332, 13650 in PP at 2330 and 15160 in CC at 0217. (MacKenzie, CA) 6125-Shijiazhuang in CC at 1304, 7325-Jinhua in (l) Korean at 1325, 7350-Kashi at 2312 and 7425-Nanning in (l) Mandarin at 1314. (Brossell, WI) 9570 via Cuba at 1300. (Coady, ON) 15125 with *Beijing Hour* at 0100. (Ng, Malaysia)

China National Radio/CPBS: 5925 in CC at 1404. (MacKenzie, CA) 6030-Beijing in CC at 1258, Xizang PBS, 7385-Lhasa (Tibet) in (l) Tibetan at 1330 and 7260-Beijing in CC at 1320. (Brossell, WI) Guanxi Beibu Bay Radio, 9820 at 1315 with VV-CC lesson. (Ng, Malaysia)

CNR-1 jammer, 11975 with distorted xmsn in Mandarin at 1458. Target was likely VOA Kuwait Relay in Tibetan. Both went off the air at 1459. (Taylor, WI)

Firedrake jammer, 9380 at 1325 against an unknown target. (Brossell, WI)

COSTA RICA—Elcor, 5954 at 0330 with continuous SS pop ballads, off with "Ave Maria" at 0358. (Alexander, PA) 2310 with non-stop pop vocals. This appeared to be a recording of a "live" concert, with applause between selections. (D'Angelo, PA)

CROATIA—Croatian Radio/Voice of Croatia, 3985-Deanovic// 7375 via Germany with ID and brief sports report. 7375-Wertachtal at 2219 with M/W and news, ID. (Coady, ON) 9925 in Croatian at 2350. (MacKenzie, CA)

CUBA—Radio Havana Cuba, 5040 in SS at 0345. (Padazopulos, Greece) 5970 at 0337, 6000 in SS at 0334, 6110 in SS at 0321, 9660 in SS at 2213, 11760 in FF at 2138, 12020 in SS at 2342 and 12030 in SS at 2208. (MacKenzie, CA) 6120 in SS at 0900. Not shown here at this time. (Montgomery, PA) 13680 in SS at 1440. (Yohnicki, ON) Radio Rebelde, 5025 in SS at 0352. (MacKenzie, CA)

CZECH REPUBLIC—Radio Prague, 7345 at 0102. (Coady, ON) 7355 in Czech at 0100. (Linonis, PA) 9440 at 2245. (Maxant, WV) 2230 on aggressive politicians. (Fraser, ME)

DJIBOUTI—Radio Djibouti, 4780 in AA with Koran at 0304. (Coady, ON)

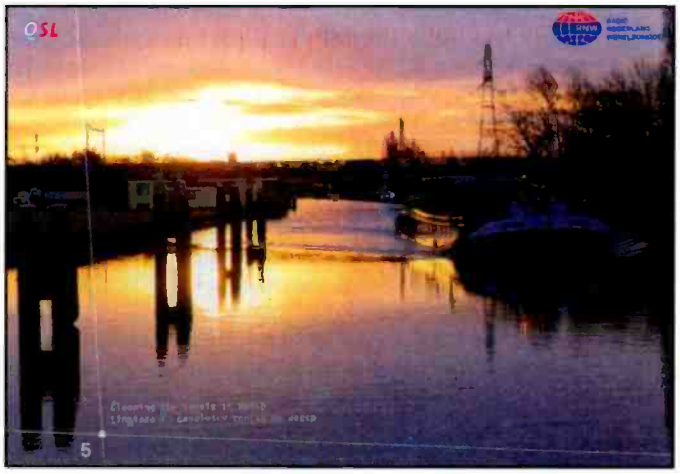
DOMINICAN REPUBLIC—Radio Amanecer, Santo Domingo, 6025 at 0220 with continuous Christian music to 0313 sign off. Also noted at 1020–1040. (Alexander, PA)

ECUADOR—Radio El Buen Pastor, Saraguro, 4815 in SS heard at 1006. (Wilkner, FL)

EGYPT—Radio Cairo, 6270 at 0215, may have had 4 time pips at :15, then M in EE and a jammer-like noise began (3-second buzz every 5 seconds) until :22. (Montgomery, PA) 0312 with M vocals; also 9325 in AA with choir. (MacKenzie, CA) 11590 in AA with vocals at 0015. (Maxant, WV)

ENGLAND—BBC, 3255 South Africa Relay with ID at 0415 and news items, 6195 Cyprus Relay at 0200 with *The World Today* and 11680 via French Guiana at 1215 with *Newshour*. (Coady, ON) 3915 Singapore Relay with *Newshour* at 2130 and 9410 Thailand Relay with *World Briefing* at 0000. (Ng, Malaysia) 6095 via South Korea at 1300 with news in (p) Mandarin and 7535 Thailand at 1315 in (p) Mandarin, (Brossell, WI) 6095 via South Korea in CC at 1420 with jammer in the background, 7310 South Africa Relay at 0438, 7325 in AA at 0432 and 12080 via Australia at 2210. (MacKenzie, CA) 6195 Cyprus at 0226 with news items. (Montgomery, PA) 9410 with *Newshour* at 1228. (Yohnicki, ON) 15335 Singapore Relay at 0010 //15360 Thailand. (Paszkiewicz, WI) 15360 Thailand at 0055 and into program previews, ID and news, //15335-Kranji. (Taylor, WI)

EQUATORIAL GUINEA—Radio Nacional, Bata, 5005 at *0507 with NA sign on, into SS talk, Euro-pops. (Alexander, PA)



Radio Nederland uses the IBB Philippines transmitter at Tinang. (Thanks Rich D'Angelo)

Radio Africa, Bata, 15190 at 2115 with EE religious talk, ID at 2113, then email and postal addresses in Ghana. (Alexander, PA)

ETHIOPIA—Radio Ethiopia, 7110 at 0307 with local woodwind and strings and various electronic instls. (Coady, ON) 0336 in (l) Amharic with HOA music and M ancr. Pleasant listening. Also 9704 at 0413 with W and fairly long talk, HOA music bridge and M with long talk. (Taylor, WI)

Radio Fana, 7210 at *0258 sign on with IS, vernacular talk, HOA music. Fair, but weak under BBC from 0300 and covered by Voice of the Broad Masses at their co-channel 0355 opening. 7210 is ex-6890. (Alexander, PA)

Voice of the Tigray Revolution, 5940nf monitored at *0257 with IS, vernacular talk at 0300, HOA music. This is ex-5980. Was very weak but stronger on 5950, which was mixing with Okeechobee. (Alexander, PA)

Radio Oromiya, 6030 at 0322 with xylophone-type IS, talk in (l) Oromo, HOA music. Best on Mondays when Radio Marti and its jammer are off the air. (Alexander, PA)

FRANCE—Radio France Int'l, 9955 with CC talk at 2320. (Ng, Malaysia) 11705 in FF at 1922. (Brossell, WI)

GERMANY—Deutsche Welle, 6075 in GG at 0334. (Padazopulos, Greece) 9480 via England in GG at 0454, 11865 Rwanda Relay at 2152 and 13650 via England in AA at 1722, (MacKenzie, CA) 11605 Rwanda Relay in RR at 1915, 11690 via South Africa with sports news at 1919 and 15275 Rwanda in (l) Hausa at 1331. (Brossell, WI) 11865 Rwanda with *Hits in Germany* at 2144, //15640. (Coady, ON) 13735 Sri Lanka Relay in CC at 1320 and 15640 Sri Lanka with M/W in Dari at 0845. (Ng, Malaysia) 15275 Rwanda at 1830 in GG to Africa. (Linonis, PA)

GREECE—Voice of Greece, 9420 in Greek at 0008. (MacKenzie, CA) 15630 at 1341. (Padazopulos, Greece)

RS Makedonias, 9935 with music and news in Greek monitored at 1414. (Padazopulos, Greece)

GUINEA—Radio Guinee, 7125 monitored at 2230 with vernacular and FF talk. Abruptly off at 2258. (Alexander, PA) 2256-2259 with FF discussion but carrier was cut in mid-sentence. (D'Angelo, PA)

GUYANA—Voice of Guyana, 3290 at 0340 with M hosting music pgm, BBC News at 0400. (D'Angelo, PA) (p) at 0606 with M/W ancrs apparently talking about local events. Poor. (Taylor, WI) 0723 (p) with low audio level, M in EE and brief piano music. Very poor, with threshold audio. (Coady, ON) 0815 with Hindi vocal and Koran at 0833 and 0840. A morning-type program at 0900 with talk on local agriculture, TCs, pops, promo for local cricket coverage, birthday greetings. (Alexander, PA)

HONDURAS—Radio Luz y Vida, San Luis, 3250 with religious pgms at 1100. (Wilkner, FL)

Radio Misiones Intl, Comayaguela, 3340 in SS heard at 1050. (Wilkner, FL)

INDIA—All India Radio, 4910-Jaipur at 0025 with IS and vocals poking through. Also, 4920-Chennai with Hindi talks and instls in the 0000 hour. (Paszkiewicz, WI) 6155 in Urdu at 0020 and 9870 in Hindi at 0021. (Montgomery, PA) 6165-Delhi in (l) Hindi at 1315, 7270-Chennai at 1258 with IS, ID in Hindi at 1300 and 9425-Bangaluru in (p) Hindi at 1320. (Brossell, WI)

INDONESIA—Voice of Indonesia, 9525 from *0944 with an abrupt sign on in (l) Korean. Then into EE at 1000 with news. (Alexander, PA)

IRAN—Islamic Republic of Iran Broadcasting, 9905 at 0030 with IS, sign on ID, Koran with SS explanation. (Taylor, WI) 17560 in II at 1305 with Koran. (Ng, Malaysia)

ISRAEL—Galei Zahal, 6821u heard at 2210 with HH talk, some local and U.S. pop, //6973 both weak but improving. Also, 15785 at 0130 with U.S. and Euro-pop, HH anmts, but better on //6973. (Alexander, PA)

JAPAN—Radio Japan, 5960 via Canada in JJ at 0343, 6190 in CC at 1437, 9835 in JJ at 1725, 13640 in JJ at 2340, 13650 in Burmese at 2345 and 15265 via Bonaire in JJ at 2340. (MacKenzie, CA) 9695 at 1259 with IS, EE ID and news. (Paszkiewicz, WI) 9790 at 1212. (Padazopulos, Greece) 9825 at 1015 with *Tokyo Today* pgm. (Maxant, WV) 11665-Yamata in JJ at 2125. (Ng, Malaysia) 11935 in JJ at 0215. (Linonis, PA)

Radio Nikkei, 3925 at 1225 with music, JJ host. (Barton, AZ) 1355. (MacKenzie, CA)

JORDAN—Radio Jordan, 9830 in AA at 1943. (Brossell, WI) 11960 at 0352 with AA vocals, M ancr with ID and AA talk at 0400. (D'Angelo, PA)

KUWAIT—Radio Kuwait, 11990 at 1933 on an agreement between Kuwait and Iraq. (Brossell, WI) 15540 at 1812 in EE and AA with U.S. pops, 6 time pips and then news in AA/EE. (Montgomery, PA) 1940 with a *This Day in History* segment. (Coady, ON)

LIBERIA—Star Radio (p), 4025 heard at 0620 but very weak with talk, but too poor to pull out any further details. (Alexander, PA)

MADAGASCAR—Radio Madagasikara, 5010 monitored at 0248 with local pops, choral anthem at 0300, and talk in (p) Malagasy. (Alexander, PA)

MALAYSIA—RTM/TraXX FM, 7295 at 1115 in (p) Malay with pops. (Linonis, PA)

MAURITANIA—Radio Mauritanie, 4845 at 2352 with M and string instrument talking and playing over apparent local folk music. Occasionally in EE but mostly AA. Still going past their normal sign off time. (Montgomery, PA)

MEXICO—Radio Mil, Mexico City, 6010 with SS ID heard at 1223. (Wilkner, FL) 1244 with talk and songs in SS. (Brossell, WI)

Radio Educacion, Mexico City, 6185 in SS at 0215. (MacKenzie, CA) 0515 in SS with vocals. (Maxant, WV)

MOLDOVIA (Pridnestrovie)—Radio PMR, 9665 at 0000 in EE, (p) Moldavian from 0015–0030, then into GG and back to EE at 0045. (Linonis, PA)

MOROCCO—RTV Marocaine, 15345 in AA heard at 1328. (Brossell, WI)

NETHERLANDS—Radio Nederland, 6120 via Singapore at 2335 with talk on media in Holland/Indonesia, also 11895 via Philippines at 1000 with *Network Europe*. (Ng, Malaysia) 9895 with commentary in DD monitored at 1531. (Padazopulos, Greece) 11655 Madagascar Relay at 1957 on earthquakes and tsunamis. (Brossell, WI)

NEW ZEALAND—Radio New Zealand, 6170 with news at 0910. (Fraser, ME) 0940 with interview, ID at 1000 after 6 time pips. (Montgomery, PA) 1054 with discussion of airport improvements suddenly cut at 1058 with ID and sign off anmt. Also 9655 at *1059 open with IS, time pips, opening ID and news by M. (D'Angelo, PA) 6170 monitored at 0905 and 9655 at 1135. (Maxant, WV) 13730 with local weather at 0108. (Taylor, WI) 0308 ending Pacific regional news and into *Dateline Pacific*. (Coady, ON) 2346 on an arts collection. (MacKenzie, CA)

NORTH KOREA—Voice of Korea, 9325 in RR at 1754, 9335 in KK at 1715 and 11710 in Korean at 1705. (MacKenzie, CA) 11710 (p) at 1112 with a W in FF, M in FF at 1120 re-check over the usual whistle that accompanies their transmissions. (Coady, ON) 1200–1215 in EE. (Linonis, PA) 15180 in SS at 0041. (Taylor, WI)

NORTHERN MARIANAS—Far East Broadcasting/KFBS, 0465 at 1426 with W in RR with Western religious/classical music. (Taylor, WI) 11650 at 1340 with talks in (l) Kazakh. (Brossell, WI)

OMAN—Radio Sultanate of Oman, 15355 at 0240 with AA talk, pops, ID, anmts, chimes, EE ID and news at 0300. (Paszkiewicz, WI)

OPPOSITION—Radio Xoriyo Ogadenia (to Ethiopia), 15540 at *1430 sign on with HOA music, ID anmts, website address, talk in (l) Somali. Mon/Fri only. (Alexander, PA)

Radio Voice of the People (to Zimbabwe), 9875 via Madagascar at 0401 with W in vernacular with news and music segments between each item. Report on the World Cup and some EE and periodic IDs. (D'Angelo, PA)

Voice of the People (to North Korea), 3912 at 1145 with W and long talk in KK, no ID at the top of the hour. (Barton, AZ)

Radio Free Afghanistan, 15680 via Kuwait at 0645 with talk by M in Dari. (Ng, Malaysia)

PAKISTAN—Radio Pakistan, (t) 15490 at 0140 with long talk, Koran-like vocals, time pips, news, country songs. (Paszkiewicz, WI)

PAPUA NEW GUINEA—Radio Milne Bay, Alotau (New Guinea), 3365 at 1247 with songs, but just barely above the noise level. (Brossell, WI)

PERU—(All in SS—gld) Radio Ondas del Huallaga, Huanuco, 3329.5 around 0930 most days. (Wilkner, FL)

Radio Huanta 2000, Huanta, 4747 at 1003 sign on. (Wilkner, FL)

Radio Tarma, Tarma, 4774.9 at 0730. (Wilkner, FL)

Radio Vision, Chiclayo, 4789.9 at 0450 with man preaching before a "live" audience, studio ancr at 0523 before going to another preacher at 0525. (D'Angelo, PA)

La Voz de la Selva, Iquitos, 4824.2 at 0953 and again at 0045. (Wilkner, FL)

Radio Madre de Dios, 4950 around 1030–1040. (Wilkner, FL)

Radio Libertad, Junin, 5039.2 when RHC was off between 1055 and 1120. (Wilkner, FL)

La Voz de las Huarinjas, Huancabamba, (p) 5059.3 at 1050. (Wilkner, FL)

Ondas del Suroriente, Quillabamba, 5120.4 at 2345. (Wilkner, FL)

PHILIPPINES—Radio Veritas Asia, 9520 with EE ID at 1330 and into pgm in Sinhala. Also, 15450 in II closing at 0955. (Ng, Malaysia) 9615 at 1050 with CC sermon and instls, EE ID to close at 1156. (Paszkiewicz, WI)

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 **Richard Parker**, who gets to don a Universal Radio t-shirt along with his headphones when he tunes one of his big receivers. Universal is your source for every DX need you have. About all they can't help you with are QSLs and bad conditions! Get a copy of their big free catalog by sending an email to dx@universal-radio.com, calling (614) 866-4267 or writing to 6830 Americana Parkway, Reynoldsburg, OH 43068. Please mention *Pop'Comm* and the "Global Information Guide" when contacting them.

In Times Past...

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

PERU—Radio Frequencia Popular, Rioja, Peru, 4025 in SS at 0138 on July 23, 1987. (Dexter, WI)

Sudan's Miraya FM broadcasts over IRRS/NEXUS via Rimavska Sobota, Slovakia. (Thanks Rich D'Angelo)

PIRATES—Radio Ronin Shortwave, 6950v at 0055–0121*, 2357–0005. (Alexander, PA) 2345 to 0050*. (Montgomery, PA)

Captain Morgan, 6924.7 heard at 0059–0130 with jazz. (Montgomery, PA *2259–2308 with mostly blues. Reports to captainmorganshortwave@gmail.com. (Zeller, OH)

WHYP, 65874.5 heard at 0020 various numbers acknowledging an email from Cleveland, discussing the state of U.S. radio saying the good stuff does not get on the air. Email: whypradio@gmail. com. (Hassig, IL) 0054 with DJ Kristin Keller. Captain Gonza ID at 0105, 0117 by James Brownyard, lots of Yahweh mentions. Also 0023–0145 reading letters and reports with Kracker and JB, mention of Winterfest, ID 0139 and 0143. Also 6899.8 (t) at 0208–0235. (Montgomery, PA)

Outhouse Radio, 6923.2u at 1456 with blues. Email: outhouseradio@gmail.com. (Hassig, IL) 6926.5 at 0219 to past 0300 with Led Zeplin at sign on, ID, "Rocket Man," others. Also, 6931v monitored at 0233 to past 0320 with dance, blues and some oldies. But muddy audio. Revd an e-QSL the next day. (Taylor, WI)

Northwoods Radio, 6925u at 0157–0159* ending with ID and Morse code at sign off. (Alexander, PA) 1906–1917 with blues, rock oldies. W with ID and loon call IS at 1910. Said they were broadcasting from the Great Lakes. (Zeller, OH)

WMPR, 6924.9 at 0225–0229 with dance things "WMPR—micro-powered radio." Off at 0229. (Taylor, WI) 6955.2 at 2100–2112 with usual dance format. Audio cut suddenly and off the air a few seconds later. (Hassig, IL)

Wolverine Radio, 6925u monitored at 0138 to past 0238 with "Help me 1-2-3" IS, into rock. (Zeller, OH) 0141 with rock oldies, several IDs. Someone on RFN recognized that the theme was songs played alphabetically by performers. (Taylor, WI)

Radio Gaga, 6925u monitored at 2325–2336* with rock. Off with SSTV. (Alexander, PA)

WBNY, 6900 at 2330–2350 with *Pirates Week* pgm with clips of various U.S. and Euro-pirates. (Alexander, PA)

Barnyard Radio, 6925u at 0155–0210 commenting on various political/cultural issues. (Montgomery, PA)

Voice of Kaos, 6925u at 0010–0025 with pops, short editorial about the nuclear arms race. (Alexander, PA)

MAC Shortwave, 6850 at 0100–0131* with DJ Ultraman, "MAC—the station Paul Starr never listens to." National Anthem at sign off. Address as: macshortwave@gmail. com. (Hassig, IL)

Voice of Honor, (t) 6925u at 1312–1321 with patriotic music. Exceptionally weak signal, so listed as tentative. (Zeller, OH)

Family Friendly Radio, 6925u at *0205–0228 with pgm of misc. music, incl. very old pop and a discussion of Biblical studies. (Zeller, OH)

Radio Jamba Intl, 6932.2 at 0240 with ID, audio loops and talk. (Taylor WI)

WPON, 6925u at 1930–1940 with rock, political talk, ID as "WPON, the weapon." (Alexander, PA)

Hard Tack Radio, 6925u heard at *0051–0118* pgm said to be a memorial for the Blue and Grey in the Civil War. Gave email as hardrtackradio@gmail. com. (Zeller, OH)

POLAND—Polish Radio, 11675 via Austria at 1200 with *News from Poland*. (Coady, ON) 1210. (Linonis, PA) 1225 on talking about Facebook. (Maxant, WV)

PORTUGAL—RDP Intl, 9715 at 0008 with news in PP, 11625//13765 with news in PP at 0535. (Padazopulos, Greece) 11630 in PP at 2313. (MacKenzie, CA) 12040 at 1939 with talks in PP. (Brossell, WI)

ROMANIA—Radio Romania Intl, 7385 at 0053 with *Network Europe*. (Coady, ON) 7435 at 2250 reading listener letters. (Maxant, WV) 11940 in (l) Romanian at 1328. (Brossell, WI) 11830 with news in Russian at 1346 and 15145 opening at 1331. Also, 17700 with news at 0540. (Padazopulos, Greece) 17600 with talk in CC at 1310. (Ng, Malaysia)

RUSSIA—Voice of Russia, 7250-Armavir, with news for North America at 2305, 7260-Vladivostok in RR at 1320 and 12030-Moscow in FF at 1936. (Brossell, WI) 9665 via Grigoriopol (Moldova) at 0200 with ID, news. (Coady, ON) 9890-Krasnodar at 0006 with EE news, into *Outlook* pgm. (Coady, ON) (D'Angelo, PA) 0110–0130 with various features in EE. (Montgomery, PA) 15425-Petropavlovsk at 0325. (MacKenzie, CA)

Kyzyl Radio, 6200 at 1231 with soft music and anmts in RR. (Brossell, WI)

SAO TOME—VOA Relay, Pinheira, 15730 in FF at 2050. (MacKenzie, CA)

SAUDI ARABIA—Broadcasting Service of the Kingdom, 15380 with Koran at 1350. (Brossell, WI) 15435 in AA at 1745. (MacKenzie, CA)

Rich D'Angelo also got a QSL from the Sound of Hope broadcasting to China.

SERBIA—International Radio of Serbia, 9675 monitored at 0029 with IS, brief fanfare, ID, opening anmts and news. (Coady, ON) 0030 discussing Kosovo. (Maxant, WV) 0050 with news, classical music, ID, IS. (Paszkiewicz, WI)

SINGAPORE—BBC Far East Relay Station, 11850 at 2335 on the oil spill disaster. (MacKenzie, CA) 11895 in (l) Mandarin at 1406. (Brossell, WI)

SLOVAKIA—Radio Slovakia Intl, 5930//9440 at 0100 with ID, news and *Slovakia Today*. (Coady, ON)

SOLOMON ISLANDS—SIBC, 5020 from 1000–1030 but Splatter from Rebelde is often a problem. (Wilkner, FL)

SOUTH AFRICA—Radio Sondergrense, 3320 at 0156 in Afrikaans, time pips and ID at 0200. (Taylor, WI)

SOUTH KOREA—KBS World Radio, 9650 via Sackville at 1220 with *Seoul Calling*. (Maxant, WV) 1224. (Coady, ON)

SPAIN—Radio Exterior de Espana, 6055 in SS at 0330, 6125 Costa Rica Relay, in SS at 0318, 9630 Costa Rica in SS at 0447, 11680 in SS at 2319, 11815 Costa Rica in SS at 2212, 15160 in SS at 2308 and 17850 Costa Rica in SS at 2028. (MacKenzie, CA) 6055//6125 in SS at 0335, 15585 at 1339 and 17595//21610 at 1338. (Padazopulos, Greece)

SRI LANKA—SLBC 15745 at 0100 with EE pgm preview, inspirational talk, *Sunday Morning Show* at 0105 with pops and birthday greetings. (Alexander, PA) 0130 with pops, time pips, EE ID and Bible study. (Paszkiewicz, WI)

SUDAN—Radio Omdurman, 7200 at *0222 with Koran sign on and AA talk, local tribal chants and chirping birds. Abruptly off at 0430. (Alexander, PA) 0300 in AA with local vocals, ID at 0301 then fanfare and apparent news. (Coady, ON) 0325 in AA with

distinctive local music. Test tones similar to those from CIS at 0330–0332. (Taylor, WI)

Miraya FM, 9740 via Rimavska Sobota at 0330 with AA talks, interviews and voice-overs. (D'Angelo, PA) 15710 via Slovakia monitored at 1403 with AA talk, "Miraya" jingles, local music. (Alexander, PA)

SYRIA—Radio Damascus, 12085 at 2133 with EE pgm with a strong hum in the audio. (Alexander, PA) 2138 with ME vocals, W with ID at 2148, piano music. (Coady, ON)

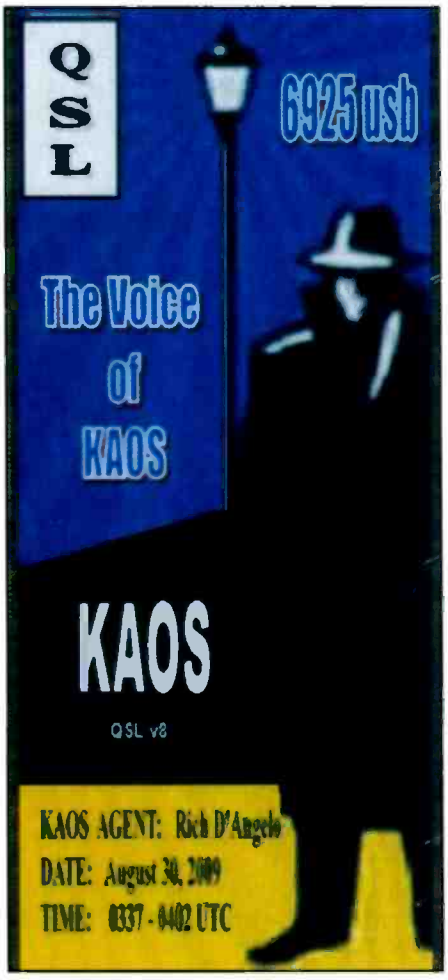
SWAZILAND—TWR, 4775 monitored at 0408 with talk and hymns in GG. (Brossell, WI)

SWEDEN—Radio Sweden, 6010 via Canada heard at 0242 with news report. (MacKenzie, CA)

TAIWAN—Radio Taiwan Intl, 5950 via Florida at 0225. (MacKenzie, CA) 11875 via France in FF at 1929. (Brossell, WI) 15690 via France with W and EE news at 1701. (Fraser, ME)

THAILAND—Radio Thailand, 15275 with economic news monitored at 0012. (Paszkiewicz, WI)

TURKEY—Voice of Turkey, 9830 at 2235 with a string of local vocal numbers and M with closing anmts at 2248. Coady, ON) 15240 at 1110 with W with CC talk. (Ng, Malaysia) 15230 in TT at 1327. (Brossell, WI)



The Voice of Kaos QSL'd Rich D'Angelo, making him a Kaos "Agent."

15450 monitored at 1235 with news items. (Maxant, WV)

TUNISIA—RT Tunisienne, 7275 in AA at 0447. (MacKenzie, CA) 7345 heard at 2302–2307* with M with news in AA to close and carrier cut at 2307. (D'Angelo, PA)

UGANDA—UBC Radio, 4976 at 0351 with continuous music to 0400 then M with news in EE. (D'Angelo, PA) 0404. (Brossell, WI) 0405. (Coady, ON)

UKRAINE—Radio Ukraine Intl, 11760 at 1700. (Linonis, PA)

UNITED STATES—Voice of America, 5975 at 0528. (Padazopulos, Greece) 6080 at 0535. (Maxant, WV) 7295 via Novosibirsk in (l) CC at 1308, 11705 Philippines Relay with *Jazz America* at 1344 and 13580 via Germany in (l) Somali at 1314. (Brossell, WI) 9855 via Madagascar at 0425, 11805 Philippines Relay in II at 2328, 12015 Thailand Relay with news at 1757 and 13755 Thailand at 2354. (MacKenzie, CA) 11785 in CC at 1116. (Coady, ON) 12015 at 1945. (Fraser, ME) 13715 with stock markets in SS heard at 1215. (Yohnicki, ON)

Radio Free Asia, 13625 in CC at 1715. (MacKenzie, CA)

Radio Free Europe/Radio Liberty, 9635 via Sitkuani (Lithuania), with news items in (l) Tatar/Bashir, combined EE ID at 0400. (D'Angelo, PA)

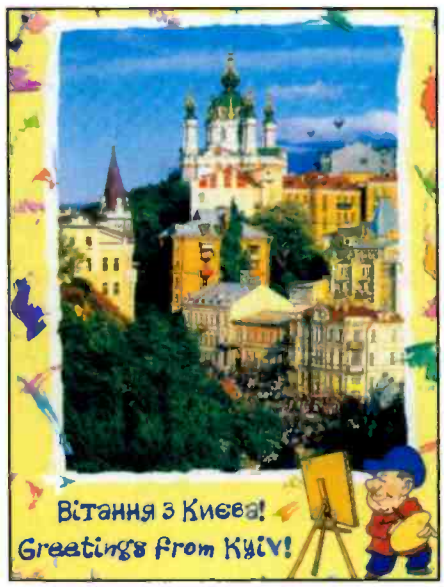
Radio Marti, 7365 in SS at 0243 and 13820 in SS at 2057. (MacKenzie, CA)

Radio Farda, 7200 signing off in Farsi at 0327. (Padazopulos, Greece)

Radio Free Afghanistan, 9990 Sri Lanka Relay in (l) Pashto at 1322. (Brossell, WI)

TWR, 7215 via South Africa at *0328 with IS, opening of (l) Amharic pgm. (D'Angelo, PA) 7445 in VV at 0000 and 15320 in VV at 2340. (Ng, Malaysia)

WRMI, Florida, 9955 monitored at 0005 with news and talks but difficult copy. (Montgomery, FL)



Paul Gager (Austria) received this card from Radio Ukraine International for a 2008 reception on 5840.

Family Radio/WYFR, Florida, 6005 via Komsomolsk in (l) Korean at 1215, 6115 in (l) Mandarin at 1305, 9280 via Taiwan in CC at 1317, 9310 via Kazakhstan at 1317 with Harold Camping, 7340 via Irkutsk in (l) VV at 1310. (Brossell, WI) 11530-Okeechobee at *0357 with IS and into PP. (D'Angelo, PA) 11725 via Asiatic Russia in CC at 1141. (Coady, ON) 13800 in SS heard at 1249. (Yohnicki, ON)

WINB, Pennsylvania, 9265 at 0017 and 13570 at 1753. (MacKenzie, CA)

KJES, New Mexico, 11715 at 1540 with hum and almost no modulation. (Baarton, AZ)

WBCQ, Maine, 5110 at 0200 with a pirate radio pgm and excerpts from various pirate stations. Nothing further heard on later checks. (Montgomery, PA)

TWR, 7415 at 0240. (MacKenzie, CA) 15435 via India monitored at 1214. (Padazopulos, Greece)

WEWN, Alabama, 6890 heard at 0400. (Maxant, WV)

Gospel for Asia, 12005 via Germany at 1358. (Brossell, WI)

WJHR, Florida, 15550u monitored at 1510 with fire and brimstone preacher. (Alexander, PA)

WMLK, Pennsylvania, 9265 at 1810. (Maxant, WV)

VATICAN—Vatican Radio, 7305 in SS at 0245. (MacKenzie, CA) 11850 via Tashkent at 0138 in Malayalam. A few notes of their IS at 0140; overall, very poor. (t) 15595 and 15570 with II news at 1219. (Padazopulos, Greece) 15570 in EE at 1745. (Fraser, ME) (Taylor, WI)

VENEZUELA—Radio Nacional (*all via Cuba—gld*) 11670 in SS at 2206, 15250 in SS/EE at 2336, 13680 in SS at 2335, 13750 in SS at 1750 and 17705 in SS at 2040. (MacKenzie, CA) 15250 with an apparent EE service with various news items monitored at 2333–2357 close. (D'Angelo, PA)

VIETNAM—Voice of Vietnam, 6175 via Canada at 0252. (MacKenzie, CA)

And, once again, order is restored! Thanks and high fives to the following who kept the info flowing this month: Brian Alexander, Mechanicsburg, PA; Fotios Padazopulos, Athens, Greece; Stewart MacKenzie, Huntington Beach, CA; Sheryl Paszkiewicz, Manitowoc, WI; Robert Wilkner, Pompano Beach, FL; George Zeller, Cleveland, OH; Jack Linonis, Hermitage, PA; Robert Brossell, Pewaukee, WI; Peter Ng, Johor Baharu, Malaysia; Michael Yohnicki, London, ON; William Hassig, Mt. Prospect, IL; Mark Coady, Peterborough, ON; Robert Fraser, Belfast, ME; Robert Montgomery, Levittown, PA; Rick Barton, Phoenix, AZ; Rich D'Angelo, Wyomissing, PA; and Charles Maxant, Hinton, WV. Thanks to each one of you.

Until next month—good listening!

GRECOM

MULTI-TRUNKING SCANNERS

Featuring GRE's Intuitive "Object Oriented" User Interface

The PSR-310 and PSR-410 are a new generation of scanners designed for ease of use, yet are powerful enough to satisfy the most sophisticated experts. With GRE's intuitive Object Oriented User Interface, common data entry, browsing and control methods are used for non-trunked conventional channels, trunking talkgroups, search configurations and Spectrum Sweeper setups. This radio grows with you - start out with a small, easy to manage configuration, then expand it whenever you need to!

◀ PSR-310 Handheld Analog Trunking Scanner

- New Object Oriented User Interface
- Wide Band Reception
- Multi-System Analog Trunking
- Exclusive Multi-Color Alert LED
- Subaudible Squelch Decoder
- Full dot matrix bitmap LCD Display with white LED backlight
- SAME Weather Alerting
- High Speed PC Interface
- User Upgradable CPU Firmware

Available Oct. 2010

PSR-410 Desktop/Mobile Analog Trunking Scanner ▼

Available Dec. 2010

Available at ... GROVE SCANNER MASTER universal radio inc.

GRE

GRE AMERICA INC.
425 Harbor Blvd, Belmont, CA 94002

www.greamerica.com

Mobile use of this device maybe unlawful, or require a permit, in some areas. Check with local authorities for regulations in your area Product may vary from depiction.

Thunder From The Desert: Luke Air Force Base

by Mark Meece, N8ICW
ohioscan@gmail.com

In the midst of cacti and open desert of central Arizona, deep in the southwest sits the largest fighter aircraft training base in the western hemisphere. Luke Air Force Base is roughly 20 miles northwest of Phoenix, Arizona, on the western edge of the fifth largest metropolitan area in the United States. Only about seven miles from the business center of the City of Glendale, the base and surrounding area have been annexed by Glendale as part of that municipality.

Luke AFB Beginnings

The base got its start in 1940 when the City of Phoenix purchased 1,440 acres of land and leased it to the government for a mere $1 a year. The U.S. Army Air Corp originally called it Litchfield Park Air Base. At that time there was a Luke Field in Pearl Harbor, Hawaii. The Hawaiian base released the name so the new Arizona base could be named in honor of local hero Lieutenant Frank Luke Jr., the first aviator to receive the Medal of Honor. Lieutenant Luke was born in Phoenix in 1897 and died in the skies over France on September 29, 1918, during World War I.

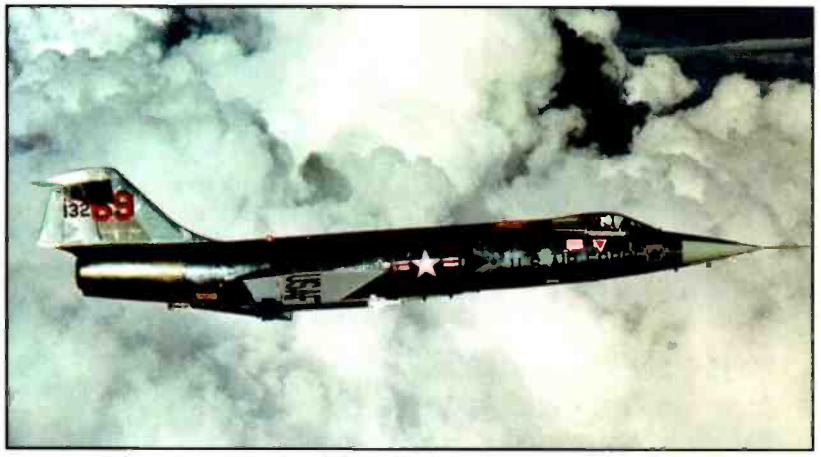
The name remained Luke Army Airfield until 1951 when base operations came under the command of the United States Air Force. On June 6, 1941 the first class of 45 students arrived to begin their advanced flight training. Luke was the largest fighter training base in the Army Air Corps during World War II overseeing the training of more than 12,000 pilots. Aviators received training on aircraft such as the AT-6, P-40, P-51 and P-38 thus earning Luke Army Airfield the nickname "Home of the Fighter Pilot."

"The 56th Fighter Wing is one of the most highly decorated in Air Force history and its units flying the F-16 Fighting Falcon include the 21st, 61st, 62nd, 63rd, 308th, 309th, 310th, and 425th Fighter Squadrons."

Training was so intensive, in fact, that by February of 1944, over one million hours of flight time had been recorded. However, as the war came to an end, the number of pilots trained had declined to 299 by 1946, and the government closed the base on November 30 of that year. Five years later as the Korean Conflict ensued, the base was reopened February 1, 1951. Soon pilot training resumed, this time in more advanced aircraft, starting with the P-51 Mustang and advancing to the F-84, under the now reorganized United States Air Force and Air Training Command (ATC).

On July 1, 1958, command of the base was transferred from Air Training Command to the Tactical Air Command (TAC). Even more modern aircraft, such as the F-100 and the F-104 Starfighter, which was introduced in 1958 and became a mainstay of the Vietnam War, were introduced.

From 1957 to 1964, Luke Air Base also became the training center of 830 pilots from the German Air Force (Luftwaffe) on the F-84. Another 1,868 pilots received training on the F-104G Starfighter, logging over 235,000 hours during their 1964 to 1983 stay.



A Lockheed F-104G during a 1979 training flight.

Two U.S. Army Air Force North American AT-6C-NT Texan trainers in flight near Luke Field, Arizona, in 1943.

The new McDonnell Douglas F-4 Phantom II arrived at Luke in July 1971, which allowed the base to continue as the primary training center for Tactical Air Command fighter pilots. Just over three years later, in November 1974, the base received the Air Force's newest air superiority fighter, the F-15 Eagle. The first F-16 Fighting Falcon followed in December 1982 and training flights for it began on February 2, 1983, maintaining Luke's lead at the forefront of advanced pilot training.

A major reorganization of the United States Air Forces in the early 1990s brought about significant changes to defensive realignment. As a result the 312th, 426th, and 550th Tactical Fighter Training Squadrons (TFTSs) were inactivated at Luke, as well as the 832nd Air Division and the 405th Tactical Training Wing (TTW). This period also saw the end of F-15A and B models at Luke as they were transferred to other assets. The 58th TTW was re-designated as the 58th Fighter Wing and resumed its role as host unit. The TAC became the Air Combat Command (ACC). The 944th Tactical Fighter Group (TFG) was re-designated the 944th Fighter Wing.

Luke Air Force Base Today

Today Luke Air Force Base occupies 4,198 acres and operates two parallel runways oriented 030/210 degrees. The primary mission of Luke is the training of pilots for the F-16 Fighting Falcon jet aircraft, which falls under the Air Education and Training Command (AETC).

The current host unit at Luke is the 56th Operations Group, which has operational responsibility for all fighter training missions at Luke. It is comprised of four groups of 27 squadrons, which includes eight fighter squadrons.

Luke is also home to the 994th Fighter Wing, a United States Air Force Reserve unit training pilots for the F-16C/D Block 32 aircraft. Its subordinate unit is the 301st Fighter Squadron. The 301st has a storied history of its own as it was one of four African-American fighter squadrons to see combat in World War II and comprised part of the famed "Tuskegee Airmen."

Luke Air Force Base currently boasts a population around 7,500 military personnel and some 15,000 in family members. Within the Phoenix metropolitan area there are also about 80,000 retired military personnel, so all told, the base provides support for approximately 100,000 people.

In April 1994 the United States Air Force saw the need to preserve its legacy and history and thus initiated the Air Force Heritage Program. With this change the 58th Fighter Wing was replaced with the transfer from MacDill Air Force Base of the 56th Fighter Wing and its F-16 training mission. The 56th Fighter Wing is one of the most highly decorated in Air Force history and its units flying the F-16 Fighting Falcon include the 21st, 61st, 62nd, 63rd, 308th, 309th, 310th, and 425th Fighter Squadrons.

Cockpit of an F-4 Phantom II.

Information on current squadrons and known frequencies in service by units based at Luke Air Force Base are provided in the "Listening In" sidebar.

If You Visit

In August of 2006 Tuskegee Airmen Memorial Park was dedicated in front of the 944th Fighter Wing's area at Luke Air Force Base to honor the bravery and spirit of the Tuskegee Airmen. Should you find yourself in the Phoenix area, stop by and visit the memorial and don't forget to fill your scanner up with the frequencies we have provided for you here.

Follow Up On Fort Campbell

Pop'Comm reader Jim Huffman dropped us a note on our Fort Campbell article, which appeared in the June 2010 issue. Jim writes:

I enjoyed your article about Fort Campbell. But you left out a big part of it! The 11th Airborne was there in the early 1950s, as well as the Third Army. I went to jump school with the 503rd regiment K company of the 11th Airborne in 1951. The 11th was later sent to Germany where it was deactivated. The 101st was then reactivated. Just thought you would like a little more history of dear old Campbell!

Aircraft At Luke Air Force Base

(All aircraft use tail code "LF")

Squadron	Callsign	Tail Markings
56th Operations Group		
21st Fighter Squadron	GAMBLER	White
308th Fighter Squadron	EMERALD KNIGHTS	Green/White Checkers
309th Fighter Squadron	WILD DUCKS	Blue
310th Fighter Squadron	TOPHATS	Green
425th Fighter Squadron	BLACK WIDOWS	Red/Black
61st Fighter Squadron	TOP DOGS	Yellow
62nd Fighter Squadron	SPIKES	White
63rd Fighter Squadron	PANTHERS	Red
56th Operations Support	WIZARDS	
56th Training Squadron		

USAF Reserves Command (AFRC)

944th Fighter Wing	
301st Fighter Squadron	RED TAIL, ANGELS

NOTE: The 21st FS trains the Taiwanese Air Force pilots, and the 425th FS trains the pilots of the Singaporean Air Force.

Frequencies For Luke Air Force Base (KLUF)

AERONAUTICAL OPERATIONS

118.150	LUKE APPROACH/DEPARTURE NORTH
119.100	LUKE TOWER VHF
120.700	PHOENIX APPROACH/DEPARTURE
125.450	LUKE APPROACH/DEPARTURE SOUTH
126.250	LUKE CLEARANCE DELIVERY VHF
133.175	LUKE GROUND VHF
134.925	LUKE ATIS VHF
239.000	LUKE APPROACH/DEPARTURE
263.125	LUKE APPROACH/DEPARTURE SOUTH
269.300	FLIGHT OPERATIONS
269.900	LUKE ATIS UHF
273.475	LUKE CLEARANCE DELIVERY UHF
335.800	LUKE GROUND UHF
349.400	COMMAND POST
363.120	LUKE APPROACH/DEPARTURE NORTH
372.200	PILOT TO DISPATCHER
379.900	LUKE TOWER UHF
390.000	IN-FLIGHT EMERGENCY

LUKE F-16 PRESETS

CH.	FREQ.	7	373.1000	15	316.7000
1	335.8000	8	276.9000	16	389.8000
2	289.6000	9	266.4000	17	301.5000
3	256.9000	10	272.1000	18	349.7000
4	369.1000	11	298.6000	19	324.1000
5	288.3000	12	303.1000	20	269.9000
6	298.9000	13	311.3000		
		14	308.7000		

Luke Air Force Base operates a Motorola Type II Smartnet trunked radio system for base operations. They use digital voice modulation so you will need a digital scanner in order to monitor the system.

SYSTEM: Luke Air Force Base
TYPE: Motorola Type II Smartnet
VOICE: Analog and APCO-25 Common Air Interface
SYSID: 731F

CUSTOM FREQUENCY TABLE

BASE: 406.0000
SPACING: 25.0 kHz
OFFSET: 380

FREQUENCIES

406.35000	406.95000	407.15000
407.95000	408.15000	408.20000
408.75000	409.15000	409.37500c
409.55000c	409.77500c	409.95000c

c - denotes control channel

TALKGROUPS

TALKGROUP ID	USE
33600	Ammunition
33632	POL Net - Petroleum/Oil/Lubricants
35200	NET
35216	Electrical
35232	Security 3
35264	Fire Announcement
36832	Recovery
36848	Airport Ground Control
36864	21st AMU "Gambler"
36880	61st AMU "Top Dog"
36896	62nd AMU "Spike"
36912	63rd AMU "Panther"
36928	308th AMU "Emerald Knights"
36944	309th AMU "Wild Ducks"
36960	310th AMU "Top Hat"
36976	425th AMU "Widow"
38416	Ground Fueling
38432	Base Taxi Transportation
38448	Aerospace Ground Equipment
38480	56th Civil Engineering Squadron
38496	Sheet Metal Maintenance
38864	Maintenance Operations Center
40000	LAN Network
40336	Security 1
40352	Security 2
40384	Facilities Maintenance
40432	Explosive Ordnance Disposal (EOD)
40448	Fire TAC 2 - Crash
40464	Fire TAC 1 - Dispatch/Administration
40480	Radio Technicians
40528	Fire TAC 3 - Structural
40560	Fire TAC 4 - EMS
40576	Fire TAC 5 - Training
41600	Hospital Control
43248	Base Operations
43296	56th Logistics Readiness Squadron
43376	Radio Technicians

All talkgroups use digita mode.

A F-4 Phantom II takes off from Davis-Monthan Air Force Base, Arizona, March 3 during the 2007 Heritage Conference.

Quite correct, Jim, I did indeed fail to include the historic 11th Airborne. After serving its occupational duty in Japan in 1949, the 11th Airborne arrived at Fort Campbell in the spring of that year and stayed there until early 1956 when it was transferred to Germany to replace the 5th Infantry Division as a part of Operation Gyroscope. It remained there until its deactivation on July 1, 1958, and was eventually reformed as the 11th Air Assault Division.

Thank you for writing in and filling in the missing history. We appreciate all letters and messages from our readers. Please don't hesitate to drop us a note, either through *Popular Communications'* HQ or the email listed at the start of the column, please include *"Pop'Comm"* as part of the subject header. If there is something particular you would like to see in a future column, please let us know.

Military Loggings

Doug Bell of Ontario, Canada, once again checks in to share some of his HF military intercepts. Doug is using a Sony ICF-2010 with 50-foot longwire and should now have his hand on a brand new ICOM R-75. We welcome loggings from all our readers, whether of HF, VHF, or UHF. Please try to follow the format you see here, send them to the email address listed in the column header, and we will include them in a future column.

3476: USB 0101Z CONVOY 9111 (C-9B #159113/"Islanders," VR-61, NAS Whidbey Island, WA) wkg Gander Radio with a 040W position report with fl 330.

0135Z REACH 4134 (C-17A #04-4134/305th AMW, 6th AS, McGuire AFN, NJ) wkg Gander Radio with a revised 040W position estimate.

5598: USB 0209 REACH 515 (C-17A #02-1106/62nd AW, McChord AFB, WA) wkg Santa Maria Radio with a CHES SELCAL check.

0218 REACH 200 (KC-135R #57-2593/121st ARW, OH-ANG, Rickenbacker IAP, OH) wkg New York Radio with a JPQS SELCAL check.

2358 REACH 403 (C-5A #68-0226/105th AW, 137th AS, NY-ANG, Stewart ANGB, NY) wkg Santa Maria Radio and receiving Oceanic Clearance Data. Flight performed a DRAJ SELCAL check.

5616: USB 2345 REACH 545 (C-5B #87-0027/436th AW, Dover AFB, DE) wkg Gander Radio with a 040W position report.

An F-16 from the 61st Fighter Squadron prepares to land after a sortie mission. (U.S. Air Force photo by Tech. Sgt. Raheem Moore)

Luke Air Force Base main gate.

0026 REACH 411 (C-5B #86-0016/60th AMW, Travis AFB, CA) wkg Gander Radio with a revised position estimate of 44N 040W at 0112. Flight performed a FSAG SELCAL check.

0035 REACH 300 (C-17A #93-0601/97th AMW, 58th AS, Altus AFB, OK) wkg Gander Radio with a position of 58N 030W with fl 340 and a CQDH SELCAL check.

0127 REACH 475 (C-17A #99-0060/62nd AW, McChord AFB, WA) wkg Gander Radio with a position of 53N 040W with fl 310 and a CPKR SELCAL confirmation.

0235 BLUE 48 (KC-10A #86-0035/305th AMW, McGuire AFB, NJ) wkg Gander Radio with a 050W position report. Flight instructed to make its report to Gander Center on VHF.

5696: USB 2312 COAST GUARD 2006 (HC-130J/CGAS Elizabeth City, NJ) wkg CAMSLANT-Chesapeake and reporting a position of 33.56N 78.31W.

5717: USB 2140 RESCUE 328 (CC-130E #130328/8 WG, 436 SQN, CFB Trenton, Ontario) wkg HALIFAX MILITARY with SAR data passed.

6586: USB 2240 REAPER 12 (B-2A/509th BW, Whiteman AFB, MO) wkg New York Radio and reporting a position of 25N 060W and leaving fl block 250-270 and climbing to fl 390 by 24N 054W.

8864: USB 1747 REACH 374 (C-17A #01-0196/437th AW, Charleston AFB, SC) wkg Gander Radio a 050W position report with fl 290.

8918: USB 2300 ROLLER 22 (C-130H/152nd AW, 192nd AS, Reno-Tahoe IAP, NV) calling "mainsail" with New York Radio responding for a HF radio signal check.

8983: USB 0150 COAST GUARD 2117 (HU-25A/CGAS Miami) wkg CAMSLANT-Chesapeake with a position of 26.42N 80.42W.

8992: USB 0210 HF-GCS Station ANDREWS with a SKYKING transmission to all committed aircraft and missile crews at 0008 again t 0210.

11175: USB 0125 TUFF 45 (B-52H/2nd BW, Barksdale AFB, LA) wkg HF-GCS Station PUERTO RICO with a HF radio check.

1708 ROCCO 62 (KC-135R #62-3508/108th ARW, McGuire AFB, NJ) wkg HF-GCS Station MCCLELLAN with a phone patch and flight data passed and a 1855Z ETA for McGuire.

2308 PROSE 52 (HC-130P/23rd WG, Moody AFB, GA) wkg HF-GCS Station OFFUTT with a p/p and flight data passed.

11220: USB 1748 REACH 695 (C-17A #93-0602/437th AW, Charleston AFB, SC) wkg HF-GCS Station LAJES with a p/p and flight data passed.

11232: USB 0201 CANFORCE 3278 (CC-177 #177703/8 WG, 429 SQN, CFB Trenton, Ontario) wkg TRENTON MILITARY with flight data passed.

13927: USB 0059 FIREBIRD 71 (E-3B AWACS/552nd ACW, Tinker AFB, OK) wkg MARS Operator AFA6DD (Houston, TX) with a personal p/p.

0159 DUKE 02 (C-17A/3rd WG, 517th AS, Elmendorf AFB, Alaska) wkg MARS Operator AFA6DD (Houston, TX) with a failed p/p.

The Russians Are Coming! (And They're Using HF)

by Mitch Gill, NA7US,
NA7US@yahoo.com

Scanning the HF frequencies you intercept a transmission. Listening intently you hear, "15... 12...8...6...9...22..." What does it mean? Is it a spy sending stolen classified material to the mother country? Or maybe it's a drug lord giving directions for their next shipment? A terrorist receiving instructions? Since it's in English, it could be instructions for the Airborne Command Post.

My Brush With Intrigue?

I know all about encrypted HF radio communications as I used it in the 1970s and 1980s while serving in what was then called West Germany. In those days being approached by foreigners interested in what you did was not uncommon, but being approached by someone who openly admitted to being a citizen of Russia was. That was the case with a mysterious woman I met.

She had somehow gotten on the base and I met her with a group of friends at the NCO Club. She chatted amiably for a while, telling how her parents had immigrated to West Germany, but with seemingly undue curiosity she soon turned the discussion toward my job. Growing uncomfortable, I excused myself from the table.

I told a friend who worked in the Office of Special Investigation (OSI) about her and gave him what information I could. Later, when I asked him what happened, he told me that he had "taken care of it," and never spoke of it again. Thirty years later I happened to reconnect with my friend and again asked what happened. Again, he gave me the standard answer, "There is nothing you need to know." Three decades later, and I still couldn't get a straight answer!

"In another echo from that notorious era, it was discovered that the espionage ring used encrypted numbers transmitted over HF, specifically 7887 kHz, to send messages to Russia via Cuba."

And three decades later, we again hear of coded HF radio communications and a Russian connection, but this time we know what happened.

Not The Use The FCC Intended

I hadn't thought about those days until I read about the recent case of the Russian spies who were caught and sent back to their home country in a spy swap that brought back memories of the Cold War. In another echo from that notorious era, it was discovered that the espionage ring used encrypted numbers transmitted over HF, specifically 7887 kHz, to send messages to Russia via Cuba. Apparently when the Cubans received it, they either forwarded it over a secure Fax or even sent it directly to the Russian government via courier.

So why would spies, drug dealers, or potential terrorists use HF? While it's true that we can hear them and may even be able to eventually break the code, unlike cell phones, satellite phones, or the Internet, authorities cannot determine where the radio signal is being sent to. Nor can they determine where the signal originated from without elaborate direction finding equipment, and the message must be long enough (and it never is) to trace even an approximate location.

Times have changed, but radio hasn't. It is still the best way to communicate under certain circumstances.

Morse Code For Spy Hunters

The Russian spies were also using Morse code in their messaging, which is a perfect segue to give that mode a pitch (hey, they learned it!). Who knows, you may one day come across mysterious

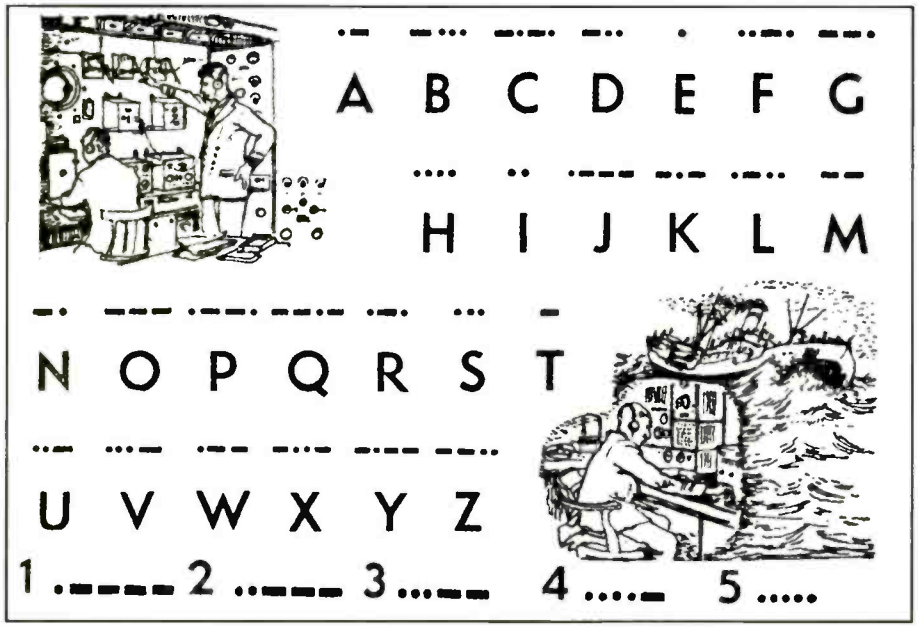
A spy radio developed and used by the USSR during the Cold War era.

dits and dahs in your monitoring and will burn with curiosity. I know many of you out there moaned the moment you saw the words Morse code, but I have two options for you that aren't at all painful. The first is to record the transmissions (you *do* record your monitoring, yes?) and then slow the speed way down. Then once you've transcribed the message you can slowly interpret what was sent. The second option is to get a free CW program off the Internet and let the computer interpret the Morse code for you (I knew you'd like that idea better). A good free program is Digipan at http://www.digipan.net. This program is awesome as it does not just receive CW but also many digital modes as well.

Table. E10 Spy Numbers Station Schedule

Below are schedules for the E10 Spy Number shortwave radio station, believed to be run by Mossad. All frequencies in kHz.

Alpha Romeo Tango		Echo Zulu India		Foxtrot Tango Juliet					
UTC	**Frequencies**	**UTC**	**Frequencies**	**UTC**	**Frequencies**				
0000	3415 5435	0000	-	0000	-	0000	-	0000	3150 4270
0030	3417 5437	0030	-	0030	-	0030	-	0030	3150 4270 6498
0100	3415 5435	0100	6840 9130	0100	2626 4461	0100	-	0100	-
0130	3415 5435	0130	6840 9130	0130	-	0130	-	0130	-
0200	3415 5435	0200	6840 9130	0200	-	0200	-	0200	3150 4270
0230	-	0230	6840 9130	0230	-	0230	-	0230	3150 4270
0300	3415 5435	0300	9130 11565	0300	2626 4461	0300	-	0300	3150 4270
0330	-	0330	6840 9130	0330	2628 4463	0330	2270 5091	0330	3150 4270 6498
0400	3415 5435	0400	11565 13533	0400	4461 7358	0400	-	0400	3150 4270
0430	5435 6986	0430	9130 11565	0430	2628 4463	0430	-	0430	4270 6498
0500	3415 5435	0500	11565 13533	0500	2626 4461	0500	-	0500	4270 6498
0530	3415 5435	0530	6840 9130	0530	2626 4461	0530	-	0530	4270 6498
0600	5435 6986	0600	17410 19715	0600	2626 4461	0600	-	0600	4270 6498
0630	5435 6986	0630	9130 11565	0630	4461 7358	0630	2270 5091	0630	3150 4270
0700	5435 6986	0700	9130 11565	0700	4461 7358	0700	-	0700	4270 6498
0730	5435 6986	0730	9130 11565	0730	4461 7358	0730	-	0730	6498 8805
0800	5435 6986	0800	-	0800	4461 7358	0800	-	0800	6498 8805
0830	5435 6986	0830	9130 11565	0830	4461 7358	0830	-	0830	6498 8805
0900	3415 5435	0900	13533 17410	0900	4461 7358	0900	-	0900	4270 6498
0930	5435 6986	0930	17410 19715	0930	4463 7322	0930	-	0930	6498 8805
1000	5435 6986	1000	9130 11565	1000	4461 7358	1000	-	1000	6498 8805
1030	3415 5435	1030	-	1030	4461 7358	1030	-	1030	6498 8805
1100	5435 6986	1100	-	1100	4461 7358	1100	-	1100	4270 6498
1130	5435 6986	1130	6840 9130	1130	4461 7358	1130	-	1130	6498 8805
1200	5435 6986	1200	6840 9130	1200	4461 7358	1200	5091 7540	1200	4270 6498
1230	5435 6986	1230	13533 15980 17410	1230	4461 7358	1230	5091 7540	1230	6498 8805
1300	5437 6986	1300	13533 15980	1300	4461 7358	1300	5091 7540	1300	6498 8805
1330	5435 6986	1330	15980 17410	1330	4461 7358	1330	5091 7540	1330	6498 8805
1400	5435 6986	1400	19715 23740	1400	4461 7358	1400	5091 7540	1400	4270 6498
1430	5435 6986	1430	9130 11565	1430	4461 7358	1430	5091 7540	1430	6498 8805
1500	3415 5435	1500	13533 15980	1500	4461 7358	1500	2270 5091	1500	4270 6498
1530	3415 5435	1530	17410 19715	1530	2626 4461	1530	5091 7540	1530	6498 8805
1600	3415 5435	1600	11565 13533	1600	2626 4461	1600	5091 7540	1600	4270 6498
1630	3415 5435	1630	9130 11565	1630	2626 4461	1630	2270 5091	1630	4270 6498
1700	3415 5435	1700	6840 9130	1700	4461 7358	1700	5091 7540	1700	3150 4270 6498
1730	3415 5435	1730	9130 11565 13533	1730	2626 4461	1730	2270 5091	1730	3150 4270
1800	3415 5435	1800	6840 9130	1800	2626 4461	1800	2270 5091	1800	3150 4270
1830	3415 5435	1830	9130 11565 13533	1830	2626 4461	1830	2270 5091	1830	3150 4270
1900	3415 5435 6986	1900	6840 9130	1900	2628 4463	1900	5091 7540	1900	3150 4270
1930	5435 6986	1930	6840 9130 11565	1930	4461 7322	1930	2270 5091	1930	3150 4270
2000	3417 5435	2000	9130 11565 13533	2000	2626 4461	2000	2270 5091	2000	3150 4270
2030	3415 5435	2030	6840 9130	2030	4461 7322	2030	5091 7540	2030	3150 4270
2100	3415 5435	2100	11565 13533	2100	4461 7358	2100	2270 5091	2100	4270 6498
2130	3415 5435	2130	9130 11565	2130	2626 4461	2130	2268 5091	2130	3150 4270 6498
2200	3415 5435	2200	6842 9130	2200	2626 4461	2200	2270 5091	2200	3150 4270
2230	3415 5435	2230	9130 11565	2230	-	2230	2270 5091	2230	4270 6498
2300	3415 5435	2300	-	2300	2626 4461	2300	-	2300	3150 4270
2330	3415 5435	2330	6840 9130 11565	2330	2626 4461	2330	-	2330	3150 4270



Morse code is apparently still in the modern spy's tool kit.

When To Listen

While there's no surefire way to determine when to listen, there are websites that can guide you. You can start digging deeper at www.king5.com/news/Amatuer-Radio-Operators-Understand-Russian-Spy-Techniques-97536734.html and http://en.wikipedia.org/wiki/Numbers_station#cite_ref-spycraft_6-1 and let your search lead you where it will. In reality, the whole HF spectrum should be monitored, though I'd suggest that check first just outside the ham bands. If things are slow, you can whet your appetite for espionage by tuning the frequencies provided in the accompanying **Table**, which are reputedly associated with the Mossad, the Israeli intelligence agency.

What Now?

I've advocated before that we should set up a website or blog dedicated to monitoring suspicious radio transmissions. Now that the Russian transmissions have been exposed, perhaps this will garner more interest. I'd like to see a site set up where we can upload and share recordings. Also, if there are enough people involved, we could split up segments of the radio spectrum for monitoring. Hobbyists could certainly obtain a lot of information and maintain it in one place as an aid for law enforcement. My commitments being what they are, I have to toss the ball to someone else to set it up, but I will most gladly join in.

Until next time, keep listening.

Saying The Darndest Things On Air

by Shannon Huniwell
melodyfm@yahoo.com

Jerry Marcel didn't know what to say when the newscaster announced the death of Art Linkletter. On that morning this past May, Jerry was carpooling to work with three colleagues at least 20 years his junior. None of the trio could connect Linkletter's name with a face, but each sensed from Jerry's sudden pensiveness that whoever this deceased personality had been, he meant something significant to their friend at the wheel.

The Colorado resident and *Pop'Comm* reader began telling them about the imitable way Linkletter would host very simple but memorable radio and TV programs. They nodded politely, though seemed glad his mini-seminar was abridged by their arrival at the office parking lot. As they walked to the front door, conversation had already shifted to some bad-girl actress' antics in the courtroom and, worse yet in Jerry's mind, World Cup soccer.

In mid-afternoon, the business' 60-something accounts payable secretary came by his desk for clarification on a purchase order. "It's kind of sad about Art Linkletter," he offered after their consult. She agreed with a sigh. They exchanged a couple of childhood memories of Linkletter's long-running television shows, *House Party* and *People Are Funny*, then parted after agreeing that he sure made lots of folks smile in his lifetime.

Besides writing over 15 books, including the 1957 *Kids Say The Darndest Things* chronicling his broadcast interviews with youngsters, Art Linkletter served as a spokesperson for a wide variety of family-friendly products. This cold war-era print ad for hot tea represents one way he got compensated for extending his wholesome pitchman brand beyond radio and TV.

"...whether via an affiliated station with 250 watts or a clear channel giant, Columbia Broadcasting System made sure Linkletter would be a guest in every place the Marcels made an itinerant home."

It was a couple of weeks later when Jerry emailed me. He suggested that I remember Linkletter in one of my upcoming articles and apologized in advance for "geezing"—which he defined as going on and on about the good old days "like an old geezer"—about somebody from another era.

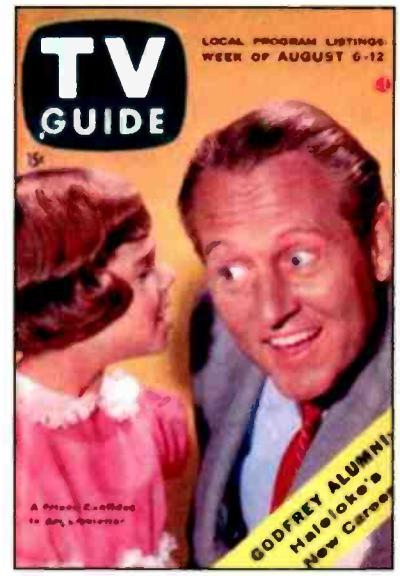
"It's quite possible that I'm your only reader who considers Art Linkletter one of the top 10 broadcast personalities of all time," Jerry said, "but for at least a few minutes each day, his sincere welcoming voice with just the right blend of smile always brightened up our home, *wherever* that turned out to be." He continued:

> I guess you could say I came from an unusual family. My parents were what might be called, happily restless. They fell in love in a college poetry class during the early 1940s. As the War erupted, though, they decided to "test" their devotion to one another. With a proverbial kiss for luck, mom joined the WACS and dad managed to get assigned to some intelligence outfit in England that devised ruses and tricks to fool the Nazis. To top him, she volunteered for flying lessons, later helping pilot newly built aircraft from West Coast factories to eastern bases where they were hangared before being flown across the Atlantic. I still have a stack of their love letters from the period, written in an imaginative code they'd concocted to duck the military censors.

Say...How Does This Relate To Art Linkletter?

Jerry went on to paint a picture of how old-school network radio and Art Linkletter symbol-

A postcard view of Newport, Vermont's little WIKE 1490. Jerry Marcel's mother listened to this local faithfully—except when it was time for Art Linkletter's CBS broadcast over the old WCAX AM 620 in Burlington. W-IKE was named for Dwight "IKE" Eisenhower, a hero of the station's founder. Three years after the Newport AM's fall 1952 debut, President Eisenhower was touring New England and set to make a speech in a New Hampshire town that had forgotten to rig up a public address system. Fortunately for WIKE, its newsman, who was there to cover the address, used some of the station's mobile gear to amplify the President. The story goes that when Eisenhower saw the WIKE call letters on the microphone ID flag, he asked to hold it himself. A United Press International photographer captured the image, which became known as IKE on WIKE!



Shortly after Art Linkletter began including children as interviewees on his radio and television shows, it wasn't unusual to see CBS and other media publicize him with at least one cute little kid.

ically became part of his family, like millions of other families in every corner of America.

My folks married in late summer 1945. I arrived just before decade's end. About three years ago, they passed away, about six weeks apart. Always nuts about each other and full of fun, mom and dad would put their marriage license on the kitchen table every December 31st. I'd listen to them review the year and watch as mom would fetch a little notebook from the bottom of a basket containing the love letters.

From their earliest days as a couple, the deal had been for mom to pick where she'd like to be and what she' dreamed of doing for the ensuing year, and then dad would get a turn. When it was all agreed, they'd write down their plans in the notebook and kiss the license for good measure. It made for a unique life. Except for my last two years of senior high, I was in a different school every September.

We traveled rather light, too. With a few suitcases of clothes, that basket of letters, and a hefty military-issue Hallicrafters radio my dad reportedly got from Winston Churchill (what a whopper that tale probably was!), we were a ready-to-roll, paper-plate equipped MASH unit. It was a little like Art Linkletter's only needing a microphone and a few average Americans to create compelling radio and TV.

When I was 10, my parents' New Year's Eve ritual resulted in a split decision: dad chose to live like Paul Bunyon and mom felt the call to write a romance novel. We moved into a cottage near Newport, Vermont, where my father tried lumberjacking. Meanwhile, my mother filled yellow legal pads at the kitchen table. Not far away was Churchill's radio, typically tuned to WIKE 1490 kHz as background. Once a day, however, the dial would be spun down to 620 kHz, so as to catch Art Linkletter's good natured gag-filled *House Party* on the then-Burlington, Vermont, CBS affiliate, WCAX (now WVMT).

At first, WCAX—some 55 miles away over poorly conductive terrain—didn't always come in clearly, so dad rigged a wire antenna between the kitchen window and a 40-foot pine (just like one he claimed he'd witnessed a grizzled, taciturn co-worker fell with less than five whacks of a vintage tomahawk). That improved the WCAX reception considerably, though sometimes in winter I'd come home from school to find mom listening to Linkletter conduct interviews with kids over shreds of sky-wave from WCBS 880 New York. "It makes me feel closer to where I grew up," she explained.

One especially frigid, snowy afternoon when dad had volunteered to stay home to assist mom with her writing, we marveled at *House Party* zipping all the way to our humble Northern New England long-wire from the tower of CBS' WBBM 780 in Chicago, my father's hometown.

Jerry's email noted that without Art Linkletter ever having met anybody in his little family, the broadcaster was an integral part of the tight knit group. That's because, whether via an affiliated station with 250 watts or a clear channel giant, Columbia Broadcasting System made sure Linkletter would be a guest in every place the Marcels made an itinerant home.

Jerry's dinnertime tradition included his dad playfully asking him and his mom if Linkletter's kiddies revealed anything shocking that day. They all laughed about an honest answer a little girl matter-of-factly divulged to Linkletter that afternoon. The genial host had asked how her mommy had met her daddy. "Oh, I arranged it," the innocent voice said. "My real daddy got killed in an accident, so I figured we needed a new one. When my mommy was talking a bath, some man selling something rang the doorbell and asked if he could see my mother."

Even over the radio, you could tell Linkletter had a twinkle in his eye and just knew he was on the precipice of prompting a gem of a response. With an audible smile in his voice, the host encouraged the youngster to continue...

"Well," she said, "the guy looked O.K. so I said, 'Sure, why not?' and showed

him where to go. Mommy screamed but they fell in love and got married anyway."

Art Linkletter's Unlikely Road To Radio & TV

Less than a month after being born in 1912 at Moose Jaw, Saskatchewan, Gordon Arthur Kelly, the person who'd later become the only broadcaster to have five different shows at the same time on network television, was left on a church doorstep by his biological parents. An older couple whose other children had died gladly adopted him, renaming their gift Gordon Arthur Linkletter, or Art for short. His new family relocated to San Diego five years later.

After graduating high school at 16, Linkletter thumbed around the country, supporting his sightseeing by working a host of jobs from bank teller to merchant seaman. Once he felt that portion of his education was complete, Linkletter returned to the Southern California, circa 1930, and enrolled at San Diego State Teachers College. During his last year there, Linkletter investigated a broadcasting career and discovered that even the low men on the radio station totem pole got paid more than a new teacher.

He jumped at the chance to join San Diego's KGB (then, 1330 kHz/now 1360) as a "spot announcer." This involved schlepping a microphone and phrasing engaging questions on a route from store grand openings to carnivals and fairs. Along the way, Linkletter honed the ad-libbing skills that netted him an upward move to San Francisco radio in the late 1930s and to Los Angeles in the early 1940s.

A Wikipedia snippet indicates that Linkletter had a rocky start to his LA run. The Shell Oil Company sponsored a pilot for an early reality-type show highlighting the antics of sunbathers in their beachside setting. Linkletter convinced the firm that his down-home interviewing techniques would make this *Shell Goes To Party* a real winner. When he stumbled over a hunk of driftwood, lost his balance, and then dropped his mic in the sand, however, oil execs fumed over the dead air and cancelled the program. Episodes like that likely contributed to Linkletter's developing the motto, *Things work out best for people who make the best out of the way things work out.*

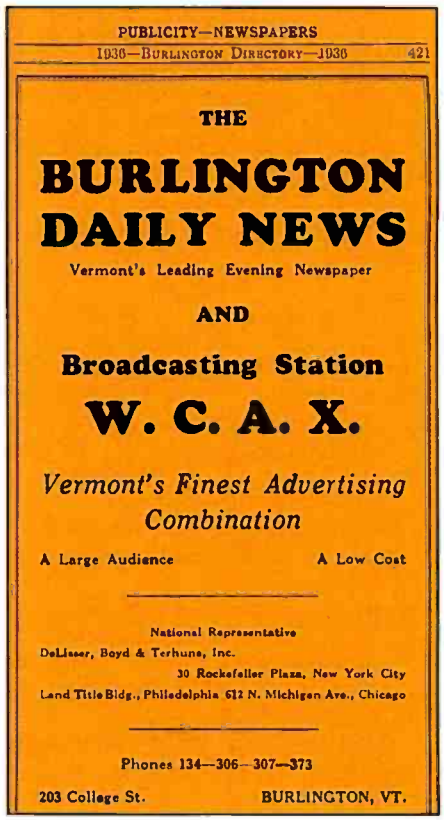
By 1942, he'd picked himself up off the beach and headed back into the studio to cut an audition disc demonstrating his ability to pull amusingly candid responses from ordinary people answering ordinary questions. This audience participation demo clicked and came to the attention of producer John Guedel who convinced CBS Radio to carry what the new business partners dubbed *People Are Funny*. It ran, often in evening prime time, from 1942 until 1960.

Any old timers out there who remember Linkletter's animated TV show opening image?

Columbia bigwigs were so happy with the ratings results of Linkletter MCing regular folk navigating the show's games, stunts, gags, and interviews that they wanted more. Consequently, notes Wesley Hyatt's *Encyclopedia of Daytime Television*, Linkletter and Guedel began producing the daytime radio version of a similar show, called *House Party*, in mid-January 1945. "It ran there until October 13, 1967, with the last few years using a tape of the TV audio portion aired daily from 3:15–3:40 p.m., Eastern time," according to the *Encyclopedia*. This was perennially the approximate time most radio stations ran *House Party* and is the slot that Jerry Marcel most remembers.

The reference to the television edition, of course, is connected with the famed video spin-off of *House Party* that debuted on September 1, 1952, and continued on CBS-TV through Labor Day 1969. Late that year, NBC picked up the afternoon program and aired it for the rest of the 1969–70 season. By then, though, daytime television's biggest successes were soap operas sporting characters much more tantalizingly devious, ruthless, self-centered, wealthy, and unrealistically glamorous than the authentic "commoners" Linkletter featured on *House Party*.

Nonetheless, between the late 1940s and mid-60s, Linkletter's (with colleague Guedel assisting behind the scenes) broadcast programming was rock solid with mass appeal audiences. Hyatt says that each show usually opened with a few jokes by Art, then a simple quiz for a woman in the audience. Art would then interview some guest experts, savvy in things like fashion, marriage counseling, and fitness, and even some specializing in helping surprised heirs find unclaimed

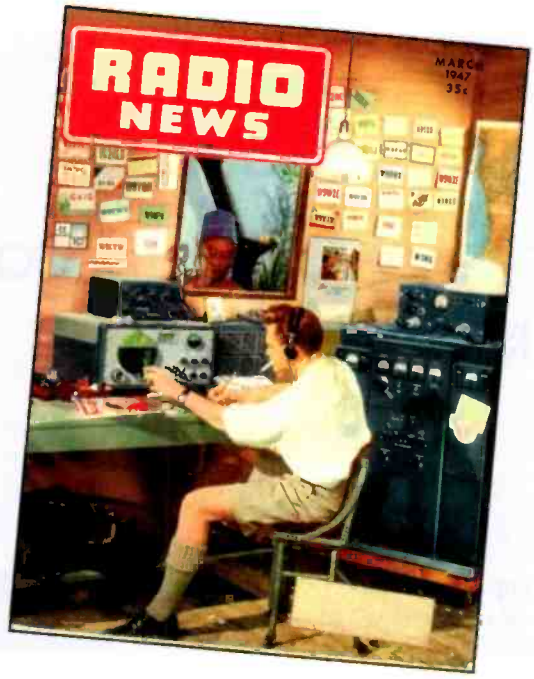

PUBLICITY—NEWSPAPERS
1936—BURLINGTON DIRECTORY—1936 421

THE
BURLINGTON DAILY NEWS
Vermont's Leading Evening Newspaper
AND
Broadcasting Station
W. C. A. X.
Vermont's Finest Advertising Combination
A Large Audience — A Low Cost

National Representative
DeLisser, Boyd & Terhune, Inc.
30 Rockefeller Plaza, New York City
Land Title Bldg., Philadelphia 612 N. Michigan Ave., Chicago

Phones 134—306—307—373
203 College St. BURLINGTON, VT.

Here's a 1936 advertising card for 100-watt (at 1200 kilocycles) WCAX and sister publication *Burlington Daily News*. The station was started by University of Vermont's College of Agriculture Extension, hence C-A-X. It served as the Lake Champlain Valley's CBS outlet from 1940 until 1960, and switched calls to WVMT three years later.



Jerry Marcel says that the Hallicrafters radio his dad reputedly received as a gift from Winston Churchill looked like the SX-42 being dialed by the cancer stick-equipped operator on the cover of this 1947 *Radio News*. The top-of-the-line, 15-tube Hallicrafters model tuned 540 kHz to 110 MHz, divided into six bands, and was offered from 1946 to 1948. That places it at least a year past World War II and, as Jerry laughs, "smack dab in the middle of the tall-tale zone!" The meter-rich transmitter in back of the radioman is probably from Hallicrafters' heavy-duty HT series.

money, who also answered some questions from the studio audience.

Contests on Linkletter's shows ranged from lightning quick (answer a single query correctly and get a small prize) to a suspenseful several weeks' long nail-biters. One my dad recalls netted a clever contestant a handsome check for successfully fulfilling Linkletter's request that the man get on the front page of a major daily paper without breaking the law. The guy built a huge chair, donned his favorite baseball team's garb, and vowed to sit there until the team won a game. The stunt garnered the fellow cash, the audience a hearty laugh, and lots of program promotion for the several weeks the unique assignment took to complete.

No matter the effectiveness of the adult participation in his various program segments, it was Linkletter's coy Q&A session with the tots that provided the icing on his broadcasts' cake.

It's interesting to note that he and Guedel's stable included the creation of other properties like *You Bet Your Life* (best known in its Groucho Marx-hosted form) and *The Adventures of Ozzie & Harriet*. And, in 1955, when Linkletter's friend Walt Disney asked if he'd accept Disney's budgeted union scale wage for serving as host broadcaster during the opening celebrations of Disneyland—a paltry sum for a major media personality such Linkletter—he gladly accepted.

Disney wanted to return the favor. The *Los Angeles Times* reports that "Linkletter asked for and received exclusive rights to the camera and film concession rights at Disneyland for a decade." This arrangement alone made him a rich man. Augmenting that, however, was his Art Linkletter Enterprises, which would eventually control some 70—usually remarkably profitable—business ventures.

When Did Linkletter Get Time For Kids?

The story goes that Linkletter's son Jack inadvertently gave him the idea to chat with children on his shows. Though a very busy performer/businessman, Linkletter valued time with his family (of five kids) and made a sincere effort to listen to what they had to say. Such was the case after Jack's first day at kindergarten.

According to the *Los Angeles Times*, Linkletter's five-year-old informed him that "he would never go back to school! His father asked why...Jack responded, 'Because I can't read, I can't write, and they won't let me talk.'" Linkletter got a real laugh from the unrehearsed admission, asked Jack to repeat it, and caught the cute frustration on a nearby tape recorder. When he aired the recording, the response was so fast and positive that the concept became a cornerstone of his programs.

Hyatt says, "the highlight of the [*House Party*] show for most of the viewers was the daily 10-minute segment where Linkletter interviewed four children... ranging in age from 5 to 10, and their spontaneous comments were priceless."

Among his syndicated products was *Art Linkletter and the Kids* (with a backwards "s"), a 15-minute video version of him querying elementary school-age guests about their interests, parents, siblings, and plans for the future. This production and audio iterations were primarily packaged for non-CBS stations that wanted to capitalize on America's Baby-Boom era obsession with the kiddies.

By September 1968, CBS noted competitor NBC's steamy soap *The Doctors* eating vociferously into *House Party's* ratings. Columbia brass felt that Linkletter's focus on kids had run its course. They had also tired of Linkletter's other stock-in-trade: audience participation gags. CBS shifted the daily TV show to a 4 p.m. start, re-labeled it *The Art Linkletter Show*, cast it as an issues and personalities-type of talk program, and urged him to bring his 20-year-old daughter Diane aboard as de facto co-host.

Diane and her dad had recently recorded a touching narrative (which hit many Top-40 and middle-of-the-Road radio station playlists) that portrayed grieving parents begging their wayward teen to come home. On what turned out to be one of the final airings of the (9/68–9/69) CBS run, they reprised the record, "We Love You, Call Collect" (www.youtube.com/watch?v=ALwETfzXiDQ). Not long thereafter, Diane reportedly killed herself by jumping out of her high-rise apartment's kitchen window (some believe Diane might have pushed by a boyfriend). Linkletter's son Robert died young, too, a victim of a 1980 car crash.

Jerry Marcel says he remembers his mom and dad expressing sadness about Linkletter's two major losses. But they'd chat about the good times, too, as if he were really a part of the family. Wherever they were, whenever Jerry would visit them—home from college or later with his wife and daughter—there'd be at least a few minutes at the kitchen table when Art Linkletter would be mentioned endearingly. They all agreed that he had captured the secret of a great broadcaster—being a good listener, not just a talker.

As the *New York Times* observed, Art Linkletter "was genuinely curious to know what was going on in the heads of the people he interviewed. 'You have to listen,' he said. 'A lot of guys can talk, but [to be a part of people's lives] you have to listen.'"

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

Tower And Antenna Safety: Serious Business

by Kirk Kleinschmidt, NTØZ
kirk@cloudnet.com

"Today, the old methods [of working on towers] are considered deadly... *Using the new gear adds time and complexity to climbs and descents—and a huge extra margin of safety!"*

My condo sits atop a tall hill and is within 30 feet or so of the highest point in an otherwise flat county. Despite a high RF/electrical noise level, the excellent geographic location makes up for a lot of deficiencies in my indoor attic antenna. If I didn't have a deed-restricted QTH I could put up a tower or two and really raise a ruckus! Well, that, and if monkeys could fly!

From a sardonic and slightly embittered perspective I noted the recent tower-raising successes of two nearby ham buddies who bought inexpensive "foreclosure crisis" fixer-uppers in small towns only a few miles from the city where I live. As I remembered wistfully the last time I'd lived in a small town (and put up a tower without so much as a nod and a wink to the local planning department or a heads-up to the neighbors), I was pleased to note that the guys hadn't skimped on safety in a rush to erect their "big iron."

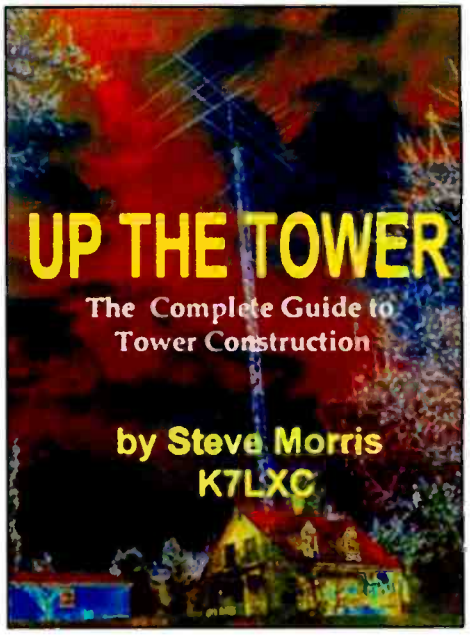
The holes for the tower bases were larger than they had to be and engineered for working loads quite a bit higher than necessary. The towers—both freestanding units that had been purchased "used," taken down, transported and re-erected—were put up using sturdy, temporary guys. And when on the towers, the lads used proper safety gear and procedures (one climbs poles and towers as part of his day job. I'm glad all of his "safety indoctrination" lectures took root).

In the end, two perfect tower installs are in the books, each supporting a variety of TV and ham antennas, including a 60-foot-high HF horizontal loop that easily bests my indoor version. Darn!

Other hams haven't been so lucky. Several have lost their lives to antenna and tower installation mishaps over the course of the past year or so.

During Field Day 2009 a Michigan ham with years of experience as a professional tower installer was killed when a tower he was climbing—while using all appropriate safety gear and procedures—broke at the base and fell over.

In June 2009 an Ohio ham, also an experienced climber, fell from the top of his 100-foot tower when a seam on his safety belt gave way.



Steve Morris, K7LXC, has worked on more than 200 amateur radio tower installations and dozens of commercial radio sites. His distilled wisdom and experience on towers and tower safety is contained in *Up the Tower: The Complete Guide To Tower Construction*, available from Champion Radio Products, www.championradio.com. The book comes in at 220 pages and covers design facts, techniques, hardware, and how-to's.

In October 2009, a non-ham couple and their teen-age son were killed while erecting a 50-foot vertical antenna at the Florida home of the man's mother, who is a ham. The three were installing the vertical in the dark when they lost control of the antenna and it made contact with nearby overhead high-voltage power lines. A family friend, a teen-age boy, was on the roof at the time of the accident. He and the couple's daughter, who was in the house at the time, were not injured.

There are other incidents, of course. Several times a year, it seems, we lose a few of our brothers and sisters to tragedies of one sort or another. Ham radio isn't especially dangerous but, like anything else, things can go south in a hurry if we aren't constantly vigilant and completely dedicated to proper safety procedures.

Following all the right procedures when installing towers and antennas can be awfully inconvenient—but not as ultimately inconvenient as death or serious injury.

Tower Safety Tips That Can Save Your Life

• Before you do *anything*, make sure the area is free from electrical power dangers, high and low. Don't trust your life to a cursory examination. You won't know whether there are power lines hidden in the tree branches unless you look closely! The service drop that you think contains only telephone or cable TV signals can be hot with mains AC. Because of power faults, malfunctioning power supplies, or other electrical problems, cable and telephone lines can be deadly. Any "cable guy" can tell you stories...If the tower or antenna you're working on could contact a source of electrical power (or come too close) if it fell or moved, you need a different antenna or a different location!

• Make sure you're *always* attached to the tower while climbing and while working. When I was in high school I worked for a local TV repair shop installing towers and antennas. I always worked with an older, experienced installer, who constantly grilled me on safety issues and safety hardware. As was the practice of the day, however, our safety belts went only around our waists and we were belted onto the tower only while at height, fixed and working. The climbs were careful, but "freehand."

Today, the old methods are considered *deadly*. Modern climbing rigs use multipoint harnesses with the usual safety belt for fixed work, plus additional fall-arrest harnesses that connect the climber to the tower the whole way up. Using the new gear adds time and complexity to climbs and descents—and a huge extra margin of safety!

• Carefully inspect your climbing and safety gear before (and after) every climb. The more we do something, the safer and more confident we feel while doing it. Staying safe requires that we force ourselves to practice the basics all the time, before every outing. I sometimes pretend that, instead of examining my safety gear (again and again), I'm inspecting and carefully packing my parachute, where a single moment of overconfidence can lead to disaster. Tower work is exactly the same.

• If during one of your frequent inspections you notice any fraying fabric or leather, cracks in metal buckles or D-rings, etc., *immediately destroy the item and dispose of it* so you or someone else can't accidentally use it and potentially suffer the consequences! Don't try to sew it, weld it, drill it, grind it, sand it—whatever! *Break it and throw it away!*

• Similarly, don't modify your safety gear yourself, drill holes in it to make the buckles and belts fit properly (or to save weight), or replace certified safety-grade components with inexpensive stuff you buy at the local hardware store. If your pony gets loose from the hitching post because the carabiner you bought at Dave's Discount turned out to be made of cheap imported pot metal that *merely looks like the good stuff*, it's not a life and death situation (at least not yours). The point is, when it is *your* life on the line, don't settle for anything less than the best materials.

• Store your climbing and safety gear in a secure, dry, protected area, and don't lend it to others unless you're accompanying them the whole time. You just don't know what might happen to your safety gear when it's out of your control. Yes, that might not be the neighborly (hammerly?) thing to do, but your life really does depend on that hardware being 100 percent reliable.

• Never work alone. Always have someone working with you on the ground to fetch things, send up tools, offer advice and, yes, to call 911.

• If the wind picks up or you hear the distant rumble of thunder, get off the tower immediately.

• Don't climb if you're tired, under the influence of drugs or alcohol, or if you're sick. Ham radio will still be here tomorrow.

• That special place at the top of your tower seems as wonderfully isolated as it is elevated, but keep your head out of the clouds and remember that you have a person (or people) working with you on the ground. Don't throw tools or parts in a manner that could endanger your helpers!

• That said, make sure your helpers wear hardhats, safety glasses, and other protective gear as necessary. It's not a beauty contest, folks!

• When climbing, let the big muscles in your legs provide the anti-gravity power, not your arms! If you're an average sedentary ham you'll be wobbly enough at the top without blowing out your arm and hand muscles on the way up, which you'll need for finer motor tasks!

• Never climb a crank-up tower! If that 20-year-old raising cable snaps when you're up in the air, well...And considering that raising cables fail regularly on their own, in addition to ignoring the whole point of a crank-up tower in the first place, it's downright dangerous.

You'll obviously need a lot more infor-

mation to truly be safe, so check out these resources for the whole story:

• Although it's a bit on the dry side and heavy on the math, the *Steel Tower Design Standard*, ANSI/TIA/EIA 222-G, is loaded with design information. You can get a copy atwww.scribd.com/doc/16607894/EIA222G-Design-Steel-Tower, and elsewhere.

• The 200-plus-page *US Coast Guard Tower Manual* is loaded with pictures, illustrations, and easy-to-understand instructions and procedures. It's a free download at www.uscg.mil/directives/cim/11000-11999/CIM_11000_4a.pdf.

• The newest *ARRL Handbook* and *ARRL Antenna Book* have updated sections on tower safety. If your local library or ham club doesn't have one on hand you can obtain a copy from www.arrl.org or your favorite amateur radio bookseller.

Once More, For *EMPHASIS*

Like the proverbial chain, a tower and antenna system is only as strong as its weakest link. That's why we have to be so careful when we work on or around these potentially dangerous structures. New towers, for example, have to be sized and installed correctly to be safe. But when we consider that many or most ham towers are used or "acquired," the potential dangers are multiplied.

Is the tower base built and sized correctly? Any problems with underground corrosion? How about the condition of the nuts and bolts holding an existing tower together (for 10 to 30 years)? Are the guy anchors deep enough and of the correct size? How about the turnbuckles and guy cable thimbles?

I could go on and on. The point is, to be safe, all of these factors need to be addressed every time you go up any tower, whether it's in your backyard, at a friend's shack, or the local Field Day site.

Until next month, have fun, be informed, work smart, and stay safe. See you on the air...and maybe even up in the air!

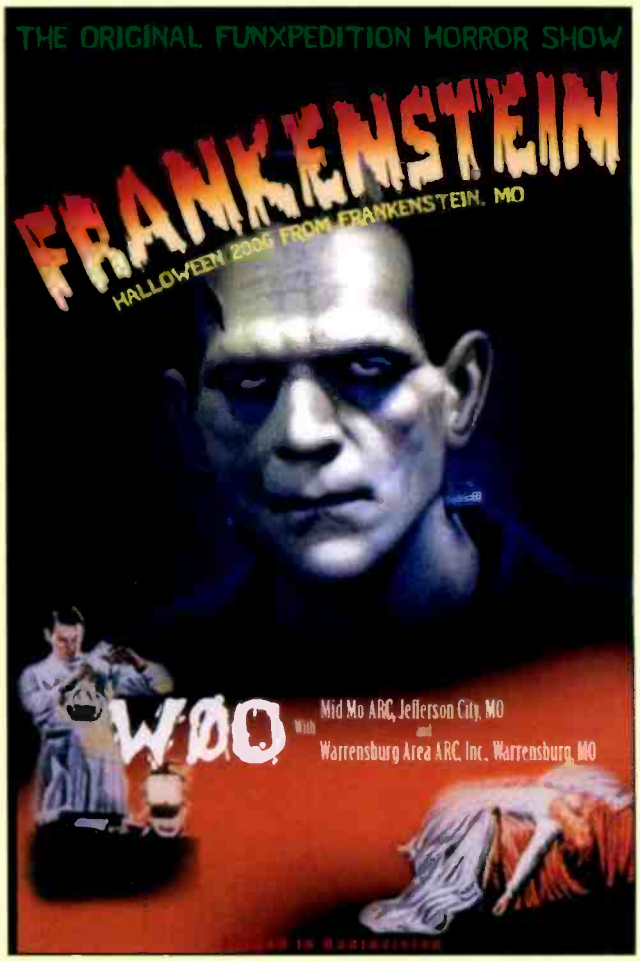
Scary Halloween Wallpaper!

Every Halloween ghosts and goblins come out to play—and so do the hams in Frankenstein, Missouri. The ops don't hand out candy, but if you work the special-event station during trick-or-treat time, they do hand out distinctive wallpaper for your shack!

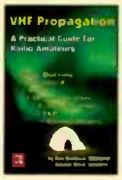
The 2009 Special-Event QSL card from WØO commemorates the Mid-MO ARC's FunXpedition to Frankenstein, Missouri. I heard about the Halloween-night event by accident while reading a post on the QRP-L low-power operator mailing list. My curiosity got the best of me so, while hiding from the throngs of trick-or-treaters scouring the neighborhood, I popped on frequency (80-meter CW) and got through in two or three calls with my 5 watts of RF. The Mid-MO ops clearly stated "no QSLs," meaning that I wasn't supposed to send the ops a QSL card, but if my QSL info (address, callsign, etc.) was up to date in the www.qrz.com database, WØO would automatically send me a QSL card *without* my having to do anything. Sure enough, they were right! By the way, WØO was chosen because it resembles "woo," a suitably spooky Halloween sound!

The 2006 version of WØO's Halloween Special-Event operation is even more ghoulish. You can find it—and dozens of other Special-Event QSLs and certificates—at VE3TMG's awesome awards and certificates website at http://tgreen.mnsi.net/awards.html. Terry Greenwood, VE3TMG, of Windsor, Ontario, is an avid wallpaper collector. Once you see his site, you'll be hooked!

WØO has been operating every Halloween for the past several years, but a late-July check of the club's website at http://mmccs.com/mmarc/ makes no mention of a 2010 operation. Let's hope the website is simply running late, and that the Mid-MO ARC fires up yet another FunXpedition to Frankenstein, Missouri.



Pop'Comm Books & CDs



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!

Order VHF PROP *$15.95*

2010 World Radio TV Handbook

Up-to-date info on medium-wave, shortwave, and FM broadcasts and broadcasters. Includes articles of interest to both listeners and DXers, reviews of the latest equipment, maps with SW transmitter sites and much more!

Order WRTH *$35.00*

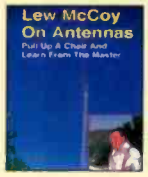
The NEW Shortwave Propagation Handbook

by W3ASK, N4XX & K6GKU

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.

Order SWP *$19.95*

McCoy on Antennas



by Lew McCoy, W1ICP

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

Order MCCOY *$19.95*

33 Simple Weekend Projects

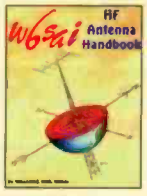
by Dave Ingram, K4TWJ

Do-it-yourself electronics projects from the most basic to the fairly sophisticated. You'll find: station accessories for VHF FMing, working OSCAR satellites, fun on HF, trying CW, building simple antennas, even a complete working HF station you can build for $100.

Order 33PROJ *$17.95*

W6SAI HF Antenna Handbook

by Bill Orr, W6SAI



One of ham radio's most respected authors, W6SAI was known for his easy-to-understand, down-to-Earth, 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!

Order HFANT *$19.95*

NEW!

Reflections III

by Walter Maxwell, W2DU

Fully revised and updated, this 424-page, third edition is a must have!

Here's a sampling of what you'll find inside:
Too Low an SWR Can Kill You
The View Into the Conjugate Mirror
Using the Smith Chart
The Line Match Problem
Computer Programs for Impedance Matching
and much, much more!.

Order REFLEC *$39.95*

The Quad Antenna

by Bob Haviland, W4MB

A comprehensive guide to the construction, design and performance of Quad Antennas.

Order QUAD *$19.95*

Sloper Antennas

By Weigl, OE5CWL

Single- and Multi-Element Directive Antennas for the Low Bands

With calculations and practical experience, this book shows which basic concepts have to be considered for sloper antennas for the low bands. You'll find all the information needed for successful home building of the antennas.

Order SLOPER *$24.95*

cds Ham Radio Magazine on CD

Enjoy quick and easy access to every issue of this popular magazine, broken down by years!

SPECIAL! Save $5 on each CD set

ON SALE - only $54.95 ea.

Three sets, each containing 4 CDs

1968-1976 Order HRCD1 ~~$59.95~~

1977-1983 Order HRCD2 ~~$59.95~~

1984-1990 Order HRCD3 ~~$59.95~~

Buy All 3 Sets and Save $49.90!

Order HRCD Set

$129.95 **(Reg. $149.95)**

The Short Vertical Antenna and Ground Radial

by Sevick, W2FMI

Small but solid guide walks you through the design and installation of inexpensive, yet effective short HF vertical antennas. With antenna restrictions becoming a problem, it could keep you on the air!

Order SVERT *$10.00*

Understanding, Building & Using Baluns & Ununs

by Sevick, W2FMI

Successor to the popular and authoritative Baluns and Ununs. Great deal of new tutorial material, and designs not in previous book, with crystal clear explanations of how and why they work.

Order 2BU *$19.95*

Shipping & Handling: U.S. & Possessions-add $7 for the first item, $3.50 for the second and $2 for each additional item. FREE shipping on orders over $100 to one U.S. address. Foreign-calculated by order weight and destination and added to your credit card.

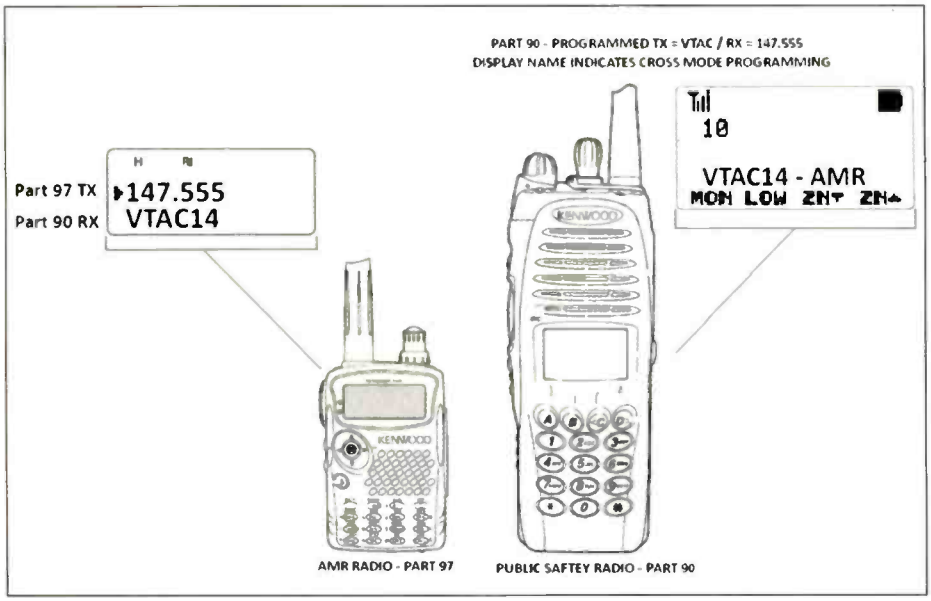
CQ Communications, Inc. • 25 Newbridge Road, Hicksville, NY 11801
Call: 1-800-853-9797 • Fax: 516-681-2926 • website: www.cq-amateur-radio.com

Non-Federal VHF Inland Interoperability Channels				
Description	NPSTC ID	Mobile TX (MHz)	Mobile RX (MHz)	VHF Marine Channel
Tactical – wideband FM	VTAC17	157.2500	161.8500	25
Tactical – wideband FM	VTAC17D	161.8500	161.8500	
Tactical – wideband FM	VTAC18	157.2250	161.8250	84
Tactical – wideband FM	VTAC18D	161.8250	161.8250	
Tactical – wideband FM	VTAC19	157.2750	161.8750	85
Tactical – wideband FM	VTAC19D	161.8750	161.8750	

Default operation should be carrier squelch receive, CTCSS 156.7(5A) transmit. If the user can enable/disable CTCSS without reprogramming the radio, the indicated CTCSS tone should also be programmed for receive, and the user instructed how and when to enable/disable.
Base stations: 50 watts max, antenna HAAT 400 feet. max. Mobile stations: 20 watts max, antenna HAAT 15 feet max. These channels are for tactical use, and may not be operated on board aircraft in flight. These channels use wideband FM, and are available only in certain inland areas at least 100 miles from a major waterway. These channels are VHF Maritime channel 25 (all 33 areas), channel 84 (22 areas), and channel 85 (11 areas). Use only where authorized. See map on next page. In these authorized areas, interoperability communications have priority over grandfathered public coast & public safety licensees.

Non-Federal UHF National Interoperability Repeater Channels			
Description	NPSTC ID	Mobile TX (MHz)	Mobile RX (MHz)
Calling	UCALL40	458.2125	453.2125
Calling	UCALL40D	453.2125	453.2125
Tactical	UTAC41	458.4625	453.4625
Tactical	UTAC41D	453.4625	453.4625
Tactical	UTAC42	458.7125	453.7125
Tactical	UTAC42D	453.7125	453.7125
Tactical	UTAC43	458.8625	453.8625
Tactical	UTAC43D	453.8625	453.8625

Default operation should be carrier squelch receive, CTCSS 156.7(5A) transmit. If the user can enable/disable CTCSS without reprogramming the radio, the indicated CTCSS tone should also be programmed for receive, and the user instructed how and when to enable/disable.



Communications in the *National Interoperability Field Operations Guide*, Version 1.2 dated March 2008. Interoperability frequencies are broken down as non-federal, federal, and federal/non-federal in the VHF, UHF, 700-MHz, and 800-MHz bands. The accompanying tables are from the field guide for VHF and UHF for non-federal and federal/non-federal.

Cross Service Interoperability

The Amateur Service governed by the FCC regulations of Part 97 is not a stranger to cross service operation, having performed tests with the Department of Defense in a yearly Armed Forces high-frequency event. What is proposed is similar to this event where the public safety/service under Part 90 cross operate with the Amateur Service.

While it is a violation of the FCC regulations for the Amateur Service to operate on Part 90 frequencies, it is not a violation to allow receiving in one service and transmitting in the other as long as the transmitting party remains in its service. This cross service interoperability could be accomplished by the use of the reserved interoperable channels and frequencies in the Amateur Service.

Since VHF and UHF are the most common bands used during widespread disasters and emergencies, and because of the channels' close proximity to Amateur Service frequencies, it would be advantageous to program a Part 90 radio to transmit on one of the tactical channels and to receive on an Amateur Service frequency. The reverse would be true for the Amateur Service with the radio transmitting within its licensed band and receiving on the preassigned tactical channel. The amateur operator would have the added benefit of the ability of most amateur radios having two receivers, thus allowing the user to ensure both channels are clear before transmission. This would allow the Part 90 user to use the radio as normal.

The figure at left shows an Amateur radio and a Public Safety radio programmed for cross service operation.

Conclusion

This proposal has given a brief overview of a method to improve communications and interoperability between radio services that are called at times to serve together. There are many items that must be sorted out in the terms of frequencies to be used, protocols to be established, and authorizations required. It should greatly aid both radio services if implemented and improve public safety and trust during emergencies, disasters, and day-to-day operation. The ultimate goal is to improve service to the customer, the public.

High School Memories—Restoring My Realistic Jetstream Receiver, Part I

by Peter J. Bertini
radioconnection@juno.com

While this column has mostly dealt with restoring vintage vacuum tube equipment, it must also be acknowledged that many early transistor sets have reached or surpassed the half-century mark. They, too, are becoming antiques and collectables in their own right. As representatives of the technology of their era, transistor radios merit some recognition in these pages.

This column, therefore, pays homage to a vintage transistor radio from the late 1960s, a relic of my youth that I uncovered while searching through the vast nether regions of the "Wireless Connection" cellar. Our guinea pig this month is the Radio Shack Jetstream 10-transistor portable receiver, a product introduced in 1967 by Radio Shack under the Realistic product line. There's a good amount of ground to cover and I have many photos, so we'll do this in two parts.

The accompanying **Figure** shows a scan of a Radio Shack catalog page (provided by reader Ed Puskar, who kindly located, scanned, and cleaned up the artwork) that features the Jetstream aircraft receiver. Along with the Jetstream, Radio Shack also introduced two other Realistic Patrolman model portables, which were styled in the same manner as the Jetstream. The Patrolman line matured over the years into full-featured scanners, but the Jetstream was apparently a unique, one-time offering. The Patrolman models both featured AM BCB reception, but each Patrolman was for either VHF Hi-Band or VHF Lo-Band FM police and fire (public service) coverage.

"This column...pays homage to a vintage transistor radio from the late 1960s, a relic of my youth that I uncovered while searching through the vast nether regions of the 'Wireless Connection' cellar."

I purchased my Jetstream while in high school in Windsor Locks, a small mill town in north central Connecticut that was home to what is now Bradley International Airport. As a youth I spent many hours both at the airfield and at home listening to the pilot and to the tower chatter. In those days airfield security was much more relaxed and laid-back, and a polite request would often result in an invitation for a quick visit to the control tower. How times have changed.

But to continue...as soon as I spotted the long-forgotten radio, I managed to fumble and drop the relic to the concrete floor, resulting in the mess shown in **Photo A**. Now I really had a restoration to share! After gathering the pieces and bringing

Figure 1. This enhanced scan of a Realistic Jetstream portable advertisement is from a 1968 Radio Shack catalog and was provided courtesy of Ed Puskar.

them to the workbench I assessed both the older insults and the recent one that the poor device had suffered at my hands, determining what would be needed to get the radio working again.

Printed Circuit Board Repairs

Unfortunately, I was not able to locate a schematic or service information for the Jetstream, which greatly reduced the likelihood of doing any successful major repairs or servicing. Also the printed circuit board component density was extremely crowded (**Photo B**), and the pc board circuit traces were extremely fragile and easily damaged—typical of the inexpensive imports of that genre.

Initial tests showed that the radio was completely dead; a result of the drop to the floor having damaged several of the

Photo A. The results of a fumble-fingered drop to a hard concrete floor. My prized discovery ends up in several pieces.

Photo B. A top view of the Jetstream printed circuit board shows the extremely tight component density. It's quite a contrast from the wide-open spaces we've encountered in early tube sets!

solder joints and associated pc copper foil traces (**Photo C**) for the slide switch band selector. I had to carefully repair these breaks in the foil using tinned wire jumpers to bridge the damaged sections. Not having the service data or a pictorial layout for the pc board runs and components was a major complication. The breaks were hard to see, but I've found that my Capacitor Wizard ESR meter (see "Tools Of The Trade" sidebar) is also an excellent device for locating breaks in pc board foil runs. The sharp needle-like probes and audio verification for continuity work well for finding invisible breaks in the copper foil runs.

Bad Electrolytic Capacitors

I repaired the damaged runs and the radio showed some sign of life when I installed a battery. AM stations were extremely weak, but I took a chance, on the hunch the problem was related to the electrolytic capacitors needing to reform, and I let the set run for several hours. This ploy was successful, and the radio showed much improved sensitivity after the break-in period had elapsed and the capacitors reformed.

Encouraged by this progress, I decided that a complete wholesale replacement of the old electrolytic capacitors was warranted. I also realized that this would be a risky procedure, and might result in a non-functional and non-repairable set if a mistake were made. I used desoldering braid and a vacuum desoldering station to carefully remove the old capacitors, taking my time and being extra careful not to damage any of the fragile pc board runs.

The 10 original electrolytic capacitors are shown in **Photo D**. There's one other caveat here: Many of the rear soldering points for these capacitors were also used as solder points for point-to-point wire jumpers on the bottom of the board (refer again to Photo B), and I took many close-up digital photos of the board as insurance in case I forgot where to reconnect a jumper that may have been disturbed while replacing the caps.

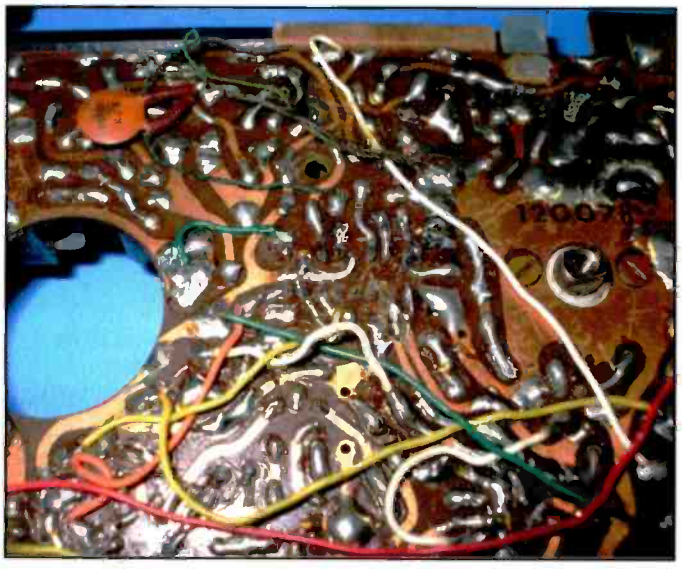


Photo C. Several printed circuit copper foil runs were damaged as a result of the drop to the floor. The solder connections for the slide switch band selector are located in the center of this photo. I used fine copper wire jumpers to bridge the broken pc runs. Note the numerous insulated wire jumpers on the bottom of the board.

Photo D. As a proactive restoration measure, I replaced all 10 of the original electrolytic capacitors. They exhibited high ESR measurements when the radio was first turned on after decades of non-use.

Photo E. The Jetstream originally sported handsome silver detailing on the raised areas of the front panel. Years of use had worn the original finish away, but it was easily restored using silver Sharpie marking pens.

Photo F. The Jetstream case benefited from my detailing efforts.

Photo G. More damage resulting from the drop! All the brass mounting standoffs that support the printed circuit board on the plastic case were either loose or broken free. I repaired this using five-minute epoxy.

The recap was successful. After breathing a major sigh of relief and feeling even more encouraged, it was on to the next step: the damaged cabinet.

Making It Look Nice

As you saw in Photo A, the radio wasn't much to look at; years of neglect and hard use had taken their toll. My first step was to give the plastic case a good cleaning using a soft toothbrush and liquid soap. The aged plastic case was dull and glazed looking, but a quick polishing with automotive

Tools Of The Trade

Transistor radio repair is rather specialized, and there are a few instruments that are unique to the trade. It's impossible for me to cover—or even remember!—everything in the space allowed for this column, but following are some particularly important devices.

Photo H shows my shop's Denon SC-7000Z desoldering tool. I use this for delicate pc board work on vintage and modern equipment, and despite its high cost it's a worthwhile investment for a serious hobbyist's shop.

Photo I shows a few other useful instruments. The Capacitor Wizard ESR meter, on the left in the photo, is indispensable for locating high ESR capacitors in solid-state equipment. I'd guess 90 percent of the failures in modern equipment are due to faulty electrolytic capacitors. Front and center is a vintage HP 721 adjustable low-voltage power supply. It has two voltage ranges—up to 10 and 30 VDC—and features adjustable current limiting, a valuable feature that can avoid damaging delicate equipment. I use it to power small transistor sets being repaired on the bench. On the right is my shop's Fluke 177 DVM, which will safely test delicate diode junc-

Photo H. The Denon SC-7000Z vacuum solder remover features several tips of various sizes for different pc board applications and offers a variable tip temperature to avoid damaging delicate pc board runs. For most applications, the careful use of desoldering braid and a good-quality soldering station will suffice for pc board component removal or replacement.

Photo I. Here are three instruments that have proved to be handy for servicing transistor radios. On the left is my Capacitor Wizard ESR meter. This device will spot electrolytic capacitors that have developed a high ESR condition. This is a very common failure mode for modern semiconductor equipment. In the middle is my vintage HP-721 regulated and variable DC power supply, which features adjustable current limiting. (As an aside it was one of the first transistorized pieces of lab equipment offered by HP back in the 1960s.) Finally, to the right is my Fluke 177 DVM, which offers a safe diode check feature to measure for shorted or open (go/no-go tests) transistor junctions. Earlier analog meters may damage transistors due to excessive voltage and current when doing resistance measurements.

paste wax solved that problem. The silver trim was badly worn, too, so I got a silver fine-tipped Sharpie marking pen from the local office supply store to fix that problem. **Photo E** shows the Sharpie pen in action, at a point where about 50 percent of the front silver trim was repainted. The final outcome is shown in **Photo F**. While not perfect or museum quality, the results are a big improvement over the set's original condition.

My next concern was fixing broken mounting studs for the pc board. **Photo G** shows some of this damage. I used five-minute epoxy to reattach the threaded brass standoffs to where they were originally attached to the plastic case. This pretty much concluded all that could be done at this point.

I still need to locate some missing hardware to complete the cabinet restoration. The radio originally had a plastic carrying strap, which is now missing, and many of the small metric screws used to secure the pc board were also missing, along with the AA battery case that originally held a set of four AA cells to power the radio. My goal is to eventually locate a donor set (Patrolman or Jetstream) for the parts to complete the mechanical portions of the restoration. That will come in time.

We'll continue next month with aligning the Jetstream and other tweaks, so stay tuned.

The Storm Before The Quiet

As I sign off, I must apologize for missing a column or two. I've just embarked on the life of the retired, and things have been a bit hectic leading up to that. But hopefully settling into retirement will afford me more hobby time, and more time for some in-depth column restorations and projects.

Until next time, keep those soldering irons warm and those old tubes glowing!

tions and serves as a "go/no-go" indicator for quickly testing transistor junctions for shorts or opens.

Transistors test like back-to-back diodes on a meter that is able to safely measure diode junctions. Many early analog meters will have source excessive voltage levels on their resistance ranges and damage delicate semiconductor junctions. I do have an RCA model WT-501A in-circuit transistor tester, but I've found that is rather impractical to use it to test transistors in a crowded pc boards like the one used for the Jetstream. Perhaps we'll have an opportunity to discuss its merits in a future column.

Good bench lighting and magnifier bench lamps are also helpful. It should go without saying that a modern, temperature-controlled soldering station with properly sized tips is needed for delicate pc board work. For those who are curious, **Photo J** is a shot of part of the "Wireless Connection" test bench. This is where the hardware end of this column's fodder is generated.

A behind-the-scenes peak shows a section of the "Wireless Connection" workbench. I'm including it to show the liberal use of fluorescent bench lamps and magnifiers needed to assist my older eyes! As time and finances permit, I've replaced most of my older service-shop grade instruments with higher quality, yet still relatively older, lab gear made by HP, Boonton, and others. Note that my prized vintage machined-panel Hickok service instruments (the model 155 Indicating Traceometer and a model 188X signal generator) share a coveted and prominent location on the right end of the bench!

Understanding The Sun And Its Interactions With Earth And The Solar System

by Tomas Hood,
NW7US, nw7us@arrl.net

Faithful readers of this column know that the sun is more than just a bright, hot orb in our daytime sky. Our sun, at the center of our solar system, is a complex magnetic variable star. This column discusses how our sun affects the Earth's atmosphere, and more specifically, the ionosphere. Of course, the sun affects all the planets in our solar system and defines and shapes the flows of inter-

"…'the sun is waking up from a deep slumber…At the same time, our technological society has developed an unprecedented sensitivity to solar storms.'"
— Richard Fisher, NASA

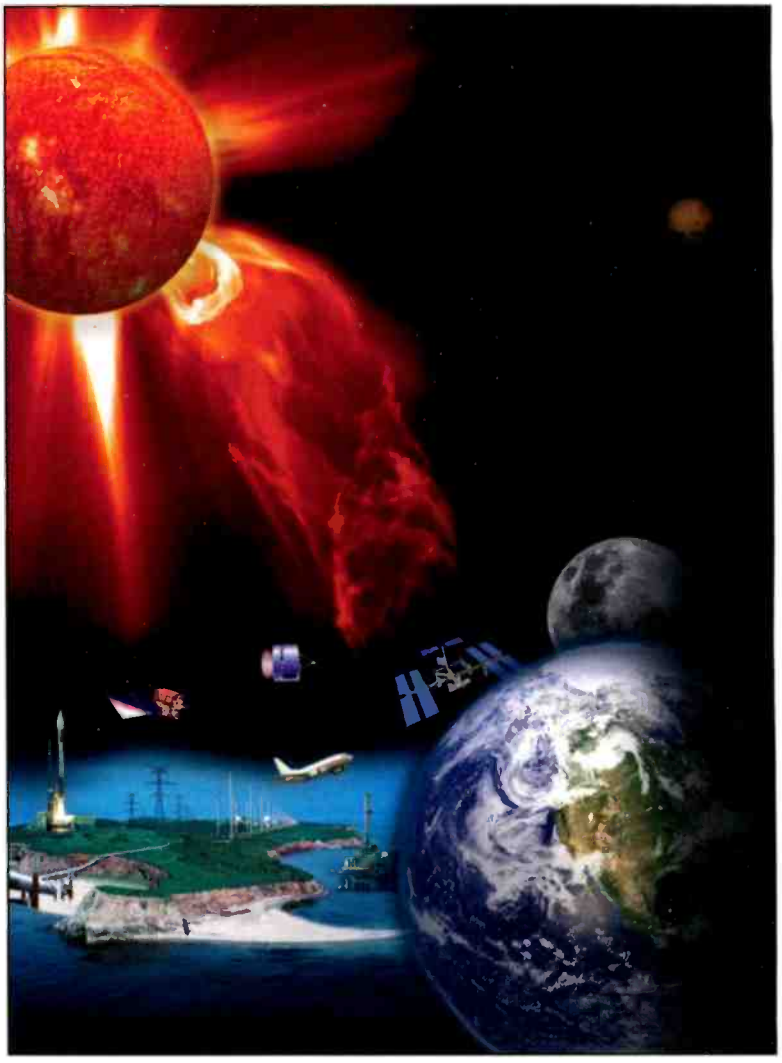


Figure 1. Many technologies of the 21st Century are vulnerable to solar storms. The National Space Weather Program (NSWP) is an interagency initiative to speed improvement in space weather services. It emerged in 1994 from the efforts of several U.S. government agencies to prepare the country to deal with technological vulnerabilities associated with the space environment. The overarching goal of the NSWP is to achieve an active, synergistic, interagency system to provide timely, accurate, and reliable space weather warnings, observations, specifications, and forecasts. (Source: NASA)

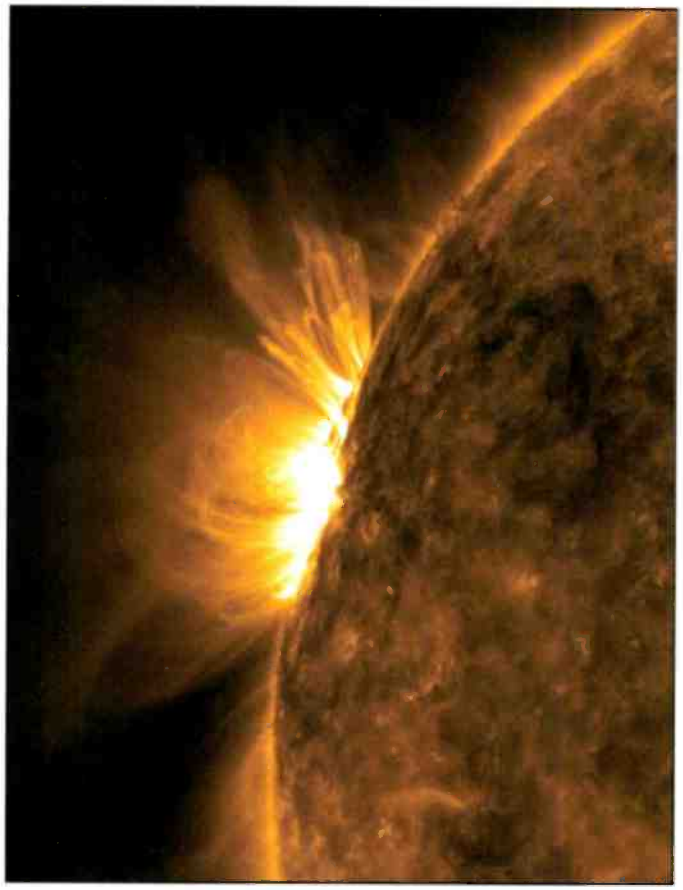


Figure 2. As the arcing loops above an active region began to rotate into a nice profile view, Solar Dynamic Observatory (SDO) captured the dynamic, magnetic struggles taking place below (July 6–8, 2010). Particles spiraling along magnetic field lines trace their paths, and magnetic forces in the active region are connecting, breaking apart, and reconnecting. This image was taken in extreme ultraviolet light. This active region, once it rotated into view, became active sunspot region 11087. (Source: SDO/NASA/Goddard Space Flight Center)

planetary space itself. "Heliophysics" is the study of the sun's influence throughout the solar system and, in particular, its connection to the Earth and the Earth's extended space environment. The science of Heliophysics provides not only cultural and intellectual benefits to society, but also provides research results that have direct economic and political impact in modern society.

As the new sunspot cycle, Sunspot Cycle 24, begins to pick up energy (as we reported earlier this year in this column), Earth and space are about to come into contact in a way that's new to human history (**Figure 1**).

Richard Fisher, head of NASA's Heliophysics Division, explains that the "sun is waking up from a deep slumber, and in the next few years we expect to see much higher levels of solar activity. At the same time, our technological society has developed an unprecedented sensitivity to solar storms." It is the intersection of these two developments that has become a focal issue among space scientists and leaders of many technological sectors.

The National Academy of Sciences framed the problem in 2008 in a landmark report entitled "Severe Space Weather Events—Societal and Economic Impacts." It identified how modern societies now rely on sensitive electronic systems for the basics of daily life. The report explained that smart power grids, GPS navigation, air travel, financial services, and emergency radio communications can all be knocked out by intense solar activity. A century-class solar storm, the Academy warned, could cause 20 times more economic damage than Hurricane Katrina.

Much of the damage can be mitigated if managers know a storm is coming. For instance, putting satellites in their "safe mode" and disconnecting transformers from the power grid can protect these assets from the damaging electrical surges triggered by intense solar energy. Preventive action, however, requires accurate forecasting—a job that, in the United States, has been assigned to the Space Weather Prediction Center of the National Oceanic and Atmospheric Administration (NOAA).

"Space weather forecasting is still in its infancy, but we're making rapid progress," says Thomas Bogdan, director of NOAA's Space Weather Prediction Center in Boulder, Colorado.

Bogdan sees the collaboration between NASA and NOAA as key. "NASA's fleet of heliophysics research spacecraft provides us with up-to-the-minute information about what's happening on the sun. They are an important complement to our own GOES [Geostationary Operational Environmental Satellite] and POES [Polar Operational Environmental Satellite] satellites, which focus more on the near-Earth environment."

Among dozens of NASA spacecraft, Bogdan notes three of special significance: STEREO, SDO, and ACE.

STEREO (Solar Terrestrial Relations Observatory) is a pair of spacecraft stationed on opposite sides of the sun with a combined view of 90 percent of the stellar surface. In the past, active sunspots could hide out on the sun's far side, invisible from Earth, and then suddenly emerge over the limb, spitting flares and coronal mass ejections (CMEs). STEREO makes such surprise attacks impossible.

SDO (Solar Dynamics Observatory) is the newest addition to NASA's fleet. Just launched in February, it is able to photograph solar active regions with unprecedented spectral, temporal, and spatial resolution. Researchers can now study eruptions in exquisite detail, raising hopes that they will learn how flares work and how to predict them. SDO also monitors the sun's extreme UV output, which controls the response of Earth's atmosphere to solar variability (**Figure 2**).

Bogdan's favorite NASA satellite, however, is an old one: the Advanced Composition Explorer (ACE), launched in 1997. "Where would we be without it?" he wonders. ACE is a solar wind monitor. It sits upstream between the sun and Earth, detecting solar wind gusts, billion-ton CMEs, and radiation storms as much as 30 minutes before they hit our planet, triggering aurora and causing intense geomagnetic storms (**Figure 3**) that degrade shortwave radio communication and even cause orbiting satellites to slow down, affecting their orbits.

"ACE is our best early warning system," says Bogdan. "It allows us to notify utility and satellite operators when a storm is about to hit."

NASA spacecraft were not originally intended for operational forecasting, but, as Fisher notes, "it turns out that our data have practical economic and civil uses. This is a good example of space science supporting modern society. I believe we're on the threshold of a new era in which space weather can

Optimum Working Frequencies (MHz) - For September 2010 - Flux = 93, 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	21	19	16	13	12	12	11	11	10	10	10	10	9	13	18	20	22	23	23	23	23	23	23	22
NORTHERN SOUTH AMERICA	29	27	24	19	18	17	16	15	14	14	13	13	13	13	22	24	26	28	29	30	31	31	31	30
CENTRAL SOUTH AMERICA	28	26	22	18	17	16	15	15	14	14	13	13	13	16	24	26	27	28	29	30	30	30	30	30
SOUTHERN SOUTH AMERICA	30	29	26	22	20	19	18	17	16	15	14	14	13	13	19	25	27	29	30	31	31	32	32	31
WESTERN EUROPE	9	9	9	9	9	9	9	8	9	9	9	9	9	11	15	16	18	17	17	16	14	12	10	10
EASTERN EUROPE	9	9	8	8	8	10	10	9	9	9	9	9	9	8	13	14	14	13	13	12	10	9	9	9
EASTERN NORTH AMERICA	23	20	16	13	13	12	12	11	11	11	11	11	10	16	21	23	24	25	26	26	26	26	25	24
CENTRAL NORTH AMERICA	13	12	11	8	7	7	7	6	6	6	6	6	6	6	10	12	13	13	14	14	14	14	14	14
WESTERN NORTH AMERICA	7	7	6	5	4	4	3	3	3	3	3	3	3	3	3	5	6	7	7	7	7	8	7	7
SOUTHERN NORTH AMERICA	22	21	18	14	13	12	12	11	11	10	10	10	10	10	16	20	21	23	23	24	24	24	24	23
HAWAII	21	20	19	18	16	13	12	11	11	10	10	9	9	9	8	8	12	16	18	19	20	21	21	21
NORTHERN AFRICA	10	9	9	9	9	9	9	9	9	9	9	9	9	13	16	17	18	19	18	16	11	11	10	10
CENTRAL AFRICA	12	12	12	11	10	10	9	9	9	9	9	9	9	12	15	17	18	18	19	17	15	14	14	13
SOUTH AFRICA	20	18	13	13	12	12	11	11	11	10	10	10	10	17	20	22	23	24	24	24	24	24	23	22
MIDDLE EAST	9	9	9	9	9	10	9	9	9	9	9	9	9	8	14	16	17	15	11	11	10	10	9	9
JAPAN	20	20	19	18	17	14	11	10	10	10	9	9	9	9	9	9	9	9	9	9	14	17	19	20
CENTRAL ASIA	20	20	19	18	17	14	11	10	10	10	9	9	9	9	9	9	10	12	11	11	11	11	19	20
INDIA	13	13	13	13	12	10	10	9	9	9	9	9	8	8	8	9	8	10	11	12	12	12	13	13
THAILAND	19	19	18	18	16	14	11	10	10	10	9	9	9	9	9	9	12	14	13	12	12	12	11	16
AUSTRALIA	26	27	28	28	25	20	17	16	15	15	14	14	13	13	13	13	17	16	15	15	17	20	22	24
CHINA	18	19	18	17	16	13	11	10	10	9	9	9	9	9	9	9	9	9	9	9	9	9	14	17
SOUTH PACIFIC	30	31	30	28	25	21	19	18	17	16	15	14	14	14	13	13	16	15	18	21	24	26	27	29

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	23	20	18	16	15	14	14	13	12	12	11	11	13	19	22	24	26	27	27	27	27	27	26	25
NORTHERN SOUTH AMERICA	26	24	21	20	18	17	16	15	14	13	13	12	12	18	21	23	25	26	27	28	29	29	29	28
CENTRAL SOUTH AMERICA	27	24	21	20	18	17	16	15	15	14	14	13	16	23	24	26	27	28	29	30	30	30	30	30
SOUTHERN SOUTH AMERICA	30	28	25	23	21	19	18	17	16	15	14	14	14	19	24	26	28	29	30	31	31	31	32	31
WESTERN EUROPE	10	9	9	9	9	9	8	8	9	9	8	8	14	16	18	19	19	18	18	17	15	13	10	10
EASTERN EUROPE	9	9	9	9	8	8	9	9	9	9	9	8	12	15	16	16	16	15	14	13	12	10	9	9
EASTERN NORTH AMERICA	16	13	10	9	9	9	8	8	8	8	8	8	9	14	16	17	18	19	19	19	19	19	18	17
CENTRAL NORTH AMERICA	8	7	5	4	4	4	4	4	3	3	3	3	3	5	7	7	8	8	9	9	9	9	8	8
WESTERN NORTH AMERICA	13	13	11	8	7	7	7	7	6	6	6	6	6	6	10	12	13	14	14	14	14	14	14	14
SOUTHERN NORTH AMERICA	15	14	11	10	9	9	8	8	8	7	7	7	7	10	13	15	16	17	17	17	17	17	17	16
HAWAII	23	22	21	18	14	13	12	12	11	11	10	10	10	10	10	10	15	19	21	23	24	24	24	24
NORTHERN AFRICA	12	11	11	10	10	9	9	9	9	9	9	9	15	17	19	20	20	20	20	20	15	13	13	12
CENTRAL AFRICA	13	11	10	10	10	9	9	9	9	9	9	9	15	17	19	19	20	20	20	18	17	16	15	14
SOUTH AFRICA	20	17	16	15	15	14	14	13	13	13	13	12	23	26	28	30	31	31	31	30	29	26	24	22
MIDDLE EAST	9	9	9	9	9	9	9	9	9	9	9	9	14	16	18	19	18	17	12	11	10	10	10	9
JAPAN	19	18	17	15	11	10	10	10	9	9	9	9	9	9	9	9	9	9	9	9	13	16	18	19
CENTRAL ASIA	19	18	17	15	11	10	10	10	9	9	9	9	9	9	9	12	12	11	11	11	11	11	18	19
INDIA	12	13	13	10	10	10	9	9	9	9	9	8	8	12	14	14	13	11	9	9	9	9	9	8
THAILAND	18	17	16	13	11	10	10	9	9	9	9	9	9	9	12	15	14	14	13	12	12	11	11	14
AUSTRALIA	26	28	27	24	18	17	16	15	14	14	14	13	13	13	12	18	17	16	15	15	18	21	23	25
CHINA	18	17	16	13	11	10	10	9	9	9	9	9	9	9	10	10	9	9	9	9	9	9	12	16
SOUTH PACIFIC	31	30	27	24	21	19	18	17	16	15	15	14	14	13	15	17	16	15	19	22	25	27	28	30

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	18	16	15	14	13	12	11	11	10	10	9	9	14	17	19	20	21	22	22	22	22	22	21	20
NORTHERN SOUTH AMERICA	24	22	20	18	17	16	14	14	13	12	12	11	14	17	20	22	23	24	25	25	26	26	25	25
CENTRAL SOUTH AMERICA	27	25	23	21	19	18	17	16	15	14	14	16	21	23	25	26	27	28	29	30	30	30	30	29
SOUTHERN SOUTH AMERICA	29	27	25	23	21	19	18	17	16	15	14	14	19	22	25	26	28	29	30	31	31	31	31	31
WESTERN EUROPE	9	9	9	8	8	8	8	8	8	8	11	15	17	18	19	19	19	18	18	17	15	13	10	10
EASTERN EUROPE	9	9	9	9	8	8	8	9	9	8	8	15	17	18	18	18	17	17	16	15	12	10	10	9
EASTERN NORTH AMERICA	7	5	5	5	4	4	4	4	4	4	3	3	6	8	8	9	9	9	9	9	9	9	8	8
CENTRAL NORTH AMERICA	16	14	10	10	9	9	9	9	8	8	8	8	10	15	17	18	19	20	20	20	20	19	19	18
WESTERN NORTH AMERICA	23	20	16	13	13	12	12	11	11	11	11	11	10	17	21	23	24	25	26	26	26	26	25	24
SOUTHERN NORTH AMERICA	18	16	13	12	12	11	10	10	9	9	9	9	10	16	18	19	20	21	21	22	21	21	20	20
HAWAII	23	21	17	14	13	13	12	12	11	11	11	11	11	12	12	11	16	21	23	25	26	26	26	25
NORTHERN AFRICA	13	12	12	11	11	11	11	11	11	10	17	21	23	24	25	26	26	25	24	22	18	15	14	13
CENTRAL AFRICA	13	13	12	12	11	11	11	11	11	10	17	21	23	25	25	26	26	25	23	20	18	17	16	15
SOUTH AFRICA	20	19	18	16	16	15	15	14	14	13	15	23	26	29	30	31	31	31	31	30	29	26	24	22
MIDDLE EAST	11	10	10	10	9	9	9	9	9	9	13	17	18	19	20	21	21	21	18	14	13	12	12	12
JAPAN	17	15	11	10	10	10	9	9	9	9	9	9	9	10	9	9	9	9	9	9	11	16	18	18
CENTRAL ASIA	16	13	11	10	10	10	9	9	9	9	9	9	12	13	13	12	12	11	11	11	11	11	16	18
INDIA	9	8	8	10	9	9	9	9	9	9	9	12	13	13	13	13	13	13	12	12	11	10	9	9
THAILAND	15	11	10	10	10	9	9	9	9	9	9	9	15	17	17	15	14	14	13	12	12	12	11	11
AUSTRALIA	27	26	21	18	17	16	15	15	14	14	13	13	13	18	19	18	17	16	15	15	18	21	23	25
CHINA	15	11	10	10	10	9	9	9	9	9	9	9	11	11	10	10	9	9	9	9	9	9	9	14
SOUTH PACIFIC	29	27	24	22	20	19	18	16	16	15	14	14	13	18	17	16	15	17	21	24	27	28	30	31

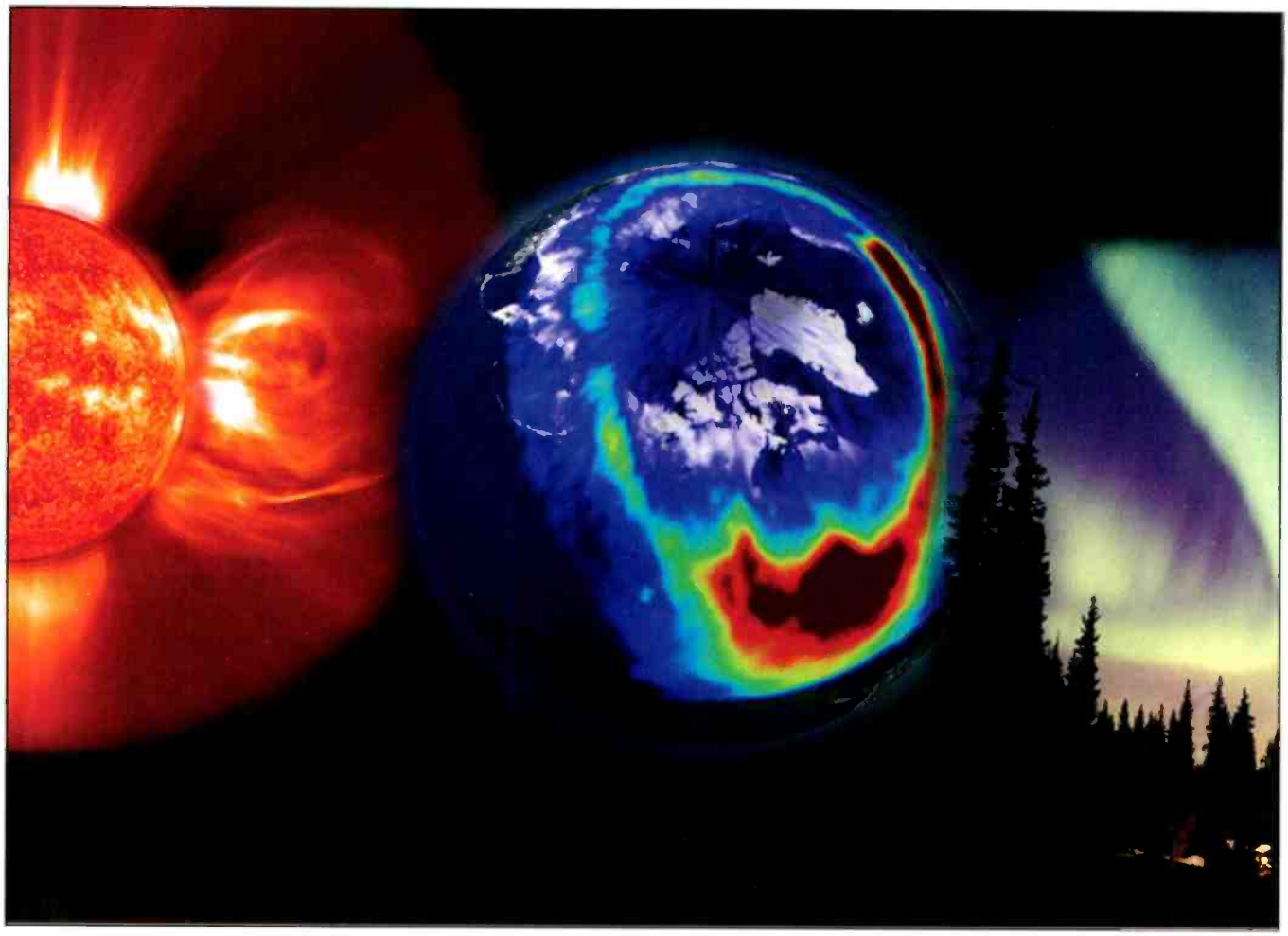


Figure 3. Space weather happens when a solar storm from the sun travels through space and impacts the Earth's magnetosphere. Studying space weather is important to our national economy because solar storms can affect the advanced technology we have become so dependent upon in our everyday lives. Radio operations are particularly sensitive as these storms degrade shortwave radio communications, though they can also sometimes enhance VHF communications. VHF communications can improve during auroral events caused by the interaction of the solar wind and solar plasma released by flares and coronal mass ejections. (Source: NASA)

be as influential in our daily lives as ordinary terrestrial weather. We take this very seriously indeed."

But because the potential damage to our electronic infrastructure is so great, scientists from around the world are warning that one country cannot address the problem alone. That's the message scientists delivered at the International Living with a Star (ILWS) meeting on July 16, 2010, in Bremen, Germany. Representatives from more than 25 of the world's most technologically advanced nations gathered to discuss international efforts to address the issue.

"The problem is solar storms—figuring out how to predict them and stay safe from their effects," says ILWS Chairperson Lika Guhathakurta of NASA headquarters. "We need to make progress on this before the next solar maximum arrives around 2013."

Stay tuned to this column where you can find details on the latest space weather news and science.

HF Propagation For October

A change in propagation conditions in the Northern Hemisphere can be observed as we move away from the long sunlit days of summer into the longer hours of winter's darkness. With the shorter period of sunlight each day, the ionosphere has more time during the dark hours to lose the energy created during daylight hours. This affects the propagation of radio signals by lowering the maximum usable frequency (MUF) over many areas of the Earth.

The change in the length of daily darkness, however, is not the only influence on the propagation of radio waves through the atmosphere. The amount and strength of radiation arriving and passing through our atmosphere varies from season to season, as well as from the solar cycle minimum to the solar cycle maximum.

During the Northern Hemisphere's winter months, the Earth is closer to the sun than during any other time of its orbit. This makes the daytime ionization more intense than that of summer daytimes. In turn, this higher-level energy during the day causes the average MUF to increase slightly, as compared to the same time of day during the summer season, over the same radio signal path.

Then, with the longer winter hours of darkness, the ionosphere has more time to lose its electrical charge. This causes the MUF to dip lower at night than during the summer months.

These conditions cause a wide daily variation in the maximum frequency that can be propagated by refraction of the

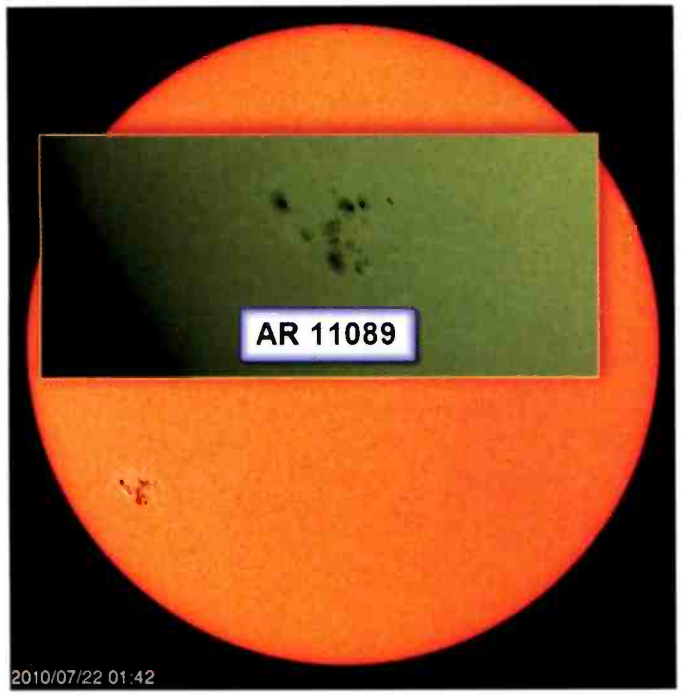


Figure 4. Active Sunspot Region, NOAA 11089, rotated into view on July 18, 2010, and continued to grow larger each day as it rotated across the visible solar disc. This sunspot group caused the 10.7-cm flux to rise above 90, after months of very low solar activity. The large disc view is the Michelson Doppler Imager (MDI) Intensitygram (IGR) view, while the close-up slice is taken by SDO's Atmospheric Imaging Assembly (AIA) instrument. (Source: MDI/SDO/NASA)

radio waves by the wintertime ionosphere. Many radio enthusiasts celebrate the arrival of the winter shortwave season for these reasons.

Signals below 120 meters are improving, with nighttime paths increasing in the Northern Hemisphere. Seasonal static, which makes it difficult to hear weak DX signals, is starting to decrease as we move into winter. Expect a few DX openings during the hours of darkness and into the sunrise period. These openings will often be weak due to the relatively high signal absorption during the expected elevated geomagnetic storminess through the rest of this year. Look for openings from Europe and the south if you are listening in the eastern half of the United States, and from the south, the Far East, Australasia, and the South Pacific if you are in the western half.

The best propagation aid is a set of sunrise and sunset curves, since DX signals tend to peak when it is local sunrise at the easterly end of the path in question. A good Internet website featuring a grey line map display is found at www.fourmilab.to/earthview/. Follow the link, "map of the Earth" showing the day and night regions.

Seventy-five through 120 meters are coming alive in late October. Expect long-range DX on the low bands, starting close in right after sunset, and extending farther as the night develops. Signals here should peak from Europe and from a generally easterly direction around midnight. DX paths will move farther west through the night. By morning, openings from Asia should be common. For openings in a generally western direction, expect a peak just after sunrise. The band should remain open from the south throughout most of the night. Propagation in this band is quite similar to that expected on 41 meters, except that signals will be somewhat weaker on the average, noise levels will be a bit higher, and the period for band openings in a particular direction will be a bit shorter.

Forty-one meters should be the hottest DX band during the dark hours as the seasonal static levels are lower than they were during the summer. The band should be open first for European DX in the eastern United States during the late afternoon. Signals should increase in intensity as darkness approaches. During the hours of darkness, expect good DX openings from most areas of the world. Signals should peak from an easterly direction about midnight, and from a westerly direction just after sunrise. Excellent openings toward the south should be possible throughout most of the nighttime period.

Paths on 31 through 19 meters are becoming more reliable between North America and Europe in the morning and between North America and Asia during the late afternoon hours. The strongest openings occur for a few hours after sunrise and during the sunset hours.

Thirty-one and 25 meters will often remain open into many areas late into the night and will open early in the morning, especially when part of the propagation path moves through sunlit regions. However, these bands are crowded and signals are usually very strong and steady. Twenty-five meters is expected to be an excellent band for medium distance (500 to 1,500 miles) reception during the daylight hours. Longer distance reception (up to 2,000 to 3,000 miles) should be possible for an hour or two after local sunrise, and again during the late afternoon and early evening. Thirty-one meters will provide medium distance daytime reception ranging between 400 and 1,200 miles.

Twenty-two through 19 meters compete with 16 for the best daytime DX band during October. They will open for DX just before sunrise and should remain open from all directions throughout the day, with a peak in the afternoon. Nighttime conditions will favor openings from the south and tropical areas. Since the Southern Hemisphere has long daylight hours, DX paths on these bands from stations in the south will be common.

Sixteen through 13 meters will occasionally open through October when flux levels reach above 100. Paths from Europe and the South Pacific as well as from Asia, at least during days of higher solar flux levels, are common, especially on 16 meters. Look for best conditions from Europe and the northeast before noon and from the rest of the world during the afternoon hours. Reception from the South Pacific, Australia, New Zealand, and the Far East should be possible well into the early evening.

VHF Conditions

Conditions during October should include moderate levels of trans-equatorial propagation (TE) in which stations in the southern states and parts of the Caribbean will be able to work into the northern areas of South America during the late afternoon. During peak years of a solar cycle, October is one of the best months for TE activity, especially later in the month. Since we are in the very beginning of the new sunspot cycle, these openings will be rarer than in previous years, but some exciting events might occur.

While sporadic-*E* activity is sparse in October in the northern Temperate Zone (where much of the U.S. is located), there is some possibility of extended tropospheric propagation conditions during the month because of the changing weather pat-

terns. Higher VHF is the best frequency range to watch for this.

Current Solar Cycle Progress

Sunspot activity is climbing, again, as of this column's publication date. A nicely formed sunspot region, NOAA Active Region 11089, rotated into view mid-July. This region increased the 10.7-cm flux above 90, improving the summer season HF propagation (**Figure 4**).

The Dominion Radio Astrophysical Observatory at Penticton, BC, Canada, reports a 10.7-cm observed monthly mean solar flux of 72.6 for June 2010. The 12-month smoothed 10.7-cm flux centered on December 2009 is 74.9. The predicted smoothed 10.7-cm solar flux for October 2010 is about 93, give or take about 7 points.

The Royal Observatory of Belgium reports that the mean monthly observed sunspot number for June 2010 is 13.5. The lowest daily sunspot value during June 2010 was zero (0) on only two days, June 15 and 16. The highest daily sunspot count for June was 33 on both June 11 and 12. The 12-month running smoothed sunspot number centered on December 2009 is 8.3. A smoothed sunspot count of 36 is expected for October 2010, give or take about 8 points.

The observed monthly mean planetary A-Index (A_p) for June 2010 was 8. The 12-month smoothed A_p index centered on December 2009 is 4.8. Expect the overall geomagnetic activity to be unsettled to stormy during September. Refer to the Last Minute Forecast published in *CQ* magazine or on the author's website (http://prop.hfradio.org) for the outlook on what days this might occur.

I'd Like To Hear From You

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

Until next month, 73 de NW7US, Tomas Hood, nw7us@hfradio.org, P.O. Box 9, Stevensville, Montana 59870.

When The Chips Are Down...

by Bill Price, N3AVY
chrodoc@gmail.com

"...I've just never found much to "talk" about on the airwaves, and while this !#$%! Internet has contributed much to the demise of ham radio, it has allowed so many of us to find the narrow special interest groups we crave contact with..."*

A month with no computer. I like to stay in contact with my email friends, and one of the perks of having this column is that I make new email friends all the time. I do have a computer at my HPJIE,* but I'm supposed to be working while I'm there.

And me with no functioning ham radio, either.

No, I couldn't have just plugged it in; they need an *antenna* to work. Several of my friends have volunteered to help me put one up, or I should say put one up *for* me as I've avoided having an antenna at all cost—well, it would actually be at no cost, because my friends even offer to bring me the wire, baluns, feedline, and insulators needed for a good installation.

After four years in the U.S. Coast Guard, much of which was spent working as a shipboard radio operator at NICC, NPCR, 4YB, 4YC, 4YD, and 4YE, not to mention the encrypted callsigns at GTMO (Hey! I said not to mention those!), I couldn't stand the thought of not communicating via CW. Eventually, I got a ham license, or two or three, until I ended up with N3AVY, which is about as good a callsign as anyone could ask for.

But like my first day in kindergarten, my first contacts on the ham bands were disappointing. Signal strength, handle, rig, antenna, weather. It was a lot like being in a sandbox with crayons.

Since the statute of limitations has probably long run out on whatever I did, it's O.K. to tell you that the middle of the Atlantic Ocean was a pretty safe venue to "chat" with other radio operators on 466/468 kilocycles (before hertzes were invented), because no one back on the beach could hear you if you kept the power down. These commercial radio ops ("merchies") were probably some of the greatest QSOs a person could ever work, including all the famous liners (GBTT, GBSS, FNRR—let's see who can name *those* tunes in three notes).

So, in the condensed version, I've just never found much to "talk" about on the airwaves, and while this !#$%*! Internet has contributed much to the demise of ham radio, it has allowed so many of us to find the narrow special interest groups we crave contact with—such as "people with pet rats who play chromatic harmonica" or "old surf guitar players who never got past The Ventures"—without sitting up till 5 a.m. waiting for a sked and hoping that conditions held up.

Which brings me back full circle (what a coincidence) to the !#$%&! computer.

At my HPJIE, I fix things, including the occasional computer (although I'm *not* an IT guy). And before I fix them, I have to diagnose them.

I learned diagnosing from my dad, who said, "You just have to break it down to two things: Is it getting gas and is it getting spark?"

Much of life is like that. The long-suffering Mrs. N3AVY tells me that I've lost much of my spark; however, I make up for it with...oh, nevermind.

But diagnosis by substituting "known-good" components is one of the quickest ways to spot a problem, whether you're swapping tubes, or spark plugs, or hard drives. Lucky for me, I had a nearly identical motherboard and C-drive for my computer, and the spare C-drive had the same operating system loaded onto it, etc., etc., so it was a perfect setup for diagnosis by substitution.

So I swapped the motherboard. Nope. And I replaced the original motherboard and swapped the C-drive. Nope. Then I swapped them *both*. Nope. I swear I was about to swap the case and the power cord when I came to what was left of my senses. Fortunately, the folks at my HPJIE were about to discard their oldest, slowest computer, and that treasure now graces the floor next to my left foot, and from the chips of which these words are passing through.

I still have absolutely no idea what went wrong with my own, no-longer trusty box of silicon, and although I now have a perfect opportunity to swap known good components for questionable ones, one-at-a-time, just like any good techie would do, I doubt that I'll ever do it. Why take the mystery out of life now that it's just getting interesting.

Before I throw the big switch, I'd like to say hi to two new email friends, Mr. G. in Massachusetts, another victim of an HPJIE, and to an anonymous former soldier who used to annoy the Soviets via a military radio system during the cold war. This We'll Defend.

**High-paying job in electronics*

AR5001D Wide Coverage Professional Grade Communications Receiver

The Legend Lives On!

The AR5001D delivers amazing performance in terms of accuracy, sensitivity and speed.

Available in both professional and consumer versions, the AR5001D features wide frequency coverage from 40 KHz to 3.15 GHz, with no interruptions. Developed to meet the monitoring needs of security professionals and government agencies, the AR5001D can be controlled through a PC running Windows XP or higher. 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. AR5001D standard features include storage of up to 2000 frequencies, 45 MHz IF digital signal processing, direct digital sampling, a high performance analog RF front-end, a DDS local oscillator and advanced signal detection capabilities which can detect hidden transmitters. With its popular analog signal meter and large easy-to-read digital spectrum display, the AR5001D is destined to become the choice of federal, state and local law enforcement agencies, the military, emergency managers, diplomatic service, news-gathering operations, and home monitoring enthusiasts.*

Discover the next generation in AOR's legendary line of professional grade desktop communications receivers.

- Multimode receives AM, wide and narrow FM, upper and lower sideband and CW
- Up to 2000 alphanumeric memories (50 channels X 40 banks) can be stored
- Analog S-meter
- Fast Fourier Transform algorithms
- Operated by a Windows XP or higher computer through a USB interface us ng a provided software package that controls all of the receiver's functions
- An SD memory card port 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
- Triple-conversion receiver exhibits excellent sensitivity
- Powered by 12 volts DC (AC Adapte- included), it can be operated as a base or mobile unit
- Professional (government) version is equipped with a standard voice-inversion monitoring feature

Add to the capabilities of the AR5001D with options:

- Optional APCO-25 decoder
- Optional LAN interface unit enables control via the internet
- Optional I/Q output port allows capture of up to 1 MHz onto a computer hard drive or external storage device
- Optional AR-I/Q Windows software facilitates the easy storage and playback of transmissions captured within the selected spectrum in conventional modes, or, signals can be subjected to further analysis
- Optional GPS board can be used for an accurate time base and for time stamping digital I/Q data

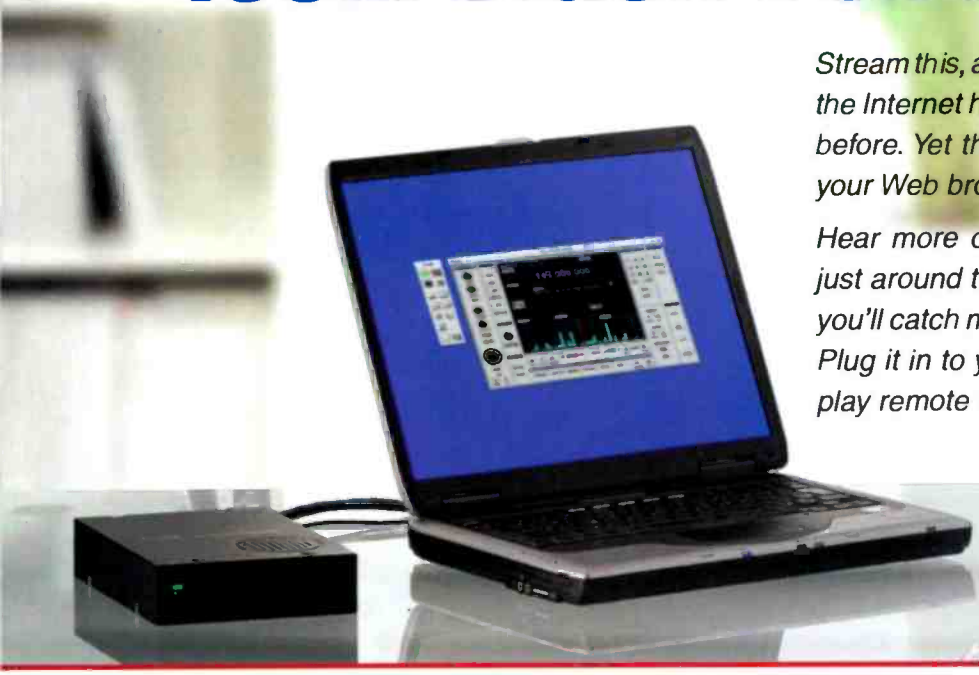
AOR®
Authority On Radio Communications

The Serious Choice in Advanced Technology Receivers

AOR U.S.A., Inc.
20655 S. Western Ave., Suite 112
Torrance, CA 90501, USA
Tel: 310-787-8615 Fax: 310-787-8619
info@aorusa.com • www.aorusa com

Cellular blocked for US consumer version. Unblocked version available to qualified purchasers with documentation. Specifications subject to change without notice or obligation

Icom Black Box Receivers



Stream this, app that: From offbeat to mainstream, the Internet has opened up global radio like never before. Yet there's still plenty of active spectrum your Web browser can't cover!

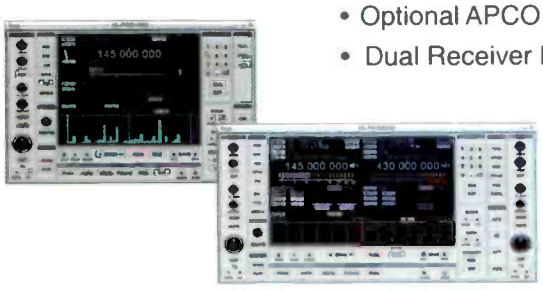
Hear more of what's going on. No matter if it's just around the corner or clear across the globe, you'll catch more with an Icom black box receiver. Plug it in to your PC or control it with the plug 'n play remote control head. Don't miss the action!

IC-R1500

- 0.1 ~ 3299.99 MHz*
- AM, FM, WFM, CW, SSB
- Single Receiver
- Mobile or PC Controlled

IC-R2500

- 0.1 ~ 3299.99 MHz* (Main)
  50 to 1300 MHz* (Sub)
- AM, FM, WFM, CW, SSB
- Dual Wideband Receiver
- Mobile or PC Controlled
- Optional APCO 25 and D-STAR
- Dual Receiver Diversity



Bundled with RadioCom 4.5

Icom's black box radios now come bundled with Bonito's RadioCom 4.5. With Radio-Control, Equalizer-Filter-Analyzer, AudioRecorder, RTTY-, CW-, WFAX-, SatFax, SSTV-, PSK- and Time Signal Decoding, Frequency- and Schedule-Manager, as well as SatTracking...(whew), you have EVERYTHING in one program.

Bonito

THE WORLD IN YOUR HAND:

IC-R20

ADVANCED OPS
0.150 ~ 3304.0 MHz*

IC-R6

SHIRT-POCKET COMPACT
0.1 ~ 1300.0 MHz*

Visit your authorized Icom dealer today!
Free literature: 425.450.6088
www.icomamerica.com

ICOM

*Frequency specs may vary. Refer to owner's manual for exact frequency specs.