



POPULAR COMMUNICATIONS

FEBRUARY 2008

NASCAR

Smokin' Scanning Tips And Techniques

- **Report From The Scene:
Comms At A Southern
California Inferno, pg. 16**
- **An Invitation From
NASWA, pg. 22**



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The **Icom R1500** is similar to the above, but also includes a controller head for additional operation independent of a PC. #1500 **\$579.95**

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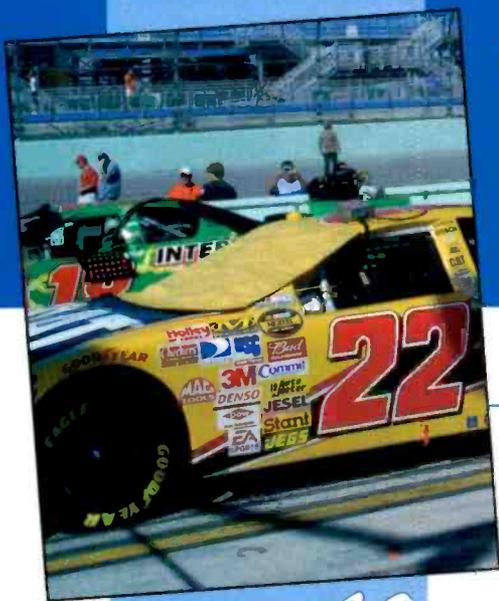
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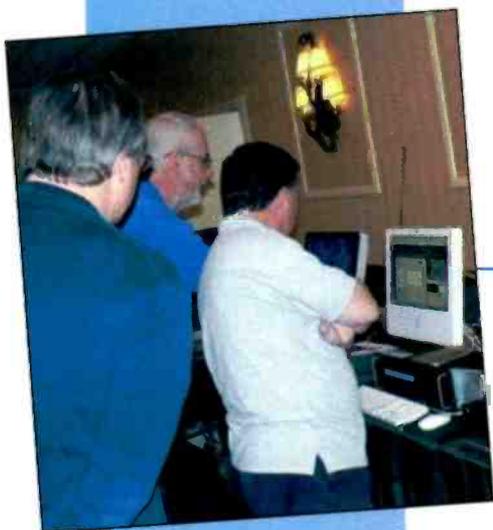
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On The Cover

Wildly popular throughout the country, NASCAR holds a truly special place in the hearts of radio hobbyists—scanner monitors aren't just welcome, they're ardently courted. Check out our cover story "NASCAR—Hot Cars, Hotter Scanning," starting on page 10, for tips on catching the action. Then find a race near you and bring (beg, borrow, buy, or rent) a scanner and see for yourself why it's one of America's favorite pastimes. (Cover photos of the Ford Championship Weekend 2007, Homestead Miami Speedway, by Larry Mulvehill, WB2ZPI)

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Super Active Antenna

"World Radio TV Handbook" says MFJ-1024 is a "first-rate easy-to-operate active antenna... quiet... excellent dynamic range... good gain... low noise... broad frequency coverage." Mount it outdoors away from electrical noise for maximum signal, minimum noise. Covers 50 KHz-30 MHz.

Receives strong, clear signals from all over the world. 20 dB attenuator, gain control, ON LED.

Switch two receivers and auxiliary or active antenna. 6x3x5 in. Remote has

MFJ-1024 \$159⁹⁵ 54" whip, 50 feet coax. 3x2x4 inches. 12 VDC or 110 VAC with MFJ-1312, \$15.95.

Indoor Active Antenna

Rival outside

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

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

Compact Active Antenna

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MFJ-1020C \$89⁹⁵



MFJ-1022 \$69⁹⁵

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Easy to use, tune and read

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

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

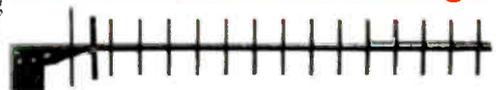
It's easy to read -- front-mounted 2 line 16 character LCD display has contrast adjustment.

Copies most standard shifts and speeds. Has

MFJ AutoTrak™ Morse code speed tracking.

Use 12 VDC or use 110 VAC with MFJ-1312D AC adapter, \$15.95. 5 1/4xw x 2 1/2hx 5 1/4d inches.

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



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

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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.



Eliminate power line noise!



MFJ-1026 \$199⁹⁵

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

Preamp with gain \$119⁹⁵ control boosts weak stations 10 times. 20 dB attenuator prevents overload. Select 2 antennas and 2 receivers. 1.6-30 MHz. 9x2x6 in. Use 9-18 VDC or 110 VAC with MFJ-1312, \$15.95.

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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-959C \$119⁹⁵



MFJ-1045C \$89⁹⁵



MFJ-752C \$119⁹⁵

MFJ Shortwave Headphones



MFJ-392B \$24⁹⁵

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

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while rejecting images, intermod and phantom signals. 1.5-30 MHz. Preselector bypass and receiver grounded positions. Tiny 2x3x4 in.

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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 \$12⁹⁵

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 \$59⁹⁵ Ship Code A

MFJ Antenna Switches

MFJ-1704 \$74⁹⁵ MFJ-1702C \$34⁹⁵

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-461 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!

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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. 4 1/2W x 1D x 2H inches.



MFJ-461 \$89⁹⁵



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by Edith Lennon, N2ZRW, Editor

Getting Sirius— A Mixed Blessing

by Rich Moseson, W2VU

This month, in honor of the BBC World Service's 75th Anniversary (it began broadcasting in 1932, but our three-month lead time has this issue going to print in December), and donating just a little more ink to the Sirius news coverage, we turn "Tuning In" over to the meditative musings of Rich Moseson, W2VU, Pop'Comm's editorial director and editor of sister publication, CQ magazine.

—Editor

I've recently become a regular listener to the BBC again, thanks to a new car that came with a satellite radio receiver and a three-month free subscription to Sirius Satellite Radio (a nasty but highly effective marketing ploy—I was addicted within five minutes). But as much as I've been enjoying listening to those British accents and the BBC's vastly better coverage of world news than any news outlet in the United States, I've found cause for concern as well. Listeners are regularly reminded that BBC World Service programming is available via satellite, on the Internet, and—almost as an afterthought—on shortwave radio.

One of the programs currently running is a series of short pieces celebrating the BBC's 75th Anniversary. One item was an interview with former Soviet leader Mikhail Gorbachev, who noted that while he was under house arrest during the abortive coup attempt by Communist hardliners in the late 1980s, he found out what was really happening in Moscow by listening to the BBC. There was no streaming Internet radio then, but if there had been, Gorbachev's Internet access certainly would have been cut off anyway. The only way for him to keep up with events was via shortwave radio. It would likely be no different today.

It's wonderful that I can now listen to the BBC whenever I want, in the car via satellite or at home over the Internet

(there's even a radio you can buy with built-in WiFi, so you can listen to Internet radio over your wireless local area network without being tied to your computer). But this is all access for people in wealthy countries or wealthy people in other countries. The people who most need access to the comprehensive and objective news coverage offered by the BBC probably don't have cars with satellite radios (if they have cars at all) or high-speed Internet access (or computers). The ever-more-limited shortwave service of virtually all international broadcasters is increasingly denying access to those people who need those voices the most.

Another problem I noticed was that, while Sirius offers 24-hour access to the BBC and Radio Canada International, those are my only choices among international broadcasters. If I want to listen to the Voice of Russia or Deutsche Welle, well, it's not available on Sirius. And one could hardly expect to be given the option to listen to Radio Havana on a system that calls its liberal talk channel "Sirius Left" and its conservative talk channel "Sirius Patriot." Gimme a break.

But the real point is that my access to international broadcasts on my satellite radio is limited by what somebody else is willing to make available to me. Whether the choice of available programming is made for economic or political reasons, or a combination of the two, the fact remains that someone else is deciding what I can listen to. The same goes for the channels I can watch on cable TV, and in certain cases—China is a good example—what I can access on the Internet.

The bottom line here—one that needs to be remembered by those concerned with the bottom line in deciding what funding to provide to international broadcasters—is that the only medium that offers truly unfettered access to a broadcaster's message is not satellite, not the Internet, but shortwave radio. Just ask Mikhail Gorbachev.

Popular Communications invites your comments, questions, criticisms, compliments, article submissions—in a word, your thoughts. Write to me at editor@popular-communications.com.

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- Line Output socket
- Headphone socket
- Intuitive Menu system
- Operate from single rotary control or remote control
- Compact, stylish remote control
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- Acoustically tuned cabinet
- Audio Formats: MP3/WMA/AAC/WAV/AIFF/FLAC/REAL
- WiFi (802.11g/b) and Wired Ethernet connections
- (10/100 Mbps, RJ-45)
- Connects to Windows Shares or UPNP servers
- Dimensions (W X H X D): 290 x 115 X 215
- Weight 2.98kg

News, Trends, And Short Takes

Radio Broadcasts To Ethiopia Jammed

Shortwave radio hobbyists have reported deliberate interference to the Amharic-language transmissions of Germany's international broadcaster, Deutsche Welle (DW), beamed to Ethiopia. Jamming was noted in DW's signal on 11645 kHz on November 14 and 15, and to DW's Amharic broadcast on 15640 kHz on November 15. In a separate report, the *Ethiopian Review* website reported on November 13 that VOA broadcasts to Ethiopia had been jammed since November 12 with the help of the Chinese government, which provided technicians and powerful radio jamming equipment.

WRC In Geneva Calls Radio Martí's Airborne Broadcasts Illegal

The World Radiocommunication Conference 2007 (WRC-07) called U.S. transmissions against Cuba illegal, angering U.S. representatives at the forum. After three weeks of negotiations, the conference of technical experts from several countries rejected this practice.

"Radio transmissions from an aircraft only toward the territory of another government, and without its consent, contravenes radio communication regulations," the conference decided. Diplomats interviewed by the news agency Prensa Latina said "this is a firm rejection of measures implemented by the Bush government in the last years."

The plenary meeting also indicated that Washington has not stopped the prejudicial interference of Cuban broadcast services, despite several requests by the Radiocommunications Office. Regarding that, it urged the United States to adopt the necessary measures to resolve this and asked the International Telecommunications Union to inform on related progress in coming meetings.

After the remarks, the U.S. delegation decided to withdraw from the agreement and, clearly challenging the meeting, said the transmission policy toward Cuba will be maintained.

New Broadcasting Items On WRC-07 Agenda

Two new agenda items related to the broadcasting services were also addressed at WRC-07 in Geneva. The items pertained to identifying common frequency spectrum for ENG (electronic news gathering), EFP (electronic field production), and wireless microphones used for linking outdoor coverage, and to the use of frequencies by super HDTV satellite broadcasting in the higher frequency band of 21 GHz.

If successful, the satellites will be able to deliver super HDTV direct into the homes and to digital cinemas. The proposal is to include these two items in the agenda of the next conference, WRC-11.

Both items were initially raised by the Asia-Pacific Broadcasting Union (ABU). Aiming at a decision by the 2003

conference, ABU proposals were made to the ITU as early as 2001 and also to the Asia-Pacific Telecommunity (APT) around that time. Both these issues surfaced again during the preparation for WRC-07 and with the efforts made by the ABU and the APT, were included in the preparatory report for this conference.

As WRC-07 progressed in the first two weeks, these two issues gained more support, mainly from the Arab countries and also from some countries in Africa. At the same time, considerable opposition was expressed by the European countries and those in North America.

Dutch Commercial Broadcasters Decide Not To Proceed With FMeXtra

The major commercial radio stations in the Netherlands have decided to end their experimental transmissions in the FMeXtra format that started this summer.

Martin Banga, Chairman of the Association of Commercial Radio Stations said, "We've experimented with FMeXtra to see whether it can be the digital successor to analogue FM distribution. It has become apparent that it cannot offer such a migration path in the foreseeable future." The broadcasters, therefore, decided to end the experiment.

Despite this decision, Broadcast Partners, which is selling an FMeXtra receiver in the Netherlands, recently started testing the system on four local radio stations. The Dutch public broadcasters indicated some time ago that they did not intend to take part in the FMeXtra experiment.

World's First DRM+ Broadcast Launches In Germany

The first DRM+ field trial was launched on November 20, in Hanover. The DRM+ broadcasting trial is carried out by the DRM Associate Member German State Media Authority of Lower Saxony (NLM) and the DRM Associate Member Leibniz University of Hanover, which designed and built the first DRM+ transmitter. The results of the DRM+ broadcast measurements will provide a basis for the new DRM+ system standardization, which is planned in 2008.

The DRM+ trial in Hanover is in line with the field trials scheduled in Germany on HD Radio and DRM+. Both systems allow digital radio transmission in the FM band. With reference to the final report from the DRM Associate Member University of Applied Sciences Kaiserslautern and the German State Media Authority of Rhineland-Palatinate (LMK) about the interference potential of DRM+ and HD Radio, the German Federal Network Agency has settled licenses for forthcoming field trials at an assigned time.

(Continued on page 83)

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



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Frequency Coverage:

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



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Capitol Hill And FCC Actions Affecting Communications

World Radiocommunication Conference Shows Some Gains For Amateurs

The 2007 World Radiocommunication Conference (WRC-07), held in Geneva, brought good news and some disappointments to the amateur radio community, according to International Amateur Radio Union (IARU) Secretary David Sumner, K1ZZ. He is also chief executive officer of the American Radio Relay League, representing thousands of radio amateurs across the nation.

Sumner, in a dispatch to the League's membership, noted the principal achievements and disappointments, as they relate to the Amateur Services:

Achievements

- Maintenance of all existing amateur allocations, including the 7.200–7.300 MHz allocation in ITU Region 2 (the Americas) that had been somewhat at risk in connection with consideration of additional allocations for HF (high-frequency) broadcasting.

- A new worldwide secondary allocation at 135.7–137.8 kHz with a maximum radiated power limit of 1 watt Effective Isotropic Radiated Power (given the low efficiency of practical antennas for this frequency range, this limit is not as severe as it may sound, Sumner said).

- Inclusion of an item, to consider an allocation of about 15 kHz in parts of the band 415–526.5 kHz to the Amateur Service on a secondary basis, taking into account the need to protect existing services on the provisional agenda for WRC-11 (set for 2011).

- Avoidance of future agenda items that pose serious threats to key amateur allocations.

- Some improvement in the so-called "country footnotes" that provide for different allocations by country in all or part of the 1.8-, 3.5-, 50-, and 430-MHz amateur bands.

Disappointments

- No new allocation for the Amateur Service in the vicinity of 5 MHz, and no agenda item to consider such an allocation at a future conference.

- No future agenda item to consider an amateur allocation at 50 MHz in ITU Region 1 (Europe, the former Soviet Union, Mongolia, Africa, and parts of the Middle East).

The Amateur Service was involved in one of the "most contentious agenda items," involving allocations between 4 and 10 MHz, according to the League's *ARRL Letter*, which continued,

A series of European Common Proposals had proposed changes to allow for an increase of 350 kHz in HF broadcasting allocations, with a footnote for administrations to allow the Amateur Service to use 5.260–5.410 MHz on a secondary basis and with a radiated power limit of 250-watts; however, HF broadcasting had no support from the other regional organizations and no compromise acceptable to all parties could be found. Ultimately the European administrations had to accept "no change" for broadcasting, effectively scuttling radio amateurs' chances for a 5 MHz allocation.

The IARU had hoped that if an allocation could not be achieved at WRC-07, an appropriate agenda item could be included for WRC-11. The 2007 conference, however, had little interest in taking up HF issues

at the next conference, tentatively set for 2011, having little to show for a great deal of effort expended on HF in preparing for WRC-07. The only HF issues on the provisional WRC-11 agenda have to do with oceanographic radar applications and the implementation of new digital technologies for the maritime mobile service.

FCC Releases Report On Broadband Over Powerline

The FCC has released its latest analysis of the state of Broadband over Powerline (BPL) in the United States as of December 2006, according to published reports.

By December 2006, Internet-access BPL increased slightly over December 2005, the report says. It also shows that it has been decreasing slightly from a peak that occurred sometime around mid-2006.

According to the report, Broadband over Powerline ended up with a deployment total of 0.006 percent of the total broadband lines in the United States, compared to 0.011 percent in December 2005.

The full report can be accessed on the FCC's Internet site: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-277784A1.pdf.

FCC Finds Violation Of Emission Limits In BPL Operation

In other BPL-related news, the FCC has reported completion of its investigation into whether Ambient Corp.'s Broadband over Powerline operation caused interference in Briarcliff Manor, New York.

The Commission found that the corporation's "operation has violated the radiated emission limits of Section 15.109" of the FCC Rules "and the terms of its experimental license, call sign WD2XEQ," the ARRL reported in November.

According to the *ARRL Letter*, "the FCC's letter went on to say that 'we hereby admonish Ambient.' No findings were made, however, as to whether or not the system actually caused interference to amateur radio, and the Enforcement Bureau left open the issue of future experimental BPL operations at Briarcliff Manor."

The League reported that "since Ambient's Briarcliff Manor facility is operating under an experimental license, the FCC says Ambient 'is subject to the operating conditions contained on its license. Condition 4 of its license requires that Ambient file a progress report six months from the date of the grant. Additionally, Condition 5 provides that the progress report '...should include, but is not limited to, a description of measurements and results demonstrating compliance...' with the radiated emissions limits of Section 15.109."

Since June 2002, the corporation has had an experimental authorization in Westchester County, New York. "The most recent experimental authorization expired August 1, 2007. On July 24, Ambient filed an application to extend their authorization for an additional two-year period," the ARRL said. The

Commission still has to consider whether Ambient's experimental authorization should be renewed for a further period.

The League "filed an informal objection to that application on July 25, arguing that Ambient should be held to the same standard as the other BPL companies that are subject to the rules governing BPL, such as inclusion of the BPL system in the public database, so that victims of BPL interference can determine its source.

Commission Revokes License Of California Radio Operator

The FCC has revoked the license of a California radio amateur on grounds that he "lacks the basic requisite character qualifications to be and remain a Commission licensee," according to documents.

In its finding, the FCC ruled that "evidence of his convictions for child molestation" disqualified Robert D. Landis, who held the callsign N6FRV, from remaining a licensee. In 1991, Landis was convicted of two counts of a lewd act with a child under the age of 14 years old.

Landis received his callsign in April 1999 and it expired in November 2006. "The Commission's records do not reveal any violations by [Landis]... however the Enforcement Bureau received a complaint alleging that Mr. Landis had been convicted of child molestation and was living in a mental hospital," Commission documents said.

The FCC further said the court believed Landis to be "a sexually violent predator who is a danger to others."

"The character of the licensee or applicant is among the factors that the Commission considers in determining whether the applicant has the requisite qualifications to operate the [radio] station for which authority is sought," FCC documents said.

"Mr. Landis fully acknowledges his felony child molestation convictions and confinement to a mental hospital, but asserts that his record as a war veteran and an amateur licensee demonstrate his good character," the Commission wrote. "He further contends that his conviction is old. We disagree." The FCC's Order of Revocation was dated November 20, 2007, and was scheduled to go into effect 40 days thereafter, unless Landis appeals.

OUR READERS SPEAK OUT

Each month, we select representative reader letters for "Our Readers Speak Out" column. We reserve the right to condense lengthy letters for space reasons and to edit to conform to style. All letters submitted must be signed and show a return mailing address or valid e-mail address. Upon request, we will withhold a sender's name if the letter is used in "Our Readers Speak Out." Address letters to: Edith Lennon, Editor, Popular Communications, 25 Newbridge Road, Hicksville, NY 11801-2909, or send email via the Internet to editor@popular-communications.com.

For Your Frequency Needs...

Dear Editor:

Can you tell me if the Department of Homeland Security publishes any public information concerning Missouri state-wide Police and Fire or mutual aid radio frequencies that I can scan in St. Louis. I'd appreciate the information if it's available.

Mark Tavormina
Via email

We turned this question over to St. Louis native Ken Reiss who gave an unsurprising answer (hint: it should be one of your bookmarks...).

Dear Mark

Homeland security doesn't publish any frequency information that I'm aware of—the FCC regulates that stuff. They have a site at fcc.gov that would have the frequencies, but it can be rather cryptic to figure out what you're after.

The better place to go for that information is radioreference.com. It has a fairly complete listing for the St. Louis area, including highway patrol frequencies (mostly in the 42-MHz region, I believe).

—Ken Reiss

A Clarification

Dear Editor:

I read with great interest the article about Zombie computers. As a computer consultant with 40 years experience who has actually seen and removed a "Zombie" from a computer I can say that such software is very real. However towards the end of the article some information was given that is absolutely untrue and simply false.

I'm talking about the comments regarding "cookies." The author says "Spyware can be installed several ways, the most common being cookies." This is not in any way true. In the late '90s the computer field went through a phase of what I call "cookie paranoia," which led to money being spent for unnecessary

software and consultants like myself being told that we couldn't use cookies for Web-based applications. This paranoia was spread by wrong statements in articles just as yours.

Cookies in no way install any kind of software on computers. The Department of Energy wrote what is probably the best paper regarding cookie threats and non-threats and can be seen at www.ciac.org/ciac/bulletins/i-034.shtml...

I would challenge the author to demonstrate any mechanism where a cookie could as he says "deposit software that can take a more active role in your hard drive." Persistent cookies are stored on your hard drive, but there is no mechanism for code execution from a cookie.

This kind of misinformation doesn't belong in *Popular Communications*, especially since it causes your readers unnecessary worry about a non-issue and expense to solve a non-problem.

Ken Avellino, NA7B
Via Email

Article writer Joe Cooper responds:

What Ken is alluding to in his letter is an on-going debate about whether or not an Internet browser cookie can pose a threat to one's computer. Ken has quoted one sentence in my article, but here it is taken out of context. If you go on to read the sentence that follows the one Ken highlighted, I wrote "Normally these 'cookies' are harmless and are used by websites and Web browsers to communicate with each other." I then go on to say that "Intruders can also use the same method that deposits a cookie into your computer to deposit software that can take a more active role in your computer (such as monitoring your activity while you operate it) called Spyware."

I do agree that I could have written the sentence more clearly, specifically: "Spyware can be installed into your computer in several ways, with the most common one using the same method that is used to place harmless software 'cookies' into your computer's Web browser."

—Joe Cooper

NASCAR—Hot Cars, Hotter Scanning

A Veteran Listener's Proven Tips For Catching Lap-By-Lap Action

by Ed Muro, K2EPM



Ford Championship Weekend at Homestead Miami Speedway, November 18, 2007, Homestead Florida. (Photo by Larry Mulvehill)

Some kids are into model building, some into bowling. I was into radio—and auto racing. A scanner listener from about the time I was 12 (just before programmable scanners came on the market), my family had also been in the automobile business for decades and I grew up in a car culture. It was only natural that I was afflicted with the need for speed. Little did I know then that someday these two distinct interests would collide (please forgive the pun) in one of the most exciting sports in the world—NASCAR racing.

Back in those early days, NASCAR drivers didn't have radios in their cars to communicate with their crews. They used signs, called Pit Boards, that the crew would hold up to tell the driver when he had to pit. But just as with so many other aspects of life, the miniaturization of electronics made new things possible.

What's known as the Indy style of car racing may have been the first instance of radios being used in the racecars. These cars are equipped with sophisticated forms of telemetry communications that give the crew all sorts of parameters on the car as well as information to track officials for scoring purposes. Even the wheels have their own 1/4-watt transmitters that will transmit tire pressure readings to the crew.

Ed Muro, K2EPM, has been a radio hobbyist since his early teens. He served three terms as vice-president of the Long Island Mobile Amateur Radio Club and is a public information officer and VE for the ARRL.

Today, if watching a race isn't thrilling enough for the fan in the stands, watching it while listening to race communications on a scanner adds a whole new dimension to the experience. You get the inside scoop on strategy and sometimes you even get to hear some off color communications as emotions on the track can run high. (One of the most thrilling moments for me at my first race was listening to some chatter on the radio between various crew members of a particular race team, when a voice broke in and said: "Hush up now, I am going out on the track." That was the late Dale Earnhardt.

A Long Road To NASCAR

Coming from the New York area, a part of the country that had no real racetrack, meant I had to get my fill of auto racing on *Wide World of Sports*, ESPN, or TNN. In the early 1990s, though, several of my friends were brave enough to modify their own Mustangs and take them to Raceway Park in Englishtown, New Jersey. Several times a month they'd make the trek to Englishtown and I'd go along. But this type of racing wasn't my thing, so I started bringing my Bearcat 245 XLT with me so I could listen to the New Jersey State Police and the Old Bridge trunked system. One day while sitting in the stands, I realized there were radio communications going on right there. There was security to listen to and administrative folks running the track and the timing tower. For the next trip I brought my



The Pits at Bristol Motor Speedway, Bristol, Tennessee. (Photo by Ed Muro)

Opto Scout frequency counter. The whole dimension of the track changed, as I was now listening to the inside workings of the operation as I watched the events unfold in front of me.

Still, my greatest interest was the oval stock car circuit known as NASCAR, which was on the cusp of a nationwide explosion in popularity. When a friend suggested we drive up to Watkins Glen, New York, for the weekend as the NASCAR boys would be in town, I couldn't resist. And, as always, I planned on bringing the scanner.

This was around the time the printed newsletter of frequency information was giving way to the Internet, and it only took a little research to have my scanner pre-loaded with the frequencies of a few teams I was interested in, as well as some of the channels used by the Winston Cup, as the series was called back then. (As an aside, due to anti-smoking legislation, R.J. Reynolds, owner of Winston branded products, was forced out of the lead sponsorship role for NASCAR's top-level series, and the series was renamed after its new sponsor as the Nextel Cup. It's also reported that the popular motor-sports series will be known as the NASCAR Sprint Cup Series next season, as Sprint and Nextel have merged).

Having arrived at my first NASCAR race I thought I'd died and gone to heaven. I had my beloved scanner with me, and one of the first things I noticed was that I was not the only one! With the possible exception of an air show, it's not

that socially acceptable to walk around with a scanner at most public events (I'm sure we've all gotten the weird looks). Well, at NASCAR races not only is it acceptable, but it's actually a cottage industry, and renting scanners and selling frequency lists at the track is a brisk business.

For The Scanner Listener, A Welcoming Experience

Attending a NASCAR race is one heck of an event. There's much more to it than just the race. It's one big party and a real feast for the eyes. You'll see a section of trailers that look like the midway of an

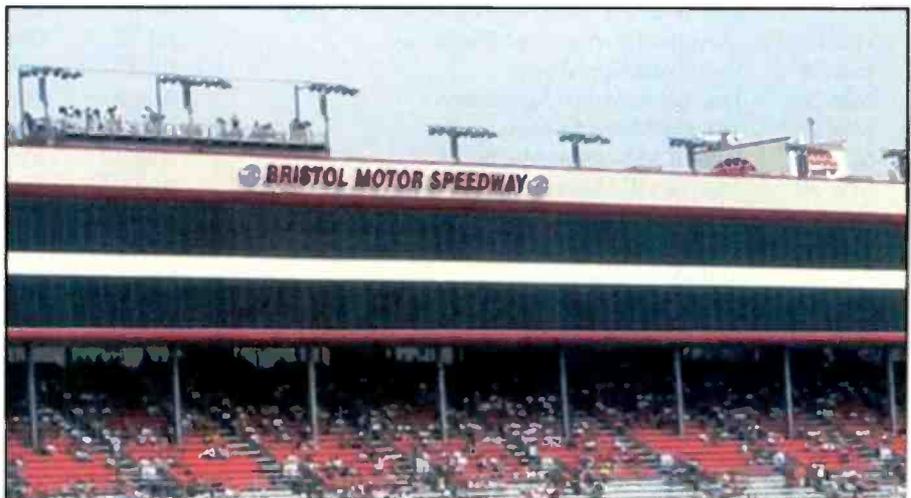
amusement park or county fair, except instead of games these trailers are selling merchandise branded for the sponsors of the race teams. Fun stuff. But what's even more interesting are the trailers that sell and rent scanners and other accessories aimed towards the scanner aficionado.

The NASCAR season runs from mid-February through November (see "2008 Sprint Cup Schedule"). During the season frequencies will remain pretty constant, but driver changes do take place. If you plan on attending a large number of races, it probably pays to subscribe to one of the race frequency subscription services. However, if you're only going to attend one race you'll do just as well gathering your information for free via various Web pages (a Google search of "NASCAR Radio Frequencies" or something similar will turn up enough hits to keep you busy for awhile). Or, when you arrive at the track, you can purchase a frequency list of up-to-date frequencies from one of these trailers. They usually have someone scanning the bands right there at the track making notes of updates.

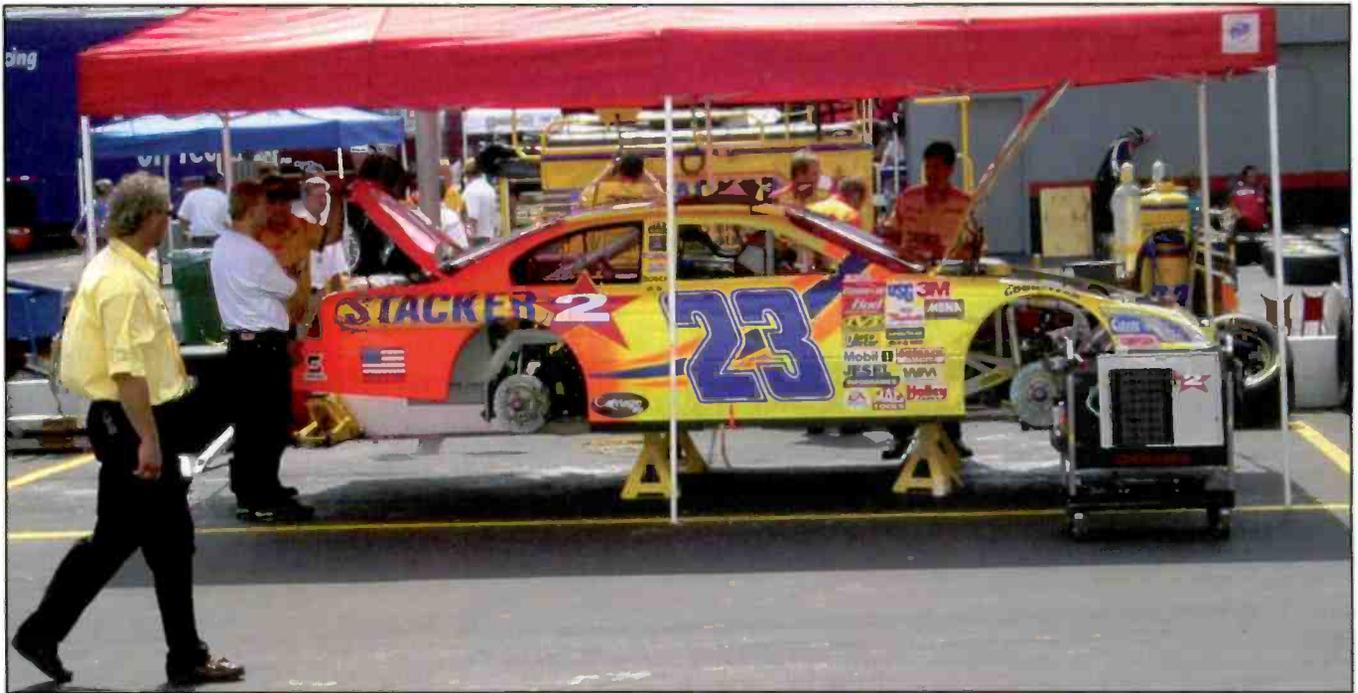
I cannot emphasize enough that if you have a scanner and you plan on going to a race, *don't* leave the scanner at home—it will enhance the entire experience tenfold. If you don't own one, find your way to one of the trailers and rent one.

Preparing For The Race

When I attended my first NASCAR race, I used a Bearcat 3000 handheld scanner. It was an excellent scanner for the time, but had to be manually programmed so I only chose a select few teams to add. Today, with computer pro-



Spotters high above the track feed drivers with information, such as who's leading and when it's safe to make maneuvers. (Photo by Ed Muro)



The Stacker car's colors of flame red and yellow seem to hint at the awesome speed to come. (Photo by Ed Muro)

grammable scanners, life is much easier in terms of frequency management.

Now you need to decide how you're going to program your scanner with the frequency data you gathered for the teams and tracks you're interested in. You might want to set up various banks for different uses so you can turn the banks on and off as you see fit. One approach is to set aside a few banks for the various race teams, a bank for track security and safety crews, a bank for the media (News, TV, Radio), and a bank or two for local public safety agencies.

Think about how long you'll be at the track and what events you're going to get to attend. Most Nextel Cup events have other races added "onto the card," so to speak. The Nextel Cup race is usually held on Sunday, but the drivers will arrive at the track midweek for testing and qualifying. On Friday night there may be a local series racing, and on Saturday there may be a Busch Series race taking place.

The Busch Series, by the way, is a racing series just under the Nextel Cup level. In the Busch Series you'll have up-and-coming drivers who are trying to break into the Nextel Cup and

2008 Sprint Cup Schedule

Feb 9	Budweiser Shootout at Daytona-Daytona International Speedway (non points event)	Jun 29	New Hampshire International Speedway
Feb 17	Daytona International Speedway	Jul 5	Daytona International Speedway
Feb 24	California Speedway	Jul 12	Chicagoland Speedway
Mar 2	Las Vegas Motor Speedway	Jul 27	Indianapolis Motor Speedway
Mar 9	Atlanta Motor Speedway	Aug 3	Pocono Raceway
Mar 16	Bristol Motor Speedway	Aug 10	Watkins Glen International
Mar 30	Martinsville Speedway	Aug 17	Michigan International Speedway
Apr 6	Texas Motor Speedway	Aug 23	Bristol Motor Speedway
Apr 12	Phoenix International Raceway	Aug 31	California Speedway
Apr 27	Talladega Superspeedway	Sep 6	Richmond International Raceway
May 3	Richmond International Raceway	Sep 14	New Hampshire International Speedway
May 10	Darlington Raceway	Sep 21	Dover International Speedway
May 17	NASCAR Sprint All-Star Challenge-Lowe's Motor Speedway (non points event)	Sep 28	Kansas Speedway
May 25	Lowe's Motor Speedway	Oct 5	Talladega Superspeedway
Jun 1	Dover International Speedway	Oct 11	Lowe's Motor Speedway
Jun 8	Pocono Raceway	Oct 19	Martinsville Speedway
Jun 15	Michigan International Speedway	Oct 26	Atlanta Motor Speedway
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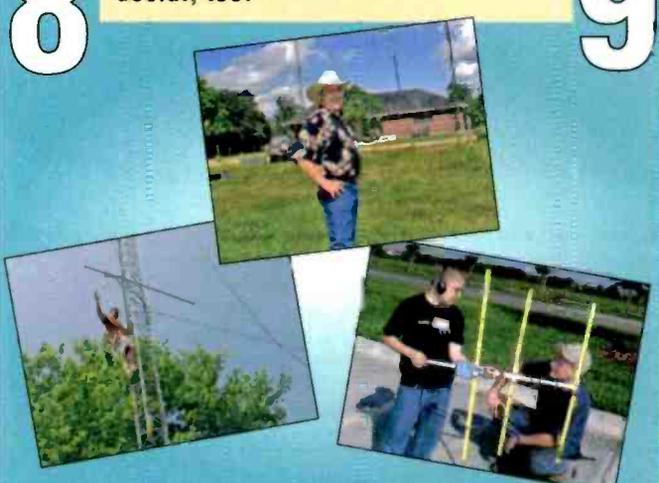


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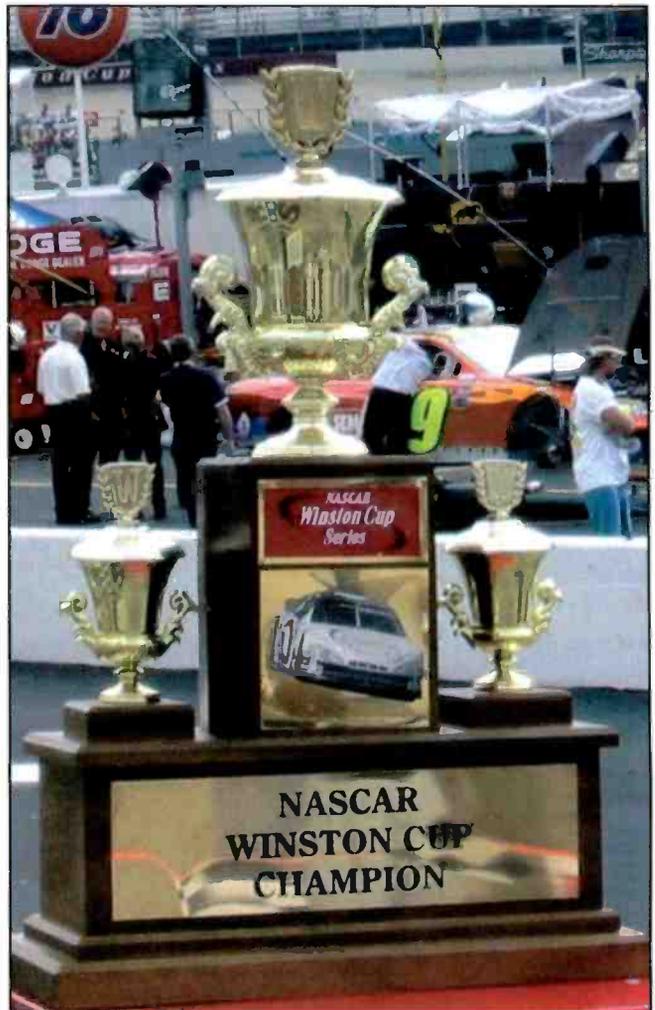
Information, Products, And Services

For more interesting and useful stuff for the scanning race fan check out the following Web links:

- www.nascar.com
- www.jayski.com
- www.racescanners.com/
- www.racingelectronics.com/
- www.racingradios.com/
- www.radioshack.com
- www.speedcomracing.com/

you'll also have some drivers who are competitive at that level but never quite made it to the top (it's a little like AAA minor league baseball). In 2008 the Busch Series will be renamed the NASCAR Nationwide Series. If attending multiple races, you'll probably want to put the frequencies for the different series in different banks, so as not to confuse matters.

One system that seems to work for most folks is to enter the frequencies in the various channels by car order. That makes it very easy to look at the screen and know whom you are listening to. Say you want to listen to Dale Earnhardt, Jr., you'd just go to channel 8; for Jeff Gordon you'd jump to channel 24, etc.



The Winston Cup, now Nextel Cup, gleams in the sun.
(Photo by Ed Muro)



The author, Ed Muro, at Bristol Motor Speedway. (Photo by Mathew Donnelly)

Alpha characters on some of the top-of-the-line scanners also make it easier to know who's who.

If you have a scanner with a lot of channels you may want to use channels 1-100 or 1-200 for the Nextel Cup, then when you're ready to enter another series you would start all over again. For example, you could enter car #1 of the Busch Series in channel number 301 and so on.

On the frequency used by each driver you'll hear not only the driver communicate with his pit crew chief, but also the "spotters" each crew has perched up high, usually above the broadcast booth. These spotters feed the drivers with information, such as where the leader in the race is, and will signal them when it's safe to make various maneuvers.

If for some reason you do manage to get bored listening to the crew, you can resort to listening to an audio feed of the broadcast. These races are covered by TV and radio networks. One longstanding frequency in use is 453.000. This frequency is used by the NRM Radio Network which broadcasts most Cup races.

Accessories For Better Monitoring

So, you have your radio and your frequencies. What else do you need? Well, I learned from my early trips to the drag strip that there's no way to hear communications on the scanner using one of those little ear buds stuck in my ear. You can't hear a thing with them over the noise produced when the cars roar by at 200 mph. You really need to get yourself a pair

of noise-canceling headsets or molded earplugs like you see pilots and entertainers wearing.

I have both, but both aren't necessary. I tend to use what feels more comfortable at the time. The problem there, however, is that you won't know what's more comfortable until you try them both, and that's not cheap. Some people don't like the feel of the molded earplugs; others find themselves sweating in the summer heat underneath the over-the-ear design. I ordered my over-the-ear headset from Racing Radios, but many companies offer their own versions, and RadioShack sells an entry level set (see "Information, Products, And Services").

The headset or the molded earplugs will do two things for you, if you buy the right kind: they will allow you to hear the communications better and will protect your hearing by filtering the deafening noise of the cars (that's why they're called noise-canceling).

Though not a necessity like the headset or earplugs, another item to consider is a leg strap. These are handy because instead of having the scanner on your belt or holding it in your hand for four hours, you can attach it to your thigh. It will be secure and you'll be able to view the display while sitting in your seat just by looking down at your lap. The same folks who sell the scanner stuff at the track can hook you up with one.

One way a couple (or a couple of buddies) can save a few bucks is by using one scanner with an audio Y-adaptor cable that allows you to use two head sets with one scanner. If you want to get fancy, there

are some outfits, including RadioShack, that are marketing a headset system with a Y-adaptor that incorporates an intercom. So, not only can you share a scanner, you can also talk to each other without constantly screaming "WHAT?"

You'll also want a suitable bag to carry your gear in and protect it. Keep in mind that you may have a long walk from the parking area, and you'll probably be searched upon entering the facility. Other items to include in your track kit are binoculars, a hat, sunscreen and maybe a seat cushion. This way you'll be able to see everything, keep yourself from getting burned, and keep your tush comfy.

The last, but most important, thing is to make sure your batteries are charged and that you have an extra set or two. There's no bigger bummer than your battery going dead before the event is over.

Get In The Race

For radio and racing fans, there's no better way to experience both hobbies than being at one of these fantastic events. I hope you enjoyed this peek at a day at the races and learned some things to make your own monitoring experience more enjoyable. See you in the stands.



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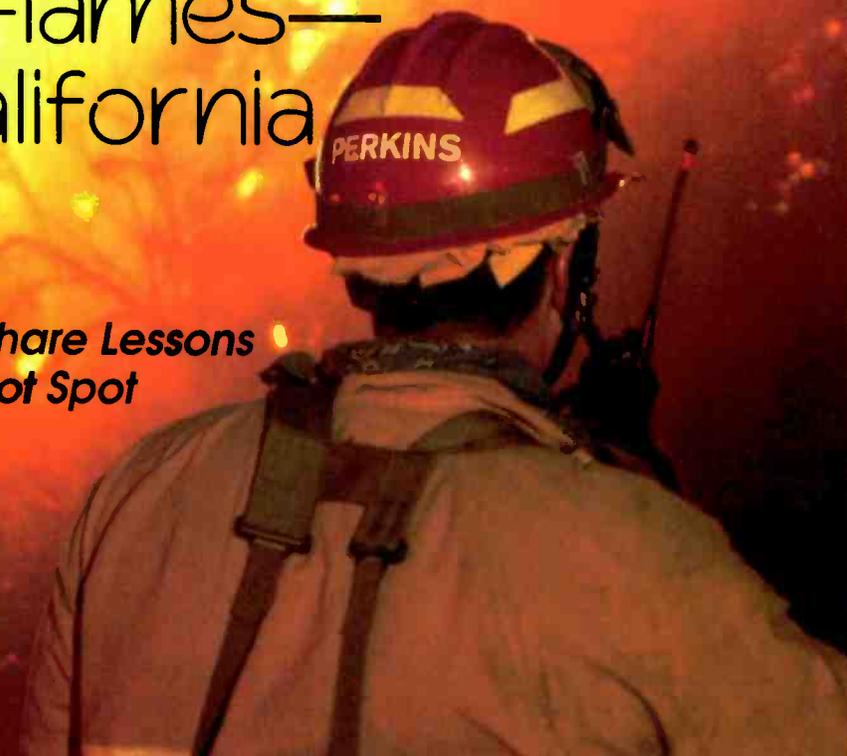
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A State In Flames— Southern California Fire Comms

Volunteer Radio Operators Share Lessons Learned At One Fire Storm Hot Spot

by Gordon West, WB6NOA



*Captain Tim Perkins manages the backfiring operation at Santiago Canyon Road and Live Oak Canyon Road, Orange County.
(Photo by Jon Schibsted, OCFA)*

The fall season turns leaves amber throughout much of the country. In southern California, autumn kicks in with a blast of warm air whistling through the mountains from a steady high-pressure system to our east. These hot winds, called Santa Anas, may gust over 100 miles an hour, toppling trees and power lines in their path.

This past fall, nearly simultaneously, 12 major fires erupted in the southern California mountains. Five of the fires are believed to have been caused by downed power lines or tree limbs contacting power lines. The major San Diego fire was traced to a juvenile playing with matches. My local fire, called the Santiago firestorm, was traced to three spot fires intentionally set by an unknown arsonist.

To assist in the efforts of dealing with that fire, I served a two-week fire comm assignment as a radio volunteer. It was quite educational to say the least, and I'd like to share with you some of what we volunteers experienced and the lessons we learned as a result.

Lessons Learned

In disaster situations such as the California fires, few things are as important as timely and efficient communications. As experienced communicators, trained radio volunteers offer invaluable skills and equipment to help in that regard. That's why we're there.

Lesson Learned #1: Volunteer communicators may supply their agencies with important radio monitoring of AM aeronautical and FM Fire Command channels. Even a simple ham

radio VHF/UHF handheld might easily tune in the VHF high band action frequencies (see Table. Active Southern California Fire Frequencies).

My fire comm assignment was with my local American Red Cross chapter, serving the jurisdiction of 38,500 burned acres of the Santiago fire.

Lesson Learned #2: If you serve a specific agency as a volunteer communicator, have "topo" maps ready to evaluate radio range.

Our particular Red Cross chapter has its own ham radio/GMRS radio communications team, trained and credentialed by the local chapter. All communicators must remain active with weekly check-ins, must participate regularly in "boot camp" drills, and have dedicated themselves to serving their local Red Cross chapter for their primary response.

Lesson Learned #3: During the initial calldown, a few phone numbers had changed. Regularly update your phone calldown tree. All numbers MUST be actively correct.

The function of our Red Cross communicators was to support logistical communications between our chapter's emergency operations center and the two shelters that were set up 20 miles apart for the thousands of home owners displaced by the mandatory evacuations. Local high school gyms immediately opened up for our shelter teams to begin move-in. Each shelter offered full services to our evacuated clients, from medical help to mental health, including cots, blankets, hot food three times a day, and the assistance of experienced shelter managers, public information officers, and our volunteer radio communications teams, well-trained for a rapid shelter set-up.

"Our shelter, with the hundreds of clients pouring in, was fully operational when the news media gave out our location."

Gordon West, WB6NOA, is *Pop'Comm's* "Radio Resources" columnist and an active volunteer radio communicator.



Martin Mars water bomber fighting California wildfires. Shown here is C-FLYL (Hawaii Mars) flying the approach for a water pickup at Lake Elsinore. Based at Port Alberni on Vancouver Island, there are only two Mars in the world. Pretty cool!

says Tom MacKay, W6WC, who had set up simplex communications from one shelter to the distant Red Cross chapter.

Lesson Learned #4: The crossband mobile more than 15 miles away from the intended other simplex station may not sound as loud and clear as an elevated shelter dual-band base antenna. Low loss coax, along with antenna extension poles, will keep simplex communications loud and clear.

We regularly train for simplex operation on the ham radio bands to minimize the need for high-level southern California repeaters that regularly carry non-shelter communications. Going simplex certainly requires better antennas at each shelter and at chapter headquarters, and this worked well to keep Red Cross traffic off high-level repeaters.

We also worked with a local crossband link to a tall antenna to free our radio operators from having to sit right in front of the radio set all the time. Many of our Red Cross communicators are cross-trained in shelter activities, which allows communicators to assist the shelter manager in other tasks.

A second Red Cross shelter opened to house residents of 800 homes evacuated in a deep Orange County canyon. Although the evacuation was mandatory, some home owners remained to help fight the fire, others set up their own tent camp at a safe distance from the fire scene, and the remainder became two-week clients of the Red Cross shelter two miles away.

This shelter was close enough to the Red Cross Emergency Operations Center (EOC) that arriving with a dualband mobile installation for crossband repeat allowed the radio operator to completely walk the shelter and never miss a call.

Lesson Learned #5: Bring spare HT batteries and a headset to keep incoming calls heard only by the radio operator. An improved longer "rubber duck" antenna would even help the nearby mobile crossband repeat.

Our Red Cross shelters and EOC were regularly monitored by Memorandum of Understanding (MOU) agreements by other emergency radio comm volunteers. Our Local RACES headquarters dedicated one of its radios at its EOC specifically to monitor our simplex channel in case we needed additional communications support.

The Hospital Disaster Service Communications System, in a report provided by Joe Moell, KØOV, said "We activated a 2-meter net at the request of our local Emergency Medical Services Program manager. This was to insure that backup communications would be available for a central point if roads became impassable near the hospitals we serve. Hospital Disaster Group monitored the status of all nearby hospitals, but luckily, no hospitals required on-site support, even though it was immediately available through the Hospital Disaster System."

During the Santiago fire, power was intentionally interrupted to the 5,000-foot mountaintop radio links to prevent flame flashovers on the massive power feeds going up the burning hills.

Lesson Learned #6: Ham radio repeaters without battery back up went instantly off the air. Some ham repeaters automatically floated on battery power at reduced power output, with special tones to identify emergency power operation.

"On our Keller Peak repeater, on Tuesday nights, we usually operate a



A Red Cross communicator sends logistic traffic from the shelter manager. Fire can be seen on the hillside.



The American Red Cross mobile emergency response vehicle linked up computers to a commercial satellite.

search and rescue net. The net was abbreviated during the firestorms, and many of our members were taking an important role assisting fire fighters, sheriffs, Red Cross, and SATERN. Even Skywarn was available to give us information about what the wind was going to do over the next 24 hours, and any major humidity changes," says one Keller Peak representative.

Lesson Learned #7: We learned that the repeater was on emergency power because the electric company turned off the power to prevent downed wires from starting new fires. We saw this before in the 2003 fires and that's why they have battery backup.

SATERN volunteers put in 88 hours assisting the Red Cross at shelters. Volunteer communications were also handled on GMRS. Crest REACT uses a GMRS repeater on battery backup for canyon communications, plus a portable repeater strategically placed in the canyon for hard-to-cover areas. For a time the local Red Cross chapter special emergency low-power repeater went off the air, and Red Cross communicators used the Crest GMRS system. This arrangement worked out well, thanks to a prior MOU with the chapter. The Red Cross has been grandfathered GMRS licensing, which allows this resource.

At least one Crest REACT member lost his home to the fire, and there may be additional Crest members who either received fire damage or a total loss of their homes. But this didn't stop their team from doing all they could inside the fire-

ravaged canyons. Anthony Mack, a resident of Silverado Canyon and a Crest REACT member, Unit 99, saved a home in Wildcat Canyon when the fire line jumped a firebreak and fire personnel were unavailable. He picked up a piece of PVC debris and literally beat flames two feet high down to smoldering embers, stopping the fire's advance. Anthony is a former firefighter.

In another situation, he and another Crest REACT member, working as a team putting out spot fires, scooped up a dog and two kittens that were doomed in the direct path of the fire. While these actions

are far beyond the activities of REACT, Crest members participating in fire defense are to be commended and are considered heroes in the eyes of canyon residents. They demonstrate the dedication and determination of the Crest REACT members at large. (This was reported by Ed Greany, KB6DOL, KAD6554, President, Crest Communications, and Executive Vice President REACT International.)

Lesson Learned #8: When reporting for communications duty, bring more than a handheld and a crossband mobile system. Bring a hardhat, safety glasses, filtered facemasks, long sleeved fire-resistant clothing, and tall boots.

"I could see a sea of rattle snakes slithering down the back hillside near our house, escaping the advancing flames," says one Silverado Canyon evacuee and Community Emergency Response Team (CERT) volunteer.

"I was using my FRS radio on Channel 1 to stay in touch with other residents trained in CERT to warn the next door neighbors of the rattlesnake danger. Phones were out. Cell phones didn't work because the circuits were jammed. But our little FRS radios allowed me to alert the neighbors to watch out where they stepped as dozens of rattlesnakes were escaping the flames," comments the CERT volunteer.

Lesson Learned #9: CERT training pays off. CERT communicators were trained ahead of time in what channel to



Family Radio Service radios worked well within this huge hangar that served as an evacuation center.

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Table. Active Southern California Fire Frequencies

While we hope that the California fires are long extinguished by the time you read this, the tragic fact is that they occur far too frequently. For those in the area, these are the frequencies to monitor for activity.

119.975	Air-to-air
123.975	Air attack base
128.475	Santiago fire air attack traffic
130.200	Air tactics
131.575	Lake Arrowhead air traffic
134.875	Castaic/Ranch fire air traffic
135.575	San Diego air traffic
135.975	Malibu air attack
151.085	Main Orange County fire channel
151.220-151.355	Wall-to-wall air tactical FM traffic
154-155	Multiple channels ground strike teams
164.9875	Fire ops
166.5625	Crossband fire ops
166.675	Air tactical
167.100	Fire command
167.950	Bureau of Land Management air attack
168.200	Tactical
168.300	Lake Arrowhead
168.550	BLM air
169.150	Air tactical
170.000	Air-to-ground
171.125	Ground crews
172.275	Air attack-to-ground
173.775	Santiago air ops
414.650	Fire command logistics
415.550	Airguard simulcast on 168.625
417.800	Lake Arrowhead fire

go to on their FRS/GMRS radios and how to stay in simplex radio contact with one another during the evacuation. Additional city CERT teams, outside of the fire area, were mobilized (up to 40 miles away) to take shifts at the fire camps assisting with logistics and feeding. Most of the CERT team members carried their own FRS radio equipment and developed their own independent channels for communications so as not to interfere with other teams already on scene using FRS.

Red Cross communicators encouraged shelter management to pass logistical messages to the chapter EOC through their own established ham simplex channel, rather than tying up the Red Cross' sole special emergency frequency, or resorting to the handy cell phone. The art of "shadowing" would assist the shelter management team by providing a radio operator as a scribe, freeing the manager from needing to make a phone call back to the Red Cross chapter each time they had a single message. Without a handy "shadow" radio operator, shelter teams would likely switch back to the cell phone.

Verizon Wireless served each of our shelters with courtesy cell phones for clients to use during the two-week stay away from their evacuated or burned out homes. I applaud Verizon for the professional-looking phone distribution points just outside of each shelter entrance, and for how they handled the avail-

able loaner computers with an aircard to keep clients in email contact with loved ones outside the area.

Lesson Learned #10: Volunteer radio communicators should carry a bag of cell phone chargers to assist those clients who left home with phones, but no chargers. I recharged many a shelter client's cell phone with my little Eton Red Cross crank radio cell charger system, as well as my rapid lithium ion cell phone battery charger from Maha. The Maha charger lets you align two gold movable pins on the battery contacts, safely charging up dead cell phone batteries in as little as an hour.

Each shelter had a small television set where clients gathered. After all, news reporters with a helicopter sky view of the inferno quickly told the story of homes lost or saved. In addition to news coverage, fire department representatives with "burn maps" could provide shelter residents with much needed and wanted information about the status of their homes and when they might be able to return to the area. Nothing tells a story more than aerial photos and topographical fire charts.

Ham radio operators who have worked with their local police agency's and sheriff's aero squadrons with amateur television can also provide a good EOC resource for fire information. Most ATV airship-to-ground comms were conducted on 426.250-MHz ATV simplex. Exciting tower cam ATV pictures came off Santiago Peak during the height of the firestorm, transmitted on the 1.2-GHz band to be received by ham operators using PC Electronics 1.2-GHz downconverters.

Important: Any outside communications received by your shelter communicators must likely first be approved by the shelter manager before dissemination to shelter clients. Shelter managers have complete authority to allow or restrict any information going into and out of their jurisdictions. Start off your relationship with your shelter manager on a positive note by explaining your radio resource capability, and obtaining specific permission and direction on your duties for your shelter manager and their clients. Some shelter managers may give you a broad scope of communications, yet others may want everything to pass specifically THROUGH THEM before it gets relayed to a specific shelter worker team.

There was little high-frequency traffic going in or out of the southern California firestorm area. Local VHF/UHF radio channels got the traffic going where it needed to go, and HF was not needed. The only exception to this was Red Cross low-band communications near 47 MHz, which worked well in dense foliage areas, deep in the canyons down in the San Diego area. The San Diego fire was in such a remote area that conceivably they could use 75-meter ham circuits, too, between shelters and the various EOCs.

Lesson Learned #11: When deploying to a major disaster, bring every radio and radio accessory you have in your shack. Even 27-MHz CB radio was in full swing in certain mountain communities near Lake Arrowhead. Area REACT teams were reported handling many calls on CB Channel 9, the emergency channel. CB 27 MHz became just as important as UHF FRS and GMRS, and there were even some fire comms between CERT teams using the five VHF channels for Multi-Use Radio Service (MURS).

Lesson Learned #12: Set up your comm station antenna system well away from other nearby antennas. Broken reception on VHF 2-meter simplex was attributed to a nearby school radio system operating on a high band VHF. ATV reception was hampered by mobile TV truck 460-MHz constant carrier links, also. Regularly scan the parking area to see what type of mobile inter-

ference could cause receiver desensitization at your shelter radio setup.

Some Final Tips For Volunteers

For many of us, a prime motivation for being in the radio hobby is our ability to put our skills to use helping others. Should you make the decision to volunteer, be sure to look professional! Most of our mobile communicators were standing tall, once they donned their emergency worker vests. However, even without the vests, incoming radio personnel need to look sharp as tacks. This means your operational uniform is on, you have the necessary safety equipment, and your vehicle identification placards or magnetic signs are in place.

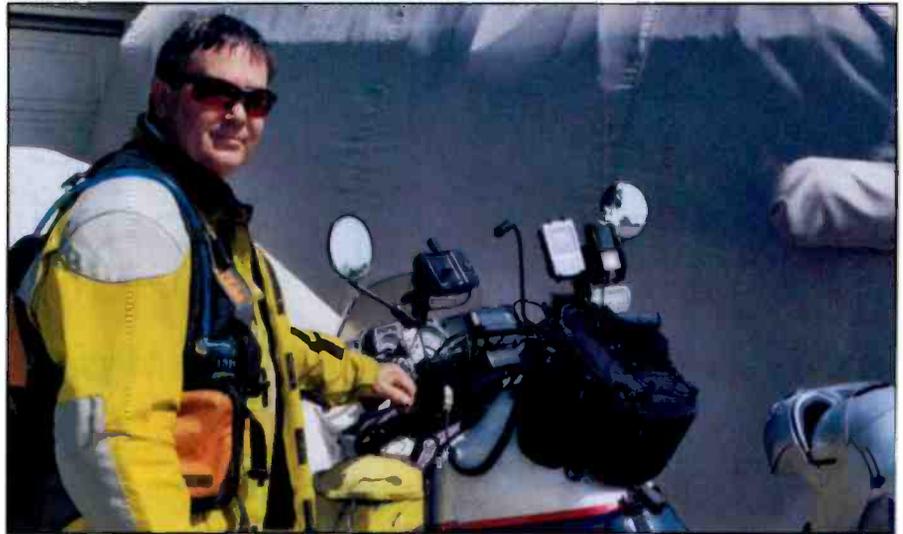
If you don't have a uniform, get one! Many radio volunteers are members of the ARRL's Amateur Radio Emergency Service (ARES), with its distinctive, easily recognized patch. If nothing else, get that patch on a white shirt and look sharp. Arriving on scene with jeans and an undershirt won't give your shelter manager a sense of confidence in you as a volunteer radio operator. Dress the part!

Adjust your vehicle parking for the best crossband vehicle repeater reception to your local EOC. Sometimes moving the vehicle just one foot will make all the difference in the world.

Regularly check your radio's squelch. Make it a point to "crack the squelch" about every five minutes to make sure you have not inadvertently turned down the volume. There is nothing more frustrating to an EOC radio communicator than trying to reach a shelter radio operator trained in radio use when that distant worker has the volume accidentally turned down or walking around with a radio whose battery died over half an hour ago. Unacceptable—as radio operators we must never miss a single call.

In The End

Our local firestorm took 14 days to extinguish. Mandatory evacuations were reported to be above 10,000, although only a fraction of these evacuees decided to stay in a high school gymnasium shelter. Our local fire consumed 38,500 acres, yet only 15 homes were lost and only 13 injuries reported. About 1,400 fire personnel were on the scene of this arson-caused blaze that cost an estimated 18.5 million dollars. Cost of volunteer radio



A motorcycle ham fire responder is ready for anything!

communicators: FREE. Many of our local Red Cross operators ditched work or took vacation time just to be available for day and/or night shifts. This is probably our local Red Cross chapter's largest evacuation event, and likely the biggest radio communications job our 60 Red Cross radio volunteers have ever handled. We achieved 80-percent calldown and the 20-percent who were unable to partici-

pate likely will have missed the largest radio event in their lifetime of radio volunteer service.

Hopefully these lessons will help you maintain your role as a volunteer communicator for your served agency. Whether it's police, fire, Red Cross, hospital network, or emergency food management, radio volunteers are an important part of the overall area communications system.

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Mark Your Calendars... It's Time For The Annual Winter SWL Festival

Here's A Preview Of The Not-To-Be-Missed Kulpsville Tradition

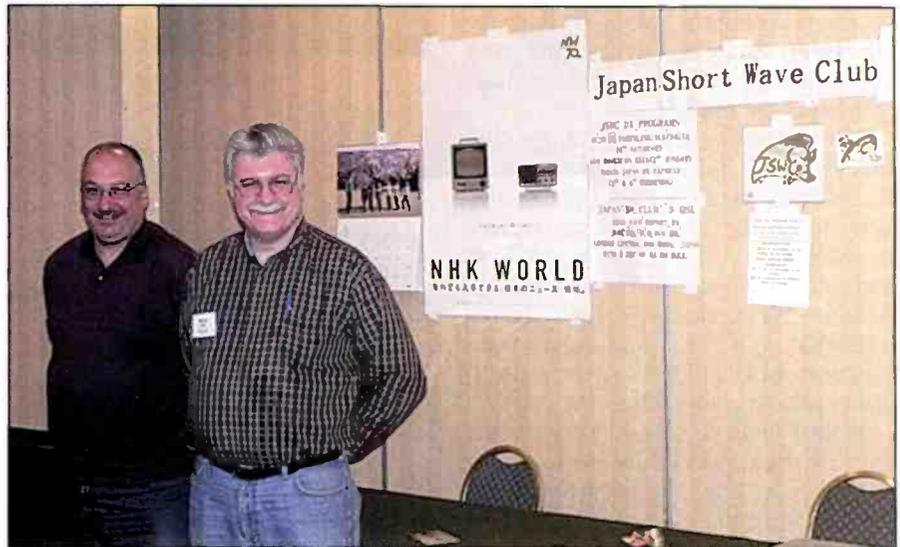
by Richard A. D'Angelo

As winter slowly grinds to a halt, my mind begins to think about the annual excursion to Kulpsville for the Winter SWL Festival sponsored by the North American Shortwave Association (NASWA). With spring just around the corner and the potential threat of awful winter weather beginning to dwindle, a radio hobbyist begins to think about getting together with good friends and fellow radio hobbyists at the Mecca of DX gatherings: the Best Western - The Inn at Towamencin, or Kulpsville as it's known to long-time attendees.

This year will mark the 21st annual gathering of devoted radio listeners and it should be a good one. Although launched over two decades ago as a meeting for shortwave listeners who participated in the old ANARC 7240 Net, the "FEST" quickly morphed into a DC-to-daylight gathering, with every facet of the radio hobby represented.

The 2008 Winter SWL Festival is scheduled for March 7 and 8, 2008, and many of the Winter SWL Festival regulars will be in attendance. However, each year brings out a contingent of new faces, who are always warmly welcomed; just ask last year's first-timer, *Pop'Comm's* editorial wizard Edith Lennon! (*It's quite true...I mean the welcome, not the wizardry.—ed.*) It doesn't take much more than an hour or two for new people to become "FESTers" and get comfortable with the theme "the FEST never ends," because people discuss the finer points of radio until all hours of the night.

Richard A. D'Angelo is the Executive Director of the North American Shortwave Association (NASWA) and a member of the club's Executive Council.



FESTmeisters John Figliozzi and Rich Cuff at the NHK Radio Japan and Japan Shortwave Club booth. (Photos courtesy Ullis Flemming and Toshi Ohtake)

The FESTivities draw an international crowd, with former European DX Council head honcho Michael Murray a regular as are a number of other European radio hobbyists. Japan's Toshi Ohtake is always present representing the Japan Shortwave Club and Radio Japan. Of course, we always have a large contingent

of our friends from up north. Our Canadian friends head south for the mild weather of southeastern Pennsylvania in March, hi!

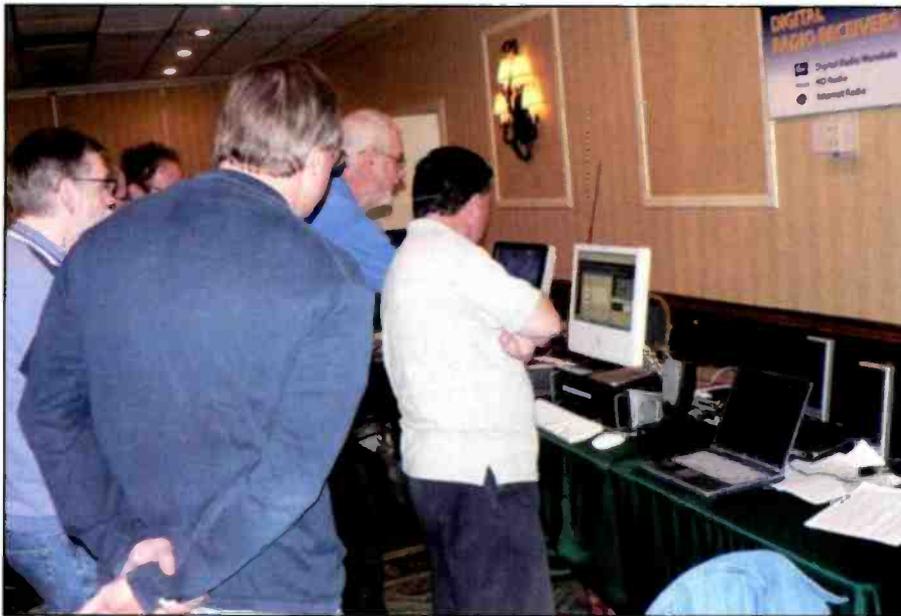
The FESTmeisters, Rich Cuff and John Figliozzi, co-chair this popular event. March will be the eighth time these two radio hobbyists will be running the

Find Out More

The 2008 Winter SWL Festival is scheduled for March 7 and 8, 2008 at the Best Western – The Inn at Towamencin. It will be the 21st such event.

The best way to keep informed about the Winter SWL Festival as the magic day approaches is to visit the website at <http://swlfest.com/>. Webmasters Ralph Brandi and Tom Sundstrom have the latest information and the registration form available at this location. Otherwise, you can request a registration form by including a self-addressed stamped envelope to Winter SWL Festival, P.O. Box 4153, Clifton Park, NY 12065-4153.

The 22nd FEST is scheduled for March 13 and 14, 2009, with plenty of the usual fun in store for all that attend. You don't want to miss these events! It's never too early to begin planning on attending an upcoming Winter SWL Festival. I look forward to seeing you there. After all, the FEST never ends...



After a forum session concludes, attendees observe equipment at the display tables. It's a great opportunity to learn.

show. Previously, Rich and John served as our Hospitality Coordinators, so they've been an integral part of the Winter SWL Festival process for a long time.

The first 13 such events were organized by the original "gang of three": Bob Brown, Harold Cones, and Kris Field, who still are regular FESTers. They were the originators of this great event and coordinated the activities until Rich and John took the helm. The FEST's extended family is a large one that seems to grow each year, but our founding fathers deserve special recognition for the foresight, creativity, planning, and organization that launched a very successful FEST formula that continues to work each year.

What can someone attending the Winter SWL Festival expect to see and hear? Is it safe? Will I need bail money? Yes, it's safe, and no you shouldn't need bail money (but the latter really depends on your own behavior!). Based on past years' activities, I'll try to preview what you can expect to see, hear, and do while attending the 21st Winter SWL Festival in Kulpsville, Pennsylvania, on March 7 and 8, 2008.

Pre-Day One: Thursday, March 6

Although not on the calendar as an official part of the program, the first day at the Winter SWL Festival is for setting up the main meeting facility, the Stockholm Room. Here's where the

handy work of antenna guru Ed Mauger comes in to play as well as that of a host of other folks who make ready for the onslaught of FEST participants scheduled to arrive late in the day on Thursday as well as Friday and Saturday.

There are no formal activities on this day. This is a behind-the-scenes workday for many who arrive at the hotel. Clubs can get their display tables set up so everything is ready to go the following morning. Many of the demonstrations, such as DRM, satellite monitoring, software to control communications receivers, and other new equipment run continuously throughout the two days of forums and discussions.

Many of those who make it to Kulpsville by later afternoon celebrate their return to southeastern Pennsylvania with a group dinner. This has become part of the grand tradition of the event. What can be better than food, drink, and radio fellowship?

Day One: Friday, March 7

The first official day of the 2008 Winter SWL Festival will be Friday, March 7. The registration table will open promptly at 0830 local time. The Stockholm Room will once again be our main gathering area as well as the site of the club displays and demonstrations.

I expect NASWA editor and VOA employee Kim Andrew Elliott to once again conduct continuous tests of DRM

transmissions using the latest in DRM-ready receiver equipment. Attendees can expect a satellite TV and radio demonstration featuring international reception. The room will also host various vendor, station, and club displays. I expect last year's new feature, the Radio Listening Room, to reappear. This is where space is set aside so people can bring their radios for listening and comparison purposes.

Around 0900 local time, co-hosts Rich Cuff and John Figliozzi will give the usual rousing traditional welcome speech to those ready to begin FESTivities. This will kick off a day of interesting forums and informal gatherings. Although the program is still in a state of flux as this goes to print, following are some tentative program sessions likely to occur at the FEST.

I also expect that there will be a live demonstration of MPEG-DVB international satellite broadcast television and radio as well as the latest news, information, and technology in a session called *Satellite Broadcast DXing*. Here we learn how to receive domestic and international television broadcasters. Throughout the remainder of the festival, a continuous satellite television demonstration will be conducted to introduce folks to what's available through this mode. Each year we learn new and fascinating information. As the old saying goes "a picture is worth a thousand words."

Friday meals—lunch and dinner—are on your own affairs. This is usually a good time to continue sidebar conversations started in the hallways with other radio hobbyists at the local eating establishments. Often on Friday afternoons presentations on new equipment or obscure aspects of the radio hobby are given. It will be interesting to see what's in store for us listeners this year.

The Winter SWL Festival is filled with traditions. Where some of these traditions came from is anybody's guess. However, it seems once something happens it instantly becomes a tradition. Such is the after Friday dinner tradition of the Swap Meet, which is held in the Stockholm Room. Here's where radio equipment and accessories change hands, either by being bought and sold or exchanged. While this is going on the Hospitality Suite will be comforting tired FESTers after a long day of sitting, listening, and talking.

Although much of the evening is planned as free time to encourage socializing, some evening sessions are occasionally held. Last year a special event was organized by Kris Field to visit nearby



FESTers look at the vintage equipment at the Receiver Museum (the author is second from the left). And there's quite a lot to look at, too...



...as you can see from just some of the many fine pieces of vintage radios on display at the Museum. The author once owned a National NC-190 like the one pictured here.

Nostalgic Collectibles, where proprietor Jay Deaveler opened his museum of antique radios to FEST visitors. The *Tour of Vintage Radio Collection* forum featured good attendance, although a number of people could not find the secluded location (the building was something out of a Hollywood B movie production that added to the flavor of the tour). It's still too early to know what other surprises are in the making for attendees on Friday night.

Later in the evening, David Goren will open the *Listening Lounge, After Dark*, which includes behind-the-scenes recordings of interesting programs. Naturally, the hospitality room stays open all evening and into the wee morning hours. This is where many of the FESTers hang out to discuss radio and have a cold brew and some snacks. Here's where the theme "the FEST never ends" gets practiced by the heartiest participants.

Day Two: Saturday, March 8

After a good night's rest...or a few hours' rest...the registration table will open for business at about 0900 local, along with the exhibit room, demonstrations, and display tables. By Saturday morning people will begin to drag a little, but the enthusiasm level will remain high. Once again, the DRM, satellite, Internet radio demonstrations, club and vendor displays continue until 1530 when teardown begins in preparation of the evening banquet.

At 1000 local time the *Silent Auction* will commence. This annual bidding frenzy raises money for a worthy cause with the proceeds going to a selected charity. Each year I walk away with some useful old radio publications I'm not really sure I needed. Nevertheless, the event is a lot of fun and sometimes you leave with things you're glad you won; on the other hand, there are times you wish you didn't bid for that unidentifiable electronic gismo that uses vacuum tubes...

Although not locked down, one can expect some of the regular forum sessions to be held on Saturday. A regular feature at the Winter SWL Festival is the *Year in Pirate Radio* hosted by George Zeller. Other prominent pirate radio listeners like Andy Yoder and Chris Lobdell usually participate. This has been one of the most popular forums over the years. There's something about pirate radio that brings them out. Another extremely popular regular forum is *Scanning with the Scum* where

Pop'Comm's own Tom Swisher and Skip Arey cover the latest developments in software and hardware and offer demonstrations of non-voice sounds on the higher bands. These guys also help make the Saturday evening banquet a memorable event.

The Winter SWL Festival seems to attract folks with a bigger than usual appetite. Consequently, the popular Saturday luncheon of a pizza buffet lunch with salad (how did that make the menu?) and excellent desserts has been a well-liked affair. Nobody will leave the room with an empty stomach. Part of that recent tradition has been the inclusion of a luncheon speaker. Recent after lunch speakers have included Bob Zanotti of Swiss Radio International Fame, Ian McFarland formerly of Radio Canada International, and Allan Loudell who provided an update on the saga of AM radio station survival in the marketplace.

The afternoon will officially close with the end of the Silent Auction. Harold Cones, Kris Field, and Alan Johnson run the checkout counter, making sure the cash register matches the bid tally sheets. This is always an exciting time as people scramble to make last minute bids for items they simply "must have." A lot of useful junk changes hands on Saturday afternoon. Much of it recycled from prior years and some it will undoubtedly be seen again next year...if one were to know such things.

The Hospitality Room will open for a couple of hours in anticipation of the evening's activity. Here's where some quick trades of useless items occur as buyer remorse from the silent auction kicks in. Nevertheless, it's all in good fun and your money does go to a worthy, charitable cause.

Day Two Continues: The Banquet

The final event of the FEST will be the banquet and all the traditions that surround this grand occasion in the Stockholm Room. Far from a formal affair, the banquet attracts a few jackets and ties but casual attire is the norm. A small handful wear tee shirts and shorts. At this point we are just happy that clothes are worn!

The home stretch will begin with the cash bar at 1800 local time. Last year, FEST regular Saul Broudy entertained during happy hour with *Folk Music and Musings*, which was well received from the appreciative crowd (although it was a tough room to work since it was also the cocktail hour!). After dinner is served, Rich Cuff and Harold Cones will jointly host the



The Saturday evening banquet at the annual Winter SWL Festival is a warm and welcoming event that packs the house.

evening program which includes an after dinner speaker about a relevant radio-related topic, awards presentations, and the infamous raffle.

Just prior to the *Grand Raffle*, an event worth experiencing, I will get to announce the selection, by NASWA's Executive Council, of the recipient of the *William P. Eddings Award* as the club's member of the year. Once that bit of formality is out of the way, the fun begins.

The *Grand Raffle* portion of the program will likely be hosted by Harold "Dr. DX" Cones. I expect George Zeller will again win the "Barto Bag," named after NASWA QSL Editor Sam Barto who, while attending a FEST years ago, put together goodie bags of station stickers, pennants, and other mementos as prizes. While the original Barto Bags were well worth winning, the one George seems to win each year most people could do without. Each year George manages to win some exciting items that belong in a dumpster. There isn't much I can say about that other than it's another of those grand traditions of the FEST.

The raffle runs until around 2300 local time. Each year the raffle is fun and entertaining with many of the attendees leaving with some really neat prizes. Of course, some folks also leave with some really awful prizes, but that's the way our raffle works.

From here the FEST slowly begins its final hours with late night conversations in the hospitality room that continue into the morning. The final semi-official activity will be the infamous midnight ride of The Voice of Pancho Villa, another grand Winter SWL Festival tradition. The

Pancho character is based on the name of the original hotel the FEST was held at many moons ago, the Fiesta Motor Inn (home of the infamous "Pink and Purple Room"). Long since destroyed by the wrecking ball, the legend of Pancho Villa returns at midnight each year for a five-minute broadcast. As is usually the case with a Pancho broadcast, it's difficult to tell if Pancho's mission is a success or not. Nevertheless, I'm sure he'll return this year with another midnight ride...if one were to know such things.

After the broadcast, the hospitality room will stay open into the wee morning hours as the FEST never ends. FESTers keep the radio-related conversations going into the night while consuming an adult beverage or two along with the usual chips, peanuts, and pretzels. Nothing but health food for this crowd.

Closing Thoughts

Last year's 20th Annual Winter SWL Festival was another great affair enjoyed by some 170 participants with 20 U.S. states, three Canadian provinces, and six countries represented (U.S., Canada, Ecuador, England, Japan, Taiwan). We expect the same sort of energetic crowd of radio monitors to be present once again from the usual all points on the compass. The two-day format provides for a good program with plenty of down time to allow for the interchange of thoughts and ideas among the participants. After two decades, the Winter SWL Festival format continues to provide the right blend of fun, education, information, and entertainment...and adult beverages.

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Understanding Scanner Specifications

If you go shopping for a scanner (or, even better, if you got a shiny new one for the holidays), you tend to run into a lot of information...sometimes too much. Some of that information is really important and you should consider in your shopping process, but some of it is not. Then there's the information that would be important if you could rely on it, but it turns out that you can't. This month, let's see if we can separate the wheat from the chafe, so to speak.

We'll look at the info that *is* important first, and that you can easily find. A visit to almost any scanner manufacturer's or dealer's website will yield a certain amount of basic information about the scanner you're considering.

Comparing model to model isn't always easy when you start looking at the specifics. One will have this feature, another one that feature, but neither will have the other thing that a third model has—and that's just from one manufacturer. It's quite easy to get overwhelmed.

The Basics

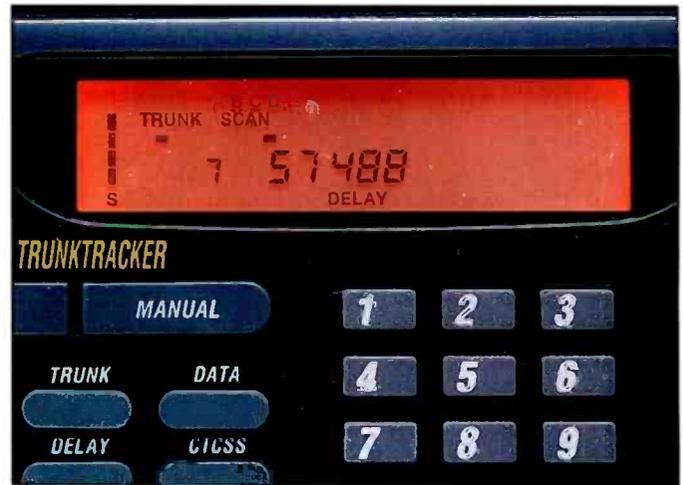
Let's start with the basics. How many channels does the scanner have? Of course, more channels means more stuff you can put in it and be ready to go. How are those channels organized? This one may take a bit more digging. There's usually a number of banks available, and that's a place to start. Ten banks is common, but some scanners feature more or less. However, it may not be quite that simple.

One popular radio is advertised as offering 5,500 channels and 10 banks. Great. Ten banks of 550 channels each? Not quite. Ten banks of 50 channels each are active at once, while another group of 10 banks can be switched in and out in what the manufacturer calls virtual radios. It's a nice feature for those who travel or need to rapidly reprogram the radio with a set of frequencies, but it's not really a 5,500-channel scanner.

As computer memory gets cheaper (same stuff they use in the scanner) and the processors get more intensive, it's becoming more common to see this kind of memory swapping arrangement. I've seen a couple models that do it at least with one other bank, but 10 is not uncommon either.

Some of the newer receivers, mostly from Uniden in their TrunkTracker IV series, allow for dynamic reconfiguration of the banks. The radio has x number of channels available and you can program them into whatever groups you'd like. It's not quite the same, but very useful, and it works about the same way as banks once you get it programmed.

Related to memories, on a TrunkTracker radio, you also need to be concerned with how many trunking systems you can put into the radio. You may not need multiple trunked systems now, but it could be an issue in the future. Each trunked system will be able to hold a number of IDs (talkgroups that work like channels in a trunking system). Those talkgroups are important in trunked systems if you care about listening in on specific areas or specific services. If your scanner will allow 50 talkgroups per trunked system that means that each trunked system can have 50 channels you're interested in tracking. Some radios



In the trunking mode, scanner banks become sets of talk groups, shown here as A–E. Each talk group is effectively a channel in a trunked system, regardless of how many actual frequencies are involved in the trunked system.

allow groups of five or 10 talkgroups to be turned on and off, almost like a bank of conventional channels, which is also a very handy feature.

Frequency coverage is probably the next thing to look at. Does a scanner cover the frequencies you're interested in? That's also not as simple as it sounds, but luckily this information is always very easy to get. Manufacturers got into the habit of referring to each group of frequencies that could be scanned as a band, so the radio could be called a multiband (pick a number) receiver.

A good example of this is the coverage of the 137–144 MHz Federal band, followed by the 144–148 MHz amateur band. The receiver continues its coverage from 148–174 MHz (although I have seen that divided as well). This entire range represents what used to be called (and still is by some manufacturers) the VHF-Hi band. Some didn't go down as low as 137 MHz, however, so often VHF-Hi was considered 144–174 MHz. There's nothing wrong with this, and it does give you more detail about what you're seeing and what the radio covers, but it can be confusing.

Speaking of 137 MHz (how's that for a segue?), that's the top end of the new and improved air band as of several years back. The bottom end is 108 MHz, and the receiver will need coverage specifically from 108–137 MHz and the AM mode if you want to listen to the air band. Most higher-end scanners offer this, but there are some surprises, so if that's important to you, then watch for it.

Less Important Considerations

Other readily available pieces of information about the scanner are of somewhat less importance to the performance of the

radio as a receiver, but may be of critical importance to your satisfaction with it in the long term.

The first of these is the physical dimension. How big is it? Does it fit in your pocket? Or under the dashboard where you want it to? Smaller means more expensive, but these days it doesn't necessarily mean poorer performance, as it once did.

Audio output is another feature that is often overlooked. How much volume can it produce? This is usually expressed in mW or W (milliwatts or watts). A 1000-mW amplifier is the same as a 1-W amplifier, although you don't usually see it written that way. For most applications 500 mW is a lot of audio power. Many of today's scanners have audio output in the 300–500 mW range, the high end of which is quite sufficient in most applications, though not if you're going to use it at the racetrack or in a high noise environment. Headphones can help overcome this problem.

Speed is another factor that may or may not interest you. In theory, the faster the scanner can step through memories, the faster it can get to the next call for you to listen to. In the search mode, faster speed means more ground covered in a given time, so the more frequencies you can search. If you do a lot of searching, this may be a critical factor for you; for most of us, though, while it's nice, it's not essential. The downside of a faster scanning and searching speed is that your receiver spends less time on each channel, and you're just as likely to miss something because it's flitted off too fast as you are because it went too slow to make it to the active channel in time.

There's also an issue (though not as significant with newer receivers) of settling time. How long does it take the receiver portion (that is, the radio circuitry) to lock on and actually be ready to receive a channel. In the early days of computer control, if the settling time was adjusted incorrectly, you would hear literally nothing as the radio portion of the system couldn't stabilize on a particular channel before the control portion was telling it to move on.

Computer Control

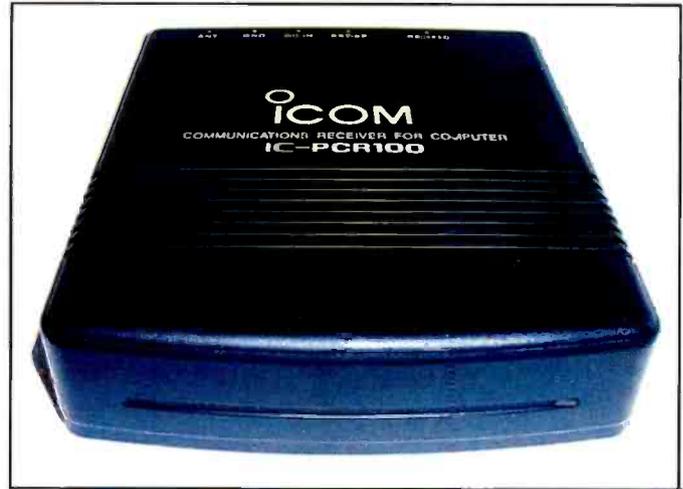
Speaking of computer control, that's another feature you may be interested in. Many of today's more sophisticated receivers require a lot of key presses to get information in and ready to go. Being able to program your scanner by hooking it up to your PC and making those keypresses on a full-sized keyboard is highly desirable. If you think you might want to use the radio near your computer, it's useful to know that some scanners and software let your PC take control of the scanning process.

Computer programming is a huge timesaver, and computer control is almost a different hobby as it changes the options available, depending on the software's features. If you're interested in this approach, you'll be shopping for two things: a piece of software that you like and a radio that will work with it.

Performance Specifications

Performance specifications represent an attempt to measure and compare how successful the receiver is as a radio, how well can it receive radio signals and process them in a way that you can hear them? Unfortunately, there are very few clear standards, and there's no requirement that they even be published, so using them to compare receivers can be tricky at best.

The truth is that your ears may be the best judge. How does one radio sound to you compared with another? Do you notice



A computer-controlled receiver like this PCR-100 from ICOM (now replaced by the 1000 then 1500) uses the intelligence of the computer's software to control the scanning, and the receiver just provides the reception as ordered by the program. It's a very effective and versatile system, but it's not exactly portable.

that one radio is picking up signals another is missing? That's really the kind of information you want, and it's something that may not be revealed fully in the specifications, even if you can get them.

The problem is that all specs are not created equal. The specifications of one manufacturer may or may not be based on the same criteria as those of another. Using them to compare models within manufacturer lines is probably useful, but it may be futile to compare them from one manufacturer to another. All sorts of other factors in the design of the receiver may conspire to make a receiver with mediocre specs a great listen, or may render a very good radio on paper almost useless in your area.

It's really about receiver performance, and there's always a tradeoff. How well the receiver can pull a signal out of the ether is referred to as its sensitivity. But a radio that's too sensitive may also receive unwanted interference if the rest of the radio's circuitry isn't up to snuff. If you can get detailed specs, great. By all means, use them as a tool to help your evaluation. But don't be too upset if you can't find them. It's still a radio receiver.

There are three specifications that are important to you, and you'll rarely find all three, but a basic understanding of what they are will help you to better "use your ears" to evaluate different receivers. They are sensitivity, selectivity, and dynamic range.

Sensitivity, which we already touched on, is usually expressed in microvolts (mV; millionths of a volt of signal at the antenna terminal). Most modern scanners have no problem in the sensitivity range; in fact, quite the opposite can be true, particularly in metropolitan areas. A radio that is too sensitive can be prone to interference if the other circuitry in the receiver can't process the signals correctly.

Selectivity is the receiver's ability to pick out just one signal to process, as opposed to all sorts of signals at once. A receiver that's overly sensitive may have trouble figuring out which signal is important, and wind up with what we hear as interference more often than a receiver with better selectivity.

While you may not find detailed information about the selectivity of a scanner, on the better receivers you'll almost always find something about double conversion or triple conversion. Just what's being converted is probably going into more detail

Frequency Of The Month

Each month we ask our readers to let us know what they're hearing on our "Frequency Of The Month." Give it a listen and report your findings to me here at "ScanTech." We'll pick a name at random from the entries we receive and give the lucky winner a free one-year gift subscription, or extension, to *Pop'Comm*. Our frequency for this month is **462.6375**. See what's on it in your area and send me an email or post card. Make sure you note the frequency in the subject of the email, or on the front of the card/envelope so it can be entered for our drawing.

Of course, your questions are always welcome, via email or through the post office. You can reach me at radioken@earthlink.net, or at Ken Reiss, 9051 Watson Rd. #309, St. Louis, MO 63126.

than you need to know, and it would take more space than we have here. Let's just say that, generally, all other factors being equal, the more conversions there are, the better the selectivity of the receiver (and the higher the price). Double and triple conversion receivers are the most common for scanners, but there are some with quadruple conversion—and the price tag to match.

The last of our three specifications is dynamic range. This refers to the range of signal strengths that can be processed correctly by the receiver. How weak can the signal be and still be heard? How strong can the signal be and not result in some kind of overload? That's slightly harder to measure, and a bit harder to quantify. To make matters worse, it's rarely published, but it's of some importance to us.

As a case in point, my local police transmitter is very close to my home station. When it transmits, it can overload



Output from a multi-transmitter tower like this one can cause havoc in your scanner if it's close enough. Here's where selectivity and dynamic range become important.

some lesser scanners, and I can hear the signal in places where it's not supposed to be. However, most of the time, what I run into is a dynamic range issue. It transmits on 154.845, and there's a car-to-car frequency on 154.860. If I'm trying to listen to a weak signal on the car-to-car frequency, and the high-powered transmitter comes up 15 kHz away, it just wipes out the weaker signal on 154.860. That's an extreme example of a dynamic range problem, and some of the best receivers can handle it, but many can't. If you're in an urban area, this will concern you more, but even rural areas are getting their share of radio transmitters these days.

Scanners By The Numbers

So, that's a quick look at the world of scanner specifications...or at least those you're likely to encounter. Have fun shopping or diving further into that brand new receiver Santa brought you.

Until next month, good listening!

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U.S. Bids Bye Bye To IBB-Briech, We Say Hello To A New Country

The U.S. Government's international broadcasting efforts have taken another body blow with the announcement of the coming discontinuance of the IBB-Briech (Morocco) transmitting site. The cubicle crowd of D.C. Mandarins says the operation has gotten too expensive and so will be turned over to Morocco at the end of the current B-07 season in late March. RT Marocaine has also used Briech for much, if not all, of its international broadcasts since the facility opened. Briech joins the Delano, California, site, which went comatose in late October 2007 when it was put into mothballs. Unlike Delano, however, Briech will remain active

Finally active—at least in a testing stage—is PMA Radio from Pohnpei in Micronesia. The 4755 frequency relays its local FM station “The Cross,” which is commonly used as the ID for this new religious broadcaster. The best time for reception in the United States is 1100 to around your local sunrise. Early on, at least, it seems that this station is taking a friendly attitude toward its distant listeners. The North American Shortwave Association (NASWA) has now added The Federated States of Micronesia to its country list. So even in these days of doom and gloom there's now a new country out there you can add to your target list.

You can email reception reports to radio@pmapacific.org or phonpei@pmapacific.org. If you prefer to go via regular postal service, the address is Pacific Missionary Aviation, the Cross Radio Station, P.O. Box 517, Pohnpei, FM* 96941. (*Federated States of Micronesia).

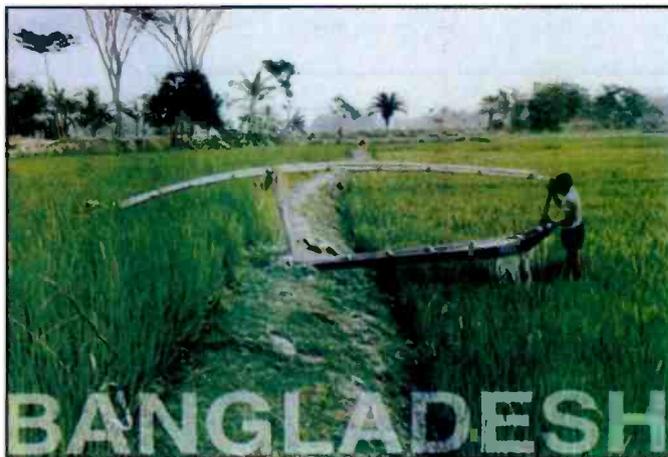
Radio Bare (4895) in Manaus, Brazil, has a new image. The station has dropped its format of religious programming and now identifies as Radio Global Manaus. This old-time broadcaster is now part of the huge Radio Globo network.

There have been recent signs that the rarely heard Radio Nacional Angola outlet on 7217v is showing up again, although not well and apparently riding a shaky transmitter. You can never be sure in situations like this, and maybe the transmitter problems will eventually mean the end of Angola's use of this frequency or perhaps cause a repair or replacement to be made. Let us hope for the latter!

First it was Deutsche Welle, which discontinued using transmitter sites within its own country, and now can be heard only on its relays or via hired time on various other sites. Now they've been joined by Radio Nederland, which—at least for the B07 season—has given up the use of the Flevoland site in favor of other locations. Flevo, says RN, is now a privately run facility. It has proven to be cheaper for Radio Nederland to buy time on some of the other commercially owned transmission sites than on Flevo, which it previously used and formerly owned. So, in the Dutch case, at least all this shuffling around comes down to economics.

A Happy Anniversary!

As this DX season rolls along we should salute and congratulate the National Radio Club currently celebrating an



Rich D'Angelo got this QSL from Bagladesh Betar for reception of its 4750 home service frequency.

astounding 75 years of continuous operation! That easily makes the NRC the oldest of all the radio clubs. The club issues a bulletin some 30 times per year (weekly during the DX season), produces an annual log of U.S. and Canadian mediumwave stations, holds a convention over the Labor Day weekend each year, and has numerous other publications and services for the medium wave DXer. And volunteers have done all this—all of it—for 75 years! “Incredible,” as they say in the vernacular. Membership in the NRC is \$28 (U.S.) per year from National Radio Club, P.O. Box 5711, Topeka, KS 66605-0711. NRC membership is much recommended if you're into BCB DXing.

And A Must-Attend Event

So, what's your story? Winter weather got you down? No good loggings lately? Mailbox empty of QSLs? What you need is a break, a pick-me-up—something to recharge your batteries.

The sure cure is the annual Winter SWL Fest! It's coming up soon—March 7 and 8 to be exact. That's when a couple hundred radioites—including SWLs, utility, amateur, mediumwave, scanner, satellite fans, devotees of every monitoring mode—get together for two-plus days of seminars, discussions, displays, food, and fellowship. There's a big banquet Saturday night, a special speaker, a silent auction, a raffle, and the annual appearance of the Radio Pancho Villa pirate station. The event is held in Kulpsville, Pennsylvania, at the Inn at Towamencin, about 40 minutes from Philadelphia.

For a firsthand account of all the fun to be had, check out “The 21st Annual Winter SWL Festival,” by faithful “GIG” contributor Rich D'Angelo, elsewhere in this issue. You can get full details by visiting www.swlfest.com or sending a #10 self-addressed, stamped envelope to Winter SWL Fest, P.O. Box 4153, Clifton Park, NY 12065-4153. The event is sponsored by NASWA (the North American Shortwave Association) so you

Help Wanted

We believe the "Global Information Guide"—month after month—offers more logs than any other monthly SW publication! (This month we processed 591 SWBC loggings!*) Why not join the fun and add your name to the list of "GIG" reporters? Send your logs to Gerry Dexter, "Global Information Guide," 213 Forest St., Lake Geneva, WI 53147 or email them to gdex@genevaonline.com (please see the column for formatting tips).

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

can also figure on meeting a lot of the members—maybe even some names you frequently see in *Pop'Comm's* pages! So start making your plans now. Get set to beat those blahs and live it up a little!

Reader Logs

Remember, your shortwave broadcast station logs are always welcome. But please be sure to double or triple space between items, list them by country, and

A Guide To "GIG-Speak"

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

* — (before or after a time) time the station came on or left the air

(l) — (after a frequency) lower sideband

(p) — presumed

(t) — tentative

(u) — (after a frequency) upper sideband

v — variable time or frequency

// — in parallel

AA — Arabic

ABC — Australian Broadcasting Corporation

AFN — Armed Forces Network

AFRTS — Armed Forces Radio TV Service

AIR — All India Radio

Alt — alternate

AM — amplitude modulation, AM band

Anmt(s) — announcement(s)

Anncr — announcer

AWR — Adventist World RadioBC broadcast(er)

BSKSA — Broadcasting Service of Kingdom of Saudi Arabia

CA — Central America

CC — Chinese

Co-chan — co-channel (same frequency)

comm1(s) — commercial(s)

CP — Bolivia, Bolivian

CRI — China Radio International

DD — Dutch

DJ — disc jockey

DS — domestic service

DW — Deutsche Welle/Voice of Germany

EE — English

ECNA — East Coast of North America

f/by — followed by

FEBA — Far East Broadcasting Association

FEBC — Far East Broadcasting Company

FF — French

freq. — frequency

GBC — Ghana Broadcasting Corp

GG — German

GMT — Greenwich Mean Time (UTC)

HH — Hebrew, Hungarian, Hindi

HOA — Horn of Africa

ID — station identification

II — Italian, Indonesian

Int/Intl — international

Irr. — irregular use

IRRS — Italian Radio Relay Service

IS — interval signal

JJ — Japanese

KK — Korean

LSB — lower sideband

LV — La Voz, La Voix (the voice)

MW — mediumwave (AM band)

NBC — National Broadcasting Corporation (Papua New Guinea)

OA — Peru/ Peruvian

OC or O/C — open carrier

PBS — People's Broadcasting Station

PP — Portuguese

PSA — public service announcement

QQ — Quechua

QRM — man-made interference

QRN — noise (static)

QSL — verification

RCI — Radio Canada International

Rdf. — Radiodifusora, Radiodiffusion

REE — Radio Exterior de Espana

RFA — Radio Free Asia

RFE/RL — Radio Free Europe/Radio liberty

RNZI — Radio New Zealand International

RR — Russian

RRI — Radio Republik Indonesia

RTBF — RTV Belge de la Communate Françoise

Relay — transmitter site owned/operated by the broadcaster or privately operated for that broadcaster

relay — transmitter site rented or time exchanged.

SA — South America

SEA — Southeast Asia

SCI — Song of the Coconut Islands (transition melody used by Indonesian stations)

s/off — sign off

s/on — sign on

SIBC — Solomon Is. Broadcasting corp.

sked — schedule

SLBC — Sri Lanka Broadcasting Corporation

SS — Spanish

SSB — single sideband

SWL — shortwave listener

TC — time check

TOH — top of the hour

TT — Turkish

TWR — Trans World Radio

Unid — unidentified

USB — upper sideband

UTC — Coordinated Universal Time (as GMT)

UTE, ute — utility station

Vern — vernacular (local) language

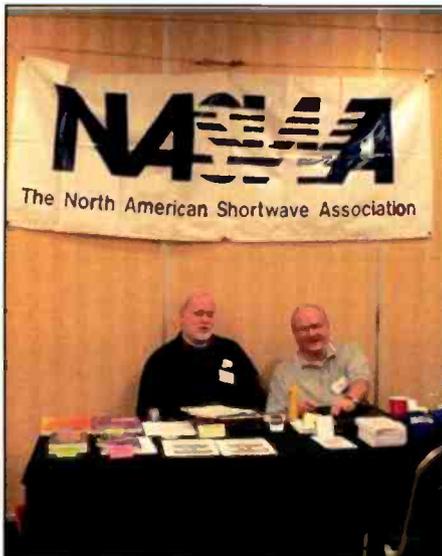
via — same as "relay"

VOA — Voice of America

VOIRI — Voice of Islamic Republic of Iran

WCNA — West Coast of North America

ZBC — Zimbabwe Broadcasting Corporation



NASWA is one of many organizations that maintain booths at the annual Winter SWL Festival coming up next month.

include your last name and state abbreviation after each log. Also much wanted are spare QSLs or copies you don't need returned, station schedules, brochures, pennants, station photos, and anything else you think would be of interest. And, c'mon now—where's that photo of you at your listening post?

Okay. Let's get it on! 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, 13720 at 2000. (Charlton, ON) 13750 with woman and music pgm at 1315. (Parker, PA)

ANTARCTICA—Radio Nacional Arcangel, 15476 with woman and news in SS at 2001. (Strawman, IA) 2050 with woman hosting music to 2100 close. (Alexander, PA)

ARGENTINA—RAE/Radio Nacional, 11710 at 0259 with national anthem and five-minute stream of multilingual IDs, then into FF. (Wood, TN) 15345 in SS at 1044. (Charlton, ON) 2327 with pgm of guitar selections and some vocals with live audience. Off at 2357. (D'Angelo, PA) 2230 with man hosting music. (Parker, PA)

Radio Continental, 13363 LSB with SS talk at 0005. (Alexander, PA) (*This is active only occasionally.—gld*)

ASCENSION—BBC Atlantic Relay, 6005 at 0420. 7105 in FF at 0438. 7160 at 0320 and 15400 at 2254. (MacKenzie, CA) 15400 at 1754. (Charlton, ON) 17830 at 1227. (Brossell, WI) 1953. (Parker, PA)

AUSTRALIA—Radio Australia, 6020 at 1130. (Linonis, PA) 7240 at 1531, 15230 at 2225 and 15240 at 0000 sign on. (Yohnicki, ON) 9560 at 1220. //9580, 9590. (Barton, AZ) 9580 at 1158. (Fraser, ME) 1225. (Wood, TN)

11550 in an Asian language at 2315 and 11825 in CC at 1504. (Brossell, WI) 11550 via Taiwan in unid language at 2254 and 17795 at 2244. //15230. (MacKenzie, CA) 15145 at 0102. (Ng, Malaysia) 17785 heard at 2200. (Maxant, WV)

ABC Northern Territories Service, 2310-Alice Springs at 0900 with current events, fair to poor. (Barton, AZ) 1035. (Alexander, PA) 2485-Katherine and 4910-Alice Springs, at 1030 relaying RA news. (Ng, Malaysia) 2485 with an interview at 1202. (Taylor, WI)

CVC, 13775-Darwin in CC at 1227. (Brossell, WI) 15170 at 0130 with "Good Morning China" pgm. (Ng, Malaysia)

AUSTRIA—Radio Austria International, 9870 at 0148. (Brossell, WI) 13775 with domestic news at 1505. (Maxant, WV)

BELARUS—Bulusurskoye Radio One, 6070 in Russian or Byelorussian at 0927 with talk, ballads. (Taylor, WI)

BOLIVIA—Radio Santa Cruz, Santa Cruz, 6134.7 at 0012 with live futbol coverage. (D'Angelo, PA)

Radio Universitaria, Cobija, 4732 at 0040 with SS and domestic pops. (Alexander, PA)

Radio San Miguel, Beni, 4699.4 in and out of QRN with SS woman and music at 1048. (Taylor, WI)

Radio Mosoj Chaski, Cochabamba, 3310 in presumed Quechua with woman hosting music at 0952. (Parker, PA)

Radio Mallku, Uyuni, 4796.4 with SS woman and music at 0057. (Parker, PA)

BOTSWANA—VOA Relay, Mopeng Hill, 4930 at 0409. (Ronda, OK) 0425. (Parker, PA) 15580 at 1747. (Charlton, ON)

BONAIRE—Radio Nederland Relay, 9840 via Bonaire at 0000. (Fraser, ME) 15540 in DD and EE at 2240. (MacKenzie, CA) 17810 via Bonaire to West Africa at 1949. (Parker, PA)

BRAZIL—(*all in PP—gld*) Radio Brasil Central, Goiania, 4985 at 0237. (Parker, PA) with Brazilian pops at 2235. (D'Angelo, PA)

Radio Filadelfia, Foz de Igacu, 6104.8 with man talking to a crowd heard at 0854. (Taylor, WI)

Radio Aparecida, Aparecida, 9630 with political speech heard at 0440. (Linonis, PA)

Radio Nacional Amazonia, Brasilia, 11780 at 1805. (Brossell, WI) 2055. (McKenzie, CA) 1953. (Charlton, ON)

Radio Novo Tempo, Campo Grande, 4895 at 0405. (Parker, PA)

Radio Educacao Rural, Tefe, 4925 with possible religious songs and instls at 0155. (Parker, PA)

Radio Educacao Rural, Campo Grande, 4755 at 0328. (Parker, PA)

Radio Alvorada, Londrina, 4865 at 0333. (Parker, PA)

Radio Caiari, Porto Velho, 4785 at 0035. (Parker, PA)

Radio Clube do Para, Belem, 4885 with man and echo anmts at 0343. (Parker, PA)

Radio Difusora Macapa, Macapa, 4915 with U.S. hits from the 50s at 0410. (Parker, PA)

Radio Difusora, Londrina 4815 with talks at 0043. Strong CODAR QRM. (Parker, PA)

Radio Cancao Nova, Cachoeira Paulista, 4825 with talk, ID, jingle at 0025. (Parker, PA)

Radio Nacional, Macapa, 4915 with talk monitored at 0149. (Parker, PA) 0247 with romantic ballads and occ. talk. (Ronda, OK)

BULGARIA—Radio Bulgaria, 9700 at 2320. (Charlton, ON) 11800 in SS at 2125. (Brossell, WI; Fraser, ME)

Radio Varna, 9900 from 2154 with all 60s pops. (Brossell, WI)

BURKINA FASO—Radio Burkina, 5030 from 0559 sign on with anthem, FF anmts, brief talk and Afro pops. Good with University Network off. (Alexander, PA)

CANADA—RCI, 4812.5 at 1100 in FF. Sub-harmonic of 9625. It was actually stronger than the 31mb frequency. Also 4877.5 in SS at 0205. Sub-harmonic of 9755. (Alexander, PA) 6100 with mailbag pgm at 2315. (Parker, PA) 9515 at 1625. (Fraser, ME) 0625 at 1401 and 15235 in FF at 1917. (Charlton, ON) 15180 at 2125. (Maxant, WV)

CKZU, Vancouver, 6160 at 1200 with CBC Radio ID. news. (Ronda, OK) 1340 with country records. (Strawman, IA) (p) 2328 with "Vinyl Tap" pgm. (Taylor, WI)

CFVP, Calgary (p) 6030 at 1224 with string of C/W vocals. (Strawman, IA)

CHAD—RN Tchadienne, N'Djamena, 6165 FF talk, drums, IDs at 2200. (D'Angelo, PA) 2210 mixing with Croatia until Croatia went off at 2218. (Alexander, PA)

CHILE—CVC-La Voz, Santiago, 11970 in SS at 0250. (Wood, TN) 17680 in SS at 1941. (Parker, PA)

CHINA—CRI, 6020 via Albania in CC at 0340, 7170 via Mali in CC at 2357. 9570 via Albania in CC at 0200, 9665 via Brazil in SS at 0320, 9815 in CC at 2248, 11620 in CC at 2340, 13640 in JJ at 2330 and 15100 in CC at 2305. (MacKenzie, CA) 7180-Jinhua in Tagalog at 1143. (Ronda, OK) 9570 at 1322. (Charlton, ON) Via Cuba at 1345 (Gay, KY) 11620 in an Asian language at 1215 and 11975 via Mali in FF at 2130. (Brossell, WI) 13650-Urumqi at 1223. (Parker, PA) 15425-Beijing in CC dialect at 0245 and 15785 at 0122. (Ng, Malaysia)

CPBS, 6165-Beijing in Mandarin with children's chorus at 1210. (Ronda, OK) 11610. //11620 in CC at 2303. Also 11750 in CC at 0307 (MacKenzie, CA)

Xizang PBS, Lhasa, 4905 in TT at 1122 and 4919.9 in TT at 1131. (Parker, PA) 6110 at 1245 in listed Tibetan, //7310 was poor. (Taylor, WI)

Voice of the Strait, Fuzhou, 7280 in Mandarin at 1127. (Ronda, OK) CC at 1148 (Brossell, WI)

Quinghai PBS, Xining, 4750 in CC at 0025. (Parker, PA)

Firedrake jammer, 7300 at 1233. No Chinese targets here. Possible mistake by the jammers? (Taylor, WI) 7470 targeting RFA-Mongolia at 1206. 9930 after KWHR at 1415, 11540 at 1755 vs. RFA via Kuwait, 11700 against RFA-Northern Marianas at 1820 and

QSL

RADIO NEDERLAND



MADAGASCAR RELAY STATION

This Radio Nederland QSL was especially designed for those who heard its relay station at Talata, Madagascar. (Thanks Bob Combs, New Mexico)

11785 at 1215 after VOA-Thailand. (Brossell, WI) 10300 at 1335 and 11605 on Radio Taiwan Intl at 1353. (Parker, PA)

COLOMBIA—La Voz del Guaviare. San Jose del Guaviare, 6035 with Latin rhythms and SS anmts at 0038. (D'Angelo, PA)

Marfil Estereo, Puerto Lleras, 5910 in SS with vocals, ballads at 1120. (Strawman, IA) 0402. (MacKenzie, CA)

La Voz de su Concencia, Puerto Lleras, 6009.4 heard at 0206 with M/W in SS. TC and ID and flute music. (D'Angelo, PA)

CROATIA—Croatian Radio/Voice of Croatia, 6165 at 0600 with four minutes of EE news, ID and sked, //9470 via Germany. (Alexander, PA) 7285 at 2315 on their university. (Maxant, WV) 9925 in Croatian at 2230. (Parker, PA) 2236. (Charlton, ON)

CUBA—Radio Havana Cuba, 9550 in SS at 1328, 11760 in FF at 2005 and 13680 in SS at 1349. (Charlton, ON) 9550 at 0527 and 9600 in SS heard at 1237. (Wood, TN)

Radio Rebelde, 5015 heard at 0505. (Parker, PA)

CZECH REPUBLIC—Radio Prague, 6200 in SS at 0215. (Brossell, WI) 9415 at 2238. (Charlton, ON) 13580-Litomyysl in FF at 1843. (Wood, TN)

DJIBOUTI—Radio Djibouti, 4785 at 2105 in vernacular. Closed heard at 2200. (Alexander, PA)

DOMINICAN REPUBLIC—Radio Amanecer, Santo Domingo, 6025 at 2332 with

SS religious talk and music. Squeezed by CRI via Sackville at 0000. (D'Angelo, PA) 2329. (Taylor, WI)

ECUADOR—HCJB, 3220 at 0935 in SS with man and slow music and 11960 in SS at 1403. (Parker, PA) 9745 in SS at 0444. (Wood, TN) 9780 in GG at 0245. (MacKenzie, CA) 15205 in PP at 1700. (Linonis, PA)

HD210A time station, Guayaquil, 3810 with SS time anmts at 1103. (Taylor, WI)

La Voz del Napo, Tena, 3279.8 strong in SS at 0950. (Parker, PA)

Radio Quito, Quito, (p) 4919 heard at 1120 in SS with contemporary vocals. (Taylor, WI)

Radio El Buen Pastor (t), Saraguro, 4815 at 0135 with SS religious talk. QRM from CODAR and probably Radio Difusora in Brazil. (Alexander, PA) 0302 with talks, jingles, ID, guitar. (Parker, PA)

Radio Chaskis, Otavalo, 4919.2 at 1004 with SS anmts and lively local music. (Parker, PA)

EGYPT—Radio Cairo/Egyptian Radio, 9990 in FF at 2113. (Brossell, WI) 2125. (Maxant, WV) 9460 at 2322, 9990 at 2216 and 12050 in AA at 1800. (Charlton, ON) (12050 replaced by 6290—gld)

ENGLAND—BBC, 7105 via Thailand in Mandarin at 1357 and 7120 via South Africa at 0440. (MacKenzie, CA) 7120 via South Africa at 0442, //7150. (Ronda, OK) 9410 via Cyprus at 2030. Also 15240 via Oman in RR at 1430. (Paradis, ME) 9550 in AA at 2022, 11680 in AA at 1932, 12095 at 2234. (Charlton, ON) 9630 via Singapore at 1900. (Paradis, ME) 9875 via Cyprus in an Asian language at 0150 and 11945 via Thailand in CC at 1140. (Brossell, WI) 9740 via Singapore in possible CC at 1200 and 9875 via Cyprus at 0145. (Linonis, PA) 0146 in Dari. (Wood, TN) 11945 via Japan at 2140, 15515-Wooferton to 1730. (Barton, AZ)

Bible Voice Broadcasting, 9430 via Germany with sermon at 1845. (Paradis, ME)

IBC Tamil, 7115 via Wertachtal at 2358 with O/C, instl music, into Tamil talk. (D'Angelo, PA)

ETHIOPIA—Radio Fana, 5970 from 0257 sign on with opening anmts at 0302 and into HoA music, //6109.9 under TWR. Also 7210 at 0416 in Amharic heard at 0425. (Alexander, PA)

ERITREA—Voice of the Broad Masses of Eritrea. Asmara, 7100 with Program One at 0353 sign on with IS and talk in unid language. Also 7175 with Program Two at 0353 sign on with IS and talk. Motorboat jammer around 0402. (Alexander, PA)

FRANCE—Radio France Intl, 7135 in FF at 0445. (MacKenzie, CA) 11705 in FF at 1949 and 11995 in FF at 2020. (Charlton, ON) 11995 in FF at 1903. (Wood, TN) 15160 with EE news to Africa at 1600. (Paradis, ME) 17605 on French bread at 1623. (Fraser, MA)

GABON—Radio Gabon, 4777 at 0457 sign on with O/C, anthem, woman in FF and into man with phone interview. (D'Angelo, PA) 0543 sign on with short fanfare and FF IDs. Afro-pops at 0545. (Alexander, PA)

In Times Past...

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

CUBA—Periodico del Aire, Havana, Cuba, 9535 at 2350 on 3/12/57 in SS. 5 KW. (Dexter, WI)

Africa No. One, 9580 in FF with pops at 2035. (Ronda, OK) Woman in FF with lively music to 2258 close. (Barton, AZ) 17630 in FF at 1500. (Paradis, ME)

GERMANY—Deutsche Welle, 7245 via Rwanda at 0448. (Ronda, OK) 9620 via Portugal in AA at 2120, 9895 at 1910, 11690 in AA at 1934, 11755 in FF at 2000 and 11865 at 2110. (Charlton, ON) 9775 via Rwanda in GG at 2245, 11830 via Khabarovsk in CC at 2320, 11865 via Rwanda at 2102, 15640 via Petropavlovsk in GG at 2247. (MacKenzie, CA) 11865 via Rwanda at 2150. (Gay, KY) 13780 via Sines in GG at 1323. (Parker, PA) 17860 in AA at 1835. (Brossell, WI)

GREECE—Voice of Greece, 7475 in Greek at 0450. (Brossell, WI) 9420 in GG with folk songs monitored at 2220. (MacKenzie, CA)

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

GUAM—Trans World Radio/KTWR, 9910 at 1201 with IS, ID in CC. (Brossell, WI) 11570 at 1250 in listed Kok Borok on Saturdays only. (Strawman, IA)

GUINEA—RT Guineennee, 7125 (p) 2250 in FF with highlife vocals. Carrier cut at 2255 (D'Angelo, PA)

GUATEMALA—Radio Verdad, Chiquimula, 4052.5 with vocals at 0240. (Parker, PA) 0402 with marimbas. (Taylor, WI) 1138 with religious vocals. (Strawman, IA)

Radio Buenas Nuevas, San Sebastian, 4800 at with call-ins from children at 0230. (Parker, PA)

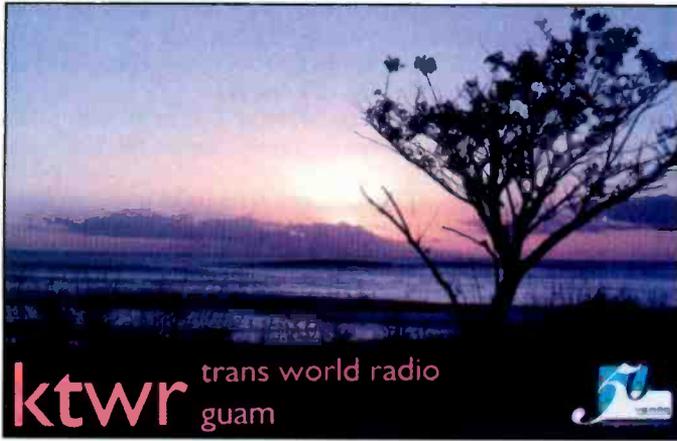
Radio Cultural Coatan, San Sebastian, 4780 with rustic vocals at 0054. Intermittent RTTY QRM. (D'Angelo, PA) 0210. (Parker, PA)

HAWAII—WWVH, 5000 at 0430 with time anmt and local address. (MacKenzie, CA)

HONDURAS—Radio Luz y Vida, San Luis, 3249 with SS preaching at 0235. (Parker, PA)

Radio Misiones, Comayguela, 3340 with SS anner and religious vocals at 0221. (Parker, PA) 0406 with modern Christian music. (Wood, TN) 0555 with SS religious music, "Radio MI" ID. (Alexander, PA) (t) At 1051 with upbeat vocals. SS man anner. (Taylor, PA)

INDIA—All India Radio, 4840-Mumbai in HH at 0053. (Parker, PA) 9810 via Panaji (Goa) with Nepali service at 0123, 9820-Panaji at 1304, 9870 with Vividh Bharati



Trans World Radio marked its 50th anniversary with this special KTWR card picturing sunrise—or maybe sunset—at Guam.

Hindi service at 0115 and 11620 at 1613 with "Song of India" IS and into RR at 1615. (Strawman, IA) 9425-Bangaluru in HH with South Asian music at 2128 and 11585-Kingsway in Sindi at 1229. (Taylor, WI) 9445 on their motion picture industry at 2115. (Maxant, WV) 11585-Kingsway with subcontinental pops at 1240 and 11620-Aligarh with Indian pops at 2111. (Ronda, OK) 11620-Bangaluru with music at 2116. ID 2119. (Brossell, WI)

INDONESIA—Radio Republik Indonesia, 3325-Palangkaraya in II at 1025 and 4925-Jambi at 1017. (Ng, Malaysia) 4870-Wamena with pops at 1240. (Strawman, IA) 4790.1-FakFak with lively II pops at 0048. (Parker, PA)

Voice of Indonesia, 9525 at 1133 with CC pgmng and EE anmts with postal and email addresses. (Alexander, PA) 1153 with II talks, soft music. (Brossell, WI) 11785 in EE monitored at 0221, //9525. (Ng, Malaysia)

IRAN—VOIRI, 3985 at 0045 with apparent special Ramadan pgm, Koran recitations. Off at 0154. (D'Angelo, PA) 3985-Kalamabad at 0115 to 0135 close. Also 7375.1-Kalamabad at 0258 with Koran and unid language. QRM from University Network. (Alexander, PA) 9905 in SS at 0151 and 15085 in GG at 1825. (Brossell, WI) 15150 in presumed Farsi at 1220. (Linonis, PA) 15150 in AA with Koran at 1549. (Parker, PA) 15600 with Koran at 1031. (Ng, Malaysia)

ISRAEL—Kol Israel, 11590 at 1730. (Fraser, MA) 13675 in HH at 1757. (Charlton, ON)

ITALY—Italian Radio Relay Service, Milano, 9510 at 1150 to 1200 close and 15750 from 1300 sign on with EE pgm. Site uncertain but perhaps via Bulgaria. (Alexander, PA)

JAPAN—5960 via Canada in JJ at 0345, 9655 via Ascension in JJ at 2234, 11910 in JJ at 2117 and 17825 in JJ at 2235. (MacKenzie, CA) 11705 with news at 1405. (Gay, KY) 11855 in JJ at 2025, also 13650 in CC at 2245. (Parker, PA)

JORDAN—Radio Jordan, 11690 heard at 1356 with dance music, time pips at 1400, ID and news in EE. (D'Angelo, PA) 1400 with news. (Paradis, ME) 1540 to 1629 close with instl music, pops and techno. RTTY QRM on the low side. (Alexander, PA)

KUWAIT—Radio Kuwait, 9885 in AA at 2345. (Maxant, WV) 11990 in EE at 1912. (Charlton, ON)

LAOS—Lao National Radio, 6130 at 1158 with orchestral prelude leading up to 1200. Then gongs, more orchestral theme, anmts in Lao. Fair level on peaks by 1215. (Strawman, IA)

LATVIA—Radio SWH "Latvia Today," 9290 heard at 1944 with EE talk, several IDs. Close at 1956 with ID and contact info. (D'Angelo, PA)

LIBERIA—Radio Veritas, Monrovia, 5470 at 2103 with talk on local politics, local vocals. Abrupt off at 2110. (Alexander, PA)

LIBYA—Radio Jamahiriya/Voice of Africa, 11635 at 2140 about transportation there. (Maxant, WV) 21695 at 1450 with talks on local

culture and history, IDs, news, readings from *The Green Book*, //17870, both of them fair. (Alexander, PA) 1456, //17870 but announced as 17850. (D'Angelo, PA) (*Libya has resumed use of its site at Sabrata, at least for its 11, 15, 17 and 21 MHz frequencies.*—gld)

MALAYSIA—Klasik International, 5965 in Malay at 0950 with listener requests. (Ng, Malaysia)

MAURITANIA—Radio Mauritanie, 4845 at 0230 with AA call-ins and Koran at 0315. (Barton, AZ) 0255 with instls and Koran. (D'Angelo, PA) 0415 with two men and discussion of Koran. Running 24 hours during Ramadan. (Wood, TN)

MEXICO—Radio UNAM, Mexico City, 9599.2 at 2120 with classical music, ID, SS talks. ECSS-LSB needed to avoid CRI on 9600. (Alexander, PA)

Radio Educacion, Mexico City, 6185 at 0249 in SS with music. (MacKenzie, CA) 0735 with SS anmts, local music. (Alexander, PA)

Radio Mil, Mexico City, 6010, 0803 with SS woman hosting romantic vocals. (D'Angelo, PA) 1125 with SS ID caught in passing. (Ronda, OK)

MOROCCO—RTV Marocaine, 11920-Briech with ME instrumentals at 0255. (Wood, TN) 15345 in AA at 2042. (Charlton, ON)

Radio Medi Un, 9575 in FF/AA monitored at 0527. (Wood, TN) 2230 in AA. (Charlton, ON)

MYANMAR—Radio Myanmar, 5985 in Burmese at 1310. Time chime at 1330 f/by woman and presumed news. (Ng, Malaysia)

NEW ZEALAND—Radio New Zealand, 6095 at 1027. (Ronda, OK) News at 1200. (Brossell, WI) 1405 with South Pacific weather. (Barton, AZ) 9615 carrying National Radio at 0555. (Maxant, WV) 15720 at 2225. (Charlton, ON) 2318. (Yohnicki, ON) 17675 with an interview at 2255. (MacKenzie, CA)

NETHERLANDS—Radio Nederland, 4762.5 via Sackville in listed DD at 2345 to 2357 close. Another sub-harmonic (Alexander, PA) 11655 at 1927, 15315 at 1923 and 17775 at 1707. (Charlton, ON) 2000 with "Amsterdam Forum." (Paradis, MA)

The Mighty KBC via Sitkuani, Lithuania, 6255 monitored at 2237

Pop'Comm February 2008 Reader Survey Questions

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

Do you currently own a CB radio?

- Yes 1
No 2
I own one, but hardly ever use it 3

If not, do you plan on purchasing one?

- Yes 4
No 5
I'm considering it 6

How important a part of your hobby is CB radio?

- Very important, I listen all the time 7
Moderately important, I tune in 8
I'd like to get started listening to CB 9
Not interested in CB at all 10

Would you be interested in seeing more features about CB radio in Pop'Comm?

- Absolutely, I miss the regular coverage 11
I'd like to read the occasional article 12
Not interested 13



Adventist World Radio has dozens of QSL designs. This one shows all the sites from which they broadcast.

with man hosting oldies, EE talk, anmts, jingles, IDs prior to close-down routine mentioning website and things for sale. (D'Angelo, PA)

NIGERIA—Radio Nigeria, Kaduna, 4770 at 0428 with Afro-pops. (D'Angelo, PA) 0455 with Afro-pops. (Brossell, WI) 0503 with regional news in EE. (Parker, PA; Ronda, OK)

Voice of Nigeria, 7255-Ikorodu in Hausa at 2244 to 2258 close. (D'Angelo, PA) 2206 in Hausa. Also 15120 at 2046. (Ronda, OK) 7255 in Hausa at 2228 and 15120 in EE at 1928. (Charlton, ON) 1807 with mix of American and local pops. (Wood, TN) 2058 with abrupt sign off. (Yohnicki, ON)

NORTH KOREA—Voice of Korea, 9335 with EE to NA at 1325. (Strawman, IA) 11710 in EE at 1500. Very weak. (Paradis, ME) 12015 from 1857 open in FF. (Wood, TN) 15100 heard at 0200. (Ng, Malaysia)

KCBS, 2850 in KK at 1030. (Barton, AZ) 9345 with talks in KK. (Brossell, WI) 11535 in KK at 2047. (MacKenzie, CA) 15180 with "victory" songs in KK at 1237. (Brossell, WI)

NORTHERN MARIANAS—KFBS, Saipan, 12090 in VV at 2256. Off at 2300. (Parker, PA)

OPPOSITION—Radio Marti, 15870 in SS heard at 2035. (Charlton, ON)

Radio Republica (to Cuba) 6135 via Rampisham in SS at 2350. Minimal Cuban jamming. (Taylor, WI)

Radio Free Asia, 11785 via Northern Marianas, 2303 in Mandarin, //11760 and 15430. (D'Angelo, PA)

SW Radio Africa (to Zimbabwe), 12035 via Rampisham or Kvitsoy, at 1858 with anti-Mugabe talks, ID as "SW Radio Africa, Zimbabwe's independent voice." (D'Angelo, PA)

Radio Okapi (to Congo) 11690 via South Africa at 0505 with FF talk, "Okapi" jingles. (Alexander, PA)

Radio Liberty, 9760 via Sri Lanka in an Asian language at 0143. (Brossell, WI) 11520 via Sri Lanka in Kazakh at 1236 with clips from a speech. (Strawman, IA)

Deng Mesopotamia (to Iran) 11530 via Moldova at 1231 with Kurdish vocals. (Strawman, IA)

Open Radio for Korea (to North Korea) on 9930 via Hawaii in KK at 1100. (Ng, Malaysia)

Southern Sudan Interactive Radio Instruction (to Sudan) 15650 via Meyerton at 1402 with EE lesson on reading and writing numbers. (Alexander, PA)

Radio Farda (to Iran) 9805 in Farsi at 0100. (Ng, Malaysia) 9865 via Morocco at 0154. //9805. (Wood, TN) 0147 in Farsi. (Brossell, WI) 17510 heard at 1421 with their usual "Farda fare" in Farsi. (Ronda, OK)

PALAU—T8BZ, 9965 in CC at 1030. (Ng, Malaysia) Hymns in CC at 1227. (Brossell, WI)

PAKISTAN—Radio Pakistan (t) 7220 in listed Chitral language at 1157 with talk, South Asian music. Suffering from ham QRM.

Wikipedia says this is the language used in the NW frontier province where Osama bin Laden may be hiding. (Taylor, WI)

PAPUA NEW GUINEA—Radio East Sepik (p), Kieta, 3335 at 1211 in Pidgin. Faded out by 1230. (Taylor, WI)

PERU—Radio Vision, Chiclayo, 4790 at 0725 in SS with Bible teaching, music, ID at ToH and into OA music. (Taylor, WI) 1057 with religious songs. (Ronda, OK)

Radio Maranon, Jaen, 4835 in SS with ID and OA music at 0231. (Brossell, WI) Music, boisterous SS anncr, military march and abrupt off at 0000. (Parker, PA)

Radio Victoria, Lima, 6019.5 at 0600 with SS religious music and talk, //9720, both weak. (Alexander, PA)

Radio del Pacifico, Lima, 4794.8 with music and talk in SS and clear ID at 0225. (Parker, PA)

Radio Tarma, Tarma, 4775 in SS with pops at 0325. (Parker, PA) Radio Huanta 2000, Huanta, 4746.9 in SS with woman anncr and music at 2357. Strong CODAR QRM. (Parker, PA)

PHILIPPINES—Far East Broad-casting, 12065 in CC at 2302 opening, talks and hymns. (MacKenzie, CA)

Radio Veritas Asia, 9615-Palauig at 1135 in unid lang with EE translations, light instls. EE ID at 1155 sign off. (Alexander, PA) 11820 at 2310 in II, //9505. (MacKenzie, CA)

PIRATES—WBNY, 6925u. Many receptions on various days at 1446, 1502, 2049, 2053, 2114, 2203, 2224, 2232, 2234, and 0009. Commander Bunny for president and endorsements for same, monkey in the jungle, trumpets at sign on. (Zeller, OH) 1538 with brief transmission. Off at 1540. (Alexander, PA) 2208 under another stn. (Hassig, IL)

Radio Free Speech, 6925u with sign ons at 1733 and 1804 with "Bill O' rights" and ad for "Iraqi Chiropractic Center." mailbag, replay of a trucker sketch, remarks by Editorial Director Earl Pitts. Parody version of "Star Spangled Banner." (Zeller, OH)

Undercover Radio, 9625 monitored at 1538 and 2301, "Dr. Benway" with rock, talk on breeding dogs, another on sounds picked up through a rifle spotting scope and then fed through an audio generator. Many mentions of Merlin address and undercoveradio@gmail.com. Also offered a CD of the program for reports. (Zeller, OH) 0010 and 0021 with 2006 and 2007 New Year programs, talk of a psychedelic experience and email address for reports. Story of doing battle with chupacabra monster, bit about Commander Bunny. (Hassig, IL) 1545 with address and email info, Dr. Benway radio drama. (Alexander, PA)

The Crystal Ship, 5385 at 0722 various songs, political comments, movie audio clips. (Hassig, IL) 6875 with rock and anti-war talk at 1334. (Gay, KY) 1430 with pops. Said they were running 150 watts. Also 6899.1 heard at 2210 with Michael Jackson's "Thriller" and IDs. (Alexander, PA)

Radio Paisano, 6925 variously at 1254, 2018, and 2245 with Italian cowboy songs and other Italian numbers. Email radiopaisano@gmail.com. Closes with Italian national anthem. (Zeller, OH) 2236 with some U.S./Italian themed songs. (Hassig, IL)

WTF—What The #^%\$, 6925u at 1848 and 2134 with oldies rock. The call letters stand for an unprintable slogan. (Ah, the *Sediment Culture* again!—gld) No address announced. (Zeller, OH)

Captain Morgan, 6925u at 1823 and 2039 with rock oldies, some *Twilight Zone* audio clips, "You're in the pirate zone with Captain Morgan." No address given. (Zeller, OH)

WMR, "We Monkey Radio" 6925u at 1808 sign on with Bette Davis's "Dark Eyes." They play short songs so monkeys, with their short attention span, can understand them. (Zeller, OH) 1915–1923 close. (Alexander, PA)

MAC Radio, 6850 at 1735 with pops, Yahoo email address. (Alexander, PA) 2335 with old Led Zepplin. (Hassig, IL)

Long Range Radio, 6925u at 2239 and 2335 with rock, discussion of Bud Lite. No address. (Zeller, OH)

Laser Hot Hits, 6925 at 1433 with pops, Merlin address. (Alexander, PA) 2316 with rock oldies. (Gay, KY)

Radio Jamba Intl, 6925u at 1928 with fake commercials, talk about liquid heroin. (Alexander, PA)

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KIPM, 6925u at 2157 with program on how to be larger than life (eat too much, inflate yourself with helium). Practically begging for reports to defunct (?) Box 24, Lulu, GA, and offering premiums with QSLs. (Zeller, OH)

WKNR, 6925 at 1416 with rock. "If it's too loud, you're too old." (Gay, KY) (*Hand me my cane.—gld*)

Mystery Radio (England) 6220 at 2223 with continuous rock and occasional IDs. (D'Angelo, PA)

KSUR, 6925.6 at 2156 with various mostly instrumental rock things. Email as KSUR@yahoo.com. (Zeller, OH)

Northwoods Radio, 6925u at 0127 with vocals and ID "This is Northwoods Radio..." and email as northwoodsradio@yahoo.com. Also CW ID and some RTTY. (D'Angelo, PA)

Wolverine Radio, 6925u at 0117 with several men talking sports. ID and off at 0124. (D'Angelo, PA)

PORTUGAL—RDP Intl, 9415-Sao Gabriel in PP at 0035 with W. hosting music pgm.

ID at ToH. (Taylor, WI) 15560-Sao Gabriel in PP at 1915. (Charlton, ON) 21655 in PP with soccer coverage heard at 1923. (Parker, PA)

ROMANIA—Radio Romania Intl, 6140 in SS at 0154. (MacKenzie, CA) 9610 at 2310. (Maxant, WV) 9875 at 2244. (Charlton, ON)

RUSSIA—Voice of Russia, 7250 via Armenia with pops at 0245, 7260 in RR at 0242 and 9435 with classical music at 0323. (MacKenzie, CA) 7290 in SS or PP with good jazz pgm at 0445. (Linonis, PA) 9660 via Vatican in FF at 0448, 9665 via Moldova at 0203 and 9860 via Vatican in RR at 0438. (Wood, TN) 11510 with "Music and Musicians" at 1700. (Fraser, ME) 7250 via Armenia in RR at 0200, 11510 via Tajikistan in SS at 0158 and 12040 in FF at 1810. (Brossell, WI) 11610 at 1927, 11675 at 1757 and 11840 in RR at 2008. (Charlton, ON) 15585 with ID and news at 0300. (Ng, Malaysia)

Russian Intl Radio, 7125 via Moldova in RR at 0325. (Ng, Malaysia) 0445. (Linonis, PA)

SAO TOME—VOA Relay, Pinheira, 4960 at 0427. (Parker, PA) 6080 at 0336 and 12035 in FF at 2125. (MacKenzie, CA) 9830 in FF at 2108. (Brossell, WI) 11835 at 0423. (Wood, TN)

SAUDI ARABIA—BSKSA, 21670 at 1005 with talks in Indonesian. (Ng, Malaysia)

SINGAPORE—Mediacorp Capital FM, 6000 with news in CC heard at 0706. (Ng, Malaysia)

Radio Singapore Intl, 6080 with news items at 1246. (Barton, AZ) 7235 in unid Asian language at 1205. (Brossell, WI)

SOUTH AFRICA—Channel Africa, 15235 with sports items at 1745. (Charlton, ON)

Radio Sondergrense, 3320 in Afrikaans at 0250. (Wood, TN) 0340. (Parker, PA)

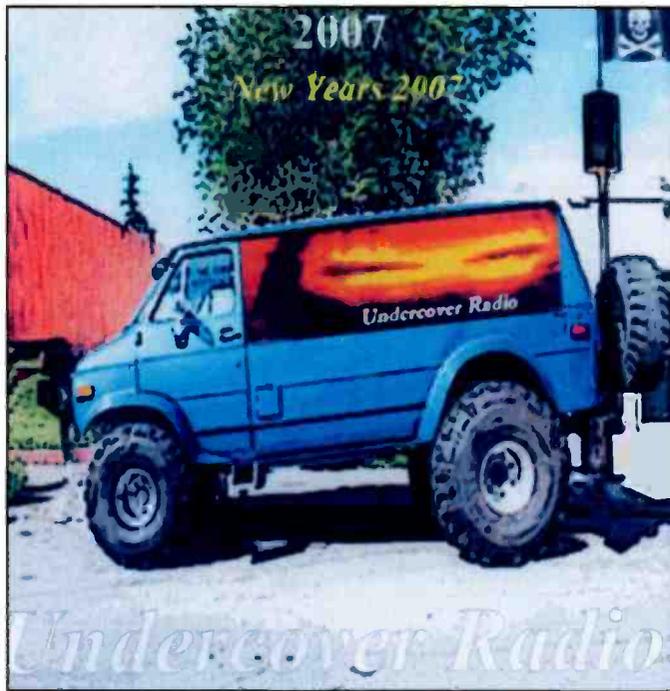
SOUTH KOREA—KBS World Radio, 9515 in SS at 2040. (MacKenzie, CA) 15360 in RR at 1829. (Brossell, WI)

SPAIN—Radio Exterior de Espana, 3350 Costa Rica Relay in SS at 0225. Also 17850 Costa Rica in SS at 2002. (Parker, PA) 6055 in SS at 0338. (MacKenzie, CA) 8535 in SS at 0049. I presume 9535 was the intended frequency, not 8535. (Ronda, OK) 9620 in SS at 2300. (Barton, AZ) 9665 at 2045. (Maxant, WV) 11625 in SS at 2122 and 11815 in SS at 2035. (Charlton, ON) 17850 Costa Rica Relay in SS at 2233. (MacKenzie, CA)

SRI LANKA—SLBC, 15745 with Abba selection at 0210. (Ng, Malaysia)

SUDAN—Radio Omdurman, 7200 with AA talk at 0333 and short music bridges. ID at 0340. (Ronda, OK) 0355 with man and woman in AA and local music. Time pips on the hour, ID and news. (D'Angelo, PA)

SURINAME—Radio Apinte, 4990 with woman anncr and oldies selections at 0451. (Parker, PA)



This Undercover Radio van isn't exactly "undercover."

SWAZILAND—Trans World Radio, 3240 at 0343 ending Sidama language pgm with ID. IS. (D'Angelo, PA) 4775 with a sermon at 0434. (MacKenzie, CA)

SWEDEN—Radio Sweden, 6065 via Canada at 2230. (Maxant, WV) 15240 in Swedish at 1325. (Charlton, ON) 1445 in unid language. (Paradis, ME)

SYRIA—Radio Damascus, 12085 at 2110. Almost non-existent modulation. (Strawman, IA) 2214 in AA. (Charlton, ON) 2325 in SS. Into AA at 2330. (MacKenzie, CA)

TAJIKISTAN—Tajik Radio, 4635 at 2316. Weak, with M/W talks in RR. (Parker, PA)

TANZANIA—Radio Tanzania-Zanzibar, 11735 at 1740 in listed Swahili. (Brossell, WI) with African music at 1745. (Barton, AZ) 1800 with EE news and ID for "Spice FM." (Alexander, PA) 1806 with Middle Eastern vocals. talk in presumed Swahili. (Strawman, IA)

TAIWAN—Radio Taiwan Intl, 9680 via Florida with CC news at 0505. (Maxant WV) 11635 in CC at 2204. //11710 and 15600 via Florida at 2245. (MacKenzie, CA) 11665 in Mandarin at 1320. (Taylor, WI) 11875 at 0115 with "Made In Taiwan" pgm. (Ng, Malaysia) 13890 in FF at 2035 and 15600 via Florida at 2231. (Charlton, ON)

THAILAND—Radio Thailand, 9835 at 1230 sign on with gongs. ID and news. (Alexander, PA)

TUNISIA—RT Tunisienne, 7275 with AA songs at 0445. (Brossell, WI) 0518 to close at 0530. (D'Angelo, PA) 0521. (Parker, PA) 9720 in AA at 0156. ID and news at ToH. (Wood, TN) 0345 with AA talk and music. (Linonis, PA)

TURKEY—Voice of Turkey, 5960 at 2305. (Maxant, WV) 7270 at 0315. (MacKenzie, CA) 6195 with letters at 2220. (Fraser, MA) 2240 with recipes. (Gay, KY) 9785 at 1830. (Paradis, ME) 13640 in GG at 1800. (Brossell, WI)

UGANDA—Radio Uganda, 4976 at 0213 in heavily accented EE with phone-ins. (Ronda, OK) 0220 with pops and talks in an African dialect. (Brossell, WI)

UKRAINE—Radio Ukraine Intl, 5910 in EE with U.S. and UK pops at 0450. (Linonis, PA) 7440-Mykolayiv with news at 0053. (Parker, PA) 0235 in UU. (MacKenzie, CA) 0301. (Wood, TN)

UNITED STATES—Voice of America, 9780 via Sri Lanka at 0142. (Strawman, IA) 9780 via Philippines at 0050. (Ng, Malaysia) 11625 via Northern Marianas in an Asian language at 1210. Also 11990 in CC at 1230. (Brossell, WI) 12075 via Tinian at 1257. (Ronda, OK)

This Month's Winner

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

This month's prizewinner is **Brian Alexander** who now enjoys his coffee from an official Radio Free Asia mug, courtesy of the good people at RFA in Washington.

13755 with EE lessons at 2315. (MacKenzie, CA) 15205 in Bangla at 0135. (Ng, Malaysia)

Radio Ashna service (VOA) 15090. //15120 in Dari to Pakistan with VOA ID at 1530. (Parker, PA)

AFN/AFRTS, 5446.5, Key West at 2250 and 12133.5, Key West at 2245. (Maxant, WV) 7811, Key West at 2127. (Ronda, OK)

University Network, 9725 via Costa Rica at 0430 with woman preaching. (Linonis, PA) 1243 with Mrs. Scott. (Wood, TN) 13750 via Costa Rica at 2226. (Charlton, ON)

Trans World Radio, 7215 via South Africa in Amharic heard at 0338. (MacKenzie, CA)

Adventist World Radio, 15235 via Germany at 2005. (Taylor, WI) WINB, Red Lion, 13570 with preaching at 1848. (Wood, TN)

WWRB, Manchester, 6370 at 0010. 2x3185. (Alexander, PA)

WEWN, Vandiver, 9885 in SS at 1250. (Wood, TN)

WYFR, Okeechobee, 9465 at 1017. (Ng, Malaysia)

WRMI, Miami, 9955 in SS at 1214. (Brossell, WI)

VATICAN—Vatican Radio, 7335 signing on in RR at 0230. (Brossell, WI) 9600 at 2342 to 0000 close. (D'Angelo, PA) 9610 in SS at 0213. (Wood, TN) 9645 in II at 1917. 11625 at 2024 and 15570 at 2024. (Charlton, ON) 11625 at 0505. (Maxant, WV)

VENEZUELA—Radio Nacional, 15250 via Cuba with live SS segment, several IDs and address anmts. Closed at 2357. (D'Angelo, PA)

VIETNAM—Voice of Vietnam 7165 with Hmong service at 1250. (Strawman, IA) 6175 via Canada at 0330. (MacKenzie, CA)

ZAMBIA—Radio Zambia, 5915 at 0235 sign on with O/C. Fish Eagle IS from 0241. vocal anthem at 0249, then the apparent opening ID, drums and tribal singing. (D'Angelo, PA)

The Voice, 4965 at 0402 with gospel songs. (Ronda, OK) African music at 0431. (Parker, PA)

ZIMBABWE—ZBC/Radio Zimbabwe, 3396 in local language at 0135 with occasional EE, Afro-pops and ballads. (Taylor, WI) 4828 at 0144. (Parker, PA) Tentative at 0336. (Wood, TN) 0414 with continuous music, mostly local/regional stuff. (D'Angelo, PA)

And, once again, order is restored! An ocean of thanks to the good guys who checked in this time: Robert Charlton, Windsor, ON; Mark Taylor, Madison, WI; Jerry Strawman, Des Moines, IA; Brian Alexander, Mechanicsburg, PA; Stewart MacKenzie, Huntington Beach, CA; Charles Maxant, Hinton/Barboursville, WV; Jim Ronda, Tulsa, OK; Robert Fraser, Belfast, ME; Richard Parker, Pennsburg, PA; Michael Yohnicki, London, ON; Peter Ng, Malaysia; William Hassig, Mt. Prospect, IL; Joe Wood, Greenback, TN; Chris Gay, Lexington, KY; Robert Brossell, Pewaukee, WI; Rich D'Angelo, Wyomissing, PA; Rick Barton, Phoenix, AZ; Jack Linonis, Hermitage, PA; and Ray Paradis, Pittsfield, ME. Thanks to each one of you.

Until next month—good listening!

Improved Skills And Better Antennas Trump Power Amplifiers—Hands Down!

As I write this month's column, I've just finished "playing around" in the 2007 November Sweepstakes contest(s)—CW first, then phone—from my deed-restricted condo. As if to increase my challenge beyond the norm, I have an indoor antenna and run only 5-watt output on CW, 10-watt PEP on phone. By just about anyone's guess, including my own, I wasn't expecting much success, especially on SSB. Thankfully, and delightfully, I was pleasantly mistaken!

My last change of address—to a tiny condo with *no trees* and an overachieving Townhouse Association—has had me wishing for a reasonable way out of my situation. I would love to put up a remote station a mile or two out of town, complete with an autocoiler and a big horizontal loop, but the funds for such a venture aren't yet available, and my research into the required technical parts, radio and/or Internet links, and software isn't complete. When it is, I'll report on it here!

I mentioned my first stealthy antenna attempt a time or two in previous columns. I managed to get a coaxial cable outside and buried, and I fed the condo's aluminum rain gutter and downspout against several wire radials tucked on the ground here and there, the longest being about 75 feet. The downspout ran vertically for 22 feet, and the rain gutter (a continuous length of seamless aluminum) was a healthy 75 feet, for a total of about 95 feet, "inverted-L" style. I ran a wire up the downspout and connected it directly to the rain gutter to ensure a good connection.

I expected it to work pretty well...but it was really quite horrible! It "hears" okay (and I use it for SWLing and BCBing with a homebrew regenerative receiver), but it *barely* transmits! I think the close proximity to the aluminum soffits, which run the entire length of the condo's roofline, "swamps" the RF when transmitting. I managed to work a handful of U.S. stations on 40 and 20 meters, and a lone European DX station, but it was *hard work!*

My fallback plan was a horizontal loop running around the inside perimeter of my second-story attic space.

I enlisted the help of a small, wiry teenager (everyone should have access to one!) to "help" me run the insulated wire in the attic ("step only on the trusses and don't breathe the insulation; the itchy feeling will go away someday"). When all was said and done, the antenna was resonant somewhere near 40 meters. The actual resonance point isn't critical. I installed my trusty SGC autocoiler in the attic just adjacent to the hallway access hatch and had my helper run a 20-foot length of open-wire line from the coupler to the loop's feed point.

Running the coax from the attic to the main floor attached garage (fixed up as an office/shack) was going to be the hardest part—until I remembered that the cable TV service splitter was already in my shack, and that a hefty run of RG-11 (think *husky* RG-6) already ran through the walls to an unused cable outlet in the upstairs bedroom, directly under the tuner in the attic. I didn't have to fish RG-6 through the walls—it was already there! I drilled a single hole through the bedroom ceiling, ran a



Now that we've discussed at length the unnecessary evils of HF power amplifiers, I'd like to show you an amplifier that serves a community that actually needs an amplifier every now and then: QRP ops!

When your tiny low-power HF and 6-meter rig (Yaesu's FT-817 or ICOM's IC-703, for example) just can't cut the mustard at 5-watt output, Tokyo Hy-Power's compact HL-100BDX HF/6-meter linear amplifier is just what the doctor ordered. With 5-watt input for about 50-watt output, automatic band switching, and a rugged, compact package (the amp measures about 6 x 2 x 9 inches), the HL-100BDX makes a perfect companion—without cranking up to crazy power levels.

They're not inexpensive and they're somewhat hard to find in the United States, but thanks to the Internet, where there's a will, there's a way. Check out the HL-100BDX at Tokyo Hy-Power's website (www.thp.co.jp/thp%20hp%20Eng/amateur_eng/hf_eng.htm). You can also see what other users are saying about the QRP companion amp at the Yahoo User's Group (<http://groups.yahoo.com/group/tokyohypower>).

short length of RG-6 (the kind with the attached external ground wire, which I use to supply 12 volts to power the autocoiler), and my task was done!

A quick test in the shack showed that the antenna tuned everywhere from 160 through 10 meters, with no detectable RFI. I wound a coaxial choke balun at the input of the remote tuner and installed my massive R. L. Drake 2-kW low-pass filter at the output of my SWR/power meter.

Because of my low power output and consistent RFI-prevention measures (and because the first antenna was so horrible), the new antenna works *amazingly* well. Back to the Sweepstakes.

In about six hours of casual hunt-and-pounce contesting, split evenly between the CW and SSB weekends, I worked 45 states (including Alaska on 40 and 20), most of Canada, Puerto Rico, and the U.S. Virgin Islands. My QRP signal, feeding an attic antenna, was powered by an ICOM IC-718 HF transceiver—as entry-level as you can get—with no CW filter.

Can you tell I'm playing to the cheap seats with my tale of woe? Truth is, I had a blast. With a handful of exceptions, I worked every station I called. I worked coast to coast with QRP

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80-meter SSB and even made a few 15-meter SSB contacts, something I haven't done in an awfully long time.

Now, I'm not the best contest operator on the block, and when I play around in contests it's usually to work states or DXCC entities, etc., and not to be ultimately competitive. But on the fun scale, the 2007 Sweepstakes was off the chart, even with no fancy radio, no outdoor antenna, and no high-power amplifier. My experience in November is the perfect introduction to this month's topic—and it's a real perennial.

Amplifiers: Who Needs 'Em?

We've all probably thought about buying a big amplifier at one time or another, but I'm here to tell you that, for most hams, station amplifiers aren't terribly useful. In fact, they may be more trouble than they're worth. Even if they're free!

If you think you need a linear amplifier to chase away your radio blues, think again. Your 100-watt barefoot signal almost certainly provides more than enough power. If you need a bigger signal, what you likely need is a better antenna, a better feed line, or improved operating skills. On that last issue, I'd like to offer a friendly reminder here...

Be Responsible

In case you've forgotten, amateur radio is a radio service, with rules, regulations, and goals that transcend hobby operation. One of the most important rules compels us to use the minimum transmitter power required to communicate.

That doesn't eliminate amplifiers entirely, but it does (or should) limit their habitual use. The minimum necessary power rule protects us all. It promotes responsible, considerate operation. Try it sometime! Reduce your 100-watt signal to 50 or 25 watts. You'll do just fine most of the time, and you'll also improve your operating skills, enjoy a greater sense of achievement, and gain an intuitive understanding of propagation.

Hams who are also decent human beings are concerned about others—other hams, neighbors, family members, etc. They try to fit in, to get along, to accommodate a community of interests in addition to their own.

Just because we *can* transmit a 1500-watt signal doesn't mean we should. Just because we *can* erect a 200-foot-high antenna tower doesn't mean we should.

Hams who follow the Golden Rule integrate their radio pursuits with the pursuits of others, and not because they have to, but because they want to!

Average In Every Way

Now let's assume you have a typical shack. Your 100-watt transceiver feeds a coax-fed dipole (or two) through an antenna tuner. Because of the tuner, your rig can happily put out full power regardless of actual antenna/feed line SWRs on the various bands you work.

This setup, which is used by thousands, works pretty well, right? Maybe. But maybe not. You might have noticed that working stations on some bands doesn't seem as easy as it should, especially DX stations. You might even be dreaming of solving your problem by cranking up the power. By adding a glowing monster amp to your modest shack, you might think, those stations with once-marginal copy will respond with ease.

It's a comforting image, but it's probably a fantasy. Although you may not yet know it, you'll likely get a lot more signal for a lot less money if you upgrade your antenna system before (or instead of) shelling out the bucks for an amplifier.

By The Numbers

Let's boost our signal and see how the decibels stack up against the pocketbook.

If your amplifier budget is modest, a small solid-state or single-tube amplifier will boost your 100-watt signal to about 500 watts. That's enough to be noticed, or so you think—but just how noticeable?

Here's the bad news: Every time you double your power output, stations that are receiving your signal hear a 3-dB increase in strength. That's less than half an S-unit! To nudge the needle a full S-unit you need to quadruple your power output (a 6-dB increase)!

The progression looks like this: 100 watts doubled to 200 watts equals a 3-dB increase. Next, 200 watts doubled to 400 watts equals a 6-dB increase. Then, 400 watts doubled to 800 watts equals a 9-dB increase (exceeding the output power of our entry-level amplifier). Finally, 100 watts times 10 equals 1000 watts, a 10-dB increase in power output.

Our 500-watt output amplifier gives us a smidgen more than a 1 S-unit boost on the other end. That's not much, especially when an amplifier in this class can cost as much as \$1,000!

Want more power? Using our calculations from before, boosting your signal to a 1-kilowatt output provides a 10-dB shot in the arm. That's just less than two S-units on the other end—S3 to S5, S7 to S9, etc.

That's enough of a difference to be noticed, but still not enough to "burn down the barn." And, by the way, you're now shelling out \$1,200 or more. If you go for a legal-limit amplifier, your 1500-watt signal will be about 12 dB stronger than your "barefoot" transceiver. Because of the "price of power," 1500 watts is still only two S-units stronger! And a legal-limit amplifier is hardly a casual purchase. It'll set your wallet back about \$2,000.

(In case you're wondering, the decibel scale works in the other direction, too, as evidenced by my experience in the November Sweepstakes. If a 1000-watt signal is S9, a 100-watt signal will be about S7, and a 10-watt signal about S5. Not a bad deal!)

Do This Instead

To save some wear and tear on your neighbors, fellow hams, your wallet, and even your house wiring (big amps require big AC power), consider improving your antenna system before investing in an amplifier. Here are some ideas to get you started:

- One almost universal way to get out more signal is to get your antenna(s) farther up in the air (your present antenna or a new one). Build a taller mast, find a taller tree, or put up a tower.

- If that dipole just isn't cutting it, put up a contest-winning and DX-catching secret weapon: a full-wave horizontal loop for 40 or 80 meters (up as high as possible, of course!). Feed it with coax and use a tuner on bands above the fundamental frequency. That's a "cheap 'n' dirty" way to snag an extra 2 to 10 dB, depending on frequency.

- Disconnect the feed line from your coax-fed multiband dipole and replace it with 450-ohm ladder line. With a coax feed, even though your antenna tuner may be presenting a happy impedance to your transmitter, feed line losses due to high SWR may slash your signal by 6, 10, or 20 dB, depending on the band and the size of your dipole! By using 450-ohm open-wire line you'll likely reclaim most of that lost power. Now that's a 6- to 20-dB shot in the arm that anyone can afford!

- For about the price of an entry-level

amplifier you can buy a multiband beam antenna and a decent rotator. This dynamic duo, mounted reasonably high, will offer a 5- to 7-dB directional improvement to your signal. Remember: Amplifiers only boost your transmitted signal and do nothing to improve reception.

By rotating a directional antenna you can often boost the signal you're trying to receive while attenuating signals that are unwanted. For example, if I'm working a European ham from my Minnesota QTH, a potentially interfering signal from an op in Florida—located in the side null of my directional antenna—may drop 25 dB or more! The difference, more than 30 dB of signal enhancement, could never be achieved by an amplifier alone.

- On SSB, learn to correctly use your rig's speech processor. That's another 3-dB (or more) improvement, this time in the modulation department! No purchase necessary!

- Use Morse code and/or PSK31 instead of SSB. These modes offer vastly better signal-to-noise performance and open up new avenues of exploration.

- Learn about propagation. This is especially useful when we're in the doldrums of the solar cycle—as in *right now!* When band openings are shorter and less frequent, learning when a path to your desired destination might be open can make all the difference. You could have a megawatt amplifier and not be successful if the ionosphere isn't cooperating.

Amplifiers After Antennas

So, will antennas and operating experience win out over amplifiers in your shack? Or will your operating table soon be sporting some heavy iron? Amplifiers do have their uses, especially after you've tweaked your antenna farm. Add a 10-dB amplifier to a 7-dB beam antenna and you've got a whopping 17-dB improvement in signal strength! That will put you on the map, especially when the minimum necessary power required to communicate requires maximum power.

Just don't wire the amplifier to the light switch in your shack—use your amplifier only when it's necessary!

Let's Hear From You

That's it for now. But, as always, I invite you to send your QSL cards, questions, and letters to "Ham Discoveries," 25 Newbridge Road, Hicksville, NY 11801. Your input is greatly appreciated.

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

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

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0000	7115	IBC Tamil, England, via Germany	Tamil	0300	4755	Radio Immaculada Conceicao, Brazil	PP
0000	6135	Radio Santa Cruz, Bolivia	SS	0300	11710	RAE, Argentina	FF
0000	9415	RDP Intl, Portugal	PP	0300	5915	NBC/Radio Zambia	vern
0030	6035	La Voz del Guaviare, Colombia	SS	0330	4775	Trans World Radio, Swaziland	vern
0030	4825	Radio Cancao Nova, Brazil	PP	0330	3320	Radio Sondergrense, South Africa	Afrikaans
0030	11780	Radio Nacional Amazonas, Brazil	PP	0330	9720	RT Tunisienne, Tunisia	AA
0030	4732	Radio Universitaria, Bolivia	SS	0330	5960	Radio Japan/NHK World	JJ
0100	9805	Radio Farda, USA	Farsi	0330	7215	Trans World Radio, via South Africa	various
0100	4790	Radio Vision, Peru	SS	0330	6175	Voice of Vietnam, via Canada	
0100	9870	All India Radio	Hindi	0330	4885	Radio Clube do Para, Brazil	PP
0100	9810	All India Radio (Goa)	Nepalese	0330	9630	Radio Aparecida, Brazil	PP
0100	4780	Radio Cultural Coatan, Guatemala	SS	0330	3240	Trans World Radio, Swaziland	vern
0130	4052.5	Radio Verdad, Guatemala	SS	0330	6020	China Radio International, via Albania	CC
0130	7475	Voice of Greece	Greek	0400	4965	The Voice, Zambia	
0130	9875	BBC, via Cyprus		0400	7275	RT Tunisienne, Tunisia	FF
0130	6025	Radio Amanecer Intl, Dominican Republic	SS	0400	11835	Voice of America Relay, Sao Tome	
0130	9870	Radio Austria International		0400	7175	Voice of Broad Masses, Eritrea	unjd
0130	6973	Galei Zahal, Israel	HH	0400	4780	Radio Djibouti	vern
0200	4800	Radio Buenas Nuevas, Guatemala	SS	0400	5980	Voice of the Tigray Revolution, Ethiopia	vern.
0200	7440	Radio Ukraine International	UU	0400	6010	La Voz de su Concencia, Colombia	SS
0200	7250	Voice of Russia	RR	0400	4930	Voice of America Relay, Botswana	
0200	9610	Vatican Radio	SS	0430	7125	Russian Radio Intl, via Moldova	RR
0200	3340	Radio Misiones Intl., Honduras	SS	0430	9745	HCJB, Ecuador	SS
0200	6200	Radio Prague, Czech Republic	SS	0500	9680	Radio Taiwan Intl, via Florida	CC
0200	9570	China Radio International, via Albania	CC	0500	4777	RTV Gabonaise, Gabon	FF
0200	6145	Radio Budapest, Hungary	HH	0500	7255	Voice of Nigeria	
0230	4835	Radio Maranon, Peru	SS	0500	4770	Radio Nigeria	
0230	4975	Radio del Pacifico, Peru	SS	0500	4845	Radio Mauritanie, Mauritania	AA
0230	12035	Far East Broadcasting Assn, UK via Philippines	unid	0500	9550	Radio Havana Cuba	
0230	3250	Radio Luz y Vida, Honduras	SS	0500	4990	Radio Apinte, Suriname	DD
0230	6140	Radio Romania International	SS	0500	9615	Radio New Zealand International	
0230	7250	Voice of Russia, via Armenia		0600	6020	Radio Victoria, Peru	SS
0230	4815	Radio El Buen Pastor, Ecuador	SS	0600	7125	RTV Guineenne, Guinea	FF
0230	7335	Vatican Radio	RR	0600	6185	Radio Educacion, Mexico	SS
0230	4915	Radio Nacional Macapa, Brazil	PP	0600	6165	Voice of Croatia	
0230	11970	CVC-La Voz, Chile	SS	0600	5030	Radio Burkina, Burkina Faso	FF
0230	4985	Radio Brazil Central, Brazil	PP	0700	9599	Radio UNAM, Mexico	SS
0300	3396	Zimbabwe Broadcasting Co.	EE/vern	0700	9800	Trans World Radio, Monaco	
0300	5915	NBC/Radio Zambia		0800	15170	Trans World Radio/KTWR, Guam	
0300	4976	Radio Uganda		0900	6160	CKZU, Canada	
0300	7200	Radio Omdurman, Sudan	AA	0900	6250	Pyongyang Broadcasting Station, North Korea	KK
0300	5970	Radio Fana, Ethiopia	Amharic	0930	3310	Radio Mosoj Chaski, Bolivia	SS
0300	5025	Radio Rebelde, Cuba	SS	1000	3280	La Voz del Napo, Ecuador	SS

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
1030	2310	ABC No. Terr. Service, Alice Springs, Australia		1800	13640	Voice of Turkey	GG
1100	4909	Radio Chaskis, Ecuador	SS	1800	15085	Voice of Islamic Rep. of Iran	GG
1100	5910	Marfil Estereo, Colombia	SS	1800	12040	Voice of Russia	FF
1100	6010	Radio Mil, Mexico	SS	1800	15120	Voice of Nigeria	
1100	4905	Xizang PBS, China (Tibet)	TT	1800	13895	WWCR, Nashville	
1100	3810	HD2IOA time station, Ecuador		1800	11990	Radio Tirana, Albania	
1100	5020	Solomon Islands Broadcasting Corp.		1830	15360	KBS World Radio, South Korea, via England	RR
1100	7270	Nei Menggu PBS, China	CC	1830	9430	Bible Voice, England, via Germany	
1100	4755	PMA Radio/The Cross, Micronesia		1830	13570	WINB, Red Lion	
1130	9525	Voice of Indonesia	II	1830	13580	Radio Prague, Czech Republic	FF
1130	4790	Radio Republik Indonesia, FakFak	II	1900	11735	Radio Tanzania, Zanzibar	Swahili
1130	7280	Voice of the Strait, China	CC	1900	9630	BBC via Seychelles	
1130	3205	Radio West Sepik, Papua New Guinea	Pidgin	1900	17680	CVC-La Voz, Chile	SS
1130	4910	ABC No. Terr. Service, Tennant Creek, Australia		1930	21655	RDP Intl, Portugal	PP
1200	9725	University Network, via Costa Rica		1930	9290	Radio SWH-Latvia Today, Latvia	
1200	9955	WRMI, Florida	SS	2000	15235	Adventist World Radio, via Germany	
1200	7235	Radio Singapore International	unid	2000	11625	Vatican Radio	
1200	11730	Radio Veritas Asia, Philippines	unid	2000	11995	Radio France International	FF
1200	3335	Radio East Sepik, Papua New Guinea	Pidgin	2000	17810	Radio Nederland, Netherlands	
1200	9965	KHBN/Voice of Hope, Palau	CC	2030	9515	KBS World Radio, South Korea	SS
1200	4870	Radio Republik Indonesia, Wamena	II	2030	15345	RT Marocaine, Morocco	AA
1200	11945	BBC, via Thailand	CC	2030	15476	Radio Nacional Arcangel, Antarctica	SS
1200	11625	Voice of America, via Northern Marianas	CC	2100	7811u	AFN/AFRTS, Key West	
1200	11620	China Radio International	unid	2100	9830	Voice of America Relay, Sao Tome	FF
1200	6030	CFVP, Canada		2100	11865	Deutsche Welle, Germany, via Rwanda	
1200	9580	Radio Australia		2100	9990	Radio Cairo/Egyptian Radio	FF
1200	13775	CVC, Australia	CC	2100	5470	Radio Veritas, Liberia	
1200	6130	Lao National Radio, Laos	LL	2100	11800	Radio Bulgaria	
1200	5965	RTM/Klasik Nasional FM, Malaysia	Malaysian	2100	12035	Voice of America Relay, Sao Tome	FF
1230	9835	Radio Thailand		2130	9900	Radio Varna, Bulgaria	
1230	11520	Radio Liberty, US, via Sri Lanka	Kazakh	2130	11975	China Radio International, via Mali	FF
1230	11530	Denge Mesopotamia, via Moldova	Kurdish	2130	9705	La Voix du Sahel, Niger	FF
1230	7165	Voice of Vietnam	Hmong	2200	15640	Deutsche Welle, Germany, via Russia	GG
1230	11570	Trans World Radio/KTWR, Guam	Vern/Sat	2200	9420	Voice of Greece	Greek
1230	15180	Voice of Korea, North Korea	KK	2200	6165	RT Tchadienne, Chad	FF
1230	17830	BBC via Ascension Island		2230	6065	Radio Sweden Intl, via Canada	
1300	11665	Radio Taiwan Intl	Mandarin	2230	6195	Voice of Turkey	
1300	15750	Italian Radio Relay Service	Sun only	2230	6255	The Mighty KBC, Netherlands, via Lithuania	
1300	9820	All India Radio, Goa	Sinhalese	2230	9580	Africa Number One, Gabon	FF
1300	9335	Voice of Korea, North Korea		2230	12090	KFBS, Saipan	VV
1300	6095	Radio New Zealand Intl		2230	17675	Radio New Zealand Intl.	
1300	13750	Radio Tirana, Albania		2230	9575	Radio Medi Un, Morocco	AA
1300	6055	Radio Nikkei, Japan	JJ	2230	15540	Radio Netherlands, via Bonaire	EE/DD
1300	13750	Radio Tirana, Albania		2230	15345	Radio Nacional, Argentina	SS
1400	11690	Radio Jordan		2300	9620	Radio Exterior de Espana, Spain	SS
1400	11825	Radio Australia	CC	2300	11785	Radio Free Asia, via Tinian, Northern Marianas	CC
1430	17870	Radio Jamahiriya/Voice of Africa, Libya		2300	12065	Far Eastern Broadcasting Co., Philippines	CC
1430	15240	BBC, via Oman	RR	2300	11820	Radio Veritas Asia, Philippines	Indonesian
1430	15240	Radio Sweden		2300	9610	Radio Romania International	
1500	15090	Voice of America/Radio Ashna, via Kuwait	Dari	2300	6100	Radio Canada International	
1500	13775	Radio Austria International		2300	9925	Voice of Croatia, via Germany	
1530	15150	VOIRI, Iran	AA	2330	13755	Voice of America, via Thailand	
1600	17605	Radio France International		2330	12085	Radio Damascus, Syria	AA, others
1600	9515	Radio Canada International		2330	6135	Radio Republica, via England	SS
1700	15295	HCJB, Ecuador	PP	2330	15250	Radio Nacional, Venezuela, via Cuba	SS
1730	15235	Channel Africa, South Africa		2330	9885	Radio Kuwait	
1730	11590	Kol Israel					

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MFJ-1707 Automatically Switches Rigs Between Two Antennas

There are times when you want to use separate transmitting and receiving antennas but your transceiver has only one antenna port. For example, you may have an efficient 75-meter vertical for transmitting and a separate low-noise Beverage for receiving. With an MFJ-1707, you simply connect your transceiver and your transmit and receive antennas. As soon as you key your rig, the MFJ-1707 RF-sensing circuitry instantly switches your rig from receiving antenna to transmitting antenna.

The MFJ-1707's RF-sensing circuitry instantly switches your rig from receiving antenna to transmitting antenna for easier operating.



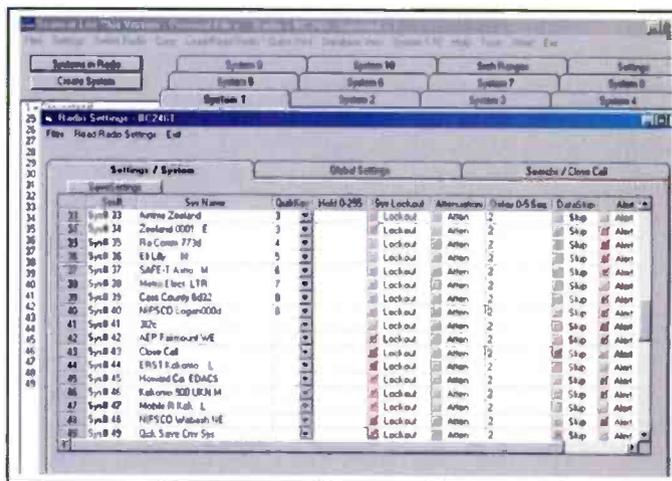
Amplifier control output of the transceiver can also automatically switch antennas. Adjustable delay prevents the transmit antenna from instantly switching to receive, and the auxiliary contact closes to ground during receive. MFJ-1707 is good for all modes and rated 200W SSB PEP; dimensions 2 x 4 x 1-1/2 inches (HWD); use 12 VDC or 110 VAC with MFJ-1312D (\$15.95).

The MFJ-1707 sells for \$89.95. To order, receive a *free* catalog, or for your nearest dealer, contact MFJ Enterprises at 300 Industrial Park Road, Starkville, MS 39759; Phone: 800-647-1800; Fax: 662-323-6551; Web: www.mfjenterprises.com.

Computer Aided Technologies' Scancat-Lite Plus

Software for most popular scanner models has been integrated into a single programming product, Scancat-Lite Plus, letting you use a single interface to program several radios, essentially "computer cloning" one to the other. This means that if you have any of the radios Scancat-Lite Plus supports, you only need to buy the one software program. If you have more than one radio that's supported, you can use the same databases from any of the radios (to the limits of their frequency coverage and features)—just pick the radio from the radio selection list and "plug it in."

The software will both program the radio's memories and (if supported by the radio) download from the radio the frequency information already programmed, so you can download from one radio and send the same frequency information to a second or third rig. If you don't have the frequencies for your area, the



Screen shot from Scancat-Lite Plus. This programming software lets you use a single interface to program several radios, "computer cloning" one to the other.

program supports the files created on the Mr. Scanner CD or downloads from the *National Communications* website. You can also search Mr. Scanner's FCC CDs directly—simply load your CD, start Scancat-Lite Plus, and quickly search and load the records into the Scancat Source Grid. Scancat-Lite Plus also gives you access to Mr. Scanner's "Free Frequency Website" with its built-in Web browser for a fully integrated product.

At press time, Scancat-Lite Plus was being offered at a special price of \$29.95, software only, or \$49.95 for a CD with the software and two frequency databases. Upgrades are also available. To order, call 888-722-6228 toll free or visit www.scancat.com.

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Maha Energy's IMEDION rechargeable batteries can be stored for an extended period without substantial power loss and are ready to use right out of the package.



tial loss of power and are ready to use out of the package.

A common problem of most rechargeable batteries is that they need to be recharged about once every one to three months, even if unused. But Maha's advanced electrode materials reduce the rate of power loss during storage so IMEDION batteries retain up to 85 percent of their charge, even after one year of storage (at 20°C). According to the manufacturer, IMEDION batteries also offer a longer lifetime and increased power retention under warmer environments. IMEDION batteries can be recharged hundreds of times and perform well at elevated temperatures. They feature a low-impedance design, can deliver a high burst of current, are fully compatible with all Powerex chargers, and are available in 2100mAh capacity for AA size and 800mAh for AAA.

The manufacturer's suggested retail prices are \$13.95 for a four AA pack and \$12.95 for a four AAA pack. For more information, contact Maha Energy Corporation at 626-363-9017, send an email to belen.gonzalez@mahaenergy.com, or visit them on the Web at www.mahaenergy.com.

LightSnake USB Stereo Cable

SoundTech Professional Audio has announced the LightSnake USB Intelligent Stereo cable. Designed for music applications, audiophiles in general will appreciate how easily it plugs any audio source into a PC for high-quality digital recording (you simply plug the stereo tip of the LightSnake into an audio source and the USB end to a PC).

The LightSnake features built-in stereo output to allow for real-time monitoring using the included stereo ear buds or any headset or for hooking up to mixers and powered speakers. Its embedded USB-powered analog-to-digital converter and signal booster eliminates the need for additional signal conversion devices. The LightSnake also provides audiophiles with a high-quality, easy-to-use method for digitizing tapes and vinyl to transfer and enjoy their collections on a home computer or portable digital audio player.

Also offered are a "Live when Lit" cable end that lights up indicating when sound is being transmitted; digital-quality sound input and output without the need of a sound card; and embedded A/D and D/A chip technology with audio sig-



SoundTech Professional Audio's LightSnake USB Intelligent Stereo cable connects any audio source to a PC for high-quality digital recording.

nal boost that eliminates the need for additional signal conversion devices.

LightSnake USB Intelligent Stereo cable includes stereo RCA to 1/8-inch adaptor cable, female-to-female RCA adaptor and stereo ear buds. Compatible with Win ME, 2000/XP/Vista or Linux and Mac OS 9.0.4 or higher operating systems without additional driver, it offers simple USB plug-and-play connectivity.

The LightSnake USB Intelligent Stereo cable sells for \$49.99. For more information, visit www.SoundTech.com.

DIGITUS WiFi Finder

EmComm volunteers, mobile operators, and almost *anyone* else who travels will appreciate the DIGITUS WiFi Finder. It "sniffs out" hot spots and also offers the ability to access the Internet directly through an integrated wireless LAN adapter. The user can see on the LC display the number of available access points in the wireless LAN environment, the WiFi standard, the channel, SSID, the encryption and the signal strength. Function keys on the device make operation easy, and the built-in battery is conveniently charged via the USB port.

Compatible with all current network environments and equipped with a Zydas chip set, the DIGITUS WiFi Detector supports transfer rates of up to 54 Mbps and all common encryption methods in the Windows XP and 2000 operating systems.

The DIGITUS WiFi Finder is available through ASSMANN Electronic GmbH. For more information, including pricing and how to find U.S. dealers, visit www.assmann.com/index.php?id=322&L=3.

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Digital Doings: Sangean's HDT-1X AM/FM HD Radio, And TV In The Digital Age

Are you digital ready? Public television wants to make sure you can continue to receive PBS network stations when over-the-air analog TV broadcasting comes to an end in 2009. But before we dive into what's coming our way in pictures, we have some news from the audio realm. Sangean has introduced a new AM/FM HD radio. The company's HDT-1X is said to be the standard by which all other HD receivers will be measured. "Broadcast Technology" puts it to the test.



The Sangean HDT-1X with remote control.

Sangean HDT-1X Basics

The Sangean HDT-1X is designed for a component system with RCA analog and S/PDIF (Sony/Philips Digital Interface) optical line outputs, requiring a separate amplifier and speakers. Although the chassis measures 17 inches wide for rack mounting, it's a self-standing unit that rests on four plastic feet. A custom rack mount kit is needed to secure the chassis in a rack system. An infrared remote control and external AM/FM antennas are included. Initial installation and operation are straightforward, essentially plug-and-play. The instruction manual is clear and concise; it's a good quick reference when needed.

Front panel ergonomics are functional and simple, anchored by a centrally located bright white alpha-numeric LCD with blue backlighting that's plenty large enough to be viewed from across a room. To the left are the power button and a 10-digit numeric keypad with preset and frequency function buttons; to the right display info and AM/FM band pushbuttons, along with three up/down toggle pushbuttons for manual tuning, seek, and HD seek. The infrared remote control has dedicated pushbuttons for every front panel control.

The desired frequency can be entered directly via the keypad, manually tuned up/down, or selected automatically by the seek controls. AM tuning is in 10-kHz increments from 520 to 1710, FM every 0.1 MHz from 87.5 to 108.1 MHz. Twenty AM presets and 20 FM presets can be

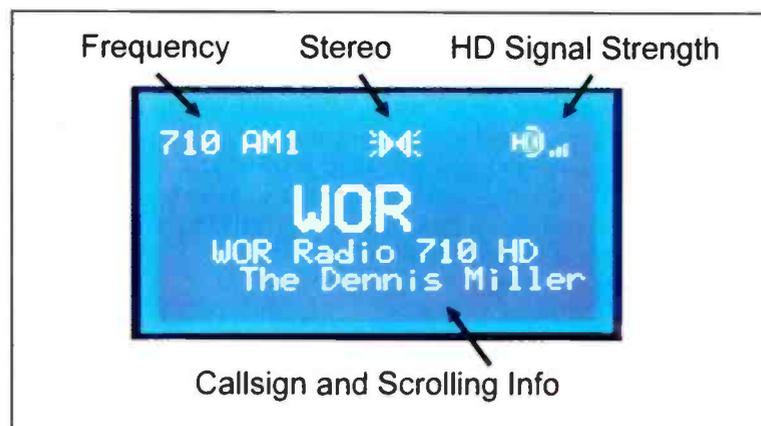
loaded into memory. A digital clock is displayed without backlighting when the radio is off.

Performance

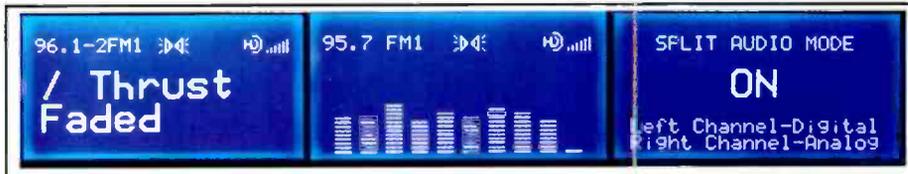
A carrier-to-noise ratio of at least 55 dB is required for a solid FM HD signal, and greater than 60 dB for reliable AM HD reception. When locked on a digital signal, the audio clarity is amazing, with the most dramatic difference between analog and digital AM—no more noise. The stereo audio quality of AM HD is actually as good as, if not better than, analog FM, but—and it's a very big but—AM HD still has its shortcomings at night. Trying to find a strong AM HD signal at night is a challenge due to adjacent chan-

nel skywave interference, unless you happen to be located within 15 miles or so of the AM transmitter site.

FM HD signals aren't very robust either. For an FM analog signal that would normally reach 60 miles, the equivalent FM HD signal is typically only reliable for 35 miles depending on terrain. This is not the fault of the Sangean receiver. Unlike analog, which can be received with signal degradation, digital reception is either on or off—period. Close to a major city there should be a good selection of HD signals available on FM, and two or three on AM. At a southern New Hampshire test site, I received strong HD signals from two AM and 14 FM radio stations using the external AM loop and FM dipole antennas provided with the Sangean HDT-1X. A few more HD sig-



The HDT-1X main display of HD reception.



The HDT-1X offers large size text, audio spectrum, and split audio displays.

nals could be received with directional outdoor antennas.

Current HD radio transmissions are in what's called the hybrid mode; simultaneously transmitting analog and digital at the same AM/FM dial position. Perhaps the one spark of genius with this transmission scheme is the availability of the analog signal when digital lock is lost. In situations where AM/FM HD signals were marginal on the HDT-1X, transitioning to the hybrid analog signal was relatively smooth when digital lock was lost, except when listening to a secondary digital channel. One digital signal is actually capable of multicasting, that is carrying two or three broadcast channels: the primary digital channel that carries the same programming as the analog signal, plus two additional digital channels with alternative programming.

Without an analog equivalent, when a secondary channel becomes out of range on the HDT-1X, the audio mutes. If the receiver isn't able to regain a lock on the secondary digital signal after muting, then it eventually reverts to the primary analog signal. "Channel no longer available" was displayed when attempts to manually return to the lost secondary channel were unsuccessful. Selecting the analog-only mode provided for uninterrupted analog reception when switching in/out of a marginal digital signal became a nuisance.

Regardless of HD reception, the HDT-1X is an outstanding analog AM/FM receiver. The wideband AM reception is reminiscent of radios that complied with the old analog AM stereo AMAX standard. Listening to AM radio stations like 740 CHWO Toronto that still broadcast in hi-fi analog is very enjoyable. FM reception is comparable to that of classic high-end component receivers, especially when using an outdoor antenna. Reception of FM Radio Data System (RDS) info is ultra-sensitive, capable of displaying RDS messages from many of the distant analog signals received, although occasionally scrambled on weak signals.

Advanced Functions

When the radio is on, the info pushbutton is used to select from a number of

display options: radio station RDS/HD info, digital clock, signal strength, large size display of artist and song title if available, and an audio spectrum bar graph. Press and hold the info pushbutton to

access advanced functions, such as the selection of analog-only and mono/stereo modes, great for long-distance reception. Split audio, bit error rate, and carrier-to-noise ratio are provided for broadcast engi-

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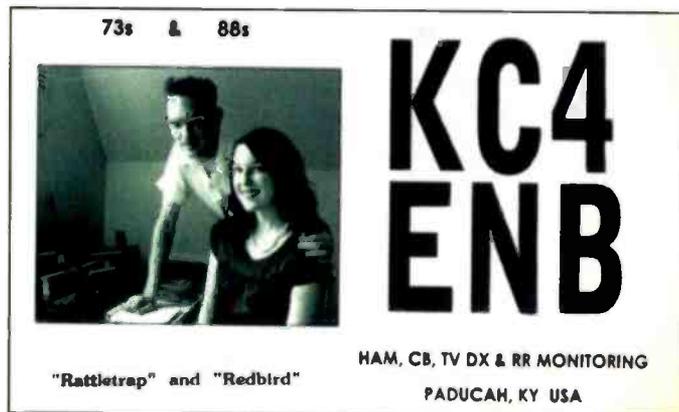
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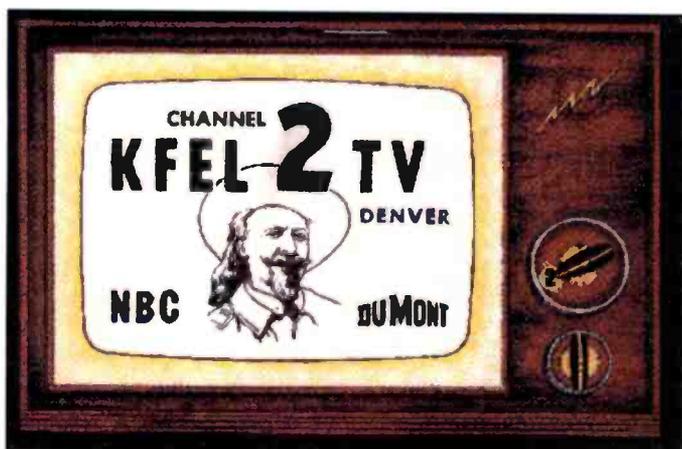
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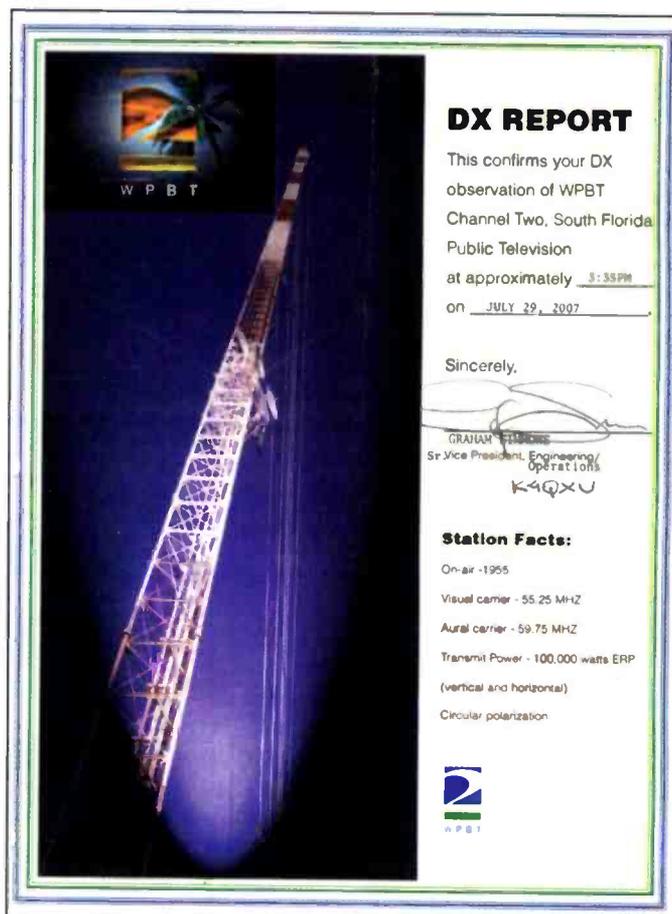
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Ham radio QSL from J.D. and Jessica Wilkes.



A vintage QSL card from KFEL Denver.



A WPBT Florida QSL.

neering use as a reference receiver. The split audio mode is a unique function for a consumer HD receiver. It allows for simultaneous monitoring of both the analog and digital signal of a hybrid transmission to check synchronization. The slight delay between analog and digital of many hybrid transmissions produced eerie echo and phase effects.

Get Onboard

Does the Sangean HDT-1X raise the bar for HD receivers? It's definitely a top-notch receiver, and definitely worth the money. In fact, it seems almost a steal at only \$250 for a full-feature component system receiver. It's clear that Sangean has taken all its experience gained in the development of portable radios over the years and applied it to the HDT-1X design. While digital radio broadcasting continues to evolve with the arrival of surround sound, music downloading, and audio on demand somewhere down the pike, the HDT-1X is an AM/FM broadcast receiver that listeners and DXers will enjoy for years to come.

Check out the full line of Sangean products at sangean.com, or visit our friends at Universal Radio (www.universal-radio.com) for another look at the Sangean HDT-1X. Go to hdradio.com for a listing of AM/FM HD broadcasters in your area, then get onboard with an HDT-1X of your own.

DTV Too Close For Comfort

All over the air analog television broadcasting is scheduled to cease by February 17, 2009, replaced by digital television

(DTV), but that doesn't necessarily mean it's time to start saving money for a new digital TV. The National Telecommunications and Information Administration (NTIA) has launched a digital to analog converter box coupon program as authorized in the Digital Television Transition and Public Safety Act of 2005. All U.S. households are eligible to request up to two coupons worth \$40 each toward the purchase of digital-to-analog converter boxes. A converter box will allow for reception of digital television signals on an analog receiver so hundreds of millions of existing televisions don't become obsolete instantaneously (and create an environmental disaster for waste management), while also lessening the economic burden of making the switch to digital.

Public television is taking a lead role in informing viewers of the upcoming changes. Lucy Sholley, director of media relations at WGBH, and Tania Panczyk-Collins, communications manager at the Association of Public Television Stations (APTS), report that WGBH President and CEO Jonathan Abbott has urged Congress to invest in a grassroots campaign to ensure that no American is left behind as the nation completes the digital conversion. Abbott said, "The key policy goal of this transition must be the preservation of free, over-the-air television, both commercial and public. It is essential to the health of this nation's media marketplace, and our democracy."

Testifying on behalf of WGBH, the APTS, and the 364 locally owned and operated public television stations, Abbott called on Congress to make an immediate investment in a grassroots consumer education campaign to protect the most vulnerable viewers. WGBH is a key participant in public television's major

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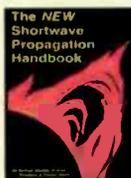


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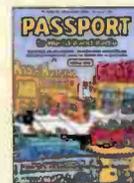


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commitment of airtime to inform viewers of the digital transition—the value of this in-kind contribution exceeds \$50 million. In particular, Abbott noted,

WGBH is uniquely suited to help reach people with disabilities. WGBH has been a pioneer in not only providing captioning and description services, but now in advising public and private parties on how to do this effectively as the transition nears...Television is a life-line service for the millions of Americans with hearing and vision impairments. WGBH has been a pioneer in not only providing captioning and description services, but now in advising public and private parties on how to do this effectively as the transition nears.

Of course, if you're receiving local television stations via cable or satellite, then the switch to digital will likely be transparent as your cable or satellite converter box should still output a useable signal to your analog TV as always. To be sure though, check with your cable or satellite provider about the availability of local TV stations as the 2009 analog cutoff date approaches. For more information about the transition and over-the-air converter box coupons, visit the NTIA Digital Television Transition and Public Safety website at www.dtv.gov.

TV DX Final Episode

With the looming transition to over-the-air DTV broadcasting, this upcoming spring and summer TV DX season could be the end of an era. Although reception of DTV has already been reported over hundreds of miles by dexterous DXers, the common reception of snowy domestic analog signals over thousands of miles will become history. Like digital AM/FM radio, digital TV can't handle much signal degradation; it's either locked



Photo of a snowy WCIA in Champaign, Illinois, received 896 miles away in New Hampshire.

on or off, making long-distance reception significantly more challenging.

J.D. Wilkes and his wife, Jessica, managed to log several TV DX signals skipping into Paducah, Kentucky, however. "I operate amateur radio station KC4ENB," writes J.D., "but I find myself listening and monitoring to more of the offbeat aspects of the radio hobby rather than transmitting." J.D. sent in his own QSL and a couple from the engineers who manage the stations whose TV DX signals he's received. The engineer from Denver's KWGN confirmed reception with a copy of a vintage card from the station's former callsign KFEL TV2.

Don Murray, W4WJ, and his three DX cats pass along the following tips regarding the use of RF preamps and antennas for FM/TV DXing:

The most important factor to consider when you are buying a preamp is the noise figure, measured in dBs. The noise figure of a preamp tells you how much noise the preamp is adding to the signal from the antenna. The lower the noise figure the better. Affordable preamps for the FM and TV DXer are available with noise figures of 2-3 dB. If you are considering the purchase of a preamp that does not specify the noise figure, quickly set it down and walk away!

When a low noise preamp is mounted right at the antenna, the preamp noise figure becomes the noise figure of the receiving system. Even if your FM or TV receiver has a noise figure of 8-10 dB, if you install a low noise preamp, with enough gain to overcome your downlead loss, then the preamp will be setting the noise figure! As you can see, this could result in an improvement of many dB of sensitivity with the same antenna! Ideally, an antenna-mounted preamp should be powered via the coax, so that the power supply remains inside.

For preamps try Stark Electronic at www.starkelectronic.com. In addition to their selection of preamps, they have an excellent selection of FM and TV antennas. Another source of preamps is [Advanced Receiver Research, also known as Ar Communications Products] www.advancedreceiver.com; their selection is somewhat specialized, but very good quality. For the serious FM DXer, try the big antennas from [Antenna Performance Specialties] www.antennaperformance.com.

Thank you, Don. Some great tips! To learn more about TV and FM DXing, consider joining the Worldwide TV-FM DX Association, a club dedicated to the art and science of VHF and UHF broadcast DXing. Check 'em out online at www.wtfd.org. In the meantime, "Broadcast Technology" wants your photos of TV DX for this final season. Email photos or send clean hard-copy to be included in future editions.

For now, 73 and good DX!

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The Fundamentals Of Radio Propagation

Sometime during 2008, Solar Cycle 23 will end, and the new 11-year cycle, the 24th to be recorded by solar observers, will begin. So, while it's still early in the year, let's review some of the fundamentals involved in radio propagation and space weather. To do so, we'll take a look at the data involved in observing and forecasting radio propagation.

On various Internet websites you may read a collection of terms and measurements that describe the various conditions and levels of solar activity, and so on. This same information is broadcast during the hourly space weather and geophysical reports by the National Oceanic and Atmospheric Administration (NOAA). NOAA uses the radio stations WWV and WWVH to issue geophysical alert messages that provide information about solar terrestrial conditions. Geophysical alerts are broadcast from WWV at 18 minutes after the hour and from WWVH at 45 minutes after the hour, or you may access them on the Internet (see www.sec.noaa.gov/ftpdir/latest/wwv.txt).

The audio portions of the WWV and WWVH broadcasts can also be heard by telephone. If you call right before the 18th minute mark, you'll hear the Geolert report during the 19th minute. To hear these broadcasts, dial (303) 499-7111 for WWV

(Colorado) or (808) 335-4363 for WWVH (Hawaii). Callers are disconnected after two minutes. Note that these are not toll-free numbers; callers outside the local calling area are charged for the call at regular long-distance rates. The telephone service is very popular, with the WWV number receiving over one million calls per year and the WWVH number more than 50,000.

The messages are less than 45 seconds long and are updated every three hours (typically at 0000, 0300, 0600, 0900, 1200, 1500, 1800, and 2100 UTC). More frequent updates are made when necessary.

WWV radiates 10,000 watts on 5, 10, and 15 MHz and 2500 watts on 2.5 and 20 MHz. WWVH radiates 10,000 watts on 5, 10, and 15 MHz and 5000 watts on 2.5 MHz. Each frequency is broadcast from a separate transmitter. Although each frequency carries the same information, multiple frequencies are used because the quality of HF reception depends on many factors, such as location, time of year, time of day, the frequency being used, and atmospheric and ionospheric propagation conditions. The various frequencies make it likely that at least one frequency will be usable at all times. You may read the details about WWV and WWVH at <http://tf.nist.gov/stations/wwv.html>.

The Ap Index And Understanding Propagation Terminology

The Ap index, or Planetary A index, is a 24-hour averaging of the Planetary K index. The Planetary K index is an averaging of worldwide readings of Earth's geomagnetic field. High indices ($K_p > 5$ or $A_p > 20$) mean stormy conditions with an active geomagnetic field. The more active, the more unstable propagation is, with possible periods of total propagation fade-out. Especially around the higher latitudes and at the polar regions, where the geomagnetic field is weak, propagation may disappear completely. Extreme high indices may result in aurora propagation, with strongly degraded long-distance propagation at all latitudes. Low indices result in relatively good propagation, especially noticeable around the higher latitudes, when trans-polar paths may open up. Maximum K-index is 9, and the A-index can exceed well over 100 during very severe storm conditions, with no maximum.

Classification of A indices is as follows:

A0-A7 = quiet	A30-A49 = minor storm
A8-A15 = unsettled	A50-A99 = major storm
A16-A29 = active	A100-A400 = severe storm

Solar Flux Index (SFI): This flux number is obtained from the amount of radiation on the 10.7-cm band (2800 MHz). It is closely related to the amount of ultraviolet radiation, which is needed to create the ionosphere. Solar Flux readings are more descriptive of daily conditions than the Sunspot Number. The higher the Solar Flux (and, therefore, the higher the Sunspot Number), the stronger the ionosphere becomes, supporting refraction of higher frequencies.

Ionosphere: A collection of ionized particles and electrons in the uppermost portion of the Earth's atmosphere, which is formed by the interaction of the solar wind with the very thin air particles that have escaped Earth's gravity. These ions are responsible for the reflection or bending of radio waves occurring between certain critical frequencies, with these critical frequencies varying with the degree of

ionization. As a result, radio waves having frequencies higher than the Lowest Usable Frequency (LUF) but lower than the Maximum Usable Frequency (MUF) are propagated over long distances.

Smoothed Sunspot Number (SSN): Sunspots are magnetic regions on the sun with magnetic field strengths thousands of times stronger than the Earth's magnetic field. Sunspots appear as dark spots on the surface of the sun. Temperatures in the dark centers of sunspots drop to about 3700° K (compared to 5700° K for the surrounding photosphere). This difference in temperatures makes the spots appear darker than elsewhere. Sunspots typically last for several days, although very large ones may last for several weeks. They are seen to rotate around the sun, since they are on the surface, and the sun rotates fully every 27.5 days.

Sunspots usually occur in a group, with two sets of spots. One set will have positive, or north, magnetic field while the other set will have negative, or south, magnetic field. The field is strongest in the darker parts of the sunspots (called the "umbra"). The field is weaker and more horizontal in the lighter part (the "penumbra").

Galileo made the first European observations of sunspots in 1610. The Chinese and many other early civilizations have records of sunspots. Daily observations were started at the Zurich Observatory in 1749; continuous observations were begun in 1849.

The Sunspot Number is calculated by first counting the number of sunspot groups and then the number of individual sunspots. The Sunspot Number is then given by the sum of the number of individual sunspots and 10 times the number of groups. Since most sunspot groups have, on average, about 10 spots, this formula for counting sunspots gives reliable numbers even when the observing conditions are less than ideal and small spots are hard to see. Monthly averages (updated monthly) of the Sunspot Numbers show that the number of sunspots visible on the sun wax and wane with an approximate 11-year cycle.

For more information, see <http://prop.hfradio.org>.

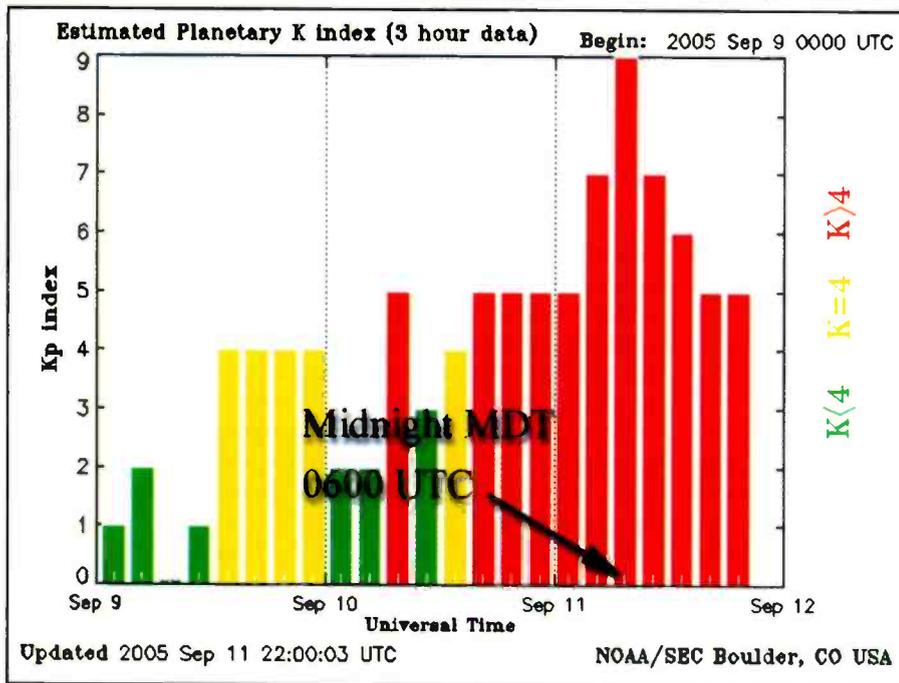


Figure 1. A plot spanning the overnight hours of September 10, 2005, containing the estimated planetary K index. K indices of 5 or greater indicate storm-level geomagnetic activity. (Image courtesy SEC)

The geophysical alerts provide information about the current conditions for long-distance HF radio communications. The alerts use a standardized format and terminology that requires some explanation. So, before looking at sample messages, let's look at some of the terminology.

Prop Terms

Solar flux is a measurement of the intensity of 10.7-cm (roughly 2800-MHz) solar radio emissions. At 2000 UTC, the Dominion Radio Astrophysical Observatory of the Canadian National Research Council located at Penticton, British Columbia, Canada, records the daily solar flux measurement. The solar flux index broadcasts range from a theoretical minimum of about 50 to numbers larger than 300. During the early part of

each 11-year sunspot cycle, the flux numbers are low; but they rise and fall as the cycle proceeds. The numbers will remain high for extended periods around sunspot maximum. (See the sidebar for more details.)

The *K indices* are a measurement of the behavior of the magnetic field in and around the Earth. The K index uses a scale from 0 to 9 to measure the change in the horizontal component of the geomagnetic field. A new K index is determined every three hours based on magnetometers around the world. Usually, the reported K index is the *planetary K index (Kp)*, which is an average of all the many K index readings from around the globe. (See Figure 1.)

The *planetary A index (Ap)* is a daily value on a scale from 0 to 400 that expresses the range of disturbance of the geomagnetic field. It's obtained by con-

verting and averaging the eight, three-hour K index values. An estimate of the A index is first announced at 2100 UTC, based on seven measurements and one estimated value. At 0000 UTC, the announced A index consists entirely of known measurements, and the word "estimated" is dropped from the announcement.

Space weather describes the conditions in space that affect Earth and its technological systems. Space weather is a consequence of the behavior of the sun, the nature of Earth's magnetic field and atmosphere, and our location in the solar system.

Space weather storms observed and expected are characterized using the *NOAA Space Weather Scales*. The abbreviated table in Figure 2 shows the levels of activity that are included in the announcements and the associated terminology. The descriptor used to identify observed or expected conditions is the maximum level reached or predicted. The NOAA Space Weather Scales are further described at the Space Environment Center's website www.sec.noaa.gov/NOAAScales.

Geomagnetic storm levels are determined by the estimated three-hourly planetary K-indices derived in real time from a network of Western Hemisphere ground-based magnetometers. These levels are shown in Figure 3. When the K index reaches 6 and above, there's a very good chance that aurora conditions exist. When the K index reaches 5 or higher, you might wish to check aurora conditions at www.sec.noaa.gov/pmap/.

Solar radiation storm levels are determined by the proton flux measurements made by NOAA's primary Geostationary Operational Environmental Satellite (GOES). Figure 4 details these levels.

Radio blackout levels are determined by the x-ray level measured by the primary GOES satellite. X-ray radiation ionizes the D layer of the ionosphere causing absorption of HF signals, starting at the lower frequencies and increasing up

Geomagnetic Storms	Solar Radiation Storms	Radio Blackouts	Descriptor
G5	S5	R5	Extreme
G4	S4	R4	Severe
G3	S3	R3	Strong
G2	S2	R2	Moderate
G1	S1	R1	Minor

Figure 2. NOAA space weather scales.

Planetary K Indices	Geomagnetic Storm Level
K = 5	G1
K = 6	G2
K = 7	G3
K = 8	G4
K = 9	G5

Figure 3. Geomagnetic storm levels.

Optimum Working Frequencies (MHz) - For February 2008- Flux = 65, Created by NW7US

UTC	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
TO/FROM US WEST COAST																								
CARIBBEAN	18	17	13	11	10	10	9	9	9	9	8	8	8	8	14	17	18	19	20	20	20	20	20	19
NORTHERN SOUTH AMERICA	25	24	21	16	15	14	13	13	12	12	12	11	11	11	16	21	23	25	26	27	27	27	27	26
CENTRAL SOUTH AMERICA	25	23	20	15	14	13	13	12	12	12	11	11	11	11	18	22	24	25	25	26	27	27	27	26
SOUTHERN SOUTH AMERICA	27	25	23	20	17	16	15	14	13	13	12	12	12	11	11	20	23	24	25	26	27	27	28	28
WESTERN EUROPE	8	8	8	8	8	8	7	7	7	8	8	8	7	7	10	13	14	15	14	13	12	9	9	8
EASTERN EUROPE	7	7	7	7	7	7	7	8	8	8	8	8	8	7	7	10	9	9	9	8	8	8	7	7
EASTERN NORTH AMERICA	20	18	15	12	11	11	10	10	10	10	9	9	9	9	16	19	20	21	22	22	22	22	22	21
CENTRAL NORTH AMERICA	12	11	10	8	6	6	6	6	5	5	5	5	5	5	9	10	11	12	12	12	12	12	12	
WESTERN NORTH AMERICA	6	6	6	5	3	3	3	3	2	2	2	2	2	2	3	5	6	6	6	6	6	6	6	6
SOUTHERN NORTH AMERICA	20	18	17	13	11	10	10	9	9	9	9	9	8	8	16	18	19	20	21	21	21	21	20	20
HAWAII	18	18	17	16	15	12	10	9	9	8	8	8	8	7	7	7	13	15	16	17	18	18	18	18
NORTHERN AFRICA	8	8	8	8	8	8	8	8	8	8	8	8	7	7	11	14	15	16	16	14	10	10	9	9
CENTRAL AFRICA	10	10	10	9	9	9	8	8	8	8	8	8	7	7	11	13	14	15	16	14	13	12	11	11
SOUTH AFRICA	18	17	13	11	11	10	10	10	9	9	9	9	9	9	15	18	19	20	21	21	21	21	20	20
MIDDLE EAST	8	8	8	8	8	9	8	8	8	8	8	8	8	7	12	13	14	10	9	9	9	8	8	8
JAPAN	17	17	17	16	15	13	10	9	9	8	8	8	8	8	8	8	7	8	8	8	7	13	15	16
CENTRAL ASIA	17	17	16	16	15	13	10	9	9	8	8	8	8	8	8	7	10	10	10	9	9	13	17	17
INDIA	13	13	13	12	10	9	8	8	8	8	8	7	7	7	7	8	7	7	7	7	7	8	11	12
THAILAND	17	16	16	15	14	12	9	9	9	8	8	8	8	8	8	7	11	11	11	10	10	10	10	10
AUSTRALIA	22	23	24	25	23	19	14	14	13	12	12	12	11	11	11	11	11	15	14	13	14	17	19	21
CHINA	15	16	16	15	14	12	9	9	9	8	8	8	8	8	8	7	8	8	8	8	8	8	7	13
SOUTH PACIFIC	25	26	26	25	22	17	16	15	14	13	13	12	12	12	11	11	14	14	14	17	20	21	23	24
TO/FROM US MIDWEST																								
CARIBBEAN	20	18	15	14	13	12	11	11	10	10	10	10	9	15	19	21	22	23	24	24	24	23	23	22
NORTHERN SOUTH AMERICA	23	21	18	16	15	14	13	13	12	11	11	11	10	14	18	20	22	23	24	25	26	26	25	24
CENTRAL SOUTH AMERICA	24	21	18	16	15	14	14	13	13	12	12	12	11	18	21	23	24	25	26	26	27	27	27	26
SOUTHERN SOUTH AMERICA	26	24	21	19	17	16	15	14	14	13	12	12	12	13	20	22	23	24	25	26	27	27	27	27
WESTERN EUROPE	8	8	8	8	8	8	7	7	7	8	7	7	7	13	14	15	16	16	15	14	13	11	9	9
EASTERN EUROPE	8	8	8	7	7	7	7	8	8	8	7	7	11	13	13	12	12	12	11	9	8	8	8	8
EASTERN NORTH AMERICA	14	12	9	8	8	7	7	7	7	7	7	7	10	13	15	15	16	16	17	16	16	16	15	
CENTRAL NORTH AMERICA	7	6	5	4	4	3	3	3	3	3	3	3	3	5	6	7	7	7	7	7	7	7	7	
WESTERN NORTH AMERICA	12	11	10	8	7	6	6	6	6	5	5	5	5	5	9	11	11	12	12	13	13	12	12	
SOUTHERN NORTH AMERICA	13	12	11	8	7	7	7	6	6	6	6	6	6	10	12	13	14	15	15	15	15	15	14	
HAWAII	21	20	19	17	12	11	10	10	9	9	9	9	9	9	9	9	15	18	20	21	21	21	21	
NORTHERN AFRICA	10	10	9	9	9	8	8	8	8	8	8	8	10	14	15	16	17	17	18	18	15	12	11	11
CENTRAL AFRICA	11	10	9	9	9	8	8	8	8	8	8	8	9	14	15	16	17	17	17	16	14	13	12	12
SOUTH AFRICA	19	15	14	13	13	12	12	11	11	11	11	15	21	24	25	26	27	27	27	26	24	22	20	
MIDDLE EAST	8	8	8	8	8	7	8	8	8	8	8	7	7	12	14	15	16	15	12	10	9	9	8	8
JAPAN	17	16	15	13	10	9	9	9	8	8	8	8	8	8	7	8	8	8	8	8	7	12	15	16
CENTRAL ASIA	16	16	15	13	10	9	9	8	8	8	8	8	8	8	7	9	10	10	10	9	9	10	17	17
INDIA	10	12	11	9	9	8	8	8	8	8	8	7	7	11	13	12	11	9	8	8	8	8	8	8
THAILAND	16	15	14	12	9	9	9	8	8	8	8	8	8	7	11	12	11	11	10	10	10	10	10	10
AUSTRALIA	22	24	24	21	16	14	13	13	12	12	12	11	11	11	11	13	16	15	14	13	14	17	19	21
CHINA	14	15	14	12	9	9	9	8	8	8	8	8	8	7	7	8	8	8	8	8	8	8	7	11
SOUTH PACIFIC	26	26	24	21	17	16	15	14	13	13	12	12	12	11	11	15	14	14	16	18	21	22	24	25
TO/FROM US EAST COAST																								
CARIBBEAN	16	13	12	11	11	10	10	9	9	8	8	8	10	14	16	18	18	19	19	19	19	19	18	17
NORTHERN SOUTH AMERICA	21	19	17	16	15	13	13	12	11	11	10	10	11	15	17	19	20	21	22	23	23	23	22	22
CENTRAL SOUTH AMERICA	24	21	19	18	17	15	15	14	13	13	12	12	17	19	21	23	24	25	26	26	27	27	27	26
SOUTHERN SOUTH AMERICA	26	23	21	20	18	17	16	15	14	13	13	12	14	19	21	22	24	25	26	26	27	27	27	27
WESTERN EUROPE	8	8	8	7	7	7	7	7	7	7	7	11	14	15	16	16	16	16	15	15	13	11	9	8
EASTERN EUROPE	8	8	8	8	7	7	7	8	7	7	7	9	13	15	15	14	14	13	12	10	9	8	8	
EASTERN NORTH AMERICA	6	4	4	4	3	3	3	3	3	3	3	4	6	7	7	8	8	8	8	8	8	7	7	7
CENTRAL NORTH AMERICA	15	13	9	9	8	8	8	8	7	7	7	7	11	14	15	16	17	17	17	17	17	17	16	
WESTERN NORTH AMERICA	20	18	15	12	11	11	10	10	10	10	10	9	9	9	16	19	20	21	22	22	23	22	21	
SOUTHERN NORTH AMERICA	16	14	11	10	10	9	9	8	8	8	8	8	7	12	15	16	18	18	19	19	18	18	17	
HAWAII	21	19	16	12	11	11	10	10	10	10	10	9	9	9	10	10	10	10	17	20	22	23	23	
NORTHERN AFRICA	11	10	10	10	10	9	9	9	9	9	9	16	19	20	22	22	23	22	21	19	16	12	11	
CENTRAL AFRICA	12	11	11	10	10	10	10	10	9	9	9	16	19	21	22	22	23	22	20	18	15	14	13	
SOUTH AFRICA	18	17	16	15	14	13	13	12	12	11	17	22	25	26	27	27	27	27	27	27	26	25	22	
MIDDLE EAST	10	9	9	9	8	8	8	8	8	8	8	12	15	16	17	18	18	17	12	12	11	11	10	
JAPAN	15	13	10	9	9	9	8	8	8	8	8	8	7	9	8	8	8	8	8	8	7	11	14	
CENTRAL ASIA	14	12	9	9	9	8	8	8	8	8	8	8	7	11	11	10	10							

Flux Level of >10 MeV Particles	Solar Radiation Storm Level
10	S1
10 ²	S2
10 ³	S3
10 ⁴	S4
10 ⁵	S5

Figure 4. Solar radiation storm levels.

Peak Flare X-ray Level	X-ray Flux Level	Radio Blackout Level
M1	10 ⁻⁵	R1
M5	5 x 10 ⁻⁵	R2
X1	10 ⁻⁴	R3
X10	10 ⁻³	R4
X20	2 x 10 ⁻³	R5

Figure 5. Radio blackouts (caused by x-ray flares).

to higher HF frequencies with higher levels of radiation. X-ray levels and related flares are categorized using the letters B, C, M, and X, with X being the most intense. Figure 5 correlates x-ray levels and flux to radio blackout levels.

Every geophysical alert consists of three parts. The first part contains the *solar-terrestrial indices* for the day, specifically the solar flux, the A index, and the K index. The second part is comprised of space weather storms observed during the previous 24 hours, and includes all observed geomagnetic storms, solar radiation storms (proton events), and radio blackouts (class M1 and

greater flares). The third part gives the space weather expected during the following 24 hours. The following is one example of a geophysical alert:

“Solar-terrestrial indices for 08 February follow. Solar flux 89 and Mid-Latitude A-index 26. The Mid-latitude K-index at 1500 UTC on 08 February was 4. Space weather for the past 24 hours has been moderate. Solar radiation storm(s) reaching the S4 level is in progress. Radio blackouts(s) reaching the R2 level occurred.”

Here’s another example:

“Solar-terrestrial indices for 08 February follow. Solar flux 109 and Mid-Latitude A-index 17. The Mid-latitude K-index at 1500 UTC on 08 February was 3. No Space weather storms have been observed during the past 24 hours. Space weather for the next 24 hours is expected to be severe. Solar radiation storms reaching the S4 level are expected to continue. Radio blackouts reaching the R2 level are expected.”

To hear the current geophysical alert message, tune to one of the frequencies of WWV or WWVH at the times listed above. My eAlert emails contain these reports, plus other related information. If you wish to sign up for my eAlerts, visit <http://propagation.hfradio.org/ealert/>.

Current Cycle 23 Progress

The Royal Observatory of Belgium reports that the monthly mean observed sunspot number for October 2007 is 0.9, down from September’s 2.4 and August’s 6.2. The lowest daily sunspot value during October was zero (0), occurring October 1 through 5 and 9 through 31. That means that there were no sunspots during all but three days during October. The highest daily sunspot count was 11 on October 6. The 12-month running smoothed sunspot number centered on April 2007 is 9.9, about a point under March. A smoothed sunspot count of 3 is expected for February 2008.

The Dominion Radio Astrophysical Observatory at Penticton, BC, Canada, reports a 10.7-cm observed monthly mean solar flux of 65.5 for October 2007. The 12-month smoothed 10.7-cm flux centered on April 2007 is 75.2. The predicted smoothed 10.7-cm solar flux for February 2008 is about 60.

The observed monthly mean planetary A-Index (A_p) for October 2007 is 9. The 12-month smoothed A_p index centered on April 2007 is 8.5. Expect the overall geomagnetic activity to be active during most days in February.

High Frequency Propagation

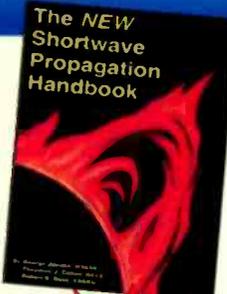
We’re starting to approach the end of the winter season. The period of darkness is growing shorter, causing the average daily maximum usable frequencies (MUF) to rise a bit. Noise levels are still low, at the same time, making for reliable DX. The solar activity is moderate, and holds enough energy to keep the mid-HF spectrum alive with signals. General conditions are expected to be good to excellent for HF propagation throughout February.

Nineteen meters through 15 meters will open shortly after sunrise, and will remain open until early through late evening on those paths where the current (low) solar activity might support ionospheric propagation. Morning and evening DX openings between some areas in the Northern Hemisphere on these bands are very short, because the band in question closes on one end of the path before it opens on the opposite end. Transequatorial propagation on these bands will be more like-

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ly toward sunset during days of high solar flux and a disturbed geomagnetic field (look for days with an Ap greater than 15, or a Kp greater than 3).

Paths on 31 through 22 meters remain in their seasonal peak much like they were in January, but with longer openings. Look for possible openings between North America and Europe in the morning and between North America and Asia during the late afternoon hours. Twenty-two meters will often be the best daytime DX band, with 31 and 25 running a close second.

Ninety through 41 meters will be useful almost 24 hours a day. Daytime conditions will resemble those of 25 meters, but skip and signal strength may decrease during midday on days with high solar flux values. Nighttime will be good except after days of very high MUF conditions. Generally, the usable distance is expected to be somewhat greater on the higher of these bands than on 90. DX activity tends to increase later in the evening toward midnight. Look for Africa and the South Pacific (Australia, Papua New Guinea, and so on) on 90 through 60 meters throughout the night. On 41, 49, and 60 meters long-path DX is possible along the gray line.

The 120-meter band continues to remain stable, with very low noise levels. Throughout the winter season, high noise may occur during regional snowstorms. The band opens just before sunset and lasts until the sun comes up on the path of interest. Except for daytime short-skip signal strengths, high solar activity has little impact. Continue to look for Europe and Africa around sunset until the middle of the night, and then Asia, the Pacific, and the South Pacific as morning approaches.

Signals below 120 meters will remain strong and exciting, except during times of regional storms and high geomagnetic activity. Mediumwave DX is still quite hot throughout February.

VHF And Above

There are no major meteor showers during February that could provide any VHF meteor scatter propagation, but other modes may be possible. Check for 6-meter short-skip openings during the daylight hours. Some short-skip openings over distances of about 1,200 to 2,300 miles may occur. The best times for such openings are during the afternoon hours.

Auroral activity often occurs during

periods of radio storminess on the HF bands. Look for days where the planetary A index (Ap) is climbing and when the planetary K index (Kp) reaches 4 or higher. These are the days on which VHF auroral-type openings are most likely to occur.

I'd Like To Hear From You

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

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

Turn on your favorite radio and enjoy the great DX season on the medium and short waves. Happy signal hunting!



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A Muse Or Two...And An EmComm Turtle

I have a confession to make: I have a muse. Actually, I have two. First is my wife, the beautiful and talented Patricia, KB3MCT, who, for the last 26 years has been my constant companion and life-partner. She's my inspiration and has helped me through many thorny times. She also is a great source of ideas for my columns. Several years ago she obtained her amateur radio license so she could become more actively involved in emergency communications (EmComm).

Second is Herb, my buddy from Alaska. Herb, as I outlined in the December "HOMSEC," often provides me with timely inputs to my column. We share a lot in common and sometimes it's down right scary to look inside Herb's head!

So, there you have it, the deep dark secret of my writing ability (or inability, take your choice).

Old Business: Turtles

A few months back we briefly covered the topic of using RVs and campers/trailers, "Turtles" if you will, as mobile comm facilities for EmComm during natural and/or manmade disasters. The idea—a good one I might add—centers on the fact that there are many of us "Baby Boomers" who are now semi or fully retired. Many of us have motorized RVs or camp/travel trailers and enjoy traveling around the country. Those of us who are also ham radio operators have a great opportunity to provide highly mobile emergency communications facilities for EmComm duties during civic events like parades and athletic events and, again, during natural or manmade disasters. In short, we can be of real assistance to disaster mitigators and local police, fire, and EMS personnel because, not only do we have the ability to become highly mobile, we also have the gear and expertise to provide much needed emergency communications.

My Little Marshmallow On A Roller Skate

Starting with this column I'll be detailing my progress in adapting our 13-foot Scamp camp trailer to perform EmComm



An exterior shot of our 13-foot Scamp camp/travel trailer. This is our "Marshmallow on a Roller Skate." Although quite small, it serves our purpose nicely, accommodating my wife, Patricia, KB3MCT, myself, our two dachshunds, Bunny and Buddy, and soon an EmComm post.

duties. This is a rather long and involved process, since there's a lot more to configuring our tiny Scamp into something akin to a mobile command post than just throwing a couple of radios into the pantry, hitching up the trailer, and hitting the road.

Above all, our Scamp is our "Home away from Home," our refuge from the hustle and bustle of daily life. In effect, our diminutive house-on-wheels is a direct reflection of our home...only much, much smaller. Face it, 13 feet is *not* a lot of room! Especially when the task is to add all sorts of communications equipment and still keep the overall mission of the Scamp to house up to four people, complete with a place to prepare meals and sleep. In other words, the comm gear has to be small (as in physical footprint), multitasking, and installed in such a way as to be unobtrusive during times of non-emergency outings.

What's In A Radio?

Having played this radio game for over four decades, I used to think I was pretty

up to speed regarding radio gear. Reality check: the face of ham radio has changed so dramatically in the last 10 to 15 years that it's really difficult to keep up with all the developments in the equipment arena. The equipment manufacturers have managed to substantially reduce the overall size of the radio gear while simultaneously expanding their versatility by several orders of magnitude. What this means for the average ham radio operator is that he/she can procure a very small transceiver that will offer outstanding performance with features that were only dreamt about 10 years ago.

Digital Signal Processing (DSP) is probably the biggest step forward in transceiver design in the last 20 years. Virtually every HF radio set made today has some form of DSP as either a standard feature or an option. Unless you've had a chance to try out DSP on a crowded band or during a contest weekend, you really can't appreciate how well it cleans up signals. And DSP is only one of the advancements in transceiver design.

Okay, so where does that leave me in my search for radio gear for the Scamp?

Let's review. My wife's car (a small Suzuki Forenza) and my Nissan Frontier pickup both had Kenwood TM-D700A dual-band (VHF/UHF) FM radios installed. Patricia traded off her Suzuki for a Nissan Pathfinder, so now I have another radio install to do in addition to the Scamp's. This situation got me thinking about moving beyond the "standard" VHF FM in the vehicle mode. I queried Patricia and she was extremely receptive to upgrading the Pathfinder installation to include an HF transceiver in addition to the Kenwood dual-bander. Now we're getting somewhere!

Enie, Meenie, Minie, Mo...

My experience with the current generation of multiband, multimode, ultra-small HF/VHF/UHF transceivers has been limited to the Yaesu (Vertex-Standard) FT-817, FT-857, and FT-897 rigs. These rigs are really cutting edge and, with the proper IF filters installed, and a Heil HC-4 mic element in the microphone, they perform quite well. All three of these radio sets cover 160-10 meters on HF, plus 6 and 2 meters and 70cm. That's quite a spread.

My biggest complaint about these radios is that the displays aren't easy to read. My second complaint is the use of multi-layered menus that place two and three functions on each front panel button and control. In short, the Yaesu rigs are *not* user friendly.

Now don't get me wrong, I fell in love with my FT-817 as a QRP/go-anywhere radio. So I gritted my teeth and learned how to manipulate the various button functions to the point that I could control the FT-817 with little trouble. Still, even with the bigger display on the FT-897, I never liked the way Yaesu configured its rigs. Again, not very user friendly.

In an emergency or during an EmComm drill or real-world situation, the absolute *last* thing you need to do is fight with your radio to make it work correctly. Okay, so it looks like I will have to scour the Internet for a different rig. I know for a fact that Patricia has no love for radios that are difficult to operate, and neither do I for that matter.

In Search Of The Holy Grail

After wandering around the Internet for a few days, I stumbled upon a radio that I'd heard a lot about but never had the

chance to use: the ICOM IC-706. After calling several of my friends who had these radios and getting the pros and cons, I decided to procure one for Pat's vehicle.

A quick scan of eBay yielded several IC-706s for auction. I settled on one of the original 706 units without the 70-cm band. This particular radio had the optional ICOM DSP unit installed, which makes a nice package. I jumped on the deal and paid out \$509 for the rig, which I received in a few days. Condition was 9.5 on a 10 scale. A quick call to Ham Radio Outlet (HRO) in Delaware, and I had the service manual, mounting kit, and separation kit on the way.

In playing with this radio I found it much easier to use than the Yaesu FT-8XX series rigs. For one thing the display is huge compared to the Yaesus. While there are multiple functions assigned to the front panel buttons, the 706 seems, to me anyway, much more logical and intuitive. In short, I think I found my new rig for our Scamp and Patricia's Pathfinder!

About a month later, I found another IC-706MKII (*sans* 70cm) for \$431 and bought that also. This one didn't have the optional DSP unit installed, but at that price, it was still a terrific deal.

So now I have two ICOM IC-706 MkII HF plus 6 and 2 meters transceivers: one for the Scamp and the other for the Pathfinder. Since we'll be driving the Pathfinder more than my truck and will be using the Pathfinder to pull the Scamp on camping trips, putting the IC-706 MkII in the Pathfinder just makes good sense.

Mount Up!

It's no secret that today's vehicles leave almost no place to mount radio equipment. Pat's Suzuki was a real challenge, but thanks to the TM-D700A's ability to split the control head away from the transceiver box and remote the radio, it was a simple installation. We put the control head on the dashboard and used Velcro on the body of the radio and put it under the passenger seat. The Velcro holds the box down to the floor by clinging to the carpeting under the seat! About the only big hurdle was the routing of the DC power from the battery into the cockpit of the car.

The Pathfinder has a lot of places to stick radio gear. However, having such great luck with the Velcro trick, I think we'll use that method on the IC-706 in the Pathfinder. The remoting kit for this radio has enough cable to let me mount the rig

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just about anywhere in the SUV. The control head will go on the dashboard just below the radio/CD player. As soon as I get some decent weather here in Northeast Pennsylvania I'll get this rig installed. It shouldn't take long to accomplish.

The Scamp installation will take a bit more ingenuity. My good friend Frank Henrikson has a homebrew rack-mounting system that I want to inspect and possibly adapt for our Scamp. Frank's gear is rack-mounted and fits inside an ammo can. The rack system can be removed and placed in service in his camper. Neat idea, and as soon as I see how he pulled it off, I'll share it with everyone via this column.

What's In Store

Okay, I suppose you've gathered by now that this column is the start of a multi-column saga of my quest for the ultimate EmComm Turtle. Well, you're right. I fig-

ured that I might as well share the trials and tribulations I encountered while trying to design and install "the" EmComm mobile command post/comm facility. The other idea I had in doing this series of articles is to motivate some of you out there to get on the mobile HF/VHF/UHF bandwagon and complete your own Turtle EmComm installations.

Speaking of motivating people to do things...John Lahiff, WA6PHJ, of the Lincoln Hills Amateur Radio Club in Lincoln, California, has taken up the challenge and he and other members of their club are building bug-out boxes. So far I've had several entries and a couple of them are really ultra-cool!! The pair of bug-out boxes by Joe Morse, AD4W, that you see here are right out of Star Wars!

That's a wrap for this month. Get off your collective butts and get started on your own EmComm Turtle. For now, remember, preparedness is not optional.



Joe Morse, AD4W, sent me this shot of his two "Go-Boxes." The one on the left is actually an entire Motorola VHF/UHF repeater system plus a single Motorola VHF radio, all programmed for use in the amateur bands. Also included in the box is a 13.8-VDC power supply, ventilation fans, plus RF and audio patch panels. This box is set up as a cross band, VHF-to-UHF repeater, while the single Motorola VHF unit allows the EmComm operator to access other VHF repeaters or work on a simplex frequency. The box on the right is a Halliburton Zero case with an ICOM IC-7000 HF/VHF/UHF transceiver, small switching power supply, and LDG auto antenna tuner. Also included is a CW paddle set, hand mic, ventilation fans, and external speaker. This allows the operator access to the HF bands for long-haul or NVIS (Near Vertical Incidence Skywave) contacts and provides a back-up radio set for VHF/UHF in case something happens to the larger case. Joe's amazing set up is well thought out and designed with the EmComm operator in mind.

Radio Fun And Going Back In Time

Q. Who gave Chester Gould, the creator of Dick Tracy, the inspiration for the famous cartoon detective's two-way wrist-watch radio?

A. Al Gross, W8PAL, was a high school student in 1938. He had a driving urge to reduce the size of the pre-World War II amateur radio equipment. He designed a small battery-operated handheld radio (four pounds) that he called a Walkie-Talkie.

Gould, already a famous cartoonist with a very popular comic strip requested permission to use the idea of a super miniaturized radio set. With that permission granted Gould went on to "invent" the miracle wristwatch radio. Gross went on to study Electrical Engineering at Case School of Applied Sciences. When World War II began he was grabbed up by the American military and spent his time during the war years inventing secret stuff for the Office of Strategic Services, the forerunner of the CIA. When the technology was declassified in 1976, we learned that Gross had 12 patents (all of which had expired in 1971) that led to the invention of the cell phone, cordless phone, and pagers.

After the war, Gross went on to do cutting-edge designs for various projects involving his innovative electronics. He became a Silent Key in December 2000.

Q. David Niven, the English actor, always plays British military types in the movies. Was he ever really in the Army?

A. Niven graduated from Sandhurst, the West Point of the British Army. During World War II he was a combat officer in the British Army. Specifically he was Commanding Officer of Squadron "A" of the top-secret communications and intelligence unit known as General Headquarters Liaison Regiment, code named Phantom. They specialized in communicating with British Military Headquarters in London from the frontlines or, at times, behind enemy lines. They sent up-to-the-minute reports from the front lines direct to British Army Headquarters in London without going through channels. This saved a lot of garbled messages and wasted time. When Niven's movie characters battled Nazis in war movies he was so convincing because he really did know how.

Q. Do current events affect radio formats directly?

A. If what I've heard is right they certainly do in Israel. Since the advent of terror bombings, the state-controlled radio system

has a duplicate format for every day. Any day that has a terror attack the stations change from their regular Rock 'n' Roll or other regular programming to a quieter, more sedate, and low-key format. Right after the news announces the attack, no matter what time of day, the format is changed so as not to offend the family and friends of the deceased.

Q. What was the first military action involving tanks controlled by radio?

A. That would be the Battle of Cambrai in France in 1917. The British 3rd Army under General Sir Julian Byng planned a large scale tank raid against the German 2nd Army under General von Der Marwitz. The planning went along fine until the British commander in chief asked for the operation to be enlarged to a major breach of the Hindenberg Line and to include the capture of the town of Cambrai. This was to be followed up by a breakout of the Cavalry Corps to the northeast.

On November 20 three tank brigades (324 tanks) were distributed among six divisions of infantry and attacked on a seven-mile front. The tanks used rolled-up brush wood to drop into the German trenches, which allowed them to drive straight over the German positions. The tanks were then able to engage the German troops with their machine guns under a coordinated artillery barrage.

After the first day the tanks had made an inroad of four miles to the German frontlines. Each tank brigade had three tanks with wireless equipment enabling them to contact HQ. Unfortunately fear of German intercept operators limited the use of the wireless sets. Also the Marconi Trench Set design meant that the signalman could only use the wireless when dismounted from his tank. True tank-to-HQ communications would have to wait until the 1930s when better radios were developed.

Unfortunately the cavalry and reserve infantry were not able to support the advances made by the tanks that did capture Cambrai. The tanks had to be withdrawn from their dangerous forward positions because of lack of support. After November 30 the British and German lines were back to their approximate starting place 10 days earlier.

Looking Back...

Five Years Ago In Pop'Comm

The Korean peninsula was (again) in the news, and our own Gerry Dexter told us how to monitor it: the FCC authorized the use of Personal Locator Beacons on 406.025 MHz, and DRM was gaining momentum.

Ten Years Ago In Pop'Comm

The Cherokee AH-100 AM/SSB was in the "Product Spotlight"; Alice Brannigan described the rise and fall of New York's legendary WEAJ; and write- Chris Smolinski told us how to tune spy number stations.

Twenty Years Ago In Pop'Comm

Kenwood's new R-5000 graced the back cover, while the front cover promised a visit to Radio Beijing, a look at the "Crazy Radio Cruise of the Seth Parker" and a cure for telephone interference.

SPURIOUS SIGNALS

By Jason Togyer KB3CNM



Spokane's Suburban AM Radio Rip-Off



Though my father is in no way affiliated with Burger King, more than a few of his radio tales can only be classified as “whoppers.” In this case, the evidence I submit to you, the fair-minded readers of *Popular Communications*, is testimony about a theft of broadcast equipment that reportedly caused irrevocable harm to one poor little AM daytime station in a bucolic community just north of Spokane.

Allow me to begin this saga by symbolically pointing to dad and declaring, “That’s the man who told me about the mysterious robbery at KLFF 1590 in Mead, Washington!”

Admittedly, my father isn’t completely responsible for this story. Dad coaxed the important, though sketchy, details out of a middle-aged woman with whom he and mom were serendipitously stranded last year at a snowed-in airport. Throughout the evening, they passed the time, first with small talk, and then with greater detail about their lives.

“She was some big shot traveling on business for a pharmaceutical company,” dad said. In a feeble effort to impress her, he showed the lady my picture and identified me as his daughter the “well-known history writer and columnist concentrating in broadcast-related topics.” The woman, who by then was being addressed on a first name basis, responded to that shameless boast by making only the slightest mention of having once heard about a radio station heist from people she figured to be the kilo-cycle crooks.

“At first, Melanie politely made light of the value of her radio recollections,” my father stated, “but I insisted that she possessed a broadcasting story worth telling.” With that, my mother went back to reading her fashion magazine, while father scavenged a pen from mom’s ample purse, as well as an empty ticket envelope someone had left behind, and convinced Melanie to “start from the beginning.” As I click away keyboarding this article, dad’s hurriedly scribbled notes serve as a major source. What follows are pretty much my father’s reminiscences.

Her eyes closed for a few seconds (my father’s narrative began), before the nicely dressed brunette remembered back to early February 1966 when, as an 11 year old, she accompanied her parents on a hastily planned road trip from their North Dakota home to visit her mother’s twin sister south of Seattle, who was battling breast cancer.

Although she’d pretty much outgrown the “Are we there yet?” stage of auto travel, Melanie remembers the first part of the ride as being tedious. Sparse winter traffic most of the way made a flop of games like spotting various license plates or vehicles of particular colors. Her mom, especially, wasn’t in the mood for singing rounds of “Row, Row, Your Boat,” or guessing what number from 1 to 100 Melanie was thinking.

By the time they’d hit Idaho, her dad pitched in as activities director. In one of his monologues, he told her a few army sto-

ries and mentioned his Korean War-era service in the Signal Corps. This led to him using the car radio to present a little lesson about how there were stations occupying frequencies, in 10-kHz denominations, up and down the dial. Being the only show in town, so to speak, this really caught her interest when it was explained that announcers in little studios can bring happiness to hundreds of people listening in places too numerous and varied to ever know.

Melanie imagined herself as someone behind a broadcast microphone. “Maybe I’ll go into broadcasting and have a famous radio voice someday,” she mused to her folks. They nodded in a mildly committal, “Maybe you will,” way that distracted adults sometimes nod.

In Coeur d’Alene, the family stopped for a bite to eat. Melanie noticed the diner’s red radio, shelved between rows of coffee cups. It emitted local news and then some country music. She remembered the sound of the disc jockey and was pleased with herself when she found his voice again on their car radio. Her mom had been happy to trade places with Melanie and doze off in the back seat. This gave the fifth grader easy access to twisting the dial and trying to satisfy her curiosity about why some stations sounded louder or perhaps more sophisticated than others. She decided that the little ones with a bit of whistle or static under them were the most interesting, as her father had explained that these were usually the lower-power, rural outlets where young announcers would go to seek a start in radio.

About a half hour outside Coeur d’Alene, Melanie decided to clean the slate and see how many stations she could get from the dial’s 160 down to its number 55. Near the high end, and for no particular reason other than “it sounded scratchy, weak, and small,” Melanie became fascinated with KLFF. Its only specific programming, she recalls, other than an innocuous ballad or two, was “a classified ad kind of show where people phoned the receptionist or wrote in with things they wanted to sell, and the announcer just read the ads they had submitted.

“I remember that somebody had cute yellow kittens to give away to a good home and another ad was for a tractor or some farm machinery,” Melanie said. They were at the very end of KLFF’s electromagnetic footprint when, through significant noise and hash, the announcer mentioned that the kitties had been adopted by a listener who’d been wanting to replace a favorite old cat that had died. This happy ending even made Melanie’s mom say the little station was truly providing a nice community service.

Majority static finally forced Melanie to dial away from KLFF’s world, but her dad suggested they’d make a point to enter it again on their return trip.

Any Mead Radio Entries On The Bottom Of The Pro-File Pile?

When *Broadcast Pro-File*’s Jan Lowry scratches his head about a radio station, one can be sure its callsign is incredibly obscure. KLFF in Mead qualifies as such an enigma. Though



An artist's fanciful rendition of the KLFF studio/transmitter facility circa 1964. While the illustration portrays the station's general features, for its owners, KLFF was more of a headache than the carefree Candyland environment in which the picture is stylized.

the call letters were new to Jan, he quickly unearthed a few lines regarding the facility in a couple of 1960s *Broadcasting Yearbooks* on his voluminous shelving. He then set about digging for additional material in the *Pro-File* "kilocycle vault."

Meantime, Jan routinely reminded me to check the Internet for a likely tidbit or two about the pretty much forgotten daytime AM outlet. There, I found several pages of KLFF lore at Bill Harms' very enjoyable Spokane Radio History Website (<http://spokane.philcobill.com>).

This source indicates that an outfit known as Crown Broadcasting Company was granted an FCC construction permit

to build a sunrise-to-sunset AM station on 1590 kHz at Mead, a berg several miles above the north side of Spokane. The CP was issued in 1961, and listings in *Broadcasting* magazine and *Radio Daily* yearbooks from that period identify the licensee as KLFF, Inc., the Crown designation only having been used in the original application. These rosters also name one Robert D. Dellwo as corporation president. Dellwo appears to have been the primary investor or the person representing KLFF's other stockholders, whether vested fiscally or via sweat equity. In any event, Dellwo seldom surfaces in our dusty anecdotal documentation, though

the monikers of Ralph "Dick" Dailey and Ed Jacobson are prominently featured.

This pair of former KHQ-TV (Spokane's Channel 6) executives had reportedly long dreamed of founding their own eastern Washington broadcasting business. They had watched the success of some colleagues who'd left the Spokane TV operation in order to start KUZN radio in nearby Opportunity, Washington. Apparently each with minority shares of the operation, Dailey serving as general manager/chief engineer and Jacobson pulling program director/commercial managerial duties, their 1000-watter officially took to the airwaves in mid-afternoon on July 25, 1962.

Using a G clef musical symbol as the station logo, Dailey and Jacobson dubbed their AM property "Clef Radio." Spokane's *Chronicle* newspaper had promised that KLFF was "set to operate" on July 9th, while a couple of weeks later the Spokane *Spokesman-Review's* July 24th edition described Clef Radio as "ready" to go. A snippet in the latter's July 26 issue noted that the previous day's KLFF inaugural represented a "delayed debut." Perhaps to a few perceptive readers, a hint of jinx seemed woven between the lines.

The Quest For Listeners Who Could Excite Radio Advertisers

KLFF's home was a simple wooden building—not much bigger than a two-car garage—with a gently pitched roofline. It looked somewhat like an economy lakeside cabin that a lumberyard might offer in kit form. There was room for a couple of small offices, a bathroom, and an air studio with 1-kW Gates brand transmitter in view of the announcer. Bill Harms' website also reports that the structure had previously served as the temporary quarters for a new shopping center bank branch awaiting construction of a more substantial venue. Apparently, Dailey and Jacobson got it for a song with the proviso that they move it. Once the little building was relocated to East 2221 Lincoln Road in Mead, it shared that grassy field with a 150-foot tower readied for wiring to the transmitter.

Arguably, Dailey's and Jacobson's chief intention was to brand KLFF as a Spokane media competitor (at least a north-side Spokane and surrounding suburbs favorite), not a hometown Mead out-



I'm not sure how many times my dad must have bugged Melanie, the busy executive who sparked this month's column, for this postcard that she had tucked away in a childhood scrapbook. My guess is that, via several emails, he reminded her that it would be a key graphic in our amateur KLFF robbery investigation. Melanie identified the crooks' room as the one on the very end under the Hacienda Motel sign.

let. Quarter hourly IDs like "This is Clef Radio serving Spokane!" stand as proof. So does an emphasis in *Broadcasting Yearbook* on the station's published "Spokane [zone] 52" address. To satisfy city-of-license programming commitments to the FCC, however, KLFF featured short odes to Mead, such as the school lunch menus for youngsters in that bucolic district.

Pop'Comm reader Paul Hutton grew up in Spokane and has long possessed more than a pedestrian understanding of the local broadcast scene there. But his sense of KLFF only included the memory that it was "way up in Mead," which in the 1960s was considered by metropolitan residents to consist of only "a few small stores and a bunch of farms." He says the area's soil could be categorized as "sandy, dry, and once home to several large gravel pits." For AM transmission, such subterranean makeup is far from ideal because it produces very poor ground conductivity.

As a teen, during the first Saturday after getting his driver's license, Hutton took a ride to Mead to see if he could tour its station. He located the KLFF building, but says he didn't see any cars parked there, nor did he have the gumption to go to the door.

"From my house on Spokane's south side," Hutton recalled, "KLFF sounded like it was transmitting from Siberia or Outer Mongolia. I was amazed to hear how nicely the signal cleaned up once I got a mile north of town. Of course, prac-

tically as soon I pointed the car south again, the coverage went to the dogs."

While Hutton's assessment is admittedly exaggerated, the average greater Spokane-area radio listener's perception of KLFF—if they had one at all—was arguably that of an "also ran." What a challenge it would represent for any AM newcomer to snatch audience from the ample big city stations, such as Spokane's then highly rated Top-40 formatted KNEW, trusted news leader KHQ, or the 50,000-watt flamethrower, KGA. No doubt KLFF general manager Dick Dailey was confronted with these obstacles every business day.

In late summer 1964, Eastern Washington radio personality Bob "Bubblehead" Hough (pronounced *Huff*) left Spokane's KNEW 790 (later renamed KJRB) with plans to join the air staff across town at KSPO. But Dailey, an old friend who'd graduated from the Don Martin School of Radio Arts with Hough, implored him to come to KLFF instead. "By that time," Hough recalls, "Dailey's [commercial manager] business partner had bailed out and Dailey was pretty much all by himself working the street peddling the proverbial dollar-a-holler ads in an effort to keep KLFF afloat."

Dailey sincerely pleaded that "he could really use the help." Dailey also noted that he'd recently invested in a couple of tape cartridge machines to upgrade the studio for "cart" record/playback. No matter that KLFF's new tape units were supposed to facilitate the handling of commercials,

Hough characterizes his two-month tenure at the struggling Mead daytimer with one word, "sad." His memories of the station were that he and Dailey gave it the "old college try," though with the "coverage deck" clearly stacked against them. "The signal was pretty feeble in much of Spokane," he says. "We did a couple of remotes from the Woolworth's downtown where you really had to use your imagination to hear the station."

Without metro penetration, selling ads—even for play on those new cart machines—was a mighty discouraging task. One of the few "big" advertisers, a Spokane car dealer, bought some of the bargain basement-priced spots because Hough recorded them with the advertiser's favorite instrumental—"The Stripper" by David Rose & the Orchestra—prominently in the background.

Regarding KLFF's circa 1964 format, Hough says, "it was pretty free swinging, whatever you wanted to play." He identified some of the fare as Big Bands, Middle-of-the-Road records, and a Top-40 tune here and there. From the sounds of this programming latitude, it's no wonder that a saleable loyal audience—even one with in earshot—was never established.

Sometime during the fall of 1964, Dailey admitted to Hough that the meager Mead AM had run out of money. And no media entrepreneurs were knocking on the door with offers to acquire and transform Clef Radio. The station's disappointing coverage combined with a daytime-only schedule and shifting formats meant that KLFF was cursed with a double whammy of "not having either the signal or the bucks."

"Dailey and I divided up the [skimpy] roster of KLFF sponsors," Hough remembers with a tinge of regret in his seasoned broadcast voice. "We each went around to the advertisers on our list to let them know KLFF would be closing." Understandably, most sincerely felt bad about the misfortune, but some admitted that the rural station, hamstrung by its disappointing coverage map and Mead's modest retail density, was a tough row to hoe from the start. They offered the solace of being surprised that KLFF management stayed with it so long. That done, Dailey "just shut it down and moved to the Coast."

A Month And A Half Of Silence, And Then What?

Sometime during the first week of November 1964, KLFF reappeared. Prior

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Practical Projects

Edited by Dr. Brown, M5ACN
RSGB 2002 Ed., 224 pages.

Packed with around 50 "weekend projects," *Practical Projects* is a book of simple construction projects for the radio amateur and others interested in electronics.

Features a wide variety of radio ideas plus other simple electronic designs and a handy "now that I've built it, what do I do with it?" section. Excellent for newcomers or anyone just looking for interesting projects to build.

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Low Power Scrapbook

RSGB, 2001 Ed., 320 pages.

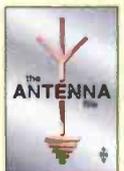
Choose from dozens of simple transmitter and receiver projects for the HF bands and 6m, including the tiny Oner transmitter and the White Rose Receiver. Ideal for the experimenter or anyone who likes the fun of building and operating their own radio equipment..

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The Antenna File

RSGB, 2001 Ed., 288 pages.



50 HF antennas, 14 VHF/UHF/SHF antennas, 3 receiving antennas, 6 articles on masts and supports, 9 articles on tuning and measuring, 4 on antenna construction, 5 on design and theory, and 9 Peter Hart antenna reviews. Every band from 73kHz to 2.3GHz!

Order: RSTAF **\$33.00**



The Antenna Experimenter's Guide

RSGB, 2nd Ed., 1996. 160 pages.

Takes the guesswork out of adjusting any home-made or commercial antenna, and makes sure that it is working with maximum efficiency.

Describes RF measuring equipment and its use, constructing your own antenna test range, computer modeling antennas. An invaluable companion for all those who wish to get the best results from antennas!

Order: RSTAEG **\$32.00**

HF Amateur Radio

RSCB, 2007 Second Ed.



HF or shortwave bands are one of the most interesting areas of amateur radio. This fully revised and expanded second edition guides you through setting up an efficient amateur radio station, equipment to choose, installation, the best antenna for your location and MUCH more.

Order: RSHFAR **\$23.00**

Packet Radio Primer

By Dave Coomber, G8UYZ & Martin Croft, G8NZU

RSGB, 2nd Ed., 1995, 266 pages. Detailed practical advice for beginners. Completely revised and greatly expanded to cover developments in this field and beyond bare basics into advanced areas such as satellite operations.



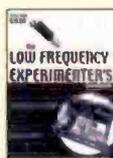
Order: RSPRP **\$16.00**

The Low Frequency Experimenter's Hdbk

By Peter Dodd, G3LDO

RSGB, 2000 Ed., 296 pages.

An invaluable reference written to meet the needs of amateurs and experimenters interested in low power radio techniques below 200kHz.



Order: RSLFEH **\$33.00**

Technical Topics Scrapbook 1985-1989

by Pat Hawker, G3VA

RSGB, 1st Ed., 1993, 346 pages. A collection of popular 'Technical Topics' published in *RadCom*. Info, ideas, mods and tips for amateurs.



Order: RSVUDXB **\$18.00**

VHF/UHF Handbook

Edited by Andy Barter, G8ATD

RSGB, 2nd Ed., 320 pages. This second edition guides you through the theory and practice of VHF/UHF operating and transmission lines. Includes info on getting started, antennas, constructing your own equipment, satellite ops, local nets and specialized modes.



Order: RXVUH **\$30.00**

Technical Topics Scrapbook 1995-1999

By Pat Hawker, G3VA

RSGB, 2000 Ed., 314 pages.

This third compilation of 'Tech Topic' articles is a fascinating collection of circuit ideas, antenna lore, component news and scientific discussion, all at the most practical level.



Order: RSTTC99 **\$26.50**

RSGB Prefix Guide

RSGB, 8th Ed., 2007. 80 pages.

Guide's prefix IDs and info has been fully updated. Provides a listing of prefixes and their entities, continent, CQ Zone, ITU Zone, latitude and longitude and much more.



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By Joe Carr, G3YWX

RSGB, 2002 Ed., 416 pages.

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to increments of FCC deregulation that started in the 1970s and accelerated a decade later, the Commission was known to be especially touchy about a station making any changes without permission. This was particularly the case with regard to self-authorized silence. While FCC officials understood that there were circumstances that excused a facility that went dark—even temporarily—it wanted to grant authorization for that action...or else! One can speculate that the matter of KLFF's September closure came to the FCC's attention after the fact, causing chagrined Commission staffers to strongly recommend that the station get back on the air, pronto! To that end, a new GM, Jack Miller, was employed to see what luck he might have with KLFF. His experiences replicated those of his predecessor, Dailey.

Jumping ahead to the 1969 *Broadcasting Yearbook*, we see an abbreviated KLFF MEAD listing. It chronicled the daytimer as airing 15 hours weekly of "specialty programming" in the form of Country & Western music and identifies an Earl Kazmark as the GM. Apparently, however, the 1969 entry is deceiving, an inadvertent carryover from KLFF's final *Broadcasting* information submission in the fall of 1965. (This date is assumed because the publication traditionally requested updates in September for its *Broadcasting Yearbooks* to be released early the following year.)

What most readers scanning through the '69 *Yearbook* wouldn't know is that the Mead AM was silent again, and had been dark since February 1966, when much of its studio was clandestinely stripped of the gear requisite for producing any programming. For fiscally ailing KLFF, the heist represented a proverbial removal from life support.

Maybe Just A Story Stolen From Somebody's Radio-Active Imagination?

Remember Melanie, the woman who as a little girl took that trip with her folks to Seattle and back? She did pick up KLFF again, staying with strains of the often crackly signal straight through to Coeur d'Alene, where the family stopped at the Hacienda Motel during mid-afternoon. They were directed to Room 12 after the desk clerk quipped something about not wanting to make anybody superstitious stay in Room 13. "Is it really bad luck to be in number 13?" she wondered as they enjoyed the light picnic style supper their relatives in Seattle had prepared. Her parents just didn't feel like going out again that evening and simply wanted to rest up for the remaining leg of their trek home.

But a restless Melanie had other ideas. When, at about 11:30 p.m., a squeaky station wagon pulled into the motel's unpaved driveway, and parked nearby, she decided to investigate. Through the door, Melanie could hear two men arguing about whether it was wise to stop now or "at least make it to Montana." One guy told the other to wait in the car while he got a room. She didn't have to stand for long with her ear to the door before the first guy came back and told his buddy they were in Room 14 and better get some fast shut-eye.

A few minutes after she heard the station wagon's, and then the motel room's, door close, Melanie ventured outside, her parka and mother's cashmere bathrobe over her pajamas. Socks would have helped the situation, but she'd simply stuck her bare feet into boots for the hastily planned foray. Burr! It was cold in northern Idaho's night air, though the mystery of ratty car and those agitated voices were worth the shivers.

The neon glow from the motel sign provided just enough illumination on the vehicle to make it look doubly spooky.

Through the side windows, she surmised that blankets were covering some hefty cargo. There was nothing conclusive and no further voices came from Room 14. Melanie scampered back to her warm bed, but promised herself that she'd wake up real early and look again when the light started getting better. And that's just what she did about five hours later, when her investigation included bolder sleuthing and the flashlight from her folk's glove compartment.

The faded black Ford wagon wore Washington license plates. One of the blankets was pulled back from its load enough to make out that it was draped over equipment containing knobs, switches, and meters. A brand name, possibly GATES, sticks in Melanie's mind, as she recalls seeing it on a tag affixed to one of the metal cabinets. Her heart jumped when the flashlight shined on a disheveled bunch of 45-rpm records fanned out by the vehicle's inertia and strewn across the tattered carpet on car's back seat floor. One of the disc's paper jackets was inscribed with handwritten lettering that might have said KLFF.

Even Melanie admitted to herself that she might have been imagining things that maybe weren't there. Anyway, she was beginning to react to the startling revelation when the door to Room 14 opened and one of the occupants stuck his head outside as if to determine whether the coast was clear. Melanie thought she'd never get across the driveway and into the cover of some bushes fast enough to evade the men. Her heart was beating so hard that after she made it to cover, it was all she could do to hear what the "suspects" were saying. Something about, "Shut-up and quit worrying all the time!" the tall guy barked at his chubby associate. Two car doors shut cautiously, the motor caught, and the shady pair drove eastward. Their headlights and taillights didn't come on until the station wagon was about 100 yards past the motel.

Melanie zipped back to Room 12 and woke her parents with complete details of the weird encounter. "You shouldn't be outside in this freezing weather!" her mom chided, as if the KLFF heist scenario had never been mentioned. Melanie's father yawned, ruffled his daughter's pageboy hair, and laughed that she "sure had a wild imagination! Are you certain these thugs weren't making off with classified high-tech gear from one of those atomic missile bases up in the mountains?" he chuckled in a loving, though skeptical way. Her mom and dad urged her to rest before their anticipated 7:30 a.m. departure. "We'll need to be in the mood for a hearty diner breakfast and then hit the road with some enthusiasm," dad directed.

Around 8:35, as they were checking out, Melanie whispered a reminder to her folks so they'd ask the clerk about the men in the end room. Her father, stalwartly convinced that she was indeed imagining things, suggested aloud that she query the fellow herself. The motel guy didn't seem too interested in the radio thievery theory, either. "Two robbers, fat and skinny, you say?" the clerk smiled and stroked his chin as if to play along. "Come to think of it, the tall one did look somewhat suspicious, young lady. Maybe that's why he insisted on parking their station wagon towards the highway and sideways in front of Room



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14 so they could make a clean break if the cops showed up! Ha, Ha, Ha!"

"Minutes later, we were in our car ready to head east," Melanie remembers. "After mom checked to see if we had everything, dad started the engine and we got underway. The radio, last dialed to 1590 where the previous afternoon I'd been catching the fading fringe of KLFF—soon warmed up.

"Hey, Mel Honey, be careful!" dad exclaimed, as I shot from the back seat to turn up the volume control. Mom complained that I was listening to static.

"That's where KLFF is supposed to be!" I explained.

"And, for a moment, my parents seemed to genuinely share my concern. 'Well, there's nothing there today,' mom nodded to my father. He fiddled a bit with the tuner, but then reasoned that KLFF was undoubtedly a small station and that with the sun not fully risen and radio waves acting unpredictably, we were probably too far away to routinely expect any traces of it."

It's fun to imagine the Hacienda Motel's clerk thumbing through the February 10, 1966 edition of the *Spokane Chronicle* in a killing time, bored out of his wits fashion. Think of him scanning the headlines and seeing an article entitled, *Burglars Steal Radio Equipment*. "Holy Cow!" He might have shouted to himself. "That was no whopper, the kid was right!"

Shannon's Epilogue

Truth be told, a vital component of this tale has fallen apart. After chatting about Spokane radio history with Bill Harms' and indulging in substantial speculation about KLFF, I received a follow-up from Bill that included one particular sentence that made me question my dad's version of the robbery saga: "The station's license expired on 1 February 1966," Bill said. That being the case, Melanie's reported reception of KLFF in early February is unlikely.

"Then again," retorted my dad, ever sticking to his source. "It could be that Melanie's trip was in late January. Besides, even if they were on the road after February 1st, who can now say—more than 40 years later—if anybody at KLFF paid precise attention to a 1/4-inch-long expiration date on some piece of FCC paper hanging on the studio wall?"

And so ends another day of broadcasting history at *Pop'Comm*...

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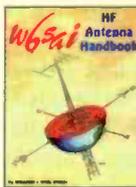
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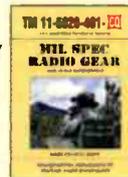
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A Salute To Small Vendors (Who Serve Radio Restorers In A Big Way!)

I'm sitting here contemplating ideas for this month's column, with a cup of warm apple cider in hand. Midnite the Wonder Lab is snuggled under the computer desk as I type. Here in New England the nights and days are getting cooler, and darkness falls earlier with each passing day... It's a good evening to settle back and peruse some of the letters you've written to us.

Reader Nick K. from Highland, Indiana, writes, "I thought your April column was great! I enjoyed all the radio restoration articles. I would like to see a listing of part sources in a future column." Hello Nick! I appreciate hearing from you, and I do take your suggestion seriously. We try to suggest specific vendors when appropriate for the project or restoration topic for that month. But Nick has a good point. It's been several years since I dedicated a column to suppliers who cater to vintage radio enthusiasts. So, here's a tip of the hat to Nick for providing the inspiration for this month's column.

By now I'm sure most of you are familiar with the larger vendors, such as Radio Daze¹ and Antique Electronic Supply², who specialize in tube-based electronic equipment. This month I'd like to take time to salute the smaller home-based or one- or two-person shops that provide unique, but much needed, vintage radio-related items and services.

Unfortunately, for some of our readers, many of these smaller enterprises use Web-based catalogs and often prefer email communications instead of telephone or land mail queries. Some of these folks are in the business fulltime and trying to make it their livelihood, others provide these services as a hobby, and a few are elderly folks with infirmities—please extend them some kindness and patience when you deal with them. If you don't see a telephone number supplied, you will need to use email or visit the website for more information.

Also, remember that many of these vendors may not be able to accept credit card orders. Some accept Internet payments via PayPal. Many don't. Most of these vendors specify how they prefer to be contacted on their websites.

This is by no means a complete list of vendors, and I apologize to anyone who was omitted. Let me know if you feel you deserved a mention, as I will provide updated info in the future as needed. So here we go, and these are in no particular order.

Capacitors

David and Babylyn Cantelon own and operate Just Radios, and they carry just about every type and style capacitor needed for tube-related restorations. Their extensive product line includes metalized and metal film polypropylene and mylar and polyester caps, in both axial and radial lead styles. Also available is 500-VDC-rated silver mica capacitors, as are disc ceramics and a variety of X1-X2, X2, and Y2 AC line voltage safety capacitors that are rated for across the line or AC bypass duty.

Dave and Babylyn also supply economical capacitor kits. These kits include capacitor values and quantities that were carefully selected to match what's needed to service early radios. This means you won't end up with excessive quantities

of odd values you'll never use. Just Radios also offers schematic services for American and Canadian sets.

Don't let the fact that they are located in Canada deter you from ordering—I've never encountered a problem and they're known for providing outstanding service!

Contact: David and Babylyn Cantelon, 42 Clematis Road, North York, Ontario, Canada M2J 4X2; Phone: (416) 502-9128; Web: www.justradios.com; Email: justradios@yahoo.com.

Reproduction Radio and TV Back Covers

If your radio is missing its back cover (and oh-so-many are!) Dan Rasmussen at Retro-Tronics has you covered, from Addison to Zenith! Dan makes covers for early radios and televisions, including rear covers for the popular Hallicrafters S-38 receiver series. These are high-quality reproductions that are laser cut, not punched, so the edges are crisp and sharp just like the originals. Besides adding value to the sets in your collection, the back cover often provided isolation from hot chassis AC/DC type sets.

Dan has covers for over 100 models, and the list is continually growing. If you have a damaged cover you can mail it to Dan and he'll make a replacement by copying the damaged original. You can also sign up for Dan's free monthly email newsletter by visiting the website. Custom laser cutting and CAD services are also offered.

Contact: Web: www.retro-tronics.com or www.radiobacks.com; Email: Dan@Retro-Tronics.com. No mailing address or phone was provided.



The S-38 Hallicrafters rear cover offered by Dan at Retro-Tronics.

Grille Cloth

It's hard to say grille cloth without mentioning The Grille Cloth Headquarters in the same sentence! John at Grille Cloth carries an extensive line of 40 replacement grille cloth patterns. Correct, proper griddled cloth is available for almost any popu-

lar vintage radio—whether it's a Philco, RCA, GE, Zenith, or other popular brand. Grille cloth sampler sheets for all patterns are available for 10 dollars. Watch for special sales and close-out specials!

Contact: Grille Cloth Headquarters, 716 Alene Road, Ambler, PA 19002; Web: www.grillecloth.com; Email: John@grillecloth.com. No phone orders.

Tone and Volume Controls, Dial Scales, Etc.

Meet Mark Oppat, a man who prefers to be known as the "King of Controls"—and for good reason! If you need a replacement volume or tone control Mark is the first person you should be calling. He stocks a vast inventory of original, new old stock (NOS) controls and can replace, or even repair, almost any control that's out there, including some of the odd car radio types, with single or multiple fixed taps.

Mark is the new purveyor of the late Clint Blais line of reproduction dial scales (Clint's scales were regarded by many as the gold standard for quality repro dials). Mark also has a supply of phonograph idler wheels and cartridges, knobs (he has a nice line of generic wood knobs!), and new and used tubes. He also has a good selection of reasonably priced new capacitors available for your recapping needs.

Mark has many, many other hard-to-find items—he often buys out closed radio/TV shops—so if you need something that isn't listed here or on his website, just ask!

Contact: Mark Oppat, 253 Blanche Street, Plymouth, Michigan 48170; Phone: (734) 207-2346 (Monday through Friday between 10 a.m. and 10 p.m.); Web: www.olderadio.com; Email: moppat@comcast.net (be sure to keep the email subject line brief and concise to avoid spam filters).



These generic wood radio knobs are made by Mark Oppat and can be ordered from his website. They're available in two styles (skirted and unskirted) and with either a walnut or mahogany lacquer toner finish.

Battery Reproductions

Meet the "Battery Maker"! Bill Morris offers reproduction batteries for most portable tube radios and replacements for some early transistor batteries that are now obsolete. Bill has solutions for all the most popular AB battery packs made, such as those used in the extremely popular Zenith Transoceanic line, and in some instances he can make special packs on request, if feasible.

All Bill's batteries work just like the originals, if not better. Hidden inside are inexpensive, replaceable modern batteries,

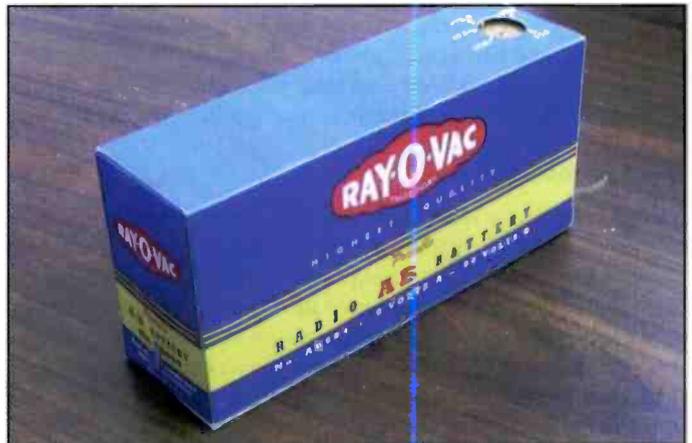
such as AA, C or D cells, or 9-volt batteries. The battery cases are covered with color-printed artwork made from scans taken from surviving batteries and look as good as the originals! Bill's specialties include the Philco Mystery Pack, Zenith TO AB batteries, and A and B batteries for smaller personal sets. Repro batteries for English and Australian portables are being planned.

Contact: Bill Morris, 3545 Rock Maple Drive, Indianapolis, IN 46235; Email: batterymaker@gmail.com.

Reproduction Parts and Knobs

Ed Schutz of Renovated Radios offers a much needed selection of previously unavailable reproduction parts. Ed now makes almost all the different rubber grommets encountered on various Philco floating RF decks, chassis supports (including the odd corner style mounts!), and Philco screw grommets. He also makes similar chassis washers for Zeniths and other sets. Many of these items have not been available until now.

Additionally, Ed reproduces the speaker gasket for the Crosley Dashboard radio and offers an ever-expanding line of push buttons, hook switches, knobs, tone and station ID inserts, etc., as well as an extensive selection of small clock radio knobs as well. He repairs damaged 1937 Philco tone/power switch shafts (he can machine a new shaft and install it in a damaged



This large Ray'O'Vac AB battery is typical of the style used in larger suitcase portables, such as the Zenith's A600 Transoceanic.



The interior view of the Ray'O'Vac AB battery. When depleted, the battery is easily and inexpensively replenished with commonly available flashlight cells and 9-volt transistor batteries.



Here are some more examples of Bill Morris' batteries. These are replica Zenith batteries and look quite at home in this vintage Zenith battery personal AM portable.

control if the part is sent to his shop for repairs). Ed also offers a variety of CDs containing scans of training manuals, early radio magazines, and early radio training courses.

Contact: Web: www.renovatedradios.com; Email: renradios@yahoo.com (Ed suggests contacting him via email).

Original Radio Knobs

Michael Koste is the guy you turn to when you're looking for original knobs, dial pointers, pushbuttons, or similar items for vintage TV, radio, ham equipment and test gear. Mike doesn't dismantle equipment to scavenge these knobs. Instead, most of his stock comes from bulk purchases, and he notes that learning where many of these knobs belong is an ongoing education. Email inquiries are welcome, but Mike encourages you to provide as much info as possible, such as photos (front and back) of the knob or button you're looking for, a description of what size or style shaft it fits, along with a dimensional reference, such as a dime, quarter, or ruler.

Contact: Mike Koste, Gobs of Knobs, 57 Tennis Avenue, Amber, PA 19002; Email: michael.koste@zurichua.net.



Here are a few examples of reproduction parts that Ed Schutz has made molds for and is currently making reproductions of. These rubber washers and grommets are used for chassis supports in many vintage radios. Almost all the originals have hardened and shrunk with age, or are missing.

Reproduction Radio Knobs and Philco Bezels

If Mike Koste can't supply an original knob, your next best bet is to contact Larry Bordonaro, the gentleman behind Old Time Replications. Larry can supply nice reproductions for many different vintage radio knobs, buttons and hook switches, and also station and tone inserts. Larry also offers reproduction 1941 and 1942 Philco faceplates. Note that Larry only lists the most popular items on his website, so if you don't see what you need listed, contact him via email and he may be able to help you or will refer you to someone who can.

Contact: Web: www.antiqueradioknobs.com; Email: oldtimerep@aol.com.

Vacuum Tubes

Alas, I could easily fill a full column with lists of good vacuum tube dealers. But, due to space limitations, I'll list a new supplier that others and I have had good luck dealing with. Meet Bob Dobush of findatube.com. Bob's website contains a very extensive list of new and used tubes at very competitive prices. He accepts checks, money orders, or PayPal.

Contact: Bob Dobush, 126 South Main Street, Wellington, OH 44090; Web: www.findatube.com; Email: bobtheatre@aol.com.

Vintage NOS Parts, Tubes, Battery Set Parts, Etc.

Gary Schneider's store is a treasure trove of vintage radio supplies and parts. Gary has a bit of everything, and I couldn't begin to list even a small fraction of his vast offerings. To find out what he's got, you must visit the website to search for an item, but the site is well organized and easy to navigate. Gary provides implicit instructions for ordering items on his website. Before inquiring about any item shown, please read and follow the directions shown.

Contact: Play Things of Past, Gary B. Schneider, 2324 Fawn Haven Drive, Medina, OH 44256; Phone: (330) 558-0247, 9 a.m. to 5 p.m. EST (goes to fax when not in); Email: gbsptop@aol.com; Web: www.olderadioparts.com. (Note that there is a www.olderadioparts.net website operated by Mark Oppat! Be careful of the possible confusion between their similar.com and .net domains.)

Phonograph-related Items and Dial Covers

Gib and Linda Epling are the folks behind West-Tech Services. West-Tech provides some unique services for phonograph- and radio-related repair. These services include crystal cartridge and record cutter head rebuilding, horseshoe magnet head repair, and coil rewinding. They also rebuild drivers for horn and cone speakers from the 1920s. Gib also handles wire recorder and record cutter and record cutter/radio restorations. Restoration of phono turntables, turntable reflocking, idler wheel restoration and rebuild services are offered as well.

Gib notes that he can service 1950 vintage Zenith (VM) Cobramatic units. Phono cartridges are available, and they have over 100,000 needles in stock! West-Tech is now also offering clear plastic radio dial covers.

Contact: West-Tech, 570 Hazelgreen Road, Smithville, WV 26178; Phone/Fax: (304) 349-2149; Web: www.west-tech-services.com/dial.htm; Email: westtechservices@yahoo.com. They are open 10 a.m. until 5 p.m. Monday through Friday.

Litz Wire

This is an odd category, but if you're interested in building serious crystal sets, high Q coils are a must, and the highest Q coils usually are wound using Litz wire! Unfortunately, there are only three or four places in the world where one can buy small quantities; *fortunately* Dave's website is one of them! If you need 660-strand 44-gauge Litz, this is the place to find it. I just ordered a spool 100/44 Litz for myself! A very modest selection of other crystal set-related materials is offered on the website. Be forewarned, the wire isn't cheap.

Contact: Web: www.ln34a.com;
Email: thefiercerabbit@ln34a.com. No telephone calls, all ordering and information should be done via email.

Speaker Reconing

For speakers needing a new cone or repairs contact Hank Brazeal, 3850 Galleria Woods Drive, Birmingham, AL 35244; Phone: (205) 403-6243.

Reproduction Tubes, Kits, and Parts

Bill Turner at dialcovers.com provides a fitting conclusion to our list of vintage radio-related suppliers. It's kind of hard to thumbnail Bill's offerings in a simple header; you'll just have to peruse the items shown on his website to appreciate his unique products. For example, Bill can provide a dial kit so you can make your own templates and, from there, make your own dial covers.

He also offers a large selection of multi-section filter capacitors, book and manual reprints, small radio kits and projects, and some very nicely executed vintage tube replacements. He makes substitutes for some of the more expensive audio output tubes, such as 50 and 45 vacuum tubes, and a plug-in adapter that permits using 1LA6 in place of 1L6 mixer tubes used in Zenith and RCA suitcase portables. All the Web prices include shipping.

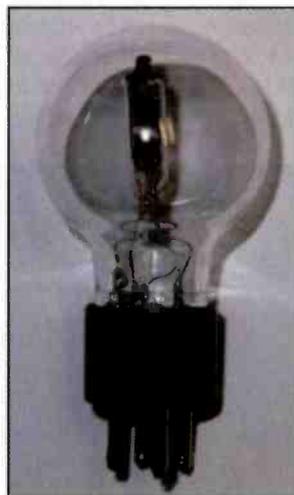
Contact: Bill Turner, 1117 Pike Street, St. Charles, MO 63301; Phone: (636) 949-2210; Web: www.dialcover.com;
Email: dialcover@webtv.net.

Good Things From Small Suppliers

Whew! That's quite a list! I hope at least one or two of these fine folks will be able to help out with your next restoration project. Until next time, keep those soldering irons hot, and those old tubes glowing. We'll be back in the March



Bill Turner is the creator of this WD-11 early battery set tube. The glass is silvered to look exactly like the getter flash of the original. A tiny subminiature battery tube is hidden inside the glass envelope.



Here's Bill Turner's reproduction of the Western Electric "tennis ball" tube! The small glass miniature triode tube is visible inside the globe glass envelope.

issue! Hey, that means the warmer weather is around the corner!

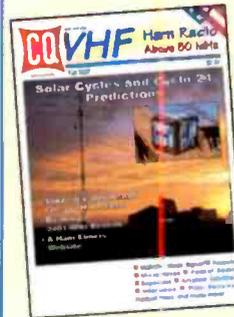
References

1. Radio Daze, LLC, 7620 Omnitech Place, Victor, NY 14564; Phone: (585) 742-2020, (877) 653-8823; Fax: (877) 456-6494; Web: www.radiodaze.com; Email: info@radiodaze.com.

2. Antique Electronic Supply, 6221 South Maple Ave, Tempe, AZ 85283; Phone: (480) 820-5411; Fax: (800) 706-6789; Web: www.tubesandmore.com; Email: info@tubesandmore.com.

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Do You Search? Great MilCom Frequencies Await

Have you got a scanner or two (or three) dedicated to searching the military frequency ranges? If you're a serious military monitor, you should. In my shack I dedicate a RadioShack Pro-2035 with an Opto-electronics OS-535 computer interface and Probe software for military searching, and I also use RadioShack's Pro-2004 and Pro-2006 scanners for general searches as well. Searching is an excellent way to find new things to monitor, and for the first couple of monitoring targets we're going to discuss this month, it's almost essential.

Helicopters, Helicopters, Where Are The Helicopters?

Flying over your house on a regular basis, probably. We're talking about those loud military choppers which seem to fly around with seeming regularity,

Helicopter Unicom	
123.025	Unicom (helicopters)
123.050	Unicom (helicopters)
123.075	Unicom (helicopters)

and which seem to be flying nowhere just for the heck of it. But what are they really doing?

They could be doing nearly anything. If you live near a major military base, you probably get this on a regular basis, and it's a part of the ongoing training our military forces conduct to keep themselves as ready as possible for anything they may be called upon to do. If you live near a National Guard base (as many of us do), they could be training, en route to provide humanitarian support at a disaster, providing security support at a large public event, or any of the many other activities the National Guard participates in.

But can you monitor them? Sure! Start with the frequencies for your local airport or military facility, as flights will generally have to call the local air control facility to obtain clearance for their flight. Also check the Unicom and Common Traffic Advisory Frequency (CTAF) frequencies for your area, as many heliports are uncontrolled. Choppers leaving these heliports will announce their flight intentions on the published Unicom or CTAF frequency for that facility or area. Finally, search the VHF low-band frequencies for activity, especially the 38- and 46-MHz ranges (see the boxed frequencies for some suggestions).

Bombs Away...

Tactical air controllers have a very challenging job, and one that can be fascinating for the scannist to monitor.

Tactical Air Controllers (TACs) are



CH-53 helicopters from Marine Heavy Helicopter Squadron 465 fly over MCAS Miramar on their return from Operation Desert Talon, a pre-deployment training exercise. (USMC photo by Lance Cpl. George J. Papastrat, courtesy of DoD/MarineLink)

VHF-Low Search Ranges

30.00–30.55	40.00–42.00
34.00–35.00	46.60–47.00
36.00–37.00	49.60–50.00
38.00–39.00	

soldiers, sailors, airmen, or Marines specially trained in the art of guiding close air support aircraft in to help the troops on the ground. The goal is generally to keep the bad guys as far away from the good guys as possible, but sometimes the bad guys get a little too close, and this is where the TAC really shines. TACs are carefully trained to guide aircraft in laying their ordinance as close as possible to friendly troops, causing maximum damage to the enemy while simultaneously causing as little harm (preferably none) as possible to the good guys.

Most airmen and sailors are not usually heavily trained in infantry tactics, as these special skills are not generally needed on an air base or at sea. Basic soldiering is all that's usually needed, but when you're a TAC, you're on the ground right alongside the troops you're helping. As such, TACs must be well versed in soldiering skills, and they train right alongside the troops as well.

TACs can be heard at camps and bases all over the country, any time training is in progress and close air support is called for. Your local base should have range control and other known frequencies used for training, so check those first. Also check the VHF-low frequencies (see "VHF-Low Search Ranges" box) for small infantry unit communications; while they may be using SINCGARS frequency-hopping radios, you might be surprised how much you'll hear on conventional frequencies and in the clear (unencrypted). Finally, UHF air frequencies may very likely be used as well, so try the known frequencies for your nearby military facilities.

Miramar MCAS/Mitscher Field

You've all seen *Top Gun* (who hasn't?), but what do you really know about the place where Maverick, Goose, Iceman, and Slider trained?

Opened as Camp Kearny by the U.S. Army in 1917, the facility was used as a training base, and after the Armistice, as a demobilization center. While it was not used as an airfield at that time, Army and



Tactical Air Controllers of the 1st Marine Regiment on Okinawa mark a target for a Huey helicopter firing a rocket (seen on the right in the photo). Scenes like this happen regularly at bases around the U.S., providing plenty of monitoring opportunities. (USMC photo by Cpl. Kamran Sadaghiani, courtesy of DoD/MarineLink)

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Tactical Air Controller Staff Sgt. Michael Huffman calls in an air strike in Iraq. (Photo by Staff Sgt. Shane Cuomo, courtesy DefenseLink)



Senior Airman Ricky Williams gets GPS coordinates for an air strike mission in Iraq. (Photo by Staff Sgt. Shane A. Cuomo, courtesy DefenseLink)

Navy aircraft did occasionally land on the parade grounds. Closed in 1920, the abandoned facility was later used by Charles Lindbergh for practice landings with his Spirit of St. Louis aircraft, built by Ryan in nearby San Diego.

The facility was used occasionally by the Navy during the 1930s for airship landings, but its real rebirth came just before World War II. Camp Holcomb (later Camp Elliott) was opened to be used for Marine artillery and machine gun training and became the West Coast training base for Fleet Marine Force. The runways were built in 1940, and in 1943, the Navy built

Miramar Frequencies

ATIS	352.0
Ground	128.625, 307.325
Tower	135.2, 298.925, 340.2
Approach/Departure	119.6, 132.2
Clearance Delivery	125.975, 254.325
Metro	342.4
Pilot to Dispatcher	335.625

Naval Auxiliary Air Station Camp Kearny for PB4Y Catalina training, and shortly thereafter the Marine Corps opened Marine Corps Air Depot Miramar. The two facilities were combined in 1945 into Marine Corps Air Station Miramar.

After the Marines moved to Marine Corps Air Station El Toro in 1947, the facility was renamed Naval Auxiliary Air Station Miramar and even though it became a Master Jet Station the facility began a slow decline, until the Vietnam War came along. Needing a facility to train pilots in the fine skills of air-to-air combat ("dogfighting"), the Navy created the Top Gun school in 1969, and for the next 27 years trained many a Naval Aviator in these skills.

Top Gun's days were numbered when the Defense Base Closure and Realignment Commission (BRAC 1993) proposed the closure of MCAS El Toro and MCAS Tustin. This recommendation was approved. Further realignment moved Top Gun to Naval Air Station Fallon, Nevada, in 1996, and the 3rd Marine Air Wing returned to Miramar in 1997, at which time the facility once again was named Marine Corps Air Station Miramar.

Miramar is an interesting place to visit if you happen to be in the area. Not only is the base home to the Flying Leathernecks Aviation Museum (open to the public), but also hosts the Miramar Air Show every October. The largest military air show in the country, this would definitely be worth a visit.

Hail And Farewell (Sort Of)...

And with that, kids, it's time to wrap up my stewardship of the "Military Radio Monitoring" column. It's been a blast, but it's time for me to move on so I'm going to take this opportunity to say goodbye...sort of.

I'll still be here, but I'll be moving over to take the helm of the "Plane Sense" column. So, I'm turning the MilCom reins over to my good friend Mark Meece. Mark is a well-known monitoring enthusiast in Southwest Ohio and is very well versed in military monitoring. He'll bring a great deal of experience and knowledge to the column and will be giving you great information for a long time to come.

More From The Last Look At The DoD *Flight Information Handbook*

As previously reported in this space, effective on October 1, 2007, the U.S. Department of Defense (DoD) Flight Information Publications (FLIP) have been moved to the National Geospatial-Intelligence Agency (NGA) NIPRNet site and are no longer accessible to the general public via the Web.

Last month, I discussed the specifics of this development and included a list of aeronautical HF stations taken from the last publicly available version of the DoD *Flight Information Handbook (FIH)*. I also promised that this month, I'd have a new listing of HF VOLMET (aviation weather broadcast) stations for you, also based on the information in this last publicly available *FIH* (see "Table. VOLMET Station Frequencies And Times").

VOLMET stations are stations that transmit aeronautical weather information. The name comes from a French term

that literally means, "flying weather." These stations transmit a looped message to provide the aircraft servicing specific airports around the world with timely information concerning visibility, temperature, wind speed, and direction, and other weather-related information. **Photo A** shows a typical VOLMET broadcast console, in this case belonging to the Hong Kong VOLMET station operated by the Civil Aviation Department of the government of Hong Kong. For good measure—and to give female radio operators equal and appropriate appreciation in this column!—**Photo B** shows the HF console used by the HF aeronautical station in Hong Kong (refer to last month's column for the frequencies on which to listen for it).

As you'll notice if you study the information in the table, often a frequency is shared by more than one VOLMET sta-

tion. Where this is the case, the stations alternate transmissions according to a set schedule, and the times are noted in the table. Many VOLMET stations also transmit information for certain airports during some transmissions and for other airports during other transmissions. This is also on a set schedule, but I didn't break down the listings in the table this way, since the table is for hobby use and not intended for flight operations anyway, and breaking the listings down that way would have made it more complicated than necessary for utility listeners. After all, it's the same station transmitting, regardless of which looped message it happens to be sending!

The nice thing about VOLMET stations is that they are among the handful of utility station types that routinely transmit on a known schedule, on a specified frequency, and at a specified time, so we



Photo A. Here's a look at the VOLMET radio console at Hong Kong VOLMET. (Courtesy Hong Kong Civil Aviation Department)

Table. VOLMET Station Frequencies And Times

ANCHORAGE

2863, 6679, 8828, 13282
H+25-30 & H+55-00

ANDERSEN

18002 2200-0700Z
13201 2000-0900Z
11176 H24
8967 H24
6738 0700-2200Z
4721 0900-2000Z
H+15 & H+45

ASUNCION

5601 0905-2315Z
10067
H+05
H+15

AUCKLAND

6679 H24
8828 H24
13282 H24
H+20+H-25

BANGKOK

11387 2310-1145Z
6676 H24
H+10-15 & H+40-45

BANGKOK INTL

2965 1210-2245Z
H+10-15 & H+40-45

BELJING

*13285 0000-1600Z
*8849
**5673
**3458
H+15 - H+20
H+45 - H+50
*Day
**Ngt

BEIRUT

3001 H24
5561 H24
H+15 & H+45

BRAZZAVILLE*

10057 0700-2000Z H+00 & H+25
10057 2000-0700Z H+30 & H+55
*English and French language

CALCUTTA

11387 H24
6676 (0300-1300Z)
2965 (1300-0300Z)
H+05-10 & H+35-40

COMODORO RIVADAVIA RADIO

4675 0900-2400Z
8938 0900-2400Z
H+30 & H+40

CORDOBA RADIO

5475 H24 H+25
8952 H24 H+25

DAMASCUS

2992 H24
5667 H24
8918 H24
13312 H24
H+30 & Special
H+00 & Special
H+00 & Special

EDMONTON MILITARY

6753 2300-1200Z EVEN HRS+20
15035 1200-2300Z, ODD HRS+20

EZEIZA RADIO

2881 H24
5601 H24
11369 H24
H+15 & H+01

GANDER

3485 H24 H+20-25
6604 H24
10051 H24 H+25-30
13270 H24 H+50-55 & H+55-60

HONG KONG

2863 H24 H+15-20
6679 H+45-50
8828
13282

HONOLULU

2863 H24 H+00-05
6679 H24 H+30-35
8828 H24
13282 H24 H+05-10 & H+35-40
H+25-30 & H+55-60

KARACHI

6680 H24
3432 1500-0130Z
10017 0130-1500Z
H+15 & H+45

LAJES

13244 1000-2100Z
8967 H24
6750 H24
H+00 & H+30
8070 1015-2315 H+15

MACDILL

18019 0900-2400Z
13244 0900-2400Z
11246 H24
8993 H24
6750 0001-0900Z
4746 0001-0900Z
H+15 & H+45

MONTEVIDEO

8873 1000-2100Z H+15 AFST CARRASCO
INTL.
5451
11387 H24
6676 H24
2965
H+25-30 & H+55-00

NEW YORK

3485 H24
6604 H24
H+00-05
10051 H24
13270 H24 H+05-20 & H+30-50

OAKLAND

2863 H24 H+05-10
6679 H24 H+35-40
8828 H24
13282 H24

RESISTENCIA RADIO

4675 H24 H+20 & H+50

ROYAL AIR FORCE

5450 H24
11253 H24
Broadcast of airfields is twice an hour in slot
times allotted as follows: 00/30, 06/36, 12/42,
18/48, 24/54

SALTA RADIO

5475 H24 H+15 & H+45

SHANNON

3413 SS-SR H+00
8957 H24
5505 H24
13264 SR-SS
H+05, H+10, H+15, H+20, H+30, H+35,
H+40, H+45, H+50

SINGAPORE

6676 1230-2230Z
11387 2230-1230Z
H+20 & H+50

SYDNEY

6676 H24
11387 H24
H+00 & H+30

TAIWAN

2880 H24
5010 H+07
12400

TRENTON (MILITARY)

15034 1000-0000Z
6754 2300-1100Z
H+10-15, H+15-20, H+20-25, H+25-30

TOKYO

2863 H24
6679 H+10-15 & H+40-45
8828
13282

YOKOTA

18002 0001-0800Z
13201 2100-1000Z
11236 H24
8967 H24
6738 0800-2400Z
4747 1000-2100Z
H+00 & H+30



Photo B. The HF radio console at the Hong Kong HF aeronautical station. (Courtesy Hong Kong Civil Aviation Department)

know when and where to tune if we want to try and log a particular station. We can also tell where the station we're hearing is located from the frequency and time of transmission, even if the signal is too weak to permit us to grab the station ID when the looped message says, "This is New York Radio out." What's more, these stations are scattered around the globe at known fixed locations, offering an insight into propagation conditions at any given time, especially since most of them transmit simultaneously on more than one frequency.

For those of us who understand English, it's also convenient that the "official" language of aviation generally is English. Therefore, most VOLMET stations' looped messages are in English (the exceptions are noted in the table) and easily understood by linguistically challenged listeners (such as your columnist) who are not fluent in other languages.

Because these stations transmit information concerning specific airports, it's also possible to distinguish between them by the airports being mentioned in the broadcast messages. For example, New York and Gander VOLMET stations share frequencies. Obviously they transmit at different times, but if you don't remember the scheduled times and don't

have this table handy, you may not know whether you're hearing Gander or New York at first. However, if you hear the station start giving weather information for the airport in Montreal, at that point you know it must be Gander, since New York VOLMET doesn't transmit information about the airport in Montreal. On the other hand, if the station is transmitting information about New York-Kennedy, Gander doesn't do that, so you know you're listening to New York.

Log Contents Explained

I recently got an email from a gentleman in Cincinnati who works for an agency that transcribes each issue of *Pop'Comm* into Braille so blind radio enthusiasts can enjoy it. Their efforts were being hampered by the fact that they themselves are not radio hobbyists and thus lacked any basic knowledge of the information that appears in the loggings submitted by our readers every month. While the glossary of abbreviations and acronyms addresses many of them, let's face it—I could fill all the space allotted for this column every month with explanations of the specialized "shorthand" that radio hobbyists use to record loggings for themselves and their fellow hob-

byists. This simply isn't feasible for us, any more than it would be for the *Journal of the American Medical Association* to publish a glossary of all the medical terminology used in its articles.

From time to time, though, it doesn't hurt to set aside some column space to explain some of the terms unique to our hobby so newcomers to utility monitoring can follow along with the rest of us—and so the more experienced among us are reminded that we, too, were new once (and probably had no idea what everybody else was talking about!).

One question the gentleman from Cincinnati asked had to do with acronyms, like AMVER and JSTARS, and military callsigns like REACH, KING, and TEAL.

AMVER (Automated Mutual-assistance Vessel Rescue) is a voluntary ship reporting system used for search and rescue. Its purpose is to facilitate identifying which ships on the waters might be in the immediate area of a vessel in distress so they can be sent to assist. The AMVER information regularly sent by ships during a voyage ensures that someone knows where a ship is at all times in case of an emergency.

JSTARS, sometimes called "Joint STARS," is a military acronym for Joint



Photo C. An E-8 JSTARS aircraft can dramatically alter the character of a battle on the ground without firing a single weapon itself. (USAF photo)

Surveillance and Target Attack Radar System. These are U.S. Air Force E-8C aircraft (see **Photo C**), a modified Boeing 707-300 airframe commercially remanufactured and equipped for ground surveillance, target detection, and tracking, and are equipped to interface with ground-based systems to give commanders on the ground a clear “picture” of the enemy/friendly situation. They’re operated by personnel from the 116th Air Control Wing at Robins AFB in Georgia, which is a fully blended wing of active duty and Air National Guard personnel (in fact, the first such wing ever). They can maintain mission profile for nine hours without refueling, and their on-station time can be increased substantially through in-flight refueling.

Operationally, JSTARS does for ground forces what an AWACS (Airborne Warning And Control System) aircraft does for air assets. In 1991, during the first Gulf War, the value of JSTARS was demonstrated with dramatic results, even before the JSTARS program had been fully implemented. A large advancing enemy force was detected, and subsequently decimated, thanks to an E-8 JSTARS aircraft, which was at the time still being manned by civilians from the development team.

It should be noted that while most of the time a logging is of one of the 17 existing E-8C aircraft (the operational production JSTARS configuration), there also exists a variant, designated TE-8A, which is a single aircraft with the operational equipment removed and is used for flight crew training.

Military callsigns are another animal entirely. Sometimes you can determine from the callsign what asset is being heard; sometimes not. Some military stations identify with a callword that changes every 24 hours at 0000Z, while others may use a static callsign assigned to a unit, facility, or mission. Callsigns like REACH, TEAL, KING, and many others usually have a numeric that goes along with them, such as KING 46, SHARK 23, TEAL 14, and RESCUE 6001. The numeric is often, but not always, derived from the aircraft’s tail number. For example, when you hear RESCUE 6001 on a U.S. Coast Guard frequency, you can safely assume that you’re hearing the USCG’s HH-60 helicopter, tail number 6001, and that it’s on a search and rescue, medevac, or other RESCUE mission (since the RESCUE callsign is used only then, never for training or other “routine” flights/operations).

REACH is a callsign used by assets of the U.S. Air Force Air Mobility Command. Sometimes the numeric of a REACH call

is derived from the aircraft’s tail number. However, there are some REACH numerics that are assigned to a specific mission, such as a regularly scheduled flight. Another such “generic” callsign is S4JG, which is a mission-security callsign assigned to U.S. Navy P-3 patrol squadron aircraft, primarily for use on the U.S. Air Force High Frequency Global Command System (HF-GCS) to avoid using the tactical callsign assigned to its mission. On the air, it is spoken phonetically—Sierra Four Juliet Golf—but we log it as S4JG.

There are countless other callsigns of this nature, including the ubiquitous (at least on the HF-GCS) MAINSAIL, a general-purpose callsign meaning “any station this net” that’s usually answered by an HF-GCS ground station, although on occasion I’ve heard requests for radio checks made with MAINSAIL answered by other aircraft (usually when someone has called MAINSAIL a few times with no response from a ground station).

With some callsigns, it’s almost impossible to tell just from the callsign what asset is using it. SHARK is a perfect example; it’s been used by F-16s, C-130s, A-10s, and USCG cutters. But sometimes it’s possible to identify the user of the callsign by context. Say, if an aircraft using SHARK comes up on the HF-GCS for a phone patch to the USSOUTHCOM “Coronet Oak Ops” at San Juan, Puerto Rico, you can safely assume it’s a C-130 on a Coronet Oak mission. On the other hand, if a station with the callsign SHARK is being called by an aircraft on a USCG tactical frequency, that particular SHARK is most likely a USCG cutter.

Other examples are callwords like VAGABOND, ABANDON, or SEMESTER (which all appear in this month’s logs) in use on the HF-GCS by stations who get a phone patch to another callword like PRESSCAR or MOLASSES (or calling MAINSAIL, presumably with the intention of doing so) and proceed to request a circuit on the *orderwire*, or are heard reading Emergency Action Messages (EAMs...the frequently heard coded alphanumeric messages prefaced with something like, “Alpha, Kilo, Two, Mike, November, Six, stand by...”).

The stations using these callsigns are assets of the U.S. Strategic Command. The orderwire is a digital high-priority voice/teletype communications system used by USSTRATCOM and coordinated on the ground at Offutt AFB. The called party will be the orderwire coordinator at Offutt, the calling party being E-4 or E-6 aircraft that are part of the National Airborne Operations Center’s “Nightwatch Net,” described in my September 2007 column.

As I said above, these callwords change every 24 hours at midnight UTC, and although the callsigns come from a pool of callsigns assigned to the mission and periodically get reused, it’s probably not the same station using a given callsign tonight that was using it when you heard the same callsign being used, say, two weeks ago.

Hopefully this has explained away some of the mystery surrounding these callsigns and acronyms. As for the folks in Cincinnati who must transcribe everything into Braille for their clients, here’s hoping I’ve been able to give you an even better understanding than my reply to your emailed request for information. And, by the way, I tip my Cincinnati Reds cap to you folks for the service you’re providing to our blind readers!

Our Readers Log In

Now that I’ve spent half my column basically *talking* about the logs our readers kindly submit each month, it’s time we actually get to looking at them. As usual, loads (and I mean C-17

Galaxy loads) of thanks go out to our friends on this month's list of contributors: Allan Stern, Satellite Beach, FL (ALS); Steven Jones, Lexington, KY (SJ/KY); Glenn Valenta, Lakewood, CO (GV/CO); Mark Cleary, Charleston, SC (MC/SC); Chris Gay, Lexington, KY; and a few from your columnist (JK/NY).

2872.0: Gander Radio wkg various A/C, altitude changes/VHF handoffs, in USB at 0759Z. (GV/CO)

3167.0: M0G and Z5T (USN vessels) in Link-11 coordination net, in USB at 0009Z. (MC/SC)

3448.6: UNID rptg "B000" in CW at 1425Z. (CG/KY)

3450.0: OK beacon, actually on 3449.86, in CW at 0748Z. (GV/CO)

3476.0: Gander Radio wkg "Continental 24" (Boeing B-757, Newark to Shannon) handed off to Shanwick's 3014, in USB monitored at 0522Z. (ALS)

3810.0: HD210A (Guayaquil Ecuador vestigial sideband time signal) in USB at 0721Z. (GV/CO)

4001.7: JA beacon, actually on 4001.75, in CW at 0734Z. (GV/CO)

4016.5: KKL, MarineNet Wireless, Republic R., WA w/idle marker and very occasional ID "CQ CQ CQ DE KKL," in CW+PACTOR-3 at 1100Z. (SJ/KY).

4028.0: Cuban ENIGMA V2a, female w/Spanish 5N groups, in AM at 0524Z. (SJ/KY)

4125.0: SECTOR ST. PETE wkg unid vessel in distress in USB at 2136Z. (MC/SC)

4149.0: Tug *MONITOR* WCX9104 checking in with WPE Jacksonville in USB at 0503Z. (MC/SC)

4149.0: WPE-Jacksonville (Crowley Maritime "Ruby") wkg various tugboats passing formatted status reports, positions, sea states, in USB from 0500Z-0520Z on numerous evenings. (ALS)

4149.0: WCX4149 and WPE Jacksonville with formatted reports in USB at 0604Z. (GV/CO)

4213.5: NOJ, USCG, Kodiak, Alaska w/idle frequency marker in CW/SITOR-A at 1034Z. (SJ/KY)

4721.0: JNR (Puerto Rico HF-GCS) clg UKE302 (RAF E-3D AWACS) in ALE USB at 0755Z. (MC/SC)

5004.5: NNN0EBC and NNN0IOF, U.S. Navy MARS Net in casual QSO about equipment, in USB at 1319Z. (SJ/KY)

Glossary Of Utility Terms And Acronyms

AFB—Air Force Base

ALE—Automatic Link Establishment, a link control system that includes automatic scanning, selective calling, sounding, and channel selection, without human intervention using processor control.

AM—Amplitude Modulation

ANDVT—Advanced Narrowband Digital Voice Terminal, a secure voice mode used by the military.

ATC—Air Traffic Control

CAMSLANT—Communications Area Master Station Atlantic, the U.S. Coast Guard's primary HF radio station for the Atlantic region, located at Portsmouth, Virginia.

CAMSPAC—Communications Area Master Station Pacific, the U.S. Coast Guard's primary HF radio station for the Pacific region, located at Pt. Reyes, California.

COMMSTA—Communications Station, for example: COMMSTA Kodiak, a communications station of the U.S. Coast Guard, located at Kodiak, Alaska.

CGAS—Coast Guard Air Station

Cut Numbers—The use of letters in place of numbers when sending a long string of numbers, for brevity's sake. This is often done by "numbers" stations, such as sending one long dash instead of five normal dashes to indicate a zero, or the letter N instead of the number nine, etc.

CW—Continuous Wave (Morse code)

DE—The Morse code operating prosign DE, meaning "from," as in DE NMN, meaning from station NMN

D-Layer Absorption—A phenomenon where the sun's rays ionize the D layer of the atmosphere causing it to absorb, rather than propagate (reflect/bounce), radio signals at certain frequencies.

Duplex—A means of radio communication where a station can both transmit and receive at the same time.

EAM—Emergency Action Message, coded instructions commonly sent by U.S. military stations. Despite the name, they usually aren't emergency traffic at all.

EHF—Extremely High Frequency (30-300 GHz)

FAX—Facsimile, a transmission mode used to send maps, charts, and other non-textual material.

FEMA—Federal Emergency Management Agency, a part of the Department of Homeland Security.

FM—Frequency Modulation

Ham Station—A licensed station operating in the Amateur Radio Service under the control of an operator who is licensed to operate the station.

HF—High Frequency (3-30 MHz)

LINK-11—Also called TADIL-A for TActical DIgital Link, a secure digital data mode used by the military. Utilizes a 16-tone data modem to allow assets to share digital information, such as radar data.

M/V—Merchant Vessel

NAS—Naval Air Station

Propagation—The means by which radio signals get from one place to another; some forms are quite simple (such as line of sight) while others are much more complex (such as EME, or earth-moon-earth).

QRM—Man-made interference to radio signals

QRN—Natural interference to radio signals, such as the static crashes often heard due to thunderstorms

QSO—A contact between two or more stations

QSY—Change frequency.

QTH—Location

RTTY—Radio Teletype

SELCAL—SElective CALling, a method for activating a radio or data terminal at one station without disturbing other stations that are monitoring the same frequency.

Simplex—A means of radio communication where a station may transmit or receive at any given time, but not do both at the same time.

SITOR—Simplex Teletype Over Radio, a transmission mode used to transmit text messages over radio. There are two SITOR modes: SITOR-A (also called AMTOR) uses Automatic Repeat Request (ARQ); SITOR-B uses Forward Error Correction (FEC).

SWL—Shortwave Listener, a person who enjoys listening to short-wave radio stations.

UHF—Ultra-High Frequency (300-3000 MHz)

USAF—United States Air Force

USB—Upper Sideband

USCG—United State Coast Guard

USMC—United States Marine Corps

USN—United States Navy

UTC—Coordinated Universal Time, formerly known as Greenwich Mean Time, and also commonly referred to as ZULU time and abbreviated as in 1200Z.

UTE—Utility Station

Utility Station—Stations transmitting material that is not intended for reception by the general public and is not originating from an amateur (ham) station.

VHF—Very High Frequency (30-300 MHz)

VOLMET—Station that transmits aeronautical weather information. Comes from a French term that literally means, "flying weather."

- 5058.5:** KX1 (FBI, Knoxville, TN) clg IPI (FBI, Indianapolis) in ALE USB at 1957Z. (MC/SC)
- 5388.5:** NK1 (FBI, Newark, NJ) clg QT1 (FBI, Quantico, VA) in ALE USB at 0702Z. (MC/SC)
- 5696.0:** US Coast Guard CAMSLANT Chesapeake wkg CG 1707 (CGAS Clearwater HC-130) airborne from CGAS Clearwater for a local training mission; CAMSLANT accepts guard, in USB at 2306Z; CAMSLANT wkg "RESCUE 05" (CAMSLANT to pass information to CG District 7), in USB at 0907Z. (ALS)
- 5708.0:** E30577 (E-3 AWACS) clg OFF (Offutt HF-GCS) in ALE USB at 2114Z. (MC/SC)
- 5711.0:** FREEDOM STAR passing space shuttle SRB splashdown posits to BRD in USB at 1551Z. (MC/SC)
- 5711.0:** Cape Radio (ETR Comms, Cape Canaveral AFS) wkg LIBERTY STAR (Space Shuttle Solid Rocket Booster retrieval vessel) supporting the STS-120 launch, in USB at 1320Z; BRD (Booster Recovery Director) wkg LIBERTY STAR and FREEDOM STAR (Space Shuttle SRB retrieval vessel) also supporting the STS-120 launch; comms re positioning the vessels during launch, in USB at 1417Z. (ALS)
- 5717.0:** Halifax Military wkg RESCUE 903 before QSY to 3047.0, in USB at 0007Z. (ALS)
- 5717.0:** RESCUE 903 p/p via HALIFAX MILITARY to RCC for SAR tasking at 2304Z. (MC/SC)
- 5732.0:** RDC (USCGC CAMPBELL, WMEC-909) clg HNC (USCGC HARRIET LANE, WMEC-903.) in ALE USB at 2351Z. (MC/SC)
- 5778.5:** R26609 (UH-60L) clg B1Z171 (1-171 AVN) in ALE USB at 1344Z. (MC/SC)
- 5875.0:** R00241 (CH-47D) clg R23614 (UH-60A) in ALE USB at 1326Z. (MC/SC)
- 5732.0:** US Coast Guard CAMSLANT wkg CG 6042 (MH-60J, CGAS Clearwater, deployed to OPBAT); reports on final at homeplate; guard secured, in USB at 0640Z. (ALS)
- 5732.0:** JULIET 09 (MH-60J, CGAS Elizabeth City) airborne for PAX pickup at Dare County Airport requests guard from CAMSLANT in USB at 1343; CG 1712 (HC-130, CGAS Clearwater) wkg CAMSLANT to report aircraft debris field, in USB at 2151Z. (MC/SC)
- 5851.5:** R23346 (UH-60A) clg T1Z137 (1-137 AVN OH ARNG) in ALE USB at 2232Z. (MC/SC)
- 6323.5:** NMC, USCG CAMSPAC, Point Reyes, CA w/idle frequency marker in CW/SITOR-A at 1003Z. (SJ/KY)
- 6326.0:** XSG, Shanghai R., China w/very weak idle frequency marker in CW/SITOR-A at 0957Z. (SJ/KY)
- 6501.0:** NMN (USCG, Chesapeake, VA) w/manually read Caribbean storm warnings and condx in USB at 0536Z. (GV/CO)
- 6586.0:** New York Radio wkg American 956 for position report "Kraft at 0829" in USB at 0829Z; also working Air Canada 091 for POSREP in USB at 0831Z, and wkg Air Transat 247 (told to contact 3455.0 at ODEAL fix) in USB at 0948Z. (ALS)
- 6640.0:** New York Radio wrk Saudi Air 021 in USB at 0715Z; also wkg Avianca 018 and providing routing, in USB at 0953Z. (ALS)
- 6676.0:** AXQ429, Australian VOLMET, Brisbane, Australia, female computer-generated voice with weather observations, sign-off with ID, in USB at 1104Z. (SJ/KY)
- 6715.0:** STANAG 5066 transmission at 1814Z. (MC/SC)
- 6721.0:** 48500033 (KC-10A, 305 AMW) clg ADW (Andrews HF-GCS) in ALE USB at 2059Z. (MC/SC)
- 6855.0:** UNID (ENIGMA V2A) YL/SS with 5-fig grps in AM at 2110Z. (CG/KY)
- 6911.5:** R26611 (UH-60L) clg B1Z171 (1-171 AVN) in ALE USB at 1351Z. (MC/SC)
- 6932.0:** UNID (ENIGMA M8A) with 5-fig cut nbr grps in CW at 2105Z. (CG/KY)
- 7361.5:** R26154 (UH-60A) clg T12 (12th Aviation Bn) in ALE USB at 2158Z. (MC/SC)
- 7527.0:** CAMSLANT wkg unIDed A/C giving posrep, in ALE and USB at 0544Z. (GV/CO)
- 7527.0:** PANTHER wkg CG 6042 (MH-60J) with instructions to conduct medevac off cruise ship LIBERTY OF THE SEAS, in USB at 2156Z. (MC/SC)
- 7650.0:** R24391 (UH-60A) clg T1Z137 (1-137 AVN OH ARNG) in ALE USB at 2310Z. (MC/SC)
- 7756.7:** Egyptian Ministry of Foreign Affairs or embassy w/brief t/c, very weak, in SITOR-A at 2347Z. (SJ/KY)
- 7811.0:** AFRTS Key West, FL w/BC problems, audio dropping out, in USB at 0520Z. (GV/CO)
- 8120.0:** Link-11 data transmission at 2210Z. (MC/SC)
- 8135.1:** Cuban ENIGMA M8a w/ machine-sent cut numbers in CW heard at 2325Z. (SJ/KY)
- 8156.0:** CORAL HARBOUR BASE (Royal Bahamas Defense Forces) in radio checks with C6R2066, in USB at 2208Z. (MC/SC)
- 8294.0:** WBN3011, Tug PILOT, wkg WPE Jacksonville, in USB at 2000Z. (MC/SC)
- 8332.0:** UnID non-EE QSO, both parties heard, in USB at 0454Z. (GV/CO)
- 8337.6:** SHARK 15 (USCG cutter) wkg DOLPHIN 79 (HH-65C) in USB at 2210Z. (MC/SC)
- 8379.0:** WCBP, LIBERTY STAR, 64,059-ton U.S.-registered bulk carrier w/MMSI and abbreviated ID "LSTR." in SITOR-A at 1238Z. 3FRG2, JOSE BREEZE, 16,155-ton Panama-registered chemical/oil products tanker w/MMSI and abbreviated ID "JBRZ," in SITOR-A at 1940Z. (SJ/KY)
- 8381.5:** Unid. vessel w/SELCAL MCQV (4620) for 9VG, Singapore R., in SITOR-A at 2320Z. (SJ/KY)
- 8384.5:** Unid. vessel w/extended t/c in Spanish re doing an Internet Google search, nothing heard on paired frequency 8424.5 kHz, in SITOR-A at 2313Z. (SJ/KY)
- 8385.5:** Unid. vessel w/SELCAL QVXV (2010) for XSG, Shanghai R., China, no contact, in SITOR-A at 0153Z. (SJ/KY)
- 8388.0:** ZCBD4, VALENCIA EXPRESS, 34,330-ton Bermuda-registered container ship w/AMVER/PR, 1,000 mi WNW of the Canary Islands, en-route to Cartagena, Columbia, arrive in 6 days, in SITOR-A at 0503Z; ELCI9, BRAUNSCHEWIG, 14,620-ton Liberia-registered vehicles carrier w/AMVER/PR, 110 mi NE of Norfolk, VA, in SITOR-A at 1729Z; H3NW, VEGA LEADER, 16,396-ton Panama-registered vehicles carrier w/MMSI, abbreviated ID "VEGA" and a variant of the old standard, "QUICK BROWN FOX" in SITOR-A several times around 0320Z and back at it 1030Z the next morning. (SJ/KY)
- 8433.0:** KSM, Maritime Radio Historical Society, Bolinas, CA w/BC of info on maritime training courses, in SITOR-B at 0025Z. (SJ/KY)
- 8439.2:** PBB, Dutch Navy, Den Helder, Netherlands w/idle channel marker "02A 04B 06A 08A 08B 12A 16A PBB" in 75 baud, 850 Hz ITA2 RTTY at 2141Z. (SJ/KY)
- 8400.0:** Unid. station idling for almost an hour, disturbed conditions w/pronounced differential fading of Mark and Space frequencies just 170 Hz apart, in SITOR-B at 2330-0025Z. (SJ/KY)
- 8763.6:** USCG marine weather broadcast, manually read and slightly off the published 8764.0 freq, in USB at 1728Z. (JK/NY)
- 8828.0:** ZKAK, Auckland, New Zealand VOLMET, just ending and Honolulu VOLMET just starting, both weak but readable in USB at 0525Z. (GV/CO)
- 8933.0:** Continental 751 with p/p via New York Radio to a physician concerning ill passenger on board. USB at 1915Z. (CG/KY)
- 8971.0:** GOLDENHAWK clg TRIDENT 43 (P-3C, VP-26) in USB at 2345Z. (MC/SC)
- 8980.0:** CG 2129 (HU-25, CGAS Cape Cod) p/p via CAMSLANT to District 1, in USB at 1454Z. (MC/SC)
- 8983.0:** RESCUE 2134 (HU-25, ATC Mobile) airborne with 5 POB en-route SAR off Tallahassee, FL, in USB at 1451Z. (MC/SC)
- 8983.0:** USCG CAMSLANT Chesapeake CG 2139 (HU-25 Falcon Jet, CGAS Cape Cod); posrep of 42-36 N, 69-12W (off lower New England coast), in USB at 2154Z; CAMSLANT wkg CG 2135 which announces departure with 5 SOB, pos. 22-29N, 72-53 W, IDs homeplate as CGAS Corpus Christi; CAMSLANT assumes radio guard in USB at 1330Z; wkg RESCUE 2128 which advises on final approach to Guantanamo Bay NS and secures guard, in USB at 1331Z; heard another evening wkg same a/c for flight following in USB at 1908Z. (ALS)

8983.0: CAMSLANT wkg CG 2102 (HU-25, CGAS Miami) for flight following in USB at 1920Z; also wkg CG 1502 (HC-130, CGAS Elizabeth City) for flight following in USB at 1922Z. (ALS)

8983.0: CAMSLANT wkg RESCUE 05 which passes a Florida boat registration number in USB at 2316Z; CAMSLANT later advises RESCUE 05 that Sector Key West requests that RESCUE 05 get more information (color/type/make of vessel, number of POB, depth of water, whether GPS-capable), in USB at 2330Z. (ALS)

8992.0: MAINE 87 (KC-135R, 101 ARW) wkg Offutt HF-GCS with request for current traffic, in USB at 2141Z. (MC/SC)

9007.0: WIZARD ALPHA (E-3 AWACS) p/p via TRENTON MILITARY to Radar Maintenance at Tinker AFB for troubleshooting, in USB at 2223Z. (MC/SC)

9025.0: 280057 (C-17A, 62 AW) c/g MCC (McClellan HF-GCS) in ALE USB at 2331Z. (MC/SC)

9035.0: Operaciones working an Avianca flight in SS in USB at 0457Z. (GV/CO)

9292.0: Two unid. males in simplex QSO in English, out of band fishermen complaining about equipment problems and possible repairs at Cape May, NJ, in USB heard at 2059Z. (SJ/KY)

10051.0: Gander VOLMET w/aero WX in USB at 1600Z. (JK/NY)

10993.6: DOLPHIN 96 (HH-65C) wkg SECTOR, reporting DMB dropped, in USB at 1506Z. (MC/SC)

11175.0: BOOT JACK p/p via Offutt HF-GCS to REAR DOOR for orderwire coordination regarding station SNOWFLAKE, in USB at 2029Z; REACH 4188 (KC-10A, 305 AMW) p/p to McGuire CP & Meteo in USB at 2329Z. (MC/SC)

11175.0: RANGER 309 (USMCKC-130T #162309 based at Ft Worth with VMGR-234) calls any station; no joy, in USB at 1908Z; Station Ascension wkg HAZARD 64 (C-130 #41667, Dyess AFB) for p/p to DSN number at Scott AFB, advises arrived at KLBB (Lubbock, TX) and departure to destination KSDF (Louisville, KY) in USB monitored at 2138Z. (ALS)

11175.0: HF-GCS Station Andrews wkg REACH 9060 (McChord AFB 62AW C-17A 99-0060) for radio check only in USB at 1701Z; Station Lajes wkg "REACH 142 (C-17A #99-0061, McChord AFB 62AW) for phone patch to DSN number at Scott AFB; then for 1700Z WX at GQNN (Nouakchott, Mauritania), in USB at 1127Z; Lajes REACH 591 for phone patch to TACC Metro; passes PIREP from near Gander, in USB heard at 1912Z. (ALS)

11175.0: HF-GCS Station Offutt wkg SAM 1920 (Andrews AFB 89AW) for radio checks on multiple radios, in USB at 1738; Offutt wkg JAKE 12 who requests message t/c; Offutt passes preamble to EAM, in USB at 1743Z; Offutt wkg "AMC Aircraft 1677 (prob Dyess C-130 74-1677) for radio check in USB

at 1745Z; Offutt wkr REACH 343 who requests 1900Z WX for CYYT (St. Johns, Newfoundland), in USB at 1749Z. (ALS)

11175.0: HF-GCS Station Offutt wkg RAIDER 22 for phone patch to unknown location, in USB at 1757Z; Station Offutt" wkg "LT 409" (P-3C, Jacksonville NAS VP-62 "Broad Arrows") for phone patch to DSN number and extension at Jax NAS, in USB at 2014Z; Offutt wkg SHARK 73 for p/p to DSN number for San Juan Coronet Ops, no answer, in USB at 1138Z. (ALS)

11175.0: HF-GCS Station Offutt wkg "JW150" (C-130T, Brunswick VR-62 "Nor'easters") for radio check, in USB at 2258Z; Offutt wkg SKULL 01; (B-52H, Barksdale AFB) for phone patch to DSN number at Barksdale; number busy, will call again later, in USB at 2030Z. (ALS)

11175.0: HF-GCS Station Offutt wkg OTIS 08 (KC-130J, Cherry Point MCAS VMGR-252) for phone patch to Cherry Point Metro; requests WX for 0130Z (thunderstorms!) in USB at 2024Z; Offutt wkg HUSKER 8018 (KC-135R #63-8018, Lincoln MAP, NE), a/c on ground; gets radio check in USB heard at 2042Z. (ALS)

11175.0: HF-GCS Station McClellan, then Station Lajes wkg vagabond for phone patch to DSN number of MOLASSES (Offutt AFB Orderwire Controller) re no contact on Orderwire, in USB at 1152Z; ABANDON (probable E-4 TACAMO) calling HF-GCS Station Andrews repeatedly with no joy, in USB at 2106Z; Station Puerto Rico wkg SEMESTER (E-4 or E-6 a/c) for phone patch to DSN number of Offutt AFB Orderwire Controller PRESS CAR, requests 7-Bravo turned on, in USB at 1150Z. (ALS)

11175.0: HF-GCS "Station Diego Garcia" test count in USB at 2310Z; Station McClellan with same at 2313Z. (ALS)

11175.0: SKULL 01 with p/p to SHOGUN via Offutt. Was told "clear to continue mission." Then into long discussion about if had adequate fuel to reach destination. SKULL 01 advised he was turning back. USB at 2110Z; N224N operating at KCPS St. Louis with rdo chk, answered by Andrews. USB at 2059Z; ANDREWS with 21-char EAM. Bad noise in xmitter. Parallel on 8992.0 with clean signal. USB at 2105Z. (CG/KY)

11205.0: SMASHER wkg EVERGREEN 423 for PAX count, in USB at 1616Z. (MC/SC)

11232.0: DARKSTAR PAPA (E-3 AWACS) p/p via TRENTON MILITARY to BEST DEAL with line code report in USB at 1536Z. (MC/SC)

11232.0: Trenton Military wkg "ASCOT 7045 (RAF E-3D AWACS), passes WX for various stations including EGPK (Prestwick); SELCAL BFLM, in USB at 1635Z; Also wkg RESCUE 232 for p/p to advise RCC a/c is RTB, in USB at 1701Z; and wkg CANFORCE 2634 (CC-130E, Trenton 8W) for unsuccessful SELCAL check on FMGH; requests METARs for MZBZ (Belize) and MMUN, in USB at 1720Z. (ALS)

11232.0: SENTRY 42 with p/p to Phoenix Tactics via Trenton Military, in USB at 1520Z; LF16 with p/p via Trenton Military, in USB at 1523Z. (CG/KY)

11330.0: NY Radio wkg American 1985 (Boeing 757, Philadelphia to Luis Munoz Marin IAP (TJSJ), San Juan PR) at FL370 for SELCAL check LMEQ in USB at 1414Z; NY radio wkg Jet Blue 733 (Airbus A-320, JFK AIP to Cibao IAP, MDST, Dominican Republic), at FL 320 for posrep and SELCAL check in USB at 1418Z; NY Radio working American 1375 for posrep then handing off to San Juan Center on 134.3 VHF, in USB at 1432Z. (ALS)

11330.0: NY Radio wkg aircraft N817AM for position report, approaching NUTRO, speed Mach .78, FL400, in USB at 1438Z; NY Radio wkg Jet Blue 755 at FL 370, in USB at 1442Z; NY Radio wkg American 115 for SELCAL check (AMIQ), a/c requests secondary freq and is passec. 8918.0, in USB at 1911Z. (ALS)

12359.0: Various vessels checking into Maritime Mobile Net for WX info regarding Tropical Storm Noel, in USB monitored at 1952 (MC/SC)

12479.0: YYIP, CARIBANA (former MAERSK SCOTLAND), 16,263-ton Venezuela-registered LPG tanker w/AMVER/FR for arrival at St. Croix in the U.S. Virgin Islands w/msg VSL ADRIFT WAITING FOR USCG AND CHEMICAL INSTRUCTION, in SITOR-A at 1803Z; S6DY, LACANDON (former OPAL STAR), 12,716-ton Singapore-registered chemical/oil products tanker w/MMSI and abbreviated ID "OSTR," started an AMVER/FR report but stopped abruptly before completion, in SITOR-A at 2122Z. (SJ/KY)

12482.0: 3FMN5, ATLANTIC LIBERTY, 281,559-ton Panama-registered very large crude carrier w/extended t/c to WLO, Shipcom R., Mobile, AL to establish an on-line service account, w/5-digit SELCAL 42093, vessel name and callsign, in SITOR-A at 1825Z. (SJ/KY)

12490.0: 3EEZ6, STAR FIRST, 13,300-ton Panama-registered refrigerated cargo ship w/AMVER/PR, 600 NE of the Dominican Republic, speeding along at 21 knots en-route to Rio Haina on the island, arrive there in 40 hours, complete ID including INMARSAT number, MMSI and abbreviated ID "FIRS," in SITOR-A at 1651Z; A6E2922, ZIRKU, 105,846-ton United Arab Emirates-registered crude oil tanker w/AMVER/PR, 25 mi S of the Florida Keys, included 5-digit vessel SELCAL 63468 and abbreviated ID "ZRKU," in SITOR-A at 1926Z; heard again 3 days later on 16696.5 kHz. (SJ/KY)

12510.5: Unid. vessel w/SELCAL QVXY (2017) attempting to raise XSQ, Guangzhou R., China, good signal, tried repeatedly over 20 minutes without luck, in SITOR-A at 2040Z. (SJ/KY)

12631.0: KSM, Maritime Radio Historical Society, Bolinas, CA w/BC on maritime per-

sonnel safety footwear reimbursement program, in ITA2 RTTY at 45 baud/170 Hz at 2150Z. (SJ/KY)

13089.0: Automated OM/EE mar WX BC, prob USCG, strong here, weak/barely readable on parallel frequency 6501.0, in USB at 1555Z. (JK/NY)

13174.5: KKL, MarineNet Wireless, Republic R., WA w/idle channel marker and occasional CW ID, CW+PACTOR-3 at 2345Z. (SJ/KY)

13363.5: R. Continental, Buenos Aires, Argentina, BC station program feeder, Spanish talk and music, in LSB at 2350Z. (SJ/KY)

13988.5: JMH4, Japan Meteorological Agency, Tokyo w/weak chart on new frequency here, replacing 13597.0 kHz, FAX at 2351Z. (SJ/KY)

13909.0: "Terra 5" (Northrop Grumman JSTARS Ground Station, Melbourne FL) wkg "WIZARD (JSTARS E-8 test bed acft) for JTIDS testing, in USB at 1605Z. (ALS)

13927.0: USAF MARS Operator AFA1YD wkg SUMIT 25 (C-130H, Peterson AFB 302AW) over Oklahoma for M&W phone patch, in USB at 1925Z; AFA2MH wkg "Aircraft 04" for p/p to Pittsburgh CP, advises AR complete, ETA Pittsburgh 2200Z, in USB at 2050Z; AFA1YV (Binghamton, NY) wkg REACH 5002 (C-5B, Dover AFB 436AW) for several M&W phone patches for folks who have been overseas a while; headed to Colorado, in USB monitored at 1943Z. (ALS)

13927.0: AFA1QW (Greenwood, IN) wkg tanker ETHYL 20 for phone patch to Command Post; unable to offload fuel to receiver, needs to burn off gas to land within gross weight limit; is burning about 16,000 pounds per hour; is two hours out; CP says they will be monitoring HF freq 6761.0, in USB at 1625Z. (ALS)

13927.0: USAF MARS Operator AFA2CU (VA) wkg SENTRY 50 (AWACS, Tinker AFB) for p/p to DSN number of Tinker AFB CP, passes formatted line report, in USB at 1850Z; AFA1MH (USAF MARS, Liverpool, OH) wkg NNN0177 (US NAVMARCORP MARS) for M&W patch in USB at 2128Z; AFA1YV wkg EVAC 79283 (C-130H #87-9283, MN-ANG 934AW) for p/p to Travis CP; passes ETA, in USB at 2133Z. (ALS)

13927.0: USAF MARS Operator AFA6PF (Los Angeles) wkg AF RESCUE 976 (Patrick AFB 920RQW HC-130 #65-0976) for phone patch to Patrick AFB King Ops, in USB at 1926Z; AFA6PF wkg HAPPY 51 (Scott AFB 126ARW KC-135) who reqsts score of Chicago Bears football game, in USB at 1833Z. (ALS)

13927.0: AFA6PF wkg AF RESCUE 976 for phone patch to Patrick King Ops; a/c has problem, but is going to refuel and continue with mission, in USB at 1849Z; Same a/c hrd again at 1925Z discussing overheat problem, still wants to refuel and continue mission; during refuel stop Rescue Ops will contact USCG and RCC and determine if 976 should RTB; landed at Patrick shortly afterward, not sure why he was using HF to contact Ops, since he had to be close; maybe UHF/VHF radios inop. (ALS)

13927.0: REACH 1190 (C-17A #01-0190, Charleston AFB 437AW) over Dallas-Ft Worth TX, via USAF MARS for M&W phone patches; acft is westbound, in USB at 1642Z; ETHYL 91 via USAF MARS for p/p to commercial number at McGuire AFB, in USB at 1956Z. (ALS)

13927.0: AFA1QW (Greenwood, IN) wkg KING 64 (HC-130P #64-14864, Patrick AFB 920RQW), over Cocoa Beach FL moments after departure from Patrick AFB, for p/p to DSN number for Robins AFB "Gunrunner" and passes departure msg in USB at 1655Z.

13927.0: AFA6PF wkg SAM 1908 (acft out of Andrews AFB 89AW) for radio check in USB at 1852Z; AFA6PF wkg STRIKESTAR (E-8C JSTARS, Robins AFB) for phone patch to Barksdale Red River Ops, in USB at 2134Z; AFA6PF wkg REACH 277, for M&W phone patch; leaves msg, "Will be back at Travis at 7:50 PM local" in USB at 2325Z. (ALS)

13927.0: AFA1YD (West Point, OH) wkg DERBY 70 (KY-ANG C-130, Louisville, KY) for phone patch; they QSY to 4157.0 but DERBY 70 cannot be heard there, in USB at 1855Z; AFA1YD wkg

PITT 09 over Bahamas for p/p to a Connecticut number, in USB at 1929Z. (ALS)

13927.0: AFA6AY wkg THUNDERBIRD 14 for p/p to New Orleans Hilton Hotel; makes reservations for 8 people at Riverfront at Military rate (\$131.00, \$136.00 with breakfast); passes names of all 8 persons, in USB at 2155Z; AFA6PF wkg REACH 383T in USB at 1813Z. (ALS)

13927.0: AFA1QW wkg GOFER 04 (C-130H, MN-ANG, Minn-St Paul) for M&W phone patch to Clearwater, FL area code in USB at 1414Z; AFA3HS (Kansas City) wkg REACH 853 (over southern Europe) for M&W phone patch to WV Area Code in USB monitored at 1448Z. (ALS)

13927.0: AFA3HS (Kansas City) wkg ADOBE 92 (Coronet Mission tanker over the Pacific 500 miles W of California) for phone patch to DSN number at Travis AFB; reports inbound, in USB at 1500Z; AFA2XZ (Salt Springs, FL) wkg EVAC 66162 (C-17A 06-6162, Travis AFB 60AMW over North Atlantic) for M&W phone patch in USB at 1636Z. (ALS)

13993.0: MARS activity, two MARS stations in QSO with one reading off a list of MARS callsigns, in USB at 1547Z. (JK/NY)

15036.0: Two unid. stations in QSO w/poor handsent CW at 2201Z. (SJ/KY)

16685.5: C6FX9, *DOLE COSTA RICA*, 11,800-ton Bahamas-registered container ship w/AMVER/PR, 70 mi SW of Puerto Vallarta, Mexico, sailing on regular run to San Diego, CA at 17 knots with a load of fresh fruit, arrive in 4 days, in SITOR-A at 1835Z; DSNX3, C IRIS, 71,393-ton South Korea-registered bulk carrier w/MMSI and abbreviated ID "CIRS," in SITOR-A at 2002Z. (SJ/KY)

16689.0: Unid. vessel w/garbled AMVER report to NRV, USCG, Apra Harbor, Guam, in SITOR-A at 2125Z. (SJ/KY)

16696.5: GDRJ, *PACIFIC SANDPIPER*, 3,775-ton United Kingdom-registered nuclear fuel carrier w/AMVER/DR and 5-digit SELCAL 47700, 125 mi SW of Cabo San Lucas, Baja California, Mexico, sailing on course 117 for Panama Canal transit, in SITOR-A at 1514Z; A6E292Z, *ZIRKU*, 105,846-ton United Arab Emirates-registered crude oil tanker heard 3 days earlier on 12490.0 kHz but having operator problems this freq; first sent a complete 26 day-old JASREP/FR for arrival in Niigata, Japan, followed by attempted correction w/wrong date, quickly stopped and finally got it right w/AMVER/FR for arrival in Corpus Christi, TX, in SITOR-A at 1832-1840Z; ZCBP6, *MISSISSAUGA EXPRESS* (former *CANMAR PRIDE*), 40,881-ton Bahamas-registered container ship w/AMVER/PR 450 mi SW of Ireland, included MMSI and abbreviated ID "CAPR," en-route to Montreal, Canada, arrive in 5 days, in SITOR-A at 1806Z; 3ECG9, *VICTORIA BRIDGE*, 65,100-ton Panama-registered container ship w/MMSI, abbreviated ID "VCTB" and OPR request for assistance, in SITOR-A at 1920Z. (SJ/KY)

16804.5: SVIQ, *SYMPHONIC*, 298,000-ton Greece-registered very large crude carrier w/routine Test msg to ZSC, Cape Town R., South Africa, in GMDSS Digital Selective Calling at 1835Z; SYDF, *TRIATHLON*, 164,497-ton Greece-registered crude oil tanker w/Test msg to SVO, Olympia R., Athens, Greece, DSC at 1846Z. (SJ/KY)

16820.0: IAR, Rome R., Italy w/idle frequency marker in CW/SITOR-A at 1620Z. (SJ/KY)

17144.5: NMG, USCG, New Orleans, LA w/computer-generated male voice WX forecast, in USB at 2140Z. (SJ/KY)

17359.0: SVO69, Olympia R., Athens, Greece w/standard voice marker, female in Greek and English, in USB at 1700Z. (SJ/KY)

17435.0: Cuban ENIGMA V2a, female w/5N groups in Spanish, very strong signal, in AM at 1731Z. (SJ/KY)

17435.0: UNID YL/SS (ENIGMA V2A) with "tres" several times, then "atencion" followed by 15-fig callup, then into 5-fig grps. 1 kHz lower than usual freq. After about 20 minutes, voice began cutting out causing numbers to be jumbled up. AM at 1700Z. (CG/KY)

22383.5: WLO, Shipcom R., Mobile, AL w/idle frequency marker, CW/SITOR-A until past 0330Z. Sunspots! (SJ/KY)

DRM+ is a narrow-band digital radio system and could gradually replace analog FM radio in the future. DRM+ is appropriate for the transmission of local and sub-regional single program offerings, although it can obviously be extended to nationwide coverage as a single-frequency network.

Digital Radio Market To Experience Global Market Growth

The worldwide digital radio market is on a roll, with unit sales expected to increase more than three-fold from 2006 to 2011, reports In-Stat, a provider of research, market analysis and forecasts for advanced communications. Recent developments include the availability of the new, enhanced Digital Audio Broadcasting (DAB+) standard in the UK, an increase in the number of DAB trials throughout Europe and Asia, and the introduction of mobile devices with integrated DAB support, the high-tech market research firm says.

Recent research by In-Stat found the following:

- The global market for digital radio will grow from 9 million units in 2006 to almost 32 million units in 2011.

- In 2005, 57 percent of respondents to an In-Stat consumer survey in the United States were aware of HD Radio. This percentage had grown significantly to 77 percent by 2007.

- Increased choice of programming continues to be the primary driver of digital radio ownership.

Sirius, XM Shareholders Back Satellite Radio Merger

Shareholders of both XM and Sirius satellite radio have voted in favor of a planned \$5.1 billion merger of the two rivals that still needs approval by the U.S. government. Shareholders of Sirius Satellite Radio, Inc., approved the issuance of stock to help the company pay for the acquisition of rival XM Satellite Radio Holdings.

"We remain optimistic that the merger will be approved by the end of the year," XM said in a statement.

Traditional broadcasters have objected to the merger of the only two satellite broadcasters as anti-competitive. But XM and Sirius say they compete not only against each other but also against traditional radio and portable audio devices.

readers' market

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(He's Got To Be Making This Up!)

The first thing of interest I learned today was that my boss was elected constable of his township, but had to resign the post because it would have required him to leave his present position (an HPJIE*) where he has me as a loyal employee. Shades of Barney Fife.

Our chief engineer decided to write in his own name on the ballot for constable of his township (and there's no way I'm telling you where that is...) and, unknown to him, so did his wife. This was kind of a lark, because there was no one running for that office, so he thought it would be nice to tell people he got a vote once in an election. Trouble was, he got *two* votes in that election, and so did one other person. That's right—there was a tie. *Two* people each got two write-in votes, and the township decided the outcome by tossing a coin, and although my boss won, and held the position of constable for five days, he had to stop by the town hall this morning and resign his position, because he preferred to keep—you guessed it—his HPJIE!

You might be wondering (fat chance) just what does a person do in an HPJIE? I'm glad you asked. Today, I drove through about two hours of traffic to sit at a federal government agency and wait for a cable company (an *un-named* cable company, lucky for them) technician to show up. I was told he'd be there between 9:00 and 11:00 a.m. I was also told about the Easter Bunny, but not in the same sentence. He arrived at about 3:00 p.m.

He only had to remove a cable modem and install a new one, something requiring like three plugs if you count the AC adaptor. It took about an hour and a half. Jackie Gleason never had such a comedy of errors. It did my heart good to see someone else with an HPJIE botch things even worse than I do.

My purpose, by the way, was to represent our company, which was his customer, as we have a phone line in this government agency so we can stream some television coverage of some of their activities onto the Internet. I was paid for sitting in an overstuffed chair (quite appropriate for an overstuffed techie) and *waiting* from 9:00 a.m. until 3:00 p.m., then observing him swap modems. It was a tough job, but someone had to do it. Actually, I did have to move an equipment rack and crawl behind it to swap a CAT-5 cable. Almost broke a fingernail on that one.

So—you want another communications story? I seem to just walk right into them.

Last week I attended a harmonica convention (stop laughing, there really *are* such things) in an un-named state just east of Pennsylvania. The event was held at a hotel which had been a Holiday Inn, but was changing its affiliation (and name) and they had taken their old sign down, but had not yet put up a new one. Not only did this cause us a whole lot of consternation when we tried to find the place—which had absolutely *no* sign at all—but imagine later on, when we lost our way through the maze of concrete which that state calls *streets*, and stopped to ask directions back to our hotel.

"What hotel is it?" they asked us.

"We don't know."

"Well, how do you expect me to know where it is?"

And that's how it went for several interludes, when we *could* find someone who spoke a little English. *Cool Hand Luke* had nothing on us when it came to a "failure to communicate."

So, with cell phone firmly in my left hand, I pressed 411 (and then 1 for English) and a recording asked me "What city and state, please?"

I had no idea. The flier for the event, printed from an e-mail attachment, had only told us what routes to take and what exits to use, then what turns to make (and there were plenty of them). Eventually, a live operator came on and asked "What city and state, please?"

I don't embarrass very easily, but I didn't know how to tell her that I didn't know. "Ma'am—if I tell you what exit off the parkway we took, would you know what town that was?" I asked.

"Sir, I'm in Ohio. I still don't even know what state you're in. Can you at least tell me the state?"

I told her. Then she asked me, "And what city?"

I said, "Ma'am, I honestly don't know. I want to call the hotel so we can get directions back to the hotel. We're lost. I don't even know what town we're in now."

"Could you ask someone what town you're in, and then I can look for the hotel in nearby towns?" she said.

"Oh, sure. Why didn't I think of that?" I rolled down the window (I was riding shotgun) and asked a pedestrian what town we were in and, yes, I felt really stupid asking such a question. He told me, and I told the operator.

"Good. Thank you. Now all I need is the name of the hotel and I'll start looking for it in the nearby towns. What's the name of the hotel, please?"

"It doesn't have a name," I said.

This was met with silence. Finally, the operator spoke and said that she needed the name of the hotel or she couldn't look it up, and surely I knew the name of the hotel I was staying at, etc. I told her it used to be a Holiday Inn.

"It *used to be* a Holiday Inn?" she asked.

"Yes. They changed their name."

"To *what*?"

"I don't know. They didn't tell me. They took their old sign down and they haven't put a new one up yet."

"Sir, do you have your room key with you?"

"Yes."

"Will you look on it to see the name of the hotel, please?"

"It just says NASCAR and has a picture of a race car on it, and an arrow to show which way to put it into the slot."

"Could it be the NASCAR hotel?" she asked.

"No. I'm sure it's not."

"Sir, I've got to let you go now. There's nothing I can do to help you. I do hope you find your hotel. Have a nice evening. Thank you for using XYZ 411"

Eventually we found some guys hanging around a gas station telling jokes, and we asked them if they wanted to hear a really good one. After we told them, we described the hotel and its surroundings and one of them knew where it was and offered to lead us there. We followed him with some trepidation but were relieved when we saw our hotel and knew that we were not the victims of yet another cruel joke.

*High-Paying job in electronics

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