Radio–Homeland Security–Computers & Radio–Family & Hobby Comms

45635

POPULAR COMMUNICATIONS

MARCH 2006

Top Guns & Speed—

On-The-Edge Precision: Coming To An Airshow Near You!

- You Can't Visit Cuba, But You *Can* Bring Cuba Into Your Living Room pg. 22

- Headed To Florida? Bring These Aircraft Frequencies pg. 50

A TOUGH RADIO FOR A TOUGH WORLD!

The ruggedly-built new FT-1802M brings you Yaesu's legendary mechanical toughness, along with outstanding receiver performance and crisp, clean audio that will get your message through!

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- Extended Receive: 136 – 174 MHz.
- Keyboard entry of frequencies directly from microphone.
- Illuminated front panel keys for nighttime use.
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- Automatic Repeater Shift (ARS), Automatic Power-Off (APO), and Busy Channel Lock-Out (BCLO) features.
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Specifications subject to change without notice. Some accessories and/or options may be standard in certain areas. Frequency coverage may differ in some countries. Check with your local Yaesu Dealer for specific details.

Universal Radio — Quality equipment since 1942.

ICOM

R75

Universal Radio is pleased to continue to offer the **ICOM R75** receiver. With full coverage from 30 kHz to 60 MHz; all longwave, medium wave and shortwave frequencies are supported plus extended coverage to include the 6 meter amateur band. Some of innovative features of the R75 include: Synchronous AM Detection, FM Mode Detection (but not the FM broadcast band), Twin Passband Tuning, Two Level Preamp, 99 Alphanumeric Memories, four Scan Modes, Noise Blanker, Selectable AGC (FAST/SLOW/OFF), Clock-Timer, Squelch, Attenuator and backlit LCD display. Tuning my be selected at 1 Hz or 10 Hz steps plus there is a 1 MHz quick tuning step plus tuning Lock. The front-firing speaker provides solid, clear audio. The back panel has a Record Output jack and Tape Recorder Activation jack. The supplied 2.1 kHz SSB filter is suitable for utility, amateur, or broadcast SSB. However, two optional CW/SSB filter positions are available (one per I.F.). The formerly optional **UT-106 DSP** board is now included and factory installed! A truly a great value. *Order #0175* **Call for price.**

ICOM

PCR1500

The Icom PCR1500 wideband computer receiver connects externally to your PC via a USB cable. This provides compatibility with many computer models, even laptops. Incredible coverage is yours with reception from 10 kHz to 3300 MHz (less cellular gaps). Modes of reception include AM, FM-Wide, FM-Narrow, SSB and CW. (CW and SSB up to 1300 MHz only). The PCR1500 comes with an AC adapter, whip antenna, USB cable and Windows 98SE/ME/2000/XP™ CD.

This device has not been approved by the F.C.C. This device may not be offered for sale or lease or be sold or leased until approval of the F.C.C. has been obtained. The information shown is preliminary and is subject to change

R3

The **R3** tunes 500 kHz to 2450 MHz (less cellular) in AM, FM-W, FM-N and TV via a 2 inch TFT color TV screen. You can receive regular TV [NTSC], and you may be able to see certain video feeds and ham radio Fast Scan TV. A second mono LCD display that can be used to conserve battery life. You get: 450 alpha memories, 4-step attenuator, bandscope, video and audio outputs and auto power-off. Comes with Li-Ion battery, charger, belt clip and BNC antenna. **Call**

R20

The new R20 covers an incredible 150 kHz to 3304.999 MHz (less cellular) with 1250 alphanumeric memories, bandscope and SSB/CW. It has: two VFOs, dual watch, voice scan control, NB, large two line LCD and CTCSS/DTCS/DTMF. A built-in IC **audio recorder** can record 1, 2 or 4 hours of reception! This radio comes with charger, Li-ion battery, belt clip and wrist strap. More info on website. **Call**

R5

The **R5** covers 150 kHz to 1309.995 MHz (less cellular gaps) in: AM, FM Narrow and FM wide. 1200 memories store: frequency, mode, step size, duplex direction and offset, CTCSS tone, tone squelch and skip settings. Other features include: attenuator, LCD lamp, AM ferrite bar antenna, auto power off, CTCSS decode, weather function and battery save. A great value at under $200.00. **Call, or visit website for price.**

ICOM

IC-7000

The ICOM 7000 represents the next generation in all-mode HF/VHF/UHF transceivers. DSP at the IF level is the cornerstone of this impressive new multi-bander. In fact, the 7000 employs two DSP chips to work its magic. Imagine having 41 bandwidths available - standard! You can even select sharp or soft filter shape. And variable twin PBT allows you to either narrow the IF passband, or shift the entire passband to eliminate QRM. The IC-7000 has an incredibly versatile and capable **shortwave receiver**. It would be difficult to find a more impressive receiver in such a small package. Yes, there is tremendous power "under the hood", but the radio is also downright gorgeous. The 2.5 inch (diagonal) color TFT presents numbers and indicators in bright, concentrated colors for easy recognition. You can choose from three background colors and two font styles. Not only does this display provide radio status, but it also supports a two-mode band scope. In the Center Mode the scope is centered on the receiving frequency. In the Fixed Mode the scope sweeps a fixed range. The Digital Voice Recorder (DVR) function has a front panel REC control that allows you to record incoming signals for up to 25 minutes. Other features include: a detachable control head (requires optional separation cable), 503 memories, S/PWR/SWR meter, RIT, Preamp, RTTY Demodulator, Attenuator, Bass & Treble, adjustable SSB bandwidth, DTMF memory, VOX, full break-in and adjustable CW pitch. Requires 12 VDC at 22 amps for transmit but only 2 amps for receiving. *Order #0700* **$1499.99**

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- Special offers are subject to change.
- Returns subject to a 15% restocking fee.
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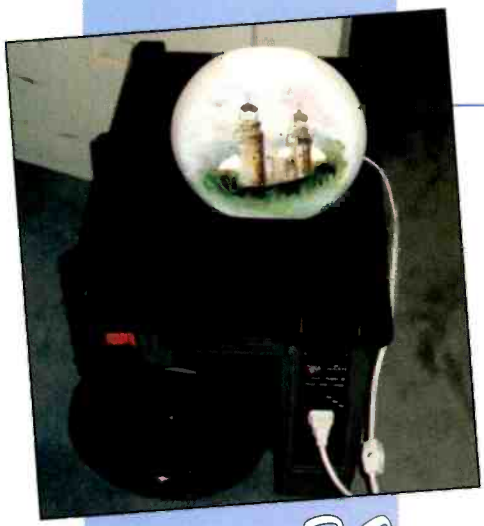

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Features

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On The Cover

Hold your breath, grab that scanner and get ready to see all six Blue Angels, performing an Inverted Bomb Burst maneuver. This precision maneuver and many more are on tap at an airshow near you. To get you ready for this year's excitement, writer Gary Palamara presents an exclusive look at the Navy's Blue Angels beginning on page 8. *(Photo by Gary Palamara)*

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Tap into secret Shortwave Signals

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

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

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

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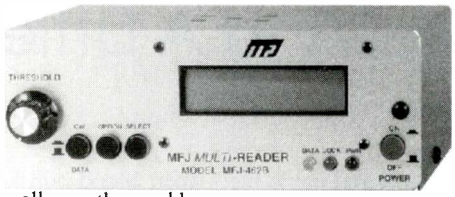
Copy RTTY weather stations from Antarctica, Mali, Congo and many others. Listen to military RTTY passing traffic from Panama, Cyprus, Peru, Capetown, London and others. Listen to hams, diplomatic, research, commercial and maritime RTTY.

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

Monitor Morse code from hams, military, commercial, aeronautical, diplomatic, maritime



-- all over the world -- Australia, Russia, Japan, etc.

MFJ-462B **$179.95**

Printer Monitors 24 Hours a Day

MFJ's exclusive *TelePrinterPort*™ lets you monitor any station 24 hours a day by printing transmissions on an Epson compatible printer.

Printer cable, **MFJ-5412**, $9.95.

MFJ MessageSaver™

You can save several pages of text in an 8K of memory for re-reading or later review.

High Performance Modem

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

Easy to use, tune and read

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

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

It's easy to read -- the 2 line 16 character LCD display with contrast adjustment is mounted on a brushed aluminum front panel for easy reading.

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

Use 12 VDC or use 110 VAC with MFJ-1312B AC adapter, $12.95. 5¼Wx2½Hx5¼D inches.

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You get MFJ's famous one year *No Matter What*™ limited warranty. That means we will repair or replace your MFJ *MultiReader*™ (at our option) *no matter what* for one full year.

Try it for 30 Days

If you're not completely satisfied, simply return it within 30 days for a prompt and courteous refund (less shipping). Customer must retain dated proof-of-purchase direct from MFJ.

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

Receives strong, clear signals from all over the world. 20 dB attenuator, gain control, ON LED. Switch two receivers and auxilary or active antenna. 6x3x5 in. Remote has 54" whip, 50 feet coax. 3x2x4 inches. 12 VDC or 110 VAC with MFJ-1312, $12.95.

MFJ-1024 **$139.95**

Indoor Active Antenna

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

MFJ-1020C **$79.95**

Tuned circuitry minimizes intermod, improves selectivity, reduces noise outside tuned band. Use as a preselector with external antenna. Covers 0.3-30 MHz. Tune, Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip. 5x2x6 in. Use 9 volt battery, 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

Compact Active Antenna

Plug this *compact* MFJ all band active antenna into your receiver and you'll hear strong, clear signals from all over the world, 300 KHz to 200 MHz including low, medium, shortwave and VHF bands. Detachable 20" telescoping antenna. 9V battery or 110 VAC MFJ-1312B, $12.95. 3⅛x1¼x4 in.

MFJ-1022 **$49.95**

Eliminate power line noise!

MFJ-1026 **$179.95**

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

MFJ Antenna Matcher

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

MFJ-959C **$99.95**

Preamp with gain control boosts weak stations 10 times. 20 dB attenuator prevents overload. Select 2 antennas and 2 receivers. 1.6-30 MHz. 9x2x6 in. Use 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

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High-gain, high-Q receiver preseletor covers 1.8-54 MHz. Boost weak signals 10 times with low noise dual gate MOSFET. Reject out-of-band signals and images with high-Q tuned circuits. Push buttons let you select 2 antennas and 2 receivers. Dual coax and phono connectors. Use 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

MFJ-1045C **$99.95**

Dual Tunable Audio Filter

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

MFJ-752C **$99.95**

MFJ Shortwave Headphones

MFJ-392B **$19.95** New!

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

High-Q Passive Preselector

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

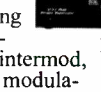
MFJ-956 **$49.95**

Super Passive Preselector

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

MFJ-1046 **$99.95**

MFJ Shortwave Speaker



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

MFJ-281 **$12.95**

MFJ All Band Doublet

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

MFJ-1777 **$49.95** Ship Code A

MFJ Antenna Switches

MFJ-1704 **$69.95**

MFJ-1702C **$24.95**

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

Morse Code Reader

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

MFJ-461 **$79.95** New!

MFJ 24/12 Hour Station Clock

MFJ-108B, $19.95. Dual 24/12 hour clock. Read UTC/local time *at-a-glance*. High-contrast 5/8" LCD, brushed aluminum frame. Batteries included. 4½Wx1Dx2H inches.

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by Harold Ort, N2RLL

A Little Tap Here, And A Little Tap There, Here A Tap...

The Federal Citizen Information Center referred me to the U.S. Department of Justice, but DOJ told me, "No one in the Justice Department is handling those questions at this time," so DOJ referred me to the White House. The person I spoke with there referred me *back* to the DOJ, so I did call them again asking if perhaps they were indeed the responsible agency for answering my questions because their own boss, Attorney General Alberto Gonzales, cited the Senate's Joint Resolution 23, "Authorization For The Use Of Military Force" when answering widely televised questions about the latest "Caught me with my pants down" controversy to hit Washington that, my friends, *directly* affects you and me.

I'm talking about domestic electronic spying—the use of our foreign intelligence services to conduct electronic eavesdropping/wiretaps on American citizens *without* court order. In his December 17, 2005, radio address, President Bush addressed the issue (only because it was widely reported on national media) and said it was, "...to intercept the international communications of people with known links to al Qaeda and related terrorist organizations..."

My question, and also that of lawmakers on both sides of the political fence, is why not just conduct standard surveillance, as has been done for years, on the folks in the government's crosshairs and nail them if there's solid evidence of their plotting to do us harm, but do it with warrants? Or if eavesdropping is warranted, do it as you'd want it done to you—with a court order.

Sooner than later those bent on doing us harm will certainly do something stupid that will give law enforcement the right to step in and legally do the right thing. There were clues near 9/11, but recall that the responsible three-lettered agencies didn't put the pieces together. This isn't rocket science; mobsters, drug kingpins, and other criminals are caught without *secret* wiretaps. There's nothing that much different from these characters and "terrorists" except we've declared "war" on them, but in the recent past we've also declared "war" on drug traffickers and child pornographers, most of whom are just as dangerous.

The issue of our government spying on American citizens, whether that American is of Polish, Jewish, German, Middle Eastern, African, Irish, Chinese, or Italian descent, without doing it the right and legal way has nothing to do with what you've been told by the government in the mainstream media, that is "getting a warrant is time consuming." That's just not true because I asked the question and learned that the Foreign Intelligence Surveillance Court can honor an intelligence agency's warrant request *retroactively*, days *after* the surveillance has begun!

Here's what President Bush said in April *2004*, "Now, by the way, any time you hear the United States government talking about wiretap, it requires...a wiretap requires a court order. Nothing has changed, by the way. When we're talking about chasing down terrorists, we're talking about getting a court order before we do so."

Of course that was in 2004, and boy oh boy, how their body language tells volumes when we remember. (Harold's Hint For Working With Bureaucrats And Other People In Power: When writing or talking to officials who say one thing one day, and then something quite the opposite a few months later, always, always toss their original words back at them because it makes their blood boil knowing they actually goofed, and they work for you, not the other way around. Their faces literally change in front of your eyes because you're, well, smarter than they are). Last time I checked the USA was run by the rule of law, not by any one man or woman. At least that's how it's supposed to work—yes, *even* in times of "war."

As I've said before, we've seen firsthand what an unchallenged bureaucracy led by a few anointed ones (civilians and military brass) can do to good, upstanding patriotic Americans (soldiers and civilians) in order to maintain its powerbase. And, believe me, once the hammer begins to lower, it's full speed ahead!

I thought it was almost worthy of a Letterman skit, listening to Attorney General Alberto Gonzales speak on the record on national TV (again, without the nasty media intervening, strictly their own words, mind you) when he referred to that S.J. 23 Authorization which has nothing, even *remotely*, to do with authorizing wiretaps, with or without a court order.

I've read the Authorization, which says in part that, "the President is authorized to use all necessary and appropriate force against those nations, organizations, or persons he determines planned, authorized, committed, or aided the terrorist attacks that occurred on September 11, 2001, or harbored such organizations or persons, in order to prevent any future acts of international terrorist against the United States by such nations, organizations or persons." (You can read it in its entirety by doing a search at http://thomas.loc.gov/).

The use of "force," as those lawmakers voting for the Resolution have said publicly, is taken to mean military force, not covert domestic eavesdropping. If you're seeing something between those lines that I don't, there's a PR job waiting for you in Washington! You don't need to be an Fifth Avenue lawyer looking for loopholes in those words to see there's nothing there about illegal domestic wiretaps on American citizens. It very simply authorizes the President, and appropriately so, to use force against those responsible for 9/11.

There are also those online pundits who say that former President Bill Clinton, in 1995, signed an executive order authorizing warrantless domestic electronic surveillance. Sorry, folks, not true. Fact is, Section 302(a)(1) [50 U.S.C. 1822(a)] of the Foreign Intelligence Surveillance Act requires the Attorney General to make certain certifictions, one of which is that no U.S. citizen is a target. The same PR spinmasters have reported that former President Carter also signed a similar executive order. Wrong again. Fact is, the same situation applies and no such bogus order was ever signed.

Senator Russell D. Feingold (D-WI) said in a recent *Today* show interview that, "Nobody, nobody thought when we passed a resolution to invade Afghanistan and to fight the war on terror—including myself who voted for it—that this was an authorization to allow a wiretapping against the law of the United States."

I know, sure as the Earth orbits the sun, that there are still plenty of folks who will be quick to point out that the guys our govern-

(Continued on page 82)

by Harold Ort, N2RLL, Editor, and D. Prabakaran

News, Trends, And Short Takes

Libya Engages In Jamming War With Western Satellite Services

British and U.S. diplomats have protested to the Libyan government after two international satellites were illegally jammed, knocking dozens of TV and radio stations serving Britain and Europe off the air and disrupting American diplomatic, military, and FBI communications. The UK Foreign Office has confirmed that it raised the issue in talks between the British embassy in Tripoli and the Libyan government.

The jamming started in September after the launch in London of a small British and Arab-owned commercial radio station broadcasting on human rights and freedom of speech issues to Libya. Ten minutes after the station, initially known as Sout Libya, went on the air a transponder carrying the station was jammed for 50 minutes.

AIR Goes Digital

All India Radio (AIR) is all set to compete with private radio networks with a digital set-up using state-of-the-art technology to improve transmission quality. As a public service broadcaster, AIR has to churn out programs catering to the diverse and vast populace of India. In its endeavor to reach out to the widest possible audience, AIR has set up a new broadcasting house with a fully digital studio. So far AIR has largely been using analog transmissions, leading to poor quality signals. It was also facing problems of editing and maintaining records of data, resulting in the processes becoming long and complicated.

AIR's radio programs are available to over 99 percent of the population in India and in over 100 other countries via a vast network of 337 transmitters at 215 stations spread across the country. The main hub of activity is the Delhi station. Seven radio channels originate from here for the listeners in and around Delhi. Parts of these programs are relayed by other stations of AIR as well.

New Look For The BBC's Main International Websites

A new look has been launched for the BBC's main international websites aimed at meeting the needs of online users outside the UK. Users of the BBC's international radio sites asked for audio on demand, opportunities to listen again to highlights, and clearly displayed channel and program information. The new international radio portal aims to deliver this, offering the best from BBC World Service Radio, up-to-the-minute news bulletins and a live stream of output. Links to the main BBC channels are also provided. The international TV page provides a guide to the BBC's international commercial TV channels plus links to BBC TV in the UK. The BBC Weather page provides summaries, with users able to pick their own city for a five-day forecast. The "languages" page displays the full range available. The changes were launched after a BBC-wide "usability" project. It was endorsed by the BBC New Media Board and funded by BBC World Service.

Deutsche Welle Opens Multimedia Info-terminal In India

DW (Deutsche Welle) has opened the first "DW-Punkt" in India at Max Mueller Bhavan (Goethe-Institute) in New Delhi. DW Director General Erik Bettermann inaugurated the facility in the presence of the Secretary General of the Goethe-Institute, Dr. Hans-Georg Knopp and acting ambassador of Germany in India. This is the second Goethe-Institute in Asia to be equipped with a multimedia info terminal by DW after Hanoi in Vietnam. It will give visitors to the Institute the chance to use all the three media channels employed by Germany's international broadcaster: DW-TV, DW-RADIO, and DW-WORLD.DE. Information material on DW's journalistic services will also be available to the public.

Swedish Radio Live On Cell Phones

Swedish Radio is putting its Internet services, including live radio broadcasts, onto mobile phones. Swedish Radio now makes its digital P3 Star channel available live over 3G telephones, along with a downloadable version of the latest Swedish newscast (also available on more advanced GSM phones) and comedy sketches.

Mexican Clandestine Radio Insurgente Now On The Web

Mexican clandestine Radio Insurgente, the official voice of the Zapatista Army of National Liberation (EZLN), has opened a website with detailed information about the station and audio files of recent transmissions. The FM transmitters in the mountainous region of Southeast Mexico carry programs in Spanish and ethnic languages. The FM frequencies are given as follows: High Zone of Chiapas 97.9 MHz; Border Forest 97.9 MHz; Tzeltal Forest 100.1 and 89.3 MHz; North Zone 102.1 MHz; and Zotz Zone 92.9 MHz. The weekly shortwave program is intended especially for Mexico and the Americas, but also for Europe, Africa, Asia, and Australia. It's on the air every Friday at 2100 to 2200 UTC on 6.0 MHz. The programs are also available to download from the website at www.radioinsurgente.org.

WorldSpace Satellite Radio Reaches 100,000 Subscribers

WorldSpace, Inc., which provides satellite-based digital radio services in Asia and Africa, announced that it recently passed 100,000 subscribers globally. During 2005, WorldSpace successfully launched rollouts in nine cities in India, including Mumbai, New Delhi, Bangalore, Chennai, Hyderabad, Kochi, Pune, Ahmedabad, and Chandigarh. Launching in these cities

(Continued on page 83)

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: Harold Ort, N2RLL, SSB-596, Editor, Popular Communications, *25 Newbridge Road, Hicksville, NY 11801-2909, or send e-mail via the Internet to popularcom@aol.com.*

Likes J-Poles!

Dear Editor:

THANK YOU for your article on J-Poles in the January 2006 issue of *Popular Communications*! Here in Southern California we are fortunate to have James and Joyce Pike—the JamesPole company—fabricating marvelous J-Poles for us! Their Web site is at http://www.jamespole.com. They offer versions covering 2M/440 (regular and breakdown versions), 440, 1.2G, 220, 6M, and a tri-bander for 2M, 220, and 440!

James and Joyce have given seminars at many hamfests and conventions in the West—you MUST have heard of them!

Clint Bradford, K6LCS
Via e-mail

Gone: Those Stiff Pages

Dear Editor:

I just received my January 2006 issue of *Pop'Comm* yesterday. Thanks for eliminating the stiff center pages! The magazine is easier to handle. DON'T, however, eliminate the information on those pages. When I was a kid some 50 years ago, I would have really liked to have that kind of information.

Thanks for a great magazine.

Gene Collins, KA2IWJ
Via e-mail

Drifting Or Fading?

Dear Editor:

Regarding the December 2005 *Pop'Comm*, "Radio Fun & Going Back In Time" on page 41, I have some doubts about the accuracy of a couple of statements. The first one has to do with the torn apart and reassembled radio the French brought into the prison camp. The term "drift" usually refers to a changing of the frequency of some circuit. In this case it probably refers to the frequency drifting around because of the receiver's local oscillator stability. I seriously doubt that it was the BBC that was drifting around so much that the operator of the receiver had to periodically retune the radio. After all, the radio was disassembled and reassembled under less than desirable conditions. One would expect some frequency stability problems under those conditions. The statement "drift at that range" doesn't make much sense as it relates to the BBC transmitter and the statement probably had more to do with the frequency drift of the prisoner's radio. The statement "at that range" probably had more to do with signal strength changing over time.

The other statement about a "radio receiver with an amplifier circuit can be detected" is probably referring to any radiation of the local oscillator, not an amplifier circuit. Knowing the transmitting frequency of the BBC, all the Germans would have to do is listen for the local oscillator either higher or lower by the standard intermediate frequencies of the day and they might hear a local oscillator from a receiver in the vicinity. That was one of the reasons why during the Second World War that the US military had a number of Tuned Radio Frequency (TRF) radio receivers because they had no local oscillator to give their position away to the enemy.

It was an otherwise very interesting story about radio way back then.

Sincerely,
Russ Hughes
Richland, Washington

Dear Russ:

Many thanks for your letter and for pointing out the goofs. We convened a special meeting of the Time Travel Gurus (Bob Sturtevant, Bill Price and myself) and have agreed that you're right on target. But of course Bill still thinks—and perhaps he's correct—that the "drifting" BBC signal was actually the signal fading. Either way, we're glad you enjoyed Bob's column.

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Frequency Coverage:

25.0000-512.0000 MHz., 764.0000-775.9875 MHz., 794.0000-823.9875 MHz., 849.0125-868.8765 MHz., 894.0125-956.000 MHz., 1240.0000 MHz.-1300.0000 MHz.

The handheld BCD396T scanner was designed for National Security/Emergency Preparedness (NS/EP) and homeland security use with new features such as Fire Tone Out Decoder. This feature lets you set the BCD396T to alert if your selected two-tone sequential paging tones are received. Ideal for on-call firefighters, emergency response staff and for activating individual scanners used for incident management and population attack warning.

Close Call Radio Frequency Capture – Bearcat exclusive technology locks onto nearby radio transmissions, even if you haven't programmed anything into your scanner. Useful for intelligence agencies for use at events where you don't have advance notice or knowledge of the radio communications systems and assets you need to intercept. The BCD396T scanner is designed to track Motorola Type I, Type II, Hybrid, SMARTNET, PRIVACY PLUS, LTR and EDACS® analog trunking systems on any band. Now, follow UHF High Band, UHF 800/900 MHz trunked public safety and public service systems just as if conventional two-way communications were used. Dynamically Allocated Channel Memory - The BCD396T scanner's memory is organized so that it more closely matches how radio systems actually work. Organize channels any way you want, using Uniden's exclusive dynamic memory management system. 3,000 channels are typical but over 6,000 channels are possible depending on the scanner features used. You can also easily determine how much memory you have used and how much memory you have left. Preprogrammed Systems - The BCD396T is preprogrammed with over 400 channels covering police, fire and ambulance operations in the 25 most populated counties in the United States, plus the most popular digital systems. 3 AA NiMH or Alkaline battery operation and Charger – 3 AA battery operation - The BCD396T includes 3 premium 2,300 mAH Nickel Metal Hydride AA batteries to give you the most economical power option available. You may also operate the BCD396D using 3 AA alkaline batteries. Unique Data Skip - Allows your scanner to skip unwanted data transmissions and reduces unwanted birdies. Memory Backup - If the battery completely discharges or if power is disconnected, the frequencies programmed in the BCD396T scanner are retained in memory. Manual Channel Access - Go directly to any channel. LCD Back Light - A blue LCD light remains on when the back light key is pressed. Autolight - Automatically turns the blue LCD backlight on when your scanner stops on a transmission. Battery Save - In manual mode, the BCD396T automatically reduces its power requirements to extend the battery's charge. Attenuator - Reduces the signal strength to help prevent signal overload. The BCD396T also works as a conventional scanner to continuously monitor many radio conversations even though the message is switching frequencies. The BCD396T comes with AC adapter, 3 AA nickel metal hydride batteries, belt clip, flexible rubber antenna, wrist strap, SMA/BNC adapter, RS232C cable, Trunk Tracker frequency guide, owner's manual and one year limited Uniden warranty. Not compatible with AGEIS, ASTRO or ESAS systems. Order on-line at www.usascan.com or call 1-800-USA-SCAN.

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Bearcat Sportcat 230 alpha display handheld sports scanner	$184.95
Bearcat 278CLT 100 channel AM/FM/SAME WX alert scanner	$129.95
Bearcat 248CLT 50 channel base AM/FM/weather alert scanner	$104.95
Bearcat 244CLT 30 channel base AM/FM/weather alert scanner	$94.95
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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 ID, custom search range, and S.A.M.E. group using 16 characters per name. Memory Backup - When power is lost or disconnected, your BC246T retains the frequencies that were programmed in memory. Unique Data Skip - Allows the BC246T to skip over unwanted data transmissions and birdies. Attenuator - You can set the BC246T attenuator to reduce the input strength of strong signals by about 18 dB. Duplicate Frequency Alert - Alerts you if you try to enter a duplicate name or frequency already stored in the scanner. 22 Bands - with aircraft and 800 MHz. The BC246T comes with AC adapter, 2 AA 1,800 mAH nickel metal hydride batteries, belt clip, flexible rubber antenna, wrist strap, RS232C cable, Trunk Tracker frequency guide, owner's manual and one year limited Uniden warranty. For more fun, order our optional deluxe racing headset part **#HF24RS** for $29.95. Order now at www.usascan.com or call 1-800-USA-SCAN.

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The world famous Blue Angels Diamond formation. (Photo by Gary Palamara)

The Blues At 60

Airshow Excitement Is Yours From Now Through November!

By Gary Palamara

The radio comes alive as Commander Steven Foley keys his mic…Release Brake ready—Now...Smoke On ready—Now."

The afterburners are lit and within seconds the four blue and gold aircraft start to move. Foley, his two wingmen, LCDR John Saccamando and Major Mathew Shortal, and slot pilot LCDR Max McCoy maneuver their sleek blue jets down the runway, as the crowd rises to its feet. Once airborne, it's wheels up as the Number 4 aircraft quickly falls into the slot position behind the others.

"Four's in Boss"

Then, from the mile-long sound system, the voice of the team narrator, Lieutenant John Allison, fills the air.

"Ladies and Gentleman, the world famous Blue Angels Diamond formation has once again taken to the skies."

As the four jets exit show left, almost without warning, Lead Solo pilot LCDR Craig Olson and Opposing Solo LCDR Ted Steelman head down the runway. Olson, in Blue Angel 5, is first to leave ground. He immediately banks his plane to the left and is gone. Steelman, flying the Number 6 jet, does a quick barrel roll within 200 feet of the runway before aiming his plane for the sky.

Aerial Acrobatics At Its Finest

For the spectators who watch from the sidelines, it will be an afternoon of thrills and amazement and a chance to witness a demonstration of precision aerobatics at its finest. For the men and women of the United States Navy Blue Angels, it's just another day at the "office." Making the difficult look routine is job one. And it's been happening every weekend, just like this, for the past 60 years.

On April 24, 1946, less than a year after the end of World War II, America's first aerial demonstration team was formed when then Chief of Naval Operations, Admiral Chester W. Nimitz, ordered the establishment of an official Navy team. From the start, the mission was, as it remains so today, to showcase naval aviation to the world. This year the Blues are celebrating their 60th anniversary as America's premiere flight demonstration team.

Solo 5 heads for the sky at the start of another Blue Angels air show. (Photo by Gary Palamara)

Air show excitement happens each weekend all across North America from March through November. So, why not come out and join the fun. For a complete listing of airshow websites with dates of the major performances, see **Table 1**.

Good Radio Listening!

While most air shows are held on Saturdays and Sundays, good radio listening begins as the performers start arriving around mid-week. Practice shows and rehearsals can take place at almost any time after that, so there's usually lots of good chatter on the local air bands. If you ask any of the Navy personal about transmit frequencies, etc., they will politely answer in general terms. The official answer, however, will be more likely, "no comment."

All of the top performers and the air show industry in general have a strict policy of not confirming air show frequencies to the public. So, with that in mind, I didn't bother to ask anyone about specific frequencies of operation.

Although the frequencies used by the air show industry are always changing, and are often site specific, the most common frequencies used by the major teams do not change very much from show to show. Most are already known and published in various forms, including on the Internet. This basic info should give anyone who's new to aircraft listening a good starting point. Besides, a lot of the excitement comes from discovering those elusive new frequencies. As a basic guide, however, see **Table 2.**

If you live close enough to the air show site, your listening pleasure will start the week prior to the official open house weekend. All the major airshow performers like the Navy Blue Angels, Air Force Thunderbirds, and the Canadian Snowbirds send out advance teams to make sure everything is ready prior to the main team's arrival. You can look for the advance aircraft to arrive as early as Tuesday or Wednesday of the air show week. They will most likely come up on the regular tower approach frequencies as they near the field, and they will normally be identified with the team's name, Blue Angel 8, Thunderbird 7, etc. Quite often, prior to landing, the advance team will ask for permission to fly around and become familiar with the area. After landing, they will work quickly to make sure everything is ready for the rest of the team's arrival on Thursday or Friday.

Along with the advance team, listen also for lots of pre-show chatter from the various ground-based setup groups. Their job is to prepare the show site, position the concession stands and park all the planes that will be flying in for the static displays. Setup before the air show and cleanup afterwards is a big job. Some air show crowd lines can stretch for almost a mile and listening to the crews as they get

Table 1. Major Air Show Performer Websites

The International Council of Air Shows, www.airshows.org/
The Navy Blue Angels, www.blueangels.navy.mil/flashindex.html
The Canadian Snowbirds, www.snowbirds.dnd.ca/index_e.asp
The Air Force Thunderbirds, www.nellis.af.mil/thunderbirds/
The Army Golden Knights, www.usarec.army.mil/hq/GoldenKnights/Webpage 2006_content.html

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The E1XM is the world's first radio to combine AM, FM, Shortwave, and XM Satellite Radio Ready technology into one ultra-high-performance unit.

Features

- XM Satellite Ready Radio/AM/FM/Shortwave
- 1700 station presets
- Digitally synthesized PLL tuner with synchronous detector
- Passband tuning, selectable bandwidth filters and Selectable Single Sideband (SSB) reception
- Dual conversion superheterodyne circuit design
- Stereo line-level audio inputs and outputs and external antenna connections
- Dual Clocks and programmable timers
- Headphone jack
- Built-In Antenna: telescopic antenna for AM, FM and Shortwave reception
- External Antenna Connection for the addition of auxiliary antennas
- Calibrated LCD signal strength meter
- Power Source: 4 "D" Batteries (not included); AC Adapter (included)
- Dimensions: 13"W x 7-1/2"H x 2-1/2"D
- Weight: 4 lb 3 oz.

E5 $150*

AM/FM/Shortwave Radio

The E5 is the world's leading multi-band and Single Side Band (SSB) enabled radio, uniting performance and mobility into one compact unit, and bringing the power of local and world radio into the palm of your hand.

Features†
- FM-Stereo, AM and full-Shortwave coverage (1711-29999 KHz)
- PLL dual conversion AM/SW circuitry with SSB
- 700 programmable memory presets with memory scan and auto tuning storage (ATS)
- Clock, sleep timer and alarm functions with world zone settings
- Tunes via auto-scan, manual-scan, direct key-in entry and tuning knob
- Internally recharges Ni-MH batteries
- Station name input
- Dimensions: 6-5/8"W x 4-1/8"H x 1-1/8"D
- Weight: 12.2 oz.

† Features are subject to change

E10 $130*

AM/FM/Shortwave Radio

Intelligence meets performance in the E10. With 550 programmable memories, manual and auto scan, precision tuning and alarm clock features, the E10 provides the sophisticated tools for listening to news, sports, and music from around the world. The E10 even allows internal recharging of its Ni-MH batteries (charger and batteries included). With excellent AM, FM, and Shortwave reception, intermediate frequency shift and shortwave antenna trimmer—the E10 gives you the performance you want with the digital ease you deserve.

Features
- Shortwave range of 1711 – 29,999 KHz
- 550 programmable memories with memory page customization
- Manual and auto scan, direct keypad frequency entry, ATS
- Clock with alarm, sleep timer, and snooze functions
- Earphones
- Supplementary wire antenna
- Power Source: 4 AA Batteries (included) or AC Adapter/Charger (included)
- Dimensions: 7-1/2"W x 4-1/2"H x 1-1/2"D
- Weight: 1 lb. 1oz.

E100 $100*

AM/FM/Shortwave Radio

The E100 fits full-sized features into your palm or pocket. This little marvel is packed with all the latest radio features you want: digital tuning, 200 programmable memories, digital clock and alarm, plus AM/FM and Shortwave reception. And, it is small enough to fit in your coat pocket.

Features
- Shortwave range of 1711 – 29,999 KHz
- 200 programmable memories
- Memory page customization
- Manual and auto scan, direct keypad frequency entry
- Earphones
- Power Source: 2 AA Batteries (included) or AC Adapter (not included)
- Dimensions: 5"W x 3"H x 1-1/4"D
- Weight: 7 oz.

eton®
www.etoncorp.com

Table 2. Reader-Submitted Blue Angels Frequencies

123.4	Airshow common
142.0	Maintenance
142.262	Ground crews
142.625	Maintenance
143.6	Ground crews
241.4	Air to air
243.0	Military emergency (civilian counterpart 121.5)
250.8	Air to air
251.6	Air to air
263.35	Ground
263.5	Air to air
273.35	Air to air
275.35	
302.1	
302.15	
307.7	
345.9	
391.9	Air to air
395.9	Air to air
418.05	Ground crews

everything ready and then clean up after the show is another listening opportunity.

Handpicked Support Personnel

All of the top performers also travel with support personnel. Depending upon the size of the show and the number of days the team will spend on the road, as many as 50 people might travel in advance of the main show performers. These folks are handpicked and are tops in their respective fields. The Navy's support people volunteer for their assignments and receive no additional pay for their efforts. Once selected, these "maintainers" are assigned to the Blue Angels squadron for a three-year tour and will travel to each show site throughout the season. Enlisted personnel rotate in and out of the squadron on an as-needed basis, with teammates joining and leaving the squadron throughout the year.

The support team represents more than 25 different Naval career fields. With a squadron of nearly 125 people, it takes a tremendous amount of coordination and planning to make sure everything goes smoothly. Staying on top of everyone's personal and professional needs is key to having a successful air show. Luckily, for the Blue Angels, this task has been well honed over the years.

Blue Angels support is provided by the United States Marines. (Photo by Gary Palamara)

Fat Albert

On July 22, 1970, the United States Marine Corps officially took over the role of Blue Angels logistical support. Before that time, no specific organization was charged with supporting the Blue Angels mission and flying the team from air show to air show. Since the Marines took over, the Angels support aircraft has always been a four-engine turbo prop Hercules C-130, made by the Lockheed Company. Over the years, the C-130 has affectionately been given the name of "Fat Albert," after the Bill Cosby character of the same name.

Since 1970, seven different aircraft have been used to transport the Blue Angels personnel and equipment. The current Fat Albert aircraft has been in service since 2002 and is painted to match the Angels blue and gold color scheme. And lest you think that the old C-130 is simply a beast of burden, at most air shows Fat Albert even gets a chance to take center stage. With a spit and polished paint job and a maximum take off weight approaching 160,000 pounds, the C-130 is a tremendous show performer in its own right—no more so than when Fat Albert

Fat Albert's crowd pleasing jet-assisted take off. (Copyright U.S. Navy)

Commander Foley steers Blue Angel Number 1 down the McGuire Air Force Base taxiway. (Photo by Gary Palamara)

wows the crowd with a jet-assisted take off (JATO).

Flying in Fat-Albert, or simply "Bert," the support team brings along everything that's required for a complete Blue Angels air show. They carry spares of all mission critical parts and even have some room left over for a few creature comforts. From a spare jet engine and communications equipment to public relations flyers, handouts, and bottled water, everything is put aboard Bert for the trip. Soon after the support teams' arrival, the jet aircraft are overhead and the months of coordination and planning are put to the test. The air show weekend has officially begun and everyone prays for good weather.

The Blue Angels wow the crowds at more than 75 public air shows across America and around the world every year. Most show sites are two- or even three-day weekend events, with the exceptions of major national holidays like Memorial Day, Labor Day, and the Fourth of July. Shows can average 50 to 60 thousand spectators per day, and when you add in

The Blue Angels Communications trailer in action. (Photo by Gary Palamara)

Re_Inventing Radio through Design and Necessity

FR250 $50*
Multi-Purpose

Stay informed and prepared for emergencies with this self-powered 3-in-1 radio, flashlight and cell-phone charger — no batteries required.

- AM/FM/Shortwave Radio Reception
- Built-in power generator recharges the internal rechargeable Ni-MH battery (Included)
- Cell-phone charger output jack 3.5mm (various cell phone plug tips included)
- Built-in 2 white LED light source and one flashing red LED
- Dimensions: 6-1/2"W x 6"H x 2-1/2"D
- Weight: 1 lb. 3 oz.
- Power Source: Built-In Rechargeable Ni-MH Battery Pack; 3 AA Batteries (not included); Crank power alone; AC Adapter (not included); AC Adapter recharges built-in Ni-MH battery pack

FR200 $40*
Crank it Up

Without the need for batteries, this self-powered 2-in-1 radio and flashlight helps you stay informed and prepared for emergencies.

- AM/FM/Shortwave Radio Reception
- Built-in power generator recharges the internal rechargeable Ni-MH battery (Included)
- Built-in white LED light source
- 12 international bands
- Dimensions: 6-1/2"W x 5-3/4"H x 2-1/4"D
- Weight: 1 lb. 2 oz.
- Power Source: Built-In Rechargeable Ni-MH Battery Pack; 3 AA Batteries (not included); Crank power alone; AC Adapter (not included); AC Adapter recharges built-in Ni-MH battery pack
- Available colors: Metallic Blue, Metallic Red, Sand, Yellow

FR300 $50*
All-In-One

This all-in-one unit offers functionality and versatility that makes it ideal for emergencies.

- AM/FM/TV-VHF/NOAA Radio Reception
- Built-in power generator recharges the internal rechargeable Ni-MH battery (Included)
- Can be powered from four different sources:
  1. The built-in rechargeable Ni-MH battery that takes charge from the dynamo crank and from an AC adapter (AC adapter not included)
  2. 3 AA batteries (Not included)
  3. The AC adapter alone (AC adapter not included)
  4. The dynamo crank alone even with no battery pack installed
- Cell-phone charger output jack 3.5mm (various cell phone plug tips included)
- Built-in 2 white LED light source and one flashing red LED
- Weather alert
- Dimensions: 5-1/2"W x 6"H x 2-1/2"D
- Weight: 1 lb. 3 oz.

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High-Performance Field Radio

For S350 Deluxe devotees the deluxe model combines a sporty new exterior with the same unrivalled functionality.

- Highly sensitive analog tuner with digital display
- Large, full range speaker with bass & treble control
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- Built-in antennas and connections for external antennas
- AM/SW Frequency Lock
- Set clock and alarm while radio plays
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- Available colors: Metallic Red, Black

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Offering high-tech digital performance and portability, the YB550PE packs performance into a small radio. Palm-sized and only 11oz, the YB550PE can receive AM, FM, and continuous Shortwave across all 14 international bands.

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- 200 customizable station presets
- Alarm and sleep timer functions
- AC adaptor and supplementary antenna inputs
- Dimensions: 3-1/2"W x 5-3/4"H x 1-1/2"D
- Weight: 10.5 oz.
- Power Source: 3 AA Batteries (included) or AC Adapter (not included)

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practice shows, official flyovers, and other special events each year, the Blue Angels show off the Navy's blue and gold colors to an estimated 10 to 15 million people annually. Over their 60-year career, hundreds of millions have been witness to Naval aviation at its finest.

Time Flies!

The long history of Blue Angel air shows actually began on June 15, 1946. Less than two months after the team was officially established, the first squadron leader, WWII combat veteran, Lieutenant Commander Roy "Butch" Voris, led his naval aviators into the skies over Craig Field in Jacksonville, Florida. It was the first Blue Angels air show. Back then, the aircraft of choice was the battle tested Grumman F-6F Hellcat, a single engine propeller-driven fighter. During WWII, the Hellcat had the highest kill-loss ratio of any American fighter plane, so it was the obvious choice for the newly formed team. The Blues would go on to fly only one other propeller-driven aircraft before switching over to their first jet-powered fighter. In 1951, the Grumman F9F Panther became the Blue Angels first jet-powered aircraft.

Over the years, the team has used a total of eight different airframes to fly their routines. All of these aircraft have come from only two airplane manufacturers, the Grumman Corporation of Bethpage, New York, and the McDonnell Douglas Company, which is now a part of the Boeing Company. In the late 1960s the team began flying the venerable McDonnell Douglas F-4. But due in large part to the oil crisis of the 1970s, the team transitioned away from the Vietnam-era Phantom and began flying the smaller, more fuel-efficient McDonnell Douglas A-4 Sky Hawk. Although the Sky Hawk was a very capable aircraft, it lacked the status of a war-tested combat veteran. Nonetheless, the Blues flew the A-4 aircraft for more than six years.

Time For A Change—The Hornet

With their 40th anniversary in 1986, it was time for a change. On November 8, 1986, at the close of the air show season, the Blue Angels introduced their sixth and current jet fighter, the McDonnell Douglas F/A-18 Hornet. Training with the new jet began almost immediately. The first full year of air show operation with the F/A-18 was 1987.

First flown by the U.S. Navy in 1980, nearly 1,200 Hornets have been built over the years. While the actual number of Navy fighters is officially a secret, many of the 1,200 airframes have been sold to friendly air forces around the globe. With constant upgrades and improvements throughout its long career as a Navy fighter, the F/A-18 has maintained its record as the world's number one Attack-Fighter aircraft. The numbers speak for themselves.

The Hornet is a heavy aircraft, weighing in at over 45,000 pounds. That's more than three times the weight of the Blues first aircraft, the F-6F. Yet, despite its bulk, the 38- by 56-foot airframe is extremely maneuverable and can easily exceed 1,360 mph, with a flight ceiling of 50,000 feet. This high level of performance comes largely from the F/A-18's massive power plant: the multi-role war machine is powered by two General Electric F-400 engines that are capable of delivering 16,000 pounds of thrust per side. Fully equipped for battle, the Hornet can carry one 20-mm six-barrel cannon with 570 rounds, plus up to 17,000 pounds of ordnance under the wings. Bombs, rockets, missiles, and fuel drop tanks can be attached to any one of nine external points along the fuselage.

The F/A-18 Hornet was also the first fighter aircraft to have carbon fiber wings and the first tactical jet fighter to use digital fly-by-wire flight controls. With all this power, capability, and sophistication, it's no wonder that since its introduction nearly 27 years ago, the F/A-18 Hornet has been the pride of the Navy's fleet. What better aircraft to showcase Naval aviation to the world.

It's Showtime At 450 MPH!

On show day, the Blue Angels team arrives several hours before the scheduled take off time and begins by checking over everything. Away from the flight line, the pilots gather for a pre-flight meeting approximately two hours prior to take off. They will go over every aspect of the show performance and discuss everything in detail. Back on the flight line, the maintainers check and re-check every aspect of the show. From engines to communications, nothing is overlooked.

At the heart of any successful military operation is good communications, and the Angels travel with a complete Com-Trailer loaded with everything needed for a successful Blue Angels performance. During the show, the main Diamond formation will monitor at least two frequencies. Chatter is normally kept to a minimum, but the atmosphere is upbeat and professional. During most of the maneuvers, the Boss's voice is just about all you'll hear.

Commander Foley calls out each command in a calm assured manner, like a surgeon in an operating room; only this operating room is flying along at 450 miles per hour. The two solo pilots operate in much the same manor as the Diamond team. They share a "private" frequency for their own coordination, but they also monitor the main Diamond frequency as well. As they fly along performing each show routine, everyone knows exactly where they are in the performance. The ground controllers listen to everything.

Monitoring as many as six different

Footnote On Airshows After 9/11

On September 15 and 16, 2001, the Navy Blue Angels and the Army's elite parachute team, the Golden Knights, were scheduled to perform for an open house weekend at McGuire Air Force Base in southern New Jersey. Those air shows were naturally cancelled because of the events of September 11. For a short while after the attacks, it looked as though military air shows might be gone forever. But within weeks of the tragedy, public Open Houses were rescheduled with heightened security. While most of the aerial performers finished out the 2001 season after missing only a few show dates, for McGuire Air Force Base it was a different story.

Because McGuire's mission is so vital to the support of our men and women overseas, it was officially off the air show list after that dark day in September. In 2005, McGuire's status changed and it once again held an open house weekend in June. Naturally, the folks at McGuire wanted to welcome back the teams who were originally scheduled to perform in 2001. On June 4 and 5, 2005, it was my pleasure to be at the base when the Navy Blue Angels and the Army Golden Knights once again returned to the skies over Burlington County, New Jersey.

frequencies at the same time, the ground controller's job is to be the eyes and ears for the rest of the team. They monitor aircraft position, wind speed, and critical weather data on a second-by-second basis. In the event of any emergency or sudden change in field conditions, the ground controller will notify the team leader who will assess the situation and then take whatever action is needed.

The Right Stuff

Becoming a Blue Angel is a career high for any Navy or Marine Corps Officer. The requirements are tough and most team members were turned down at least once prior to making the team. A total of 16 officers serve with the Blue Angels. The Chief of Naval Air Training chooses the Commanding Officer of the Blue Angels team. The Blue Angels leader must have at least 3,000 tactical jet flight-hours and have commanded a tactical jet squadron prior to being selected. The Commanding Officer flies the Number 1 jet.

Each year a selection board within the Blue Angels group chooses three tactical (fighter or fighter/attack) jet pilots, two support officers, and one Marine Corps C-130 pilot to relieve departing members. Marine Corps pilots who wish to apply for the position of Fat Albert Commander must have at least 1,200 flight hours with the C-130 Hercules. Most Blue Angel officers serve for three years with the Blue Angels, while Pilots and Maintenance Officers serve for only a two-year period.

In addition to all the technical requirements for becoming a member of the Blue Angels, every team member selection is based on a myriad of intangible qualities, like professional ability, military bearing, and communication skills. Any Blue Angels member will tell you that they represent the best that the Navy has to offer. With 60 years of Blue Angel history behind them, they stand on the shoulders of the many who have come before. May they have many more good years in the future!

Knights Falling

In an upcoming related feature, we'll take a close up look at the Army's Golden Knights parachute team. And I'll try to answer the age-old question, "Why would anyone in his or her right mind, willingly jump out of a perfectly good airplane?" See you then. ■

All six Blue Angels performing an Inverted Bomb Burst maneuver. (Photo by Gary Palamara)

Editor's Note: Gary Palamara is a freelance writer with a love of aviation. From 1968–72, he worked with the Armed Forces Radio & Television Service while serving with the U.S. Air Force. For the past 30 years, he has been a freelance broadcast engineer. Gary is also an amateur radio operator, AF1US. Reach him via his website, www.garypalamara.com. Special thanks to the following: Navy Public Affairs Officer, Lt. Garrett Kasper, the 2005 United States Navy Blue Angels, Capt. Renita Menchion, 1 Lt. Catherine Wallace, SSgt. Vann Miller and the entire McGuire Air Force Base Public Affairs Office without whose help this article would have been impossible.

by Ken Reiss, radioken@earthlink.net

Help For The Crowded Spectrum?

The radio spectrum is pretty much a fixed resource in terms of how much is available. By spectrum, I mean the frequency ranges that are allocated to the various services. For example, the frequency range 144 to 148 represents the 4 MHz of spectrum allocated to the amateur radio 2-meter band.

The question is how are we going to use the space that's available to us? For a very long time, it was thought that public services like television and radio broadcasting were the best use of the space, and a large amount of the usable spectrum space was devoted to those services. In recent years however, a couple of things started to happen.

One is the public's infatuation with other services that were not originally thought of. In addition, there's more demand for radio-equipped everything. Every delivery truck these days has a radio. Public services are expanding and most of those need radio channels in increasing numbers to support the additional services being offered via radio, including data applications that would have made great science fiction 50 years ago.

The other thing, and the good news in all of this, is that newer technology makes more spectrum available by expanding the range of frequencies that can be operated efficiently by the equipment. Fifty years ago, putting anything on 800 MHz would have seemed foolhardy as the equipment to operate on those frequencies was bulky and unstable, not to mention costly. Today, 800- and 900-MHz radios are almost everywhere. We call them cell phones, but they're still 800-MHz radio transceivers.

In 1970, who would have guessed how much space would be needed for telephone conversations by radio? And in 1950 it was thought to be just a matter of time before all the available television channels were full of nationwide networks and local stations crisscrossing the nation. Nobody saw Sputnik coming, much less Direct TV or cable.

Between technology and demand we've been making some much-needed changes over the past several years, with more to come soon. The 800-MHz public safety band was formerly Channels 70 through 83, which are now unavailable to the TV industry (not that it needed them). The 700-MHz band, proposed and adopted long ago, is just now starting to be used in parts of the country. It took some time in certain areas to vacate the TV channels from the spectrum. The official public safety band runs from 764 to 776 and 794 to 806, which corresponds to Channels 63 through 69. All these frequencies came directly out of the high-end of the television spectrum. Effectively, we've lost 20 on-air TV channels over the years, but nobody noticed, or cared.

Down On The "Re-Farm"

Refarming, according to the FCC, is an informal name used to describe the general process of developing an overall strategy for future growth in the private land mobile radio services. This includes both the public safety and industrial/business radio services, or pools, as they're now called.

Prior to 1997, the FCC recognized over 20 separate radio services as part of the land mobile radio service, each with rules

Here's a signal that's right on frequency. You can see the bandwidth represented on the spectrum scope by the width of the signal centered on the vertical line.

and regulations as well as a distinct group of frequencies available for its use. These included things like the Police Service, Fire Service, Forestry Service, Business Service, Industrial Service, and well, you get the idea. This fragmentation of channels was developed because some areas didn't use channels in a particular service, while other places needed more channels in one service, but fewer in another. In some cases, the frequencies were for the exclusive use of one radio service, while in other cases they were shared with other services.

Part of the problem is that the issue didn't develop overnight. The local sheriff didn't just apply to the FCC and say we're going to need 20 channels. The department got one or two and then, as those got busy, went back and asked for more. But, of course, other users were doing the same thing, and there might not be any channels readily available in the needed service. Add to this the concept that in the good old days (well, into the 1980s at least) transmitters had a limited range of frequencies that they would work well in. So you not only needed a new frequency, you needed it within so many kilohertz to the frequencies you originally got.

Then in a few years the process repeated itself as more and more radios were brought into play. Other bands opened up and then filled up almost as fast as they were opened. Once you got the bad news that no other channels were available in your range, the next best option (if you could afford it) was to move to one of the newer higher frequency bands that had more openings. Of course, the "affording it" part meant replacing every radio you had so you could work on the new bands.

It was a nightmare for frequency coordinators and just about anyone else who had to work with the frequency spectrum and channel allocation plans. In 1997, those 20 services were consolidated into two pools of frequencies, the public safety pool

This meter is operating in a signal center mode, so the bottom scale is the one to read. It's nearly centered, just a bit off (that's pretty normal).

Here, the frequency has been adjusted to one of the new split frequencies. This communications receiver has the ability to accept tuning steps small enough to allow that to happen, but not all scanners will do that. Notice the signal has been shifted to the left on the spectrum display, although it can still be heard at a somewhat reduced level. Using a Wide FM setting will improve reception, but it also means you'll be listening to a lot of signals you don't want when the bands get crowded.

and the industrial/business pool. Frequencies in the pool were available for use in any service from that pool as long as it was an unused frequency. In some areas where a service was underutilized, this immediately made more channels available to services that needed them.

More Space Still Needed

As our dependence on radio communications has grown, so too has the desire for more channels to handle the chatter, er...conversation.

The reallocation of frequencies into the pools helped quite a bit to relieve the frequency congestion at the time. It meant that if you were lucky enough to be in an area that had unused frequencies from a particular service, they could now be used for other things. Unfortunately, it was only a temporary fix. Large metropolitan areas still face demand for more channels than they can provide.

New Strategy

The newest strategy, which really isn't new at all, is to cram more stuff into the existing spectrum. There are several ways to accomplish this, some of which we've already seen.

One way is to add users to the same channels. Of course, if you do this very close to the original users, they're going to overlap and hear each other's conversations. Two busy users might actually have problems and end up interfering with each other. Any communications specialist will tell you that this is a less-than-ideal situation because when conditions are good this stuff can travel a very long distances at impressive signal levels—impressive enough to block communications with weaker mobile units. However, there is a practical limit to line-of-sight communications, and by adding tone squelch you can recycle the frequency a bit closer to home than without it.

Method two is to simply reduce the power that's in use on one of these frequencies. By reducing the power, you reduce the distance that the signal will travel (at least at levels strong enough to be a problem, and when conditions are more normal than "ideal). This method has also been used, and in recent years we've seen several groups of frequencies declared as low power so that the range will be limited.

Here, the center meter is indicating the center frequency is off, which we know was done on purpose. You'll still be able to use that old radio, but it won't be as clean a signal as you enjoy now, and it won't receive weak signals that are off frequency in the new splinter channels.

A variation on this theme is to allow frequencies used by mobiles, which typically have lower power and lower performance antennas than base stations, to be recycled closer than their high-power base counterparts.

All in all, it's a frequency coordination nightmare—one that's been riddled with problems as more and more users need more and more channels.

Technology To The Rescue

Technology started to play an increased role in addressing the problem in the 1980s with the development of public safety trunking systems. Here, a central computer assigns frequencies to a communication only for the duration of that conversation. Then the frequency is released back to the system to handle

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.*

Let's give a listen to **154.860** since we were using it above. See what you can hear and let me know. Send in your comments, suggestions, photos, "Frequency of the Month" entries, and anything else you think might be of interest to fellow scanner listeners to Ken Reiss, 9051 Watson Rd. #309, St. Louis, MO 63126, or e-mail to radioken@earthlink.net. Until next month, good listening!

another, perhaps completely unrelated conversation. By allowing the computer to assign channels on an as-needed basis, you can get away with fewer real channels to create more "virtual" ones. If this doesn't make sense, have a look back at *Pop'Comm* February 2005 or send me a note. When I get enough questions on a particular topic, we'll revisit it.

Trunking systems require large groups of channels to be effective, with most having at least three but many having 30. The only place to get those channels was in the newly created 800-MHz band, and so trunking became the normal mode of operation up there. It was not required, however, and there are still a few conventional 800-MHz systems operating just like their UHF or VHF counterparts. No controller, no talkgroups, just Channel A, B, and C. As time goes by, we'll see trunking come to the other bands as well to help the congestion problem.

Even as trunking technology was evolving, the bandwidth required for a talk channel hadn't changed in many years. So channels in the 800-MHz spectrum are 12.5 kHz apart; in the VHF range, it's 15 kHz. Today, technology exists to cut this in half, so 6.25 kHz can be used for the UHF frequencies and 7.5 for the VHF, effectively doubling the available frequency space.

This is the refarming mentioned above, and it worries scanner users. Effectively your scanner, unless it's very new or very high end, is set up to deal with channels that are 15 or 12.5 kHz apart, depending on the band. Now there will be *two* channels in that same space; one on the frequency your scanner already knows about and another half way in between that channel and the next one that your scanner knows about. What's up with that?

This is the next step in putting more channels into the same space. If we can trunk on those smaller channels we can get even more users into the same space so it's necessary in the long run. In the short run, however, it may or may not cause you any problems. The most notable one is probably that as narrowband channels come into use, you may find that you have to turn the volume up higher. The reasons for this are a bit technical and beyond this column, but it has to do with less modulation causing less bandwidth which is the desired result. Less modulation means less volume on our older equipment.

As those new channels become occupied, however, you may start to have a few problems. You won't be able to program 154.8525 directly into your scanner as 154.845 and 154.860 are the current "known" channels. The truth is that your scanner is probably wide enough that it will hear .8525 if you enter either of the channels above or below. That will work just fine unless you either A) don't want to hear the traffic on the split channel, or B) they both talk at once.

Another thing that's likely to come along with the split channels is new radio systems. That will mean an increased use of digital (hopefully APCO-25, but not for certain) technology, and trunking will come to pass on those lower bands also. You may very well need a new scanner to keep up with those innovations more than with the split channels.

Some of the current models of scanners "know" about the split channels and will be okay. Some of the older communications receivers will allow you to directly enter anything you want and can tune directly to the split channels. But both of those types of radios will still suffer from the other problems we mentioned above. So, in the long term, you'll probably need a new radio. Sounds like a good excuse to go shopping, but I'd wait until you see what the problems are before you jump the gun. Borrowing trouble means you may have to do it again when the full impact of this comes to your area.

What Do You Think?

Just know that I'm on top of the refarming issue and will be covering this topic more in future columns. In the meantime, I'd like to hear your thoughts on this issue. Until next month, keep those letters and e-mails coming! ■

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- Continuously adjustable AGC between 0.04 sec and 5.1 sec in LSB, USB, CW, RTTY, and ECSS modes.
- 1,000 memory channels that store frequency, mode, bandwidth, AGC, ATT, and (for channels 0–19) timer on/off.
- Built-in RTTY demodulator reads ITU-T No. 2 codes for 170, 425, and 850 Hz shifts at 37 to 75 baud rates. Demodulated output can be displayed on a PC monitor through the built-in RS-232C interface.
- High sensitivity and wide dynamic range achieved through four junction-type FETs with low noise and superior cross modulation characteristics.
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by Bruce A. Conti, BAConti@aol.com

Breaking The Travel Restrictions: AM Radio Takes You To Cuba! Venezuela, Too

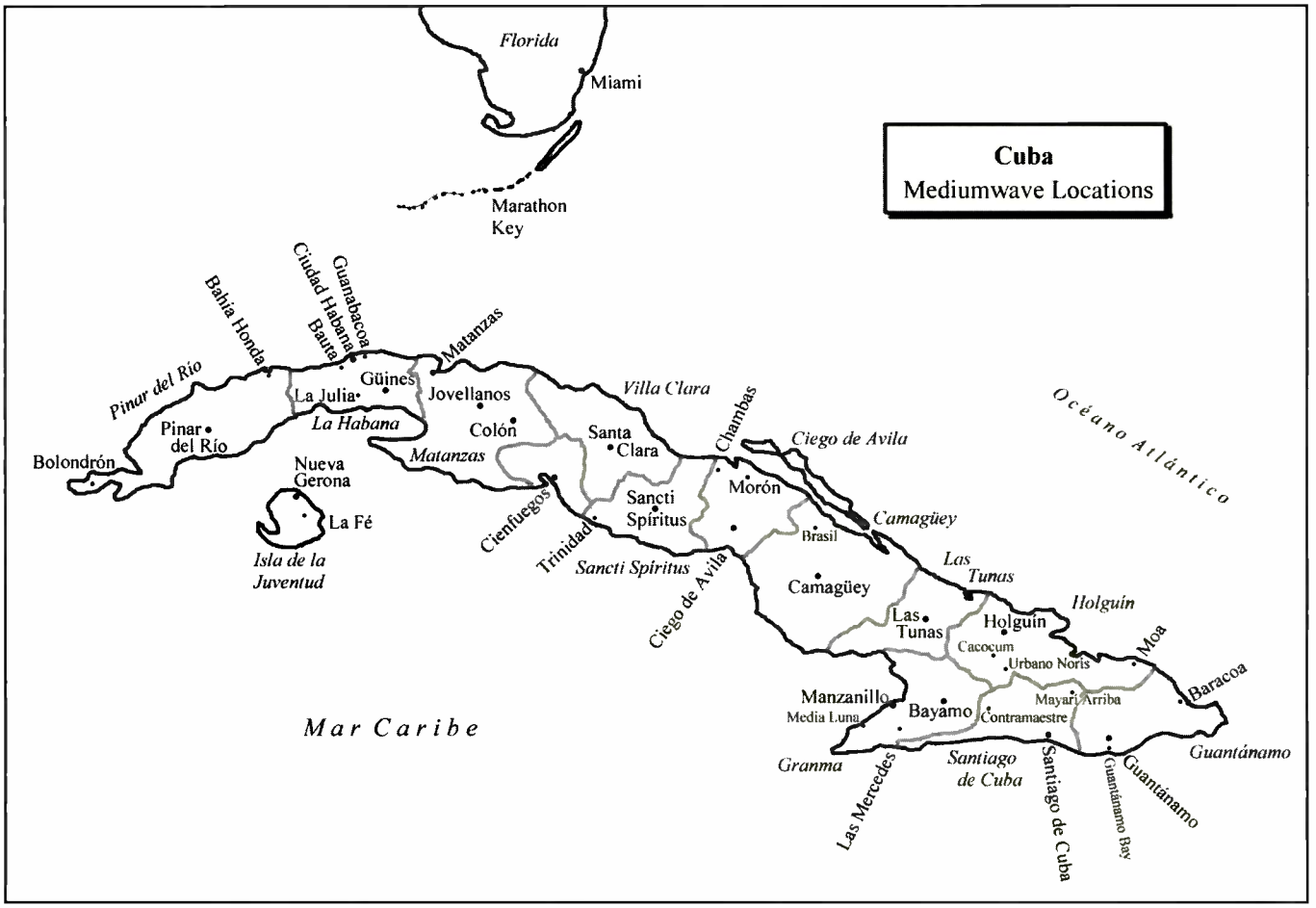
The exotic cigars, rum, classic cars, and resorts of Cuba are all off limits to United States citizens as long as a trade embargo and travel restrictions remain in place. However, the culture and politics of Cuba are readily available to anyone with an AM radio or Internet connection. Listen on any given night and you might hear nostalgic Cuban big band music, Caribbean baseball, political commentary, or a rambling speech from President Fidel Castro. Practice your Spanish skills, then tune in to what's being said on Cuban radio, but not reported by the U.S. news media. This is your guide to domestic mediumwave radio from Cuba.

Progreso, Rebelde, And Reloj: The Three Todopoderosos

Radio Progreso, Radio Rebelde, and Radio Reloj are the three omnipotent national radio networks of Cuba, "los tres todopoderosos." Unlike Radio Habana Cuba on shortwave, which is aimed at an *international* audience, these mediumwave networks cater to the local listeners, providing a unique window into Cuban culture and politics. Fluency in Spanish is not required to identify radio stations broadcasting any of these networks. Here's all you need to know to identify them.

Radio Reloj is most easily recognized by the syncopated clock (similar to the sound of the WWV clock) always running in the background with around the clock news and minute markers with "RR" identification in Morse code every minute. The Morse code can cut through co-channel interference over exceptionally long distances. Time checks on the minute will include voice identification, "Radio Reloj," beep, "once, veinte dos minutos," then RR in Morse code. On Sundays into Monday mornings, the RR code might be replaced by chimes, but the exact time when chimes are used appears to be variable network-wide and between individual radio stations.

Radio stations affiliated with the other two national networks are easily identified by parallels, by receiving two or more frequencies carrying the same programming. Radio Rebelde will



Detailed map of Cuba identifying mediumwave radio station locations.

be the easiest to identify due to its shortwave parallel on 5025 kHz and a number of high power signals on mediumwave. For example, if you believe that you're receiving Radio Rebelde on 1180 kHz, check 600, 670, 710, and 5025 kHz for the same audio. If it matches them all, or just 5025 shortwave, then you've definitely received Cuba. Radio Rebelde often identifies as "Radio Rebelde, la emisora de la revolución," or only as "Rebelde" with "la Habana" mentions and sometimes with a unique attention signal or sounder that you'll quickly learn to recognize. Sometimes Radio Rebelde will carry programming from other networks, including Radio Habana Cuba and Radio 26, especially when covering live political or sporting events, so don't be fooled. Always check for parallels.

Radio Progreso often identifies as "Cadena nacional...la onda de la alegría." Sometimes the initials RP are used in identification or slogans, such as "Noticiero RP" during news segments. Listen for the signature "onda de la alegría" identification accompanied by instrumental background music from Isao Tomita's version of Debussy's "Arabesque No. 1" or "Snowflakes Are Dancing" for an unequivocal positive ID. Again, it's most important to remember, if you believe it's Cuba, check for parallels to help with positive identification. The more commonly received Radio Progreso outlets tend to be 640, 880, and 890 kHz. Sometimes both Radio Progreso outlets are received on 640 kHz, resulting in "synchro echo" due to the audio delay between stations.

The Target List Of Stations

The target list of stations (see "Cuba Target List") is provided as a quick reference for identification and chasing parallels. This list is by no means complete; these are simply the national network affiliates, plus a few of the local or regional network stations, most frequently logged by mediumwave DXers in recent years. In some cases, where there is more than one station carrying the same network on the same frequency, the most powerful signal is listed first. Coordinates are approximations based upon mapping of the listed locations, and might be useful for identification of co-channel signals, or multiple signals on the same frequency, by direction-finding.

There's still much confusion as to exact callsigns and locations of radio stations. Accurate information from Cuba is difficult to obtain, so some of the data represent a best guess. Consult the latest edition of the *World Radio TV Handbook* for what is probably the most complete list published. This list will be maintained and updated as warranted on ¡BAMLog! (Google search for "BAMLog").

Cuba And Venezuela

Of course any discussion of Cuba wouldn't be complete without mention of Venezuela. Cuba President Fidel Castro and Venezuela President Hugo Chávez have developed a strong relationship that is often reflected in news and commentary broadcasts from both nations. Many of the Venezuela mediumwave outlets have joined the Radio Venezuela national radio network, making it more difficult to catch a local identification. Some belong to the Mundial network, although most of their programming is local, only containing "Mundial" in the nickname.

Baseball is also popular in Venezuela. Listen for Caribbean league and national baseball play-by-play at night. In some cases baseball terminology is the same in Spanish and English, so keep an ear open for strikes, balls, fouls, hits, and

Cuba Target List

Radio Progreso (www.radioprogreso.cu)
630 CM— Pinar del Río (22°25'N 83°43'W)
640 CMBC Guanabacoa (23°08'N 82°15'W) 50 kW
CMDQ Las Tunas (20°57'N 76°57'W) 10 kW
660 CMHG Santa Clara (22°24'N 79°56'W)
690 CM— Jovellanos, Matanzas (22°49'N 81°10'W)
730 CMBB Nueva Gerona, Isla de la Juventud (21°53'N 82°48'W)
740 CMJL Camagüey (21°23'N 77°54'W)
750 CMHV Trinidad, Sancti Spíritus (21°48'N 79°59'W)
810 CMDW Guantánamo (20°07'N 75°13'W)
820 CMJT Morón (22°06'N 78°36'W)
880 CMAF Pinar del Río (22°25'N 83°43'W)
890 CMDZ Chambas, Ciego de Avila (22°11'N 78°54'W)
900 CMKP Cacocum - San German, Holguín (20°44'N 76°20'W)
942 CM— Unknown location; off-frequency 940 CM— Sancti Spíritus?
1590 CMBQ Manzanillo, Granma (20°19'N 77°07'W)
1760 CMAF Pinar del Río (22°25N 83°43'W), harmonic of 880 kHz

Radio Rebelde (www.radiorebelde.com.cu)
530 CM— Unknown location
540 CMHV Sancti Spíritus (21°56'N 79°26'W)
550 CMAA Pinar del Río (22°25'N 83°43'W) 30 kW
CMDN Guantánamo (20°07'N 75°13'W) 10 kW
CMNA Manzanillo, Granma (20°19'N 77°07'W) 1 kW
560 CM— Moa, Holguín (20°40v 74°56'W)
580 CMAM Mantua, Pinar del Río (22°17'N 84°17'W) 10 kW
CMDF Baracoa, Guantánamo (20°21'N 74°29'W) 5 kW
590 CMHI Santa Clara (22°24'N 79°56'W)
600 CMKV Urbano Noris, Holguín (20°35v 76°08'W)
610 CMAN Bahía Honda, Pinar del Río (22°53'N 83°09'W)
620 CMGN Colón, Matanzas (22°42'N 80°52'W) 30 kW
CMKF Moa, Holguín (20°40'N 74°56'W) 1 kW
650 CMDC Media Luna, Granma (20°09'N 77°26'W) 1 kW
CMKU Santiago de Cuba (20°00'N 75°49'W) 1 kW
670 CMQ Arroyo Arenas, Ciudad Habana (23°00'N 82°30'W)
710 CMW La Julia, La Habana (22°47'N 82°16'W) 150 kW
CMHQ Santa Clara (22°24'N 79°56'W) 50 kW
CMJN Camagüey (21°23'N 77°54'W) 30 kW
CMKJ Holguín (20°54'N 76°14'W) 10 kW
770 CMKB Las Mercedes, Granma; reactivated? Pilón?
1180 CMBA Villa María, Ciudad Habana (23°07'N 82°22'W)
3000 CMKV Urbano Noris, Holguín (20°35'N 76°08'W), harmonic of 600 kHz
3600 CMKV Urbano Noris, Holguín (20°35'N 76°08'W), harmonic of 600 kHz
5025 CM— Bauta, La Habana (22°59'N 82°36'W)

Radio Reloj (www.radioreloj.cu)
570 CMDC Santa Clara (22°24'N 79°56'W)
660 CM— Unknown location
670 CM— Unknown location
760 CMCD Las Mercedes, Granma (20°07'N 77°00'W); 20 kW, off the air?
CM— La Habana 1 kW
790 CMAQ Pinar del Río (22°25'N 83°43'W)
820 CMDE Contramaestre, Santiago de Cuba (20°18'N 76°15'W)
830 CM— Holguín (20°54'N 76°14'W)
850 CM— Nueva Gerona, Isla de la Juventud (21°53'N 82°48'W)
860 CMDB Baracoa (20°21'N 74°29'W)
870 CMDT Sancti Spíritus (21°56'N 79°26'W)
910 CMGL Bolondrón, Matanzas (22°46'N 81°27'W)
930 CMJS Ciego de Avila (21°50'N 78°45'W) 10 kW
CMGB La Jaiba, Matanzas 1 kW
CMKN Santiago de Cuba (20°00'N 75°49'W) 1 kW
940 CMKD Holguín (20°54'N 76°14'W) 10 kW
CMGU Central España, Matanzas 10 kW
950 CM— La Habana 10 kW
CM— Mayarí Arriba, Santiago de Cuba (20°25'N 75°32'W) 1 kW
960 CMDJ Guantánamo (20°07'N 75°13'W)
1020 CM— Unknown location; Bahía Honda or Moa?
1180 CMOD Nueva Gerona, Isla de la Juventud (21°53'N 82°48'W)
1270 CMHD Camagüey (21°23'N 77°54'W)
6060 CM— Bauta (23°00'N 82°30'W), or Bejucal (22°55'N 82°23'W); irregular, when R. Habana Cuba is off.

Local Networks
740 CM— R. Angulo, unknown location; occasional relay by CMJL R. Progreso Camagüey
840 CMHW Doblevé, Santa Clara (22°24'N 79°56'W)
840 CMBQ R. Enciclopedia, La Fé, Isla de la Juventud (22°02'N 84°13'W)
910 CMFA R. Cadena Agramonte, Camagüey (21°23'N 77°54'W)
1050 CMKT R. Victoria, Las Tunas (20°57'N 76°57'W)
1060 CMDX Cadena CMKS, Baracoa, Guantánamo (20°21'N 74°29'W)
1070 CMKS Cadena CMKS, Guantánamo (20°07'N 75°13'W)
1080 CMCU R.Cadena Habana, Güines, La Habana (22°51'N 82°01'W)
1100 CMCH R.Cadena Habana, La Salud, La Habana (22°53'N 82°26'W)
1140 CMBW R.Cadena Habana, La Habana
1180 CM— Rebelde FM, unknown location
1200 CMGM R. Sancti Spíritus, Yaguajay, Sancti Spíritus (22°20'N 79°14'W)
1210 CMGL R. Sancti Spíritus, Sancti Spíritus (21°23'N 77°54'W)
1380 CMHY R. Cadena Agramonte, Central Brasil, Camagüey (21°49'N 77°57'W)

Updated with input from the following DXers: Barry Davies, Glenn Hauser, and Mika Makelainen.

home runs. Most Venezuela radio stations provide frequent time checks. A typical time announcement in Spanish might be, "Once, veinte dos minutos, hora Venezuela," which translates as "11:22, Venezuela time." Venezuela is four hours behind UTC year-round.

When Venezuela radio stations sign on for the day and again at sign off, most will broadcast *two* anthems, the national anthem and the state anthem. Obtaining a copy of the Venezuela national anthem and learning to recognize it is recommended to improve your chances of catching and identifying an elusive DX signal.

Key Venezuela Radio Stations

These are among the easiest mediumwave signals to receive from Venezuela. The best times for reception will be at sunset and during the predawn hours. High levels of solar activity will improve overnight reception significantly. Auroral conditions can knock-out high-angle skip from Canada and the United States, leaving frequencies wide open for reception of signals arriving at lower angles from the tropics, including Cuba and these high-power radio stations from Venezuela:

550 YVKE Caracas, "Mundial," tropical music and news.

670 YVLL Caracas, "Radio Rumbos," news with distinctive doorbell attention signal.

750 YVKS Caracas, "RCR, Radio Caracas Radio," news, sports, and commentary.

780 YVMN Radio Coro, tropical music and news.

910 YVRQ Caracas, "AM Center," news, sports, and nostalgia.

1020 YVRS La Asunción, "Mundial Margarita," tropical music and news.

1070 YVMA Maracaibo, "Mundial Zulia," tropical music and news.

1090 YVSZ Caracas, "Unión Radio Noticias," news and sports.

1110 YVQT Radio Carúpano, music, news, and sports.

Broadcast Loggings

This month's selected logs demonstrate how far and wide Cuba and Venezuela can be received. It's worth noting that these signals were all logged from locations east of the Rocky Mountains. Reception from the Pacific Coast is far more challenging, but not impossible. Take advantage of the Morse code IDs from Radio Reloj that tend to break through interfering signals on crowded domestic frequencies such as 570 and 790 kHz, and on clear channels like 860 kHz, for the best opportunity to add Cuba to your logbook. All times are UTC.

As usual, your loggings, questions and photos are always welcome. What are you hearing from Cuba and Venezuela? You can contact me at BAConti@aol.com or by mail at *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801. See you again next month!

550 YVKE Mundial, Caracas, at 0500 on top of partially nulled CHLN, talk about "la revolución Bolivariana" and tropical music. (Chiochiu-QC)

570 CMDC R. Reloj, Santa Clara, Cuba, at 0459 heard the letters RR in Morse code, weak, mixed with co-channel domestic signals. (Heinen-CO)

590 CMHI R. Rebelde, Santa Clara, Cuba, at 0320 Cuban music parallel 600, 610, 670, and other frequencies. (Chiochiu-QC)

660 CMHG R. Progreso, Santa Clara, Cuba, at 0340 a good signal with WFAN nulled, heard a chime with UTC-4 time check and network ID. (Conti-NH)

670 CMQ R. Rebelde, Arroyo Arenas, Cuba, at 1957 with Fidel Castro speaking on and on, parallel 620 kHz and with some interference from WSCR Chicago. (Monk-TN)

670 YVLL R. Rumbos, Caracas, Venezuela, at 0317 with Noti Rumbos news in heavy interference from CMQ Cuba and adjacent 660 WFAN New York. (Chiochiu-QC)

750 CMHV R. Progreso, Trinidad, Cuba, at 0400 heard a newscast with mention of President Bush. Radio Progreso and Habana mentioned several times. (New-GA)

790 CMAQ R. Reloj, Pinar del Río, Cuba, at 0258 heard RR in Morse code mixed with WAYY, KBME, and others. (Heinen-CO)

860 CMDB R. Reloj, Baracoa, Cuba, at 0328 noted with chimes instead of the usual RR code IDs. (Renfrew-NL)

890 CMDZ R. Progreso, Chambas, Cuba, at 0415 the Nocturno program of romantic and pop music, then at 0500 a propaganda program against President Bush. (Chiochiu-QC)

900 YVMD Maracaibo, Venezuela, at 0230 with all Venezuela radio stations carrying a speech by President Hugo Chávez, which included mention of the US and Pat Robertson in reference to "terrorismo internacional." (Conti-NH)

1000 YVNM La Caribeña, Morón, Venezuela, at 0324 the end of a national political speech with an announcement from the Ministerio de Comunicaciones. (Conti-NH)

1050 YVKZ or YVPO, Venezuela, at 2330 heard talk with mention of both Venezuela and Fidel Castro, atop WEPN New York. Propagation is better to Venezuela than to Cuba during the immediate post-sunset period. (Connelly-MA)

1180 CMBA R. Rebelde, Villa María, Cuba, at 2316 heard an outdoor political rally, parallel 5025 kHz. (Connelly, MA)

Thanks to Bogdan Chiochiu in Quebec, Mark Connelly in Massachusetts, Wayne Heinen in Colorado, Willis Monk in Tennessee, Bert New in Georgia, and Jim Renfrew DX-peditioning in Newfoundland. Till next time, 73 and Good DX!

by Rich Arland, K7SZ, richard.arland@verizon.net

Ten-GHz Amateur TV Can Be A Lifesaver! And A Look At One Club's ATV Approach

When my wife, Tricia, KB3MCT, and I attended the recent 2nd Annual EmComm Conference, sponsored by the Snyder County RACES/ARES and the Northumberland County ARES groups, we learned plenty! That's the beauty of radio—amateur radio, in particular—it's like life: meant to be a learning and fun experience.

Chris Snyder, NG3F, ARRL Eastern Pennsylvania Section Emergency Coordinator/Snyder County ARES Emergency Coordinator/RACES Officer, and his EmComm group put on a tremendous symposium in Shamokin Dam, Pennsylvania, offering informative forums that spanned the gamut of emergency communications (EmComm). This is the second time Tricia and I have attended one of these events, and I can say with certainty that if you have *any* interest in EmComm or disaster communications, you need to make plans to attend a similar conference in your area.

Last month we discussed the rapidly evolving role of amateur radio in the EmComm business. Gone are the days of resting on our collective laurels and providing FM voice communications using the antiquated ARRL NTS traffic-handling format. Instead we EmComm communicators need to be on top of rapidly evolving digital technologies that offer e-mail (including Internet connectivity) to professional disaster mitigators inside a disaster zone, where no Internet connectivity currently exists. WinLink (www.winlink.org/) is the new standard being adopted by the EmComm world for digital communications. This program allows end-to-end, user-to-user transmission and reception of e-mail traffic via VHF/UHF (or possibly even HF) radio links from the disaster site to an outside area where Internet connectivity exists.

We amateur radio operators are going to be responsible for designing, implementing, and maintaining these state-of-the-art digital radio systems in support of our served agencies. We need to get on board now, while we still have a place at the table.

One mode that offers a whole new world of possibility is amateur television (ATV), done at the microwave level. That's right, ATV done at 10 GHz, as opposed to 440-MHz UHF. Gary Blacksmith, WA3CPO, and John Jaminet, W3HMS, got together and presented a wonderfully detailed account of how to use off-the-shelf satellite and cable television equipment (most of it from Europe) to assemble a 10-GHz ATV repeater with massive wide area coverage. In a nutshell, for around $2,000 a local ham club or group of dedicated radio amateurs can assemble the necessary hardware to place a microwave ATV repeater on the air almost anywhere. You can't even put a 2-meter or 70-centimeter FM voice repeater on the air for that amount of money!

My hat is off to these two technically adroit hams who did a mountain of research to show how relatively easy it is to assemble the necessary off-the-shelf ATV equipment to provide wide-area ATV coverage at a reasonable cost.

Two members of the Black Diamond ATV search and rescue (SAR) group shown here with their rescue trailer. The versatility and agility of the quad ATVs make them a natural for SAR work. The trailer is outfitted for stand-alone SAR ops.

Real-Time Assessment!

ATV has the advantage of offering full motion, real-time video streaming from a disaster site to an EMA command post, allowing disaster personnel to evaluate firsthand what is currently going on at a disaster site. Wow! Now, that is what I call exciting! The old saying, "a picture is worth a thousand words," is so true when it comes to showing disaster professionals the destruction inside an affected area. To that end, ATV is a very economical answer to the problem of providing fast-scan, full-motion live video feeds from inside a disaster area.

Often, however, the average "Joe Ham" is intimidated by the idea of going above 2 meters. The microwave spectrum is viewed by some as a sort of no-man's land full of evil demons and ugly trolls. To be certain, there are a number of physical and electrical factors that must be taken into account at these extremely high frequencies, but there exists a large pool of information regarding how to build and use microwave equipment in amateur radio circles.

Gary and John provided a boilerplate for anyone interested in duplicating their system. Basically they've done the work for you; all you have to do is procure the necessary equipment (which is readily available from overseas sources) and "put tab B into slot A."

During the ATV presentation at the EmComm conference we were told that hams who also flew RC model airplanes had conducted experiments. Video cameras and microwave transmitters had been placed on board these RC aircraft and missions had been flown with the video feed being relayed by the 10-GHz repeater. Now, that's not only high tech, ATV is something that will make amateur radio almost indispensable to the disaster professionals. Imagine being able to show the Incident Commander live video feeds from the disaster site during daily briefings. Having this video available (archived) so after-action planning sessions can review footage and find out how to do the job more efficiently is another reason to pursue the ATV option.

Adding ATV to a robotic platform offers some very attractive options for viewing hazardous areas within a disaster site. When it is too dangerous to send in human personnel, an ATV-equipped robot would allow close examination of critical site areas without subjecting disaster response personnel to undue hazards. This is the stuff geek dreams are made of!

It's Really Up To US!

WinLink and ATV are only two of the cutting edge technologies open to exploitation by enterprising EmComm volunteers. It is up to us, the amateur radio community, to research, adapt, and implement many of these newer technologies so our served agencies can take care of the business of mitigating a disaster, whether manmade or natural.

Four Wheels And A Radio

What happens when you take a group of enthused ATV (this time it stands for all-terrain vehicles) riders, mix in some search and rescue (SAR), and add EMT training along with some radio gear? The Black Diamond ATV Club, Inc., that's what. Recently I had the good fortune to spend some time talking to Dan Kowalski, President of the Black Diamond ATV Club, regarding the club's goals, their SAR capabilities, and the radios they use to communicate while on the job. Here is their story.

Dan explained that the club was started in October 2003, when a local group of ATV riders decided to band together to form a public service club. One of their main goals was to attempt to change the "outlaw" image of ATV riders in our area of Northeastern Pennsylvania. Initially the club started with only six members, but has grown to over 160 members at last count! First and foremost, the Black Diamond ATV Club is a group of ATV riders who *enjoy* the sport of all terrain riding, coupled with community service. Since their inception, they have been a part of a multi-county Counterterrorism Task Force.

Background Checks And Rules

The club has strict rules and regulations along with a comprehensive list of riding guidelines that must be closely followed to maintain membership. A criminal background check is run on each prospective member. Members come from all walks of life, employed and retired, young and old. While the club's main emphasis is placed on four-wheel ATV rigs, off-road bikes are fine, too. In fact, you don't even have to own an ATV to become a member of the club, just have an interest in ATVs in general and be willing to subscribe to the published rules and regulations of the club.

Dan stressed that *safety first* is the club's overall theme when riding. No one rides alone. Proper safety equipment and riding gear are mandatory for everyone and riders *must* take an approved ATV safety course and have proof of passing before being allowed to ride with the club. It goes without saying that the use of alcohol and/or drugs is prohibited. Supervision of young riders is also stressed. In short, the Black Diamond ATV Club is a well-structured organization that's making a difference in how the public perceives ATV riders in Northeastern Pennsylvania.

In the past, Dan and his vice president, Todd Jones, had contacted me regarding radio equipment for use within the club. In particular both club officers were very interested in procuring and using amateur radio VHF/UHF gear for communications

President Dan Kowalski (extreme left) and Todd Jones (second from left) are shown with representatives from Two Jacks Cycle in Wilkes-Barre, Pennsylvania, receiving the rescue trailer donated by the Two Jacks folks.

during times of activation for SAR missions. Presently no one in the club is a licensed amateur. However, beginning this year the club will be aggressively pursuing a licensing course for any member interested in obtaining a Technician class ham ticket.

I told Dan and Todd that if there were club members who were licensed ham radio operators, then a portable VHF/UHF repeater system that could be deployed with the SAR team would be well within the realm of possibility. This would allow handheld VHF/UHF radio comms to be extended over a much wider area and would let the team coordinate with other agencies like the Civil Air Patrol and local/county EMA personnel who are also using ham radio frequencies.

Presently, they use FRS/GMRS handheld radios along with a mix of mobile CB (Class D 27-MHz) units for comms. Cell phones abound; however, some areas where the club has been called out to are not within cell site access. Additionally the FRS/GMRS handheld radios are only good for about 100 to 300 yards in the woods—a far cry from the 7- to 10-mile range claimed by some manufacturers, huh?

While the CB sets offer better comms with a greater coverage area, there are only a few quads (ATVs) equipped with these rigs. The channel overcrowding on Class D CB is another problem that can have adverse effects on communications during a SAR op. This was what prompted Dan and Todd to inquire about ham radio, to fill the gap in comms.

The Black Diamond ATV Club is affiliated with the Newport Township Fire Department as their official SAR unit. Typical

Quad ATVs are superb platforms for SAR operations. Here one of the club members is getting some "serious air."

SAR deployment consists of a minimum of four members, four quads, a rescue trailer, and enough gear to establish a base camp from which to run SAR ops. Many of the club members are trained in first aid and CPR. Additionally, some members come from local police departments and are paramedics/EMTs.

The rescue trailer is rather unique and something that most ATV clubs probably don't have. It's equipped to deal with on-site emergencies and SAR ops. The following is a partial listing of the gear carried on board the rescue trailer: stokes basket, back board, two trauma bags, burn kit, two fire extinguishers, an assortment of hand tools, pioneering tools (pick, axe, shovel, and sledge hammer), chains, chainsaw, electric wench and accessories, canopy/rain fly, beverage/food coolers, propane heaters, chairs, and an assortment of creature comforts. As you can see, the Black Diamond ATV Club comes "loaded for bear" when it comes to an SAR deployment.

The All-Important MOU (Memorandum Of Understanding)

When it comes to public service in times of disaster, nothing beats working for a "served agency," such as the Red Cross, Salvation Army, county EMA, or local fire company. With this in mind, the Black Diamond ATV Club is in the process of drafting official Memorandums of Understanding (MOUs), which spell out *exactly* what the club can offer a served agency and what its limitations are. In short, an MOU is the club's charter to provide help to a local agency requiring its assistance. The club's goal is to have MOUs on file with local fire companies in northeastern Pennsylvania, the Luzerne County EMA, the county Sheriff's office, and the Pennsylvania State Police.

The Black Diamond ATV Club is a self-sufficient organization. All costs of the club are borne by the club membership, fundraisers, and the generosity of some of the community members. Fundraisers consist of "A Night at the Races," hoagie sandwich sales, lottery ticket sales, and raffles.

The club has been called out on various SAR operations to support local township Fire Departments and the Pennsylvania State Police. Members' professional attitudes and skill with ATVs have proven a welcomed asset when it comes to searching rugged terrain quickly. Safety, as discussed previously, is paramount. Sound riding principles and a desire to give back to the community are key elements in the continued success of the Black Diamond ATV Club. If you want to check them out, point your Internet browser to www.BDATVClub.com. There you can glean further information about the club and check out its info and message board.

Many thanks to Dan Kowalski and Todd Jones for their insight and help in putting this segment together. My hat is off to these two individuals for taking the bull by the horns, so to speak, and forming an organization based upon professionalism, public service, and the safe use of ATVs. It's sure to have a major impact on how the community views ATV riders in general.

What's Your Club's Story?

If any of you have a similar story about your ATV/Off-Road club aiding local law enforcement and/or emergency management agencies, please contact me and we'll see about doing a similar article on your organization.

Until next time remember our mantra: "Preparedness is not optional." ■

by R.B. Sturtevant, KD7KTS

Radio Fun And Going Back In Time

Q. What did hams and other electrical experimenters do before the invention of radio?

A. Many set up their own telegraph systems. In 1892, *Electrical Review* reported on a story that first appeared in *The New York Evening Post*. The town of Cranford, New Jersey, was consolidating all its privately owned telegraph systems. After the merger there were 30 stations with three and a half miles of circuits. It was to be run by an executive committee of the users. They set up alarm procedures for fire, burglary, and emergency situations. Sounds kind of like a local radio club.

Q. What important event took place in 1963 that changed the relationship of amateur radio and the U.S. military?

A. The Navy and Marine Corps established an MOS (Military Occupational Specialty) for MARS (Military Affiliate Radio System) radio operators and set up their own MARS system. Volunteer amateur radio operators had already been a part of the Army since 1925 as the Army Amateur Radio Service. After 1948, the Army and Air Force both had a Military Amateur Radio System transmitting morale and welfare messages to the troops around the world. MARS is still on the job today supporting our troops worldwide.

Q. When did religious broadcasting get started?

A. In July 1925, Father Giuesppe Gianfranceschi, President of the Papal Academy of Science and close associate of Marconi, proposed the establishment of a Vatican broadcasting effort. Four days after the ratification of the Treaty of Latern, which established the Vatican as an independent state, Pope Pius XI met with Marconi and asked him to set up a broadcast station. The Pope also appointed Father Gianfrancesschi the first Director of Vatican Radio. On February 12, 1931, Pope Pius XI made his first speech, in Latin, that was heard around the world.

Q. What part did radio play in Hitler's takeover of Austria just prior to World War II?

A. It has been said that Hitler invaded Austria by radio. There is more than a little truth in that statement. After World War I the Austro-Hungarian Empire was divided into Austria, Czechoslovakia, Hungary, Poland, and Yugoslavia by the Treaty of Versailles. Austrians went from being the ruling class in a large Empire to being six million citizens of a very small nation. Hitler, himself an Austrian, was preaching the idea that all German-speaking peoples belonged together in one German nation. Joining up with the more powerful Germany sounded good to some Austrians who were suffering more than the Germans because of the war's destruction of their infrastructure.

It must have seemed like every transmitter in Nazi Germany was aimed at Austria, preaching the gospel of Pan-Germanism. Austria's Chancellor, Engelbert Dollfuss, tried to stop the inundation of his country by German propaganda by jamming the signals (the first attempt to do this in history). German propaganda undercut Dollfuss's support with atrocity propaganda and unrest stirred up by Nazi agents. A Nazi putsch assassinated Dollfuss but failed to bring down the government.

Radio continued to pour into Austria while the new Chancellor, Kurt von Schuschnigg tried to make peace with Hitler by putting Austrian foreign policy under German control. With the German Army massed on the border and the Austrian Nazi party the strongest force in politics, Schuschnigg declared a vote on annexation (anchluss) with Germany. On March 12, 1938, three days after the announcement, but before the election, the German Army followed by 40,000 German policemen crossed the Austrian border in what was described as the "Battle of the Flowers." The only resistance the Germans faced was Austrians throwing bouquets at them.

By the time the election was actually held on April 10, all of Hitler's opponents were safely in jail or dead. Pan-Germanism won in a manipulated landslide. The same tactics were tried in Czechoslovakia but without the same success. By the time Hitler got to Poland, his game simply wasn't working and he had to do his dirty work with brute force.

Q. Who, if anyone, invented the long wire, end-fed antenna?

A. The long wire, end-fed antenna is something SWL enthusiasts and hams take for granted because it's been around so long. But, yes, it did have an inventor.

Dr. H.H. Beverage published an article in the *Journal of the American Institute of Electrical Engineer* in 1923, entitled, "The Wave Antenna," in which he reported on experiments done at the first RCA Test Lab from a tent in Riverhead, New York. He had been experimenting with an antenna seven miles long in the 12- to 43-kHz range. He also tested an antenna that was 450 meters long in the 665-kHz range. In 1938 the Radio Institute of America awarded Beverage the Armstrong Gold Medal for his work. Beverage was Director of Radio Research for RCA as well as vice president for R&D for RCA Communications. Many hams use Beverage antennas 300 to 600 feet long and win contests with them. SWLing can get by with about a 200-foot antenna. ■

Looking Back...

Five Years Ago In *Pop'Comm*

We remembered the passing of writer and noted radio antenna authority, Joe Carr, K4IPV, back in our March 2001 *Pop'Comm*. Joe had been with Pop'Comm since 1992—and we still miss him. New on the radio scene were the Ranger RCI-2950, 2970DX, and the Alinco DJ-X2000.

Ten Years Ago In *Pop'Comm*

From monitoring FEMA to the GSA, Tommy Kneitel told it like it was—and still is—in an outstanding article entitled, "Monitoring The Terrorist Threat" complete with federal frequencies (many still in use 10 years later) and lots of great insight. This was also the time when cordless phones were big and beefy; examples include the Uniden and RadioShack models highlighted in the "Telephones Enroute" column.

Twenty Years Ago In *Pop'Comm*

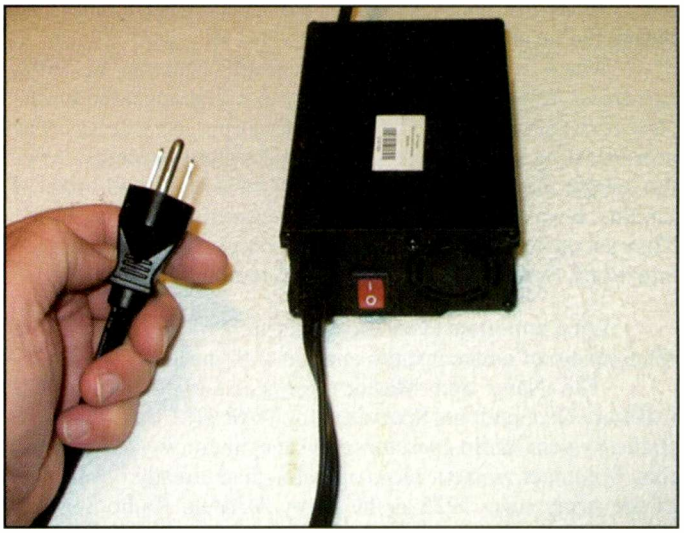
Now there's a picture—on page 5 of the March 1986 *Pop'Comm* to be specific! It's a Motorola ad in Editor Tommy Kneitel's "Beaming In" editorial, showing three characters huddled around a scanner. The title was "Public Safety Communications...Is It Too Public?" We all know the rest of the story with the passage of the ECPA. Money talks!

by Harold Ort, N2RLL, Editor

XPower Powerpack 1500

Hurricanes, floods and other disasters all demand one thing of us: that we're prepared. One of the essentials is power for lights, radios, and small fans, among other things. If you've been thinking about either building or buying a complete, truly portable power system, the XPower Powerpack 1500 is indeed for you. Best of all, you don't "build" anything; it's all self-contained—and on wheels!

Xantrex Technology, Inc., headquartered in Vancouver, British Columbia, has been around for nearly 13 years. Its products include a complete line of consumer and industrial grade power inverters; charge controllers, wind converters, and battery chargers. I've been putting the company's XPower Powerpack 1500 through some pretty rigorous testing for nearly a year now; rather than use a product such as this for a few weeks and give something a glowing report, I'd rather take my time with it and give you a candid report.



The 1500's charger plugs into your wall outlet and can remain connected to the XPower Powerpack, so it's ready when the power goes out.

Walking with the XPower Powerpack is easier than walking Fido.

Solid Unit, Lots Of Useful Features

First off, it's important to point out that, like other self-contained charger/batteries we've reviewed, you're not going to be operating your window air-conditioner or large refrig on this unit, but you *can* run a large box fan on a slow speed, small TV, computer and monitor or laptop, lights and, of course, your DC radio equipment. Best of all, with the 1500 you can run several products at once if you wish.

The XPower Powerpack 1500 supplies up to 1500 watts of AC power. The company states, "...enough to run almost any electronic product or appliance you might connect to your wall outlet at home."

True, but only up to a point. Like I said, that room air conditioner isn't on that list, nor is your home refrig—I tried running ours, and the 1500's circuit tripped. I don't have one of those small, portable refrigerators, but would bet it would power up on the 1500; the specs say the AC output power (10 minutes) is 1500 watts and max *continuous* AC output power is 1350 watts.

So before we look at what it won't power, let's see what works with the 1500 and what you get for an MSRP of $369.99. The XPower Powerpack 1500 has a 60-amp hour battery with a built-in 1500-watt inverter (converts DC power to AC). The entire unit, sealed AGM battery and components, is in a durable container on wheels; the snap-together metal handle collapses for storage/charging.

The unit itself measures approx. 14.5 x 12 x 15.5 inches (HWD) without the handle; height with handle attached and extended is 38 inches. The charger isn't the standard wall wart: it's a heavy-duty box that's the size of a VCR tape. One end plugs into the 110 VAC for charging, and the other end—a fused cigarette lighter plug—plugs into the unit.

Also included is a beefy, fused DC charging cable you can use to jump-start a vehicle. There's even a small handy accessory storage compartment on top of the unit.

Assembling the handle takes seconds; simply slide one section into the other, push a locking button and it's done. As a matter of fact, the XPower Powerpack 1500 itself is similarly easy to understand and operate. The 31-page manual is clear and concise, even if you've never owned a similar powerpack.

The AC power panel, located on the side of the unit doesn't leave you guessing as to what's what, and the dual AC sockets are sturdy. When you plug in a lamp or other 110-VAC device, the sockets remain firm and don't bow to the pressure of plugging in an appliance. Above the sockets is the power-on light and fault light (which illuminates if auto shutdown occurs because of low battery voltage, overload, or over-temp conditions). The small rocker-type switch turns on the two outlets.

Directly above the switch is a series of four small lights that give you the charged status of the battery. They light when you push and briefly hold the switch located above them. On the opposite site of the unit is the DC power panel, a single 12-VDC outlet rated at a max continuous load of 12 amps, the same

The AC panel features two quality outlets that remain firm when plugging in your appliance.

as the socket's circuit-breaking rating. There is a series of vents on both the AC and DC sides of the unit; be careful not to block them, always allowing sufficient airflow.

For The Road

So what if you've got to jump-start a vehicle? This unit doesn't include the two large clamps we've become accustomed to seeing attached to some power supplies, but you *can* use the provided heavy-duty cable by plugging it into the vehicle's cigarette lighter receptacle and the other end into the 1500's DC socket. Alternatively, if you have jumper cables they work perfectly with the 1500; there are two solid terminals on the rear of the unit for such a high power requirement! (As usual, please follow the instructions in your vehicle's manual for proper, safe jump-starting).

Powering Up

I'm always skeptical of manufacturer's claims when it comes to power supplies—after all, it's a lot like gas mileage, and we all know about how "your mileage may vary." Typically that means your mileage will be less.

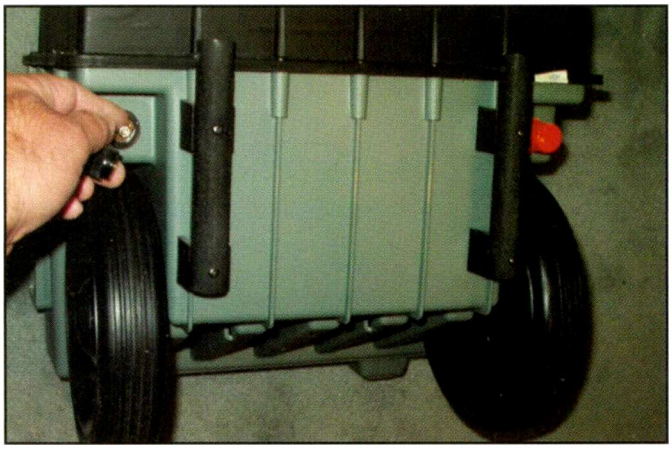
My XPower Powerpack 1500 is always charging. According to the XPower manual, "It is safe and recommended to leave the AC charger connected indefinitely."

I've tested the XPower Powerpack 1500 under some pretty unusual situations and with a lot of different AC and DC equipment over the past year, including with lights during a major power outage that lasted 26 hours in the middle of summer (Murphy's Law of "When It's The Hottest Outside, The Power Goes Out" held fast). Advertised specs say you can run a 40-watt light bulb for 9.5 hours if the battery is fully charged, so I checked out that claim.

It just so happens that we have a small lamp with a 40-watt bulb on a timer that comes on about 6 p.m. and goes off at 10:30. Not that day, of course! I was able to eke out about nine hours of light on a fully charged battery—pretty good. And let's face it, using a smaller-wattage bulb (25 watts for example) would have greatly increased the time. Like I said earlier, you're not going to power your refrig or window AC with this self-contained power supply, but it's enough to get you by during an emergency—and it's portable!

Everybody likes to watch TV during a power failure (except me, I'd rather sit

Given a full charge, you'll have plenty of light from a small lamp. The 1500 provided us with light for about eight hours from a 40-watt lamp, but use a smaller bulb, say 25-watts, and that eight hours could easily be 20.



Need a jump start using those cables you've got in the trunk? Connect them here on the XPower Powerpack and you're on the road.

back and take it in stride—what can you really do anyway?). But just to see how it works and compares with the specs, I plugged in our 13-inch TV/VCR one evening and gave it a shot; the picture was clear and there were no visible interference lines on the screen. Total run time before I decided to turn off and unplug the TV simply because of the sensitive electronics, was just over three and a half hours. The specs say it will run about four hours. For my money, that's well within their claim.

Circular saws, hedge trimmers, and similar devices can suck the life right out of a battery power supply, so it's important to remember a couple of things. First, that momentary power surge when you power up a saw, hedge trimmer, or large fan might be enough to push the unit over the edge and trip the auto overload circuit. The XPower Powerpack 1500 is rated to supply a momentary surge greater than 1350 watts, but much beyond that, it'll shut down temporarily.

I couldn't resist the temptation of using it on my old jig saw, so wheeling the unit to the garage, I gave it a whirl. This jig saw is so old—well, let's just say it clatters a little bit when cutting a 2x4. The battery was fully charged, so I gently pulled the trigger and squeezed a little more; the saw was able to run for a few minutes at about three-fourths its normal capacity. I pulled the trigger fully and the battery shut down.

Resetting the 1500's circuit is no problem; just switch the AC outlets off for a few seconds, then back on. If that doesn't work, let the unit cool down a few minutes and repeat the process, and you'll be back in operation.

Clearly you'll be able to use the 1500 to finish cutting a couple of pieces of wood if the power goes out, or doing a small project in the yard or at a construction site if you don't want to drag out the 100-foot outdoor cable. But don't count on the 1500 to cut a truckload of 2x4s to build a new deck!

Honestly, what I like most about the 1500 is the fact that I can use my ham HT (an Alinco DJ-G5T), or mobile CB attached to the DC socket for days! Days, you ask? That's right. During another power outage (yes, our block is prone to outages if someone sneezes near a pole-mounted transformer!), I plugged in one of those dual receptacle 12-VDC cords that allow you to use two 12-volt devices simultaneously, and used the HT for hours, both as a transceiver and a wideband receiver. My Midland mobile CB, connected to the same outlet (and using a small mag-mount antenna attached to a downstairs radiator) worked flawlessly for days. Remember, both of these transceivers draw very little, even on transmit.

There's also a power lesson here: Using low power on your ham rig is okay; it'll not only conserve precious battery power, but chances are you'll also be heard just as easily as if you were cranked up to 10 watts or more.

The 1500's specs say a portable cooler will operate about 14 hours (if it draws about 30 amps, which is typical), and you can use a portable fluorescent light that draws about 8 watts, for about 75 hours. I decided to test the specs on the lamp, because when the chips are down, in addition to radio, light is king! I bought my small fluorescent light in an automotive store a while back, and it's one of those strange items that was undoubtedly made far, far away and doesn't have a power rating, but it surely doesn't draw a lot of DC amps.

I plugged it in early one Saturday afternoon and it was still going strong the next morning! If you shop around you'll find similar low current lamps. Remember, you don't need to read *War & Peace* in the middle of a hurricane—you just need enough light to see adequately, and the XPower Powerpack 1500 is *indeed* perfect for those times!

Recharging

When the battery runs down, you have four recharging options, and one of them will work for you. You can use that included AC charger, as I do, and simply leave the 1500 plugged into the wall outlet. Best of all, if the power goes out and you're not home, the charging process restarts once power comes back on; there's no need to unplug the unit or do any crazy resetting—it's automatic.

You can recharge the 1500 from your vehicle using the supplied DC charging cable by plugging it into the vehicle's cigarette lighter receptacle or other 12-volt accessory outlet. Start the vehicle first, then plug it in, and remember to keep the engine running. It'll take six to eight hours to fully charge the battery. If you have doubts about this method of charging, check your vehicle's manual or ask your dealer.

Got a generator? You can recharge the 1500 using that, too, as long as the generator's output is regulated and doesn't exceed 15 VDC. The 1500's manual states, "...most of XPower 1500's capacity will be restored in about 6 to 8 hours."

Then there's the old standby: solar energy. A good 12-volt solar panel that's rated to produce a max of 12 amps can charge the 1500. It's a good idea to use a panel with a regulated output or install a charge controller on the 1500's handlebars or on top of the accessory door, because if you leave the panel connected to the unit after charging is complete it can damage the battery.

I only charged the 1500 from the wall outlet, so I can't report on charging times and efficiency from these alternate methods of charging.

Check It Out

The XPower Powerpack weighs in at 60 pounds, but you won't be lifting and lugging it around thanks to the perfectly balanced cart and sturdy wheels. It moves up and down stairs easily, and performs beyond extremely well under different loads and over a long period of evaluation time. And that's an excellent test of this type of product's durability.

For more information on the XPower Powerpack 1500, contact Xantrex at www.xantrex.com and scroll to the "Camping & Outdoors" section. You can also contact one of the company's authorized distributors. Don't forget to tell them that you read about the 1500 in *Popular Communications*. ■

Pop'Comm March 2006 Survey Questions

We're fast approaching the spring and summer severe weather season. With than in mind, I plan on:

Buying my first NOAA receiver.....1
Buying an additional NOAA receiver.....2
Getting my ham license.....3
Upgrading my base antennas after the long winter season.....4
Buying additional battery packs or DC power supplies...5
Giving a pair of FRS transceivers to my spouse (or kids)..6
Checking the frequencies in my scanner.....7
Buying an additional scanner and programming local/regional emergency frequencies.....8
Getting a "go bag" together in case we're evacuated.....9
Doing nothing different than I have in the past.....10

I have enough two-way radios in case there's an emergency

Yes.....11
No.....12
Not Sure.....13

CB radios (base or mobile) are on my emergency radio list

Yes.....14
No.....15

GMRS radios are on my emergency radio list

Yes.....16
No.....17

My emergency "go bag" includes a portable multi-band radio

Yes.....18
No.....19

The Pop'Comm "Homeland Security" column is helpful with my emergency preparedness awareness:

Yes, most of the time.....20
No.....21
Sometimes.....22

by Richard Fisher, KI6SN

Capitol Hill And FCC Actions Affecting Communications

Jury Returns Guilty Verdict In Case Against Unlicensed Jammer

A Southern California radio operator has been found guilty in U.S. District Court on six counts of illegal operation, including unlicensed transmissions and willful and malicious interference. Jack Gerritsen, 69, of Bell, California, faced sentencing in early March 2006 and could serve up to 15 years in federal prison, according to Debra W. Yang, U.S. Attorney for the Central District of California. For a short time, Gerritsen held the amateur radio callsign KG6IRO.

Gerritsen was found guilty of interfering with a Military Affiliate Radio System (MARS) communication in March 2005 and interfering with American Red Cross communications in January 2005. Both are misdemeanors. Additionally, he was found guilty of interfering with U.S. Coast Guard communications in October 2004, a felony. Gerritsen also faced three misdemeanor counts of unlicensed transmission.

"The Federal Communication Commission investigated illegal radio transmissions linked to Gerritsen for four years," according to a statement from Yang's office carried in the American Radio Relay League's *ARRL Letter*. "According to court documents filed in this case, the FCC investigation revealed that Gerritsen transmitted his prerecorded messages, as well as real-time harassment and profanity, for hours at a time, often making it impossible for licensed radio operators to use the public frequencies," the statement said. A federal grand jury indicted Gerritsen in Spring 2005.

Gerritsen served as his own attorney, declining representation by a public defender. Assistant U.S. Attorney Lamar Baker presented the government's case. The jury deliberated for less than an hour before returning its verdict December 9. U.S. District Court Judge R. Gary Klausner revoked Gerritsen's bond, and the defendant was taken into custody after the verdict was read. During the trial, recordings of radio transmissions attributed to Gerritsen were played for the jury.

According to the *ARRL Letter*, "those familiar with [the] court proceedings said Gerritsen tended to focus on freedom of speech issues and sometimes confused those on the stand. Among those testifying at length on behalf of the government was FCC Senior Agent Steven Pierce, who discussed his use of mobile direction-finding equipment and techniques used to track the source of transmissions."

Prior to the trial, the FCC upheld a total of $42,000 in additional fines it had levied on Gerritsen, releasing two $21,000 Notices of Forfeiture (NOF). The commission "rebuffed every argument Gerritsen had offered in responding to each Notice of Apparent Liability, including his insistent 'freedom of speech' claim."

"His unlicensed operation on amateur frequencies is not protected by the U.S. Constitution as it is well established that the right to free speech does not include the right to use radio facilities without a license," the FCC said in a footnote in one of the NOFs, according to the *ARRL Letter*.

In late November, Klausner denied Gerritsen's motion to dismiss the three unlicensed transmission counts, turning away Gerritsen's argument that the FCC could not set aside his amateur radio license without a hearing. Klausner said the effect of the FCC's 2001 set-aside of KG6IRO "was to treat the application as if it had never been granted." The judge ruled that since Gerritsen never held an amateur radio license, he never had the right to a hearing. Last March, the FCC upheld a $10,000 fine against Gerritsen for interfering with amateur radio communications. It has not yet been collected by the government.

FBI agents, accompanied by the FCC, arrested Gerritsen last May and confiscated his radio equipment. Released on $250,000 bond while awaiting trial, Gerritsen remained in home detention, restricted from possessing any radio equipment. Prior to that, in 2000, Gerritsen was convicted of intercepting, obstructing, and interfering with California Highway Patrol radio communications. In November 2001, the FCC's Wireless Telecommunications Bureau issued, then rescinded, Gerritsen's Technician class license, KG6IRO, because of his earlier conviction. While transmitting on Los Angeles-area repeaters, Gerritsen continued to identify as KG6IRO, however.

Radio amateurs on the West Coast vigorously complained about the slow pace of enforcement in the Gerritsen case. Some Los Angeles-area repeater owners had shut down their machines to avoid Gerritsen's almost non-stop interference and political tirades.

New Website Covers VoIP 911 Rules And Regulations

A joint task force on VoIP 911 Enforcement has launched a new website to provide consumers, industry, and state and local governments information about the rules that require certain providers of Voice over Internet Protocol services to supply 911 emergency calling capabilities to their customers. The web address is www.voip911.gov. The FCC and National Association of Regulatory Utility Commissioners (NARUC) partnered in the project.

"Anyone who dials 911 has a reasonable expectation that he or she will be connected to an emergency operator," said FCC Chairman Kevin J. Martin. "This expectation exists whether that person is dialing 911 from a traditional wireline phone, a wireless phone, or a VoIP phone. This new web site will provide an easy way for consumers, industry and other government agencies to get the most current information on this important issue."

The ability to access emergency services by dialing 911 is a vital component of public safety and emergency preparedness, the FCC asserted. "VoIP service allows consumers to place a call like traditional telephone service; however, recent incidents in which consumers using VoIP service dialed 911 but were unable to reach emergency operators have highlighted a critical public safety gap" the commission said in a news release.

"The FCC has taken steps to close this gap by requiring that, effective November 28, 2005, interconnected VoIP providers deliver all 911 calls to the customer's local emergency operator. Interconnected VoIP providers must also provide the customer's call back number and location information to the emer-

gency operator if the emergency operator is capable of receiving this information."

The FCC/NARUC task force was created in July 2005 and its 10 members were named in September. The website launched in November.

APCO Institute Releases New EMD Training Program

APCO Institute Emergency Medical Dispatch (EMD) Refresher Program has been issued by the Association of Public-Safety Communications Officials. The 12-hour, CD-based program of Continuing Dispatch Education (CDE) is contained in a single package designed to be used on a recurring basis "to recertify an entire staff and any new Emergency Medical Dispatchers (EMDs) as needed," APCO said.

According to APCO, the training material "can be used as in-house training or to supplement existing training programs. Each title in this program is a complete course package addressing a specific EMD topic and contains an instructor's guide, a Power Point presentation, student handouts, lesson plan and a student examination that can be used by anyone with subject matter knowledge and the ability to speak in front of a group. No special instructor certification is needed."

APCO says each topic is presented to help "an agency get the most from its training budget and meet the annual continuing dispatch education requirements for EMD. All APCO Institute certified EMDs and EMD Instructors must obtain a minimum of 12 hours CDE per year." In addition, "local policy and procedure can be added, along with practical exercises and simulation to enhance the presentation and customize it to fit an agency's needs."

Subjects in the 2006 Edition include:

- EMD Liability Issues
- EMD Respiratory Emergencies
- EMD Roles and Responsibilities
- Call Prioritization
- Concepts of Liability
- Handling Domestic Violence Calls
- HAZMAT Response for EMS, Fire and Law Enforcement
- Responder Safety for EMS, Fire and Law Enforcement
- Soliciting Critical Information from Child Callers

For more information, visit the APCO International website at www.apcointl.org.

by Tomas Hood, NW7US, pc-prop-man@hfradio.org

Where Are We In The Current Solar Cycle?

Every 11 years the activity of the sun, as evidenced by the number of solar flares, coronal holes, and so forth, reaches a peak called the solar maximum. During the last few cycles, the period beginning at the very bottom of the cycle before and ending at the very peak of the new cycle has averaged about four years. From the peak to the end of the cycle, then, is a slower falling off of activity of about seven years, when the cycle reaches the period of quiet called the solar minimum. During the solar minimum it is rare to see any sunspots and solar flares. We do continue to see occasional coronal mass ejections (CMEs) that affect communications and weather here on Earth.

The current cycle, number 23, started in 1996. Two peaks were observed: The monthly smoothed sunspot number first peaked at 120.8 during April 2000, with a second, lower peak at 115.6, for November 2001. Since these two peaks, we have seen a steady decline in the cycle's activity. After subtracting the four years from the 1996 beginning to the peak during 2000, and then subtracting the last five years, we have roughly a year or so left of this 11-year cycle. Many experts feel that this cycle will end this year, though I'm speculating it will be right at the end, or even during the first part of 2007.

Grayline Propagation

During the daylight hours, the energy from the sun ionizes our upper atmosphere, causing distinct layers of ionized gas to form. These layers comprise the ionosphere. The layer closest to the Earth is called the *D* layer. It generally absorbs some of the energy of a radio wave, and hence the *D* layer is often called the absorption layer.

Higher up in our ionosphere we find the *E* layer, which plays a role in sporadic-*E* (*Es*) propagation, as well as some absorption. Higher yet, we find the *F* layer. The *E* and *F* layers refract radio signals back to Earth if the signals' frequencies are at or below the maximum usable frequency (MUF). During the day, the sun ionizes these *D*, *E*, and *F* layers.

As a radio signal travels through the *D* layer, it gets attenuated. How much attenuation occurs depends on how ionized the 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 large distances.

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 (Kp > 5 or Ap > 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 especially 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 transpolar 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 (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

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 waxes and wanes with an approximate 11-year cycle.

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

D layer has become. During solar flares, X-ray radiation increases the *D* layer ionization. The more intense the X-ray radiation, the denser the layer becomes, and the higher frequencies get blocked. The rest of the time, without the increased X-ray radiation from a solar flare, the daytime *D* layer will only block the lowest HF frequencies, while higher frequencies will lose some of their energy.

If the radio signal makes it through the *D* layer, it then reaches the *E* layer. If the *E* layer is highly ionized (say, during an *Es* condition) and the frequencies are low enough, the signal will be refracted back to the Earth much like a light beam from a flashlight is refracted by a mirror. Lower HF signals tend to be refracted by the *E* layer, especially at night. During the day, the *D* layer generally blocks these lower HF signals.

Higher frequencies, however, punch through the *E* layer and reach the *F* layer. If they are at or below the MUF, they too are refracted back to the Earth, but at greater distances away from their source. This is called skip propagation. Since solar radiation has to travel the farthest to get the *D* Layer, absorption is usually minimal. Unless there is a major solar radiation storm, we have minimal daytime absorption and good skip propagation.

Then things change toward the end of the daylight hours. At sunset, solar radiation no longer strikes the ionosphere and ionization stops. Without this solar radiation, the layers of ionization decrease in density by a process called recombination. This causes the MUF to decrease as well, which is why by total darkness the highest HF bands close down. Those frequencies do not get refracted, but continue on out into space.

The *D* layer is the first layer where ionization stops. Since it is closest to the ground, sunlight no longer reaches it, while higher levels of the atmosphere remain in sunlight. Think about how you can see a passing satellite by the sunlight reflected on its surface while you are standing in darkness; it's dark on the ground, but the satellite is still being illuminated. As the *D* layer goes into recombination, the electron density goes down, and the absorption does down.

During the twilight hours, the *D* layer rapidly loses its ionization and does not absorb radio signals passing through it, while the *E* and *F* layers are still being ionized by sunlight. This makes for about 45 to 60 minutes of stronger signal propagation on a wide range of HF frequencies. As the ionization decreases, lower frequencies start to punch through the *D* layer with almost no signal attenuation. Yet the MUF is still high, allowing long-distance skip propagation. Then, when the sun is blocked from illuminating the *E* and *F* layers, the MUF can drop dramatically and very quickly (within minutes). This twilight zone, where the sun is exactly 12 degrees below the horizon, is called the grayline, or in astronomical terms, the "terminator."

The same principles apply at sunrise; the upper ionosphere begins to become ionized, while the *D* layer is still dark and low in density, offering free passage of very low HF signals, even MW signals.

Signals that are aimed along a path that stays within the grayline often experience significant improvements in propagation. This is what we refer to as grayline propagation, and it's a very exciting way to hear exotic DX signals. These signals may be coming in from the long path as well as the short path, but always along this grayline.

There is an excellent article regarding gray-line propagation at Steve Nichols' G0KYA Internet webpage, http://www.qsl. net/g0kya/radcom.html. Steve, a member of the Radio Society of Great Britain's Propagation Studies Committee, believes that propagation around sunrise and sunset is not fully understood. His article outlines the mechanisms behind grayline and other twilight propagation modes, and also explains a research project designed to better understand these modes. Check it out.

As we are right at the bottom of solar cycle 23, grayline propagation will bring exciting DX. Tune around the lower shortwave bands about an hour before sunrise and again right before sunset to look for these long-distance signals. Of course, grayline DX will occur on most of the HF spectrum, but is quite noticeable on these lower shortwave bands, since DX signals on these bands are rare.

Current Solar Cycle 23 Progress

The Royal Observatory of Belgium reports that the monthly mean observed sunspot number for November 2005 is 18, compared to a year ago when it was 44. Remember that October 2005 had a count of only 8.5 though, so solar activity briefly picked up for November. The lowest daily sunspot value during November was recorded on November 10 and 11 at zero sunspots. The highest daily sunspot count was 33 on November 20. The 12-month running smoothed sunspot number centered on May 2005 is 29, compared to a year ago when it was 44. A smoothed sunspot count of 9 or 10 is expected for March 2006 by the SIDC (Solar Influences Data analysis Center). However, the model allows for this to be as low as zero or as high as 23.

The Dominion Radio Astrophysical Observatory at Penticton, BC, Canada, reports a 10.7-centimeter observed monthly mean solar flux of 86.3 for November 2005 (compared to 113 for last year). The 12-month smoothed 10.7-centimeter flux centered on May 2005 is 93.2, compared to last year's 109. The predicted smoothed 10.7-centimeter solar flux for March 2006 is about 74, give or take about 16 points.

The observed monthly mean planetary A-Index (Ap) for November 2005 is a very quiet 8, compared to last year's 26. The 12-month smoothed Ap index centered on May 2005 is 14.8, which actually is comparable to last year's 14. Expect the overall geomagnetic activity to be very quiet to active during most days in March. There is a possibility for a weak to moderate geomagnetic storm if we experience any elevated solar wind and plasma cloud passage from coronal holes and since we are in the season of the Spring Equinox.

HF Propagation

March is one of the optimal DX months. As the Spring Equinox approaches, the grayline begins to run straight north and south. With reasonably high average 10.7-centimeter flux numbers and the return of sunlight to the polar north, north/south openings on 11 through 25 meters are quickly improving. However, since we are past the peak, east/west path openings on higher frequencies will be shorter than in the last few years.

Sixteen meters will still stay open long into the evenings. You will occasionally find 16 meters open all night long. Daytime paths will not degrade much until midsummer. You will see more early closures if you live closer to the North Pole.

Twenty-two and 19 meters will remain in excellent shape. Both short-and long-path circuits are reliable and solid. All nighttime paths are wide open during March. Prime time evening hours in the United States are sunrise hours across Russia, Africa, and both the Near and Far East. Expect a lot of short and long path DX from these areas of the world.

Optimum Working Frequencies (MHz) - For March 2006 - Flux = 74, Created by NW7US

UTC TO/FROM US WEST COAST	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CARIBBEAN	21	20	18	16	14	13	12	12	11	10	10	10	9	11	16	18	20	21	21	22	22	22	22	21
NORTHERN SOUTH AMERICA	28	27	26	23	21	19	18	17	16	15	14	13	13	12	18	21	23	24	25	26	27	28	28	28
CENTRAL SOUTH AMERICA	27	25	23	21	19	18	17	16	15	14	13	13	13	13	20	23	25	26	27	27	28	28	28	28
SOUTHERN SOUTH AMERICA	29	28	27	24	22	20	19	17	16	15	14	14	14	13	15	20	24	26	27	29	29	30	30	29
WESTERN EUROPE	9	9	9	8	8	8	8	9	9	8	8	8	8	13	15	16	17	18	17	17	16	15	13	10
EASTERN EUROPE	9	8	10	11	12	10	9	9	9	8	8	8	8	11	14	15	15	15	14	14	14	13	12	11
EASTERN NORTH AMERICA	23	21	19	15	14	13	12	12	11	11	10	10	10	15	19	21	23	24	24	24	25	24	24	24
CENTRAL NORTH AMERICA	13	12	12	10	8	7	7	6	6	6	6	6	5	5	9	11	12	13	13	13	14	14	14	13
WESTERN NORTH AMERICA	7	7	6	6	5	4	4	3	3	3	3	3	3	3	2	5	6	6	7	7	7	7	7	7
SOUTHERN NORTH AMERICA	22	21	20	18	15	14	13	12	11	11	10	10	10	9	14	17	19	21	22	22	23	23	23	22
NORTHERN AFRICA	10	9	9	9	9	8	8	9	9	8	8	8	8	14	16	17	18	18	18	17	15	12	11	10
CENTRAL AFRICA	13	13	12	11	10	10	9	9	9	8	8	8	8	13	15	17	17	18	18	19	18	17	15	14
SOUTH AFRICA	19	17	16	12	12	11	11	10	10	10	10	10	9	17	19	21	22	23	23	23	23	23	22	20
MIDDLE EAST	9	8	8	8	9	10	9	9	9	8	8	8	8	12	15	16	17	16	14	10	10	9	9	9
JAPAN	19	19	19	18	17	16	14	10	10	9	9	9	8	8	8	8	8	8	8	8	14	16	18	19
CENTRAL ASIA	19	19	19	18	17	16	14	10	10	9	9	9	8	8	8	8	12	12	12	11	11	11	16	19
INDIA	12	12	12	13	13	13	10	9	9	9	8	8	8	8	8	8	8	8	8	9	10	11	11	12
THAILAND	17	19	18	18	17	16	14	10	10	9	9	9	8	8	8	8	13	15	14	13	12	12	11	13
AUSTRALIA	24	25	26	27	26	24	21	19	18	16	15	15	14	13	13	12	15	15	14	14	14	18	20	22
CHINA	17	18	18	18	17	15	13	10	10	9	9	9	8	8	8	8	9	9	8	8	8	8	14	16
SOUTH PACIFIC	28	29	29	28	27	25	22	20	19	17	16	15	14	14	13	13	14	14	14	19	22	24	26	27

UTC TO/FROM US MIDWEST	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CARIBBEAN	24	22	21	19	17	16	15	14	13	12	12	11	11	16	19	21	23	24	25	25	25	25	25	25
NORTHERN SOUTH AMERICA	26	25	24	22	20	18	17	16	15	14	13	12	12	15	17	20	21	23	24	25	25	26	26	26
CENTRAL SOUTH AMERICA	27	25	23	21	19	18	17	16	15	14	13	13	13	19	22	23	25	26	27	27	28	28	28	28
SOUTHERN SOUTH AMERICA	29	28	26	24	22	20	18	17	16	15	14	14	13	15	20	23	25	27	28	29	30	30	30	29
WESTERN EUROPE	9	9	9	8	8	8	8	8	8	8	8	10	14	16	17	18	18	18	18	17	16	15	13	10
EASTERN EUROPE	9	9	8	8	8	9	9	9	8	8	8	8	13	15	17	17	16	16	16	15	14	14	12	9
EASTERN NORTH AMERICA	16	15	13	11	10	10	9	9	8	8	8	7	8	13	15	16	17	17	18	18	18	18	17	17
CENTRAL NORTH AMERICA	8	7	6	5	4	4	4	4	3	3	3	3	3	5	6	7	7	8	8	8	8	8	8	8
WESTERN NORTH AMERICA	13	13	12	11	8	8	7	7	6	6	6	6	6	5	9	11	12	13	13	14	14	14	14	13
SOUTHERN NORTH AMERICA	15	15	13	12	11	10	9	9	8	8	7	7	7	8	11	13	14	15	16	16	16	16	16	16
NORTHERN AFRICA	13	12	10	10	9	9	9	8	8	8	8	11	15	17	18	19	19	19	20	20	19	16	15	14
CENTRAL AFRICA	14	13	10	10	9	9	9	8	8	8	8	11	15	17	18	19	19	19	20	20	19	18	16	15
SOUTH AFRICA	19	18	16	15	15	14	13	14	13	13	12	12	20	24	26	27	29	29	29	28	27	25	22	21
MIDDLE EAST	9	9	8	8	8	9	9	9	8	8	8	10	14	16	17	18	18	17	15	12	11	10	10	9
JAPAN	19	18	17	16	14	10	10	9	9	9	8	8	8	8	9	9	8	8	8	8	13	16	17	18
CENTRAL ASIA	19	18	17	16	14	10	10	9	9	9	8	8	8	8	12	14	13	12	12	11	11	10	16	19
INDIA	8	8	8	9	9	9	9	9	8	8	8	8	9	9	9	8	8	8	8	8	8	8	8	7
THAILAND	16	18	17	15	13	10	10	9	9	9	8	8	8	8	14	15	16	15	14	13	12	12	11	11
AUSTRALIA	24	26	27	26	23	20	18	17	16	15	14	14	13	13	12	17	16	15	14	14	15	18	21	23
CHINA	17	17	17	15	13	10	10	9	9	9	8	8	8	8	10	9	9	9	8	8	8	8	13	15
SOUTH PACIFIC	29	29	28	27	24	22	20	19	17	16	15	14	14	13	13	15	14	13	16	20	23	25	27	28

UTC TO/FROM US EAST COAST	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CARIBBEAN	19	18	16	15	14	13	12	11	10	10	9	9	11	14	16	18	19	19	20	20	21	20	20	20
NORTHERN SOUTH AMERICA	23	22	20	19	17	16	14	13	13	12	11	11	12	14	17	18	20	21	22	22	23	23	23	23
CENTRAL SOUTH AMERICA	27	24	22	20	19	17	16	15	14	14	13	13	18	20	22	23	25	26	26	27	27	28	28	27
SOUTHERN SOUTH AMERICA	28	27	25	23	21	19	18	17	16	15	14	13	15	19	22	24	26	27	28	29	29	29	29	29
WESTERN EUROPE	9	9	8	8	8	8	8	7	8	7	12	15	16	17	18	18	18	18	17	17	16	15	12	9
EASTERN EUROPE	9	9	8	8	8	8	8	8	8	8	11	15	16	18	18	18	17	17	16	16	15	13	10	9
EASTERN NORTH AMERICA	7	7	6	5	5	5	4	4	4	4	3	3	5	7	7	8	8	9	9	9	9	9	8	8
CENTRAL NORTH AMERICA	17	16	13	11	11	10	9	9	9	8	8	8	9	14	16	17	18	18	19	19	19	19	18	18
WESTERN NORTH AMERICA	23	21	19	15	14	13	12	12	11	11	11	10	10	15	19	21	23	24	24	25	25	25	24	24
SOUTHERN NORTH AMERICA	19	17	16	14	13	12	11	11	10	9	9	9	8	13	16	17	18	19	20	20	20	20	20	19
NORTHERN AFRICA	14	13	12	12	11	11	11	11	10	10	15	19	21	23	24	24	25	24	24	22	21	18	16	15
CENTRAL AFRICA	15	14	13	12	12	11	11	11	10	10	15	19	21	23	24	24	25	25	24	23	21	19	17	16
SOUTH AFRICA	19	18	16	15	15	14	13	15	14	13	13	18	22	25	27	28	29	29	29	28	27	25	22	21
MIDDLE EAST	12	10	10	9	9	9	9	8	8	8	13	16	17	18	19	20	20	20	20	17	15	14	13	12
JAPAN	17	16	14	10	10	9	9	9	8	8	8	8	10	9	9	9	8	8	8	8	12	15	17	18
CENTRAL ASIA	17	16	13	10	10	9	9	9	8	8	8	8	13	15	14	13	13	12	11	11	11	10	14	18
INDIA	8	8	8	8	9	9	9	8	8	8	8	13	14	14	14	13	13	13	12	12	11	10	9	8
THAILAND	15	14	10	10	9	9	9	8	8	8	8	12	15	17	18	17	16	15	14	13	12	12	11	11
AUSTRALIA	25	26	25	22	20	18	17	16	15	14	14	13	13	15	18	17	16	15	14	13	16	19	21	23
CHINA	16	15	12	10	9	9	9	9	8	8	8	10	14	12	10	9	9	9	9	8	8	8	9	14
SOUTH PACIFIC	29	28	27	24	22	20	19	17	16	15	14	14	13	15	15	14	13	13	18	22	25	27	28	29

Between sunset and midnight, expect occasional DX openings on all bands between 15 and 41 meters when conditions are high. Conditions should favor openings from the east and south. These bands should peak for openings from Europe and Africa near midnight.

From midnight to sunrise, expect optimum DX conditions on 31 through 90 meters, and occasionally on 120 meters. Conditions should favor openings from the west and south. Some rather good openings on 19 and 22 meters should also be possible from the south and west during this time.

Noise levels are slowly increasing as we move toward the spring season. Geomagnetic storms will increase, disrupting the mid- and high-latitude ionosphere. During the Spring Equinox, Earth's magnetic field is sufficiently perturbed by solar wind particles flowing into the auroral zone (between 50 and 70 degrees north geographic latitude) to cause the ionosphere to be depleted. During days of high solar activity (CMEs, high-speed solar winds, flares, and so on), an increase in aurora and geomagnetic storms will shut down many paths, while VHF openings off of the auroral zone may increase.

Daytime MUFs continue to drop and the Ap is on the rise, so take advantage of the current excellent conditions and listen to the world! Look for grayline DX in the mornings and evenings on lower frequencies. Transequatorial propagation will be more likely 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). *Es* openings should be increasing, for shorter-range openings.

Wanted: Your Feedback

How do you rate the current solar cycle, in terms of DX openings, quality of signals, and so forth, compared to the last few years? Do you have any interesting stories about current propagation conditions? Do you have any questions about propagation? Please e-mail me or write a letter. I would like to hear from you. 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/ and for WAP users at http://wap.hfradio.org/. You may also subscribe to my Propagation eAlerts (free of charge) by going to http://prop.hfradio.org/ealert/ and filling out the online form.

Until next month, 73s and good DX! ■

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

This listing is designed to help you hear more shortwave broadcasting stations. The list includes 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
0000	9745	China Radio Int., via Bonaire	SS
0000	11885	Radio Cairo, Egypt	AA
0000	11780	Radio Nacional Amazonia, Brazil	PP
0000	11690	Radio Vilnius, Lithuania	Lithuanian
0030	6165	Radio Nederland Relay, Bonaire, NWI	
0030	3249	Radio Luz y Vida, Honduras	SS
0030	11920	HCJB, Ecuador	PP
0030	7285	Voice of Croatia via Germany	Croatian
0030	15280	BBC Relay, Thailand	
0030	13605	All India Radio	
0100	9700	Radio Bulgaria	BB
0100	9655	Deutsche Welle Relay, Rwanda	GG
0100	7455	Radio Tirana, Albania	
0100	4800	Radio Buenas Nuevas, Guatemala	SS
0100	6175	Voice of Vietnam, via Canada	
0100	7345	Radio Prague Int., Czech Republic	
0100	5952	Radio Pio XII, Bolivia	SS
0100	6215	Radio Baluarte, Argentina	SS
0130	9535	Radio Exterior de Espana, Spain	SS
0130	4885	Radio Clube do Para, Brazil	PP
0130	9570	China Radio Int, via Albania	unid
0130	7545	Kol Israel	HH
0130	6120	Voice of Justice, Iran	
0130	4765	Radio Rural Santarem, Brazil	PP
0200	6139v	Radio Lider, Colombia	SS
0200	4819	La Voz Evangelica, Honduras	SS
0200	9665	Voice of Russia relay, Moldova	
0200	4052.5	Radio Verdad, Guatemala	SS
0200	4780	Radio Cultural Coatan, Guatemala	SS
0200	9737	Radio Nacional, Paraguay	SS
0200	9720	RTT Tunisienne, Tunisia	AA
0230	9560	KBS World, South Korea	
0230	4915	Radio Nacional Macapa, Brazil	PP
0230	7160	Radio Tirana, Albania	
0230	4940	Radio Amazonia, Venezuela	SS
0230	9780	Republic of Yemen Radio	AA
0230	7270	Voice of Turkey	
0230	10330	All India Radio	Hindi
0230	4985	Radio Brasil Central, Brazil	PP
0230	12010	Voice of Russia	RR
0300	5910	Radio Ukraine Int.	
0300	3200	Trans World Radio, Swaziland	vern
0300	3340	Radio Misiones Int., Honduras	SS
0300	4780	RTV Djibouti	FF
0300	6940	Radio Fana, Ethiopia	Amharic
0300	5025	Radio Rebelde, Cuba	
0300	4910	Radio Zambia	
0300	3255	BBC relay, South Africa	
0300	7110	Radio Ethiopia	Amharic
0330	6025	Radio Budapest, Hungary	
0330	4810	Radio Transcontinental, Mexico	SS
0330	9660	Radio Japan/NHK, via French Guiana	PP
0330	4976	Radio Uganda	
0330	3320	Radio Sondergrense, South Africa	Afrikaans
0400	4775	Trans World Radio, Swaziland	EE/GG
0400	11690	Radio Okapo, Congo (Rep) via South Africa	
0400	5500	Voice of the Tigray Revolution,	Clandestine
0430	4960	Voice of America relay, Sao Tome	
0430	7390	Channel Africa, South Africa	
0430	7350	Voice of Russia via Vatican	
0430	9780	Radio Romania Int.	
0430	4890	Radio France Int. Relay, Gabon	FF
0500	9625	CBC Northern Quebec Service, Canada	
0500	4990	Radio Apinte, Suriname	DD
0500	7255	Voice of Nigeria	
0500	9840	Voice of Russia	
0500	9575	Radio Medi Un, Morocco	FF
0500	9420	Voice of Greece	Greek
0530	6185	Radio Educacion, Mexico	SS
0530	5005	Radio Nacional, Equatorial Guinea	SS
0530	9550	Radio Havana Cuba	
0600	4845	Radio Mauritaine, Mauritania	AA
0600	5950	Radio Bethel, Peru	SS
0600	7250	Vatican Radio	
0600	4760	ELWA, Liberia	
0700	6070	CFRX, Canada	
0700	6115	Radio Union, Peru	SS
0700	9525	Star Radio, Liberia, via Ascension	
0700	7125	Radio Conakry, Guinea	FF
0800	6160	CKZN, Newfoundland	
0800	5035	Radio Aparecida, Brazil	PP
0830	3291	Voice of Guyana	
0830	6005	Deutschland Radio, Germany	GG
0900	6040	Radio Clube Paranaense, Brazil	PP
0900	3279	La Voz del Napo, Ecuador	SS
0900	6060	Radio Nacional, Argentina	SS
0900	6135	Radio Santa Cruz, Bolivia	SS
0900	6350	AFN/AFRTS, Hawaii	

UTC	Freq.	Station/Country	Notes
0930	5960	Voz Cristiana, Chile	SS
0930	6250	Pyongyang Broadcasting Station, N. Korea	KK
0930	9665	Radio Marumby, Brazil	PP
0930	11735	Radio Trans Mundial, Brazil	PP
0930	3310	Radio Mosoj Chaska, Bolivia	SS
0930	5044	TIFC, Costa Rica	SS
0930	5960	Radio Tikhy Okean, Russia	RR
0930	3220	HCJB, Ecuador	SS
1000	4845	Radio Municipal, Bolivia	SS
1000	4919	Radio Quito, Ecuador	SS
1000	4955	Radio Cultura Amuata, Peru	QQ
1000	6010	Radio Mil, Mexico	SS
1000	5990	Radio Senado, Brazil	PP
1030	6010	La Voz de su Concencia, Colombia	SS
1030	5020	Solomon Is. Broadcasting Corp.	
1030	5040	Voz de Upano, Ecuador	SS
1030	5446.5	AFN/AFRTS, Florida	
1100	9885	Radio New Zealand Int.	
1130	11530	Voice of Mesopotamia, via Moldova	Clandestine Kurdish
1130	4890	NBC, Papua New Guinea	
1130	6130	Lao National Radio, Laos	Laotian
1130	9440	China Radio Int.	CC
1130	9595	Radio Nikkei, Japan	JJ
1200	11590	Radio Free Asia, USA, via Armenia	unid
1200	11580	KFBS, Saipan, Northern Marianas	CC
1200	7190	Radio Tashkent, Uzbekistan	
1230	11805	Voice of America relay, Northern Marianas	CC
1230	9740	BBC Relay, Singapore	
1230	11500	Voice of Russia via Tajikistan	Hindi
1230	9900	Deutsche Welle, Germany, via Russia	GG
1230	9855	Radio Thailand	
1230	11640	CBS, Taiwan	CC
1230	9965	KHBN, Palau	CC
1300	12065	Radio Nederland via Uzbekistan	unid
1300	11555	KWHR, Hawaii	
1300	21675	Radio Jamahiriya/Voice of Africa, Libya	AA/EE
1300	11830	Radio Romania Int.	
1300	9590	Radio Australia	
1300	11870	KNLS, Alaska	
1300	9525	Voice of Indonesia	various
1300	9525	Radio Polonium, Poland	
1330	11980	China National radio	
1330	6150	938 Live, Singapore	
1330	11940	Trans World Bc Ministry, Taiwan	CC
1400	15140	Radio Sultanate of Oman	
1400	17820	Radio Canada Int.	
1430	17535	Kol Israel	HH
1500	11550	Radio Sweden	Swedish
1500	17770	Channel Africa, South Africa	
1500	11710	Voice of Korea, North Korea	
1500	7320	Far East Broadcasting Co., via Russia	
1500	11690	Radio Jordan	
1500	13740	China Radio Int., via Cuba	
1530	11600	Radio Slovakia Int.	Slovak
1530	15225	Adventist World Radio, via UAE	
1530	15350	Voice of Turkey	TT
1530	13775	Radio Austria Int.	
1600	11920	YLE/Radio Finland Int.	
1600	11570	Radio Pakistan	
1600	11990	Radio Kuwait	AA
1600	12005	RTT Tunisienne, Tunisia	AA
1630	13675	Radio Austria Int., via Canada	
1700	21610	Radio Exterior de Espana, Spain	SS
1700	15250	RAI Int., Italy	II
1700	17570	RTBF, Belgium	FF
1730	15190	Radio Pilipinas, Philippines	Tagalog
1730	17810	United Nations Radio, via Ascension Is.	
1730	11705	Sudan Radio Service, England	
1800	15240	Voice of America, via Morocco	
1800	15085	Voice of Islamic Rep. of Iran	various
1830	15560	RDP Int., Portugal	PP
1830	11680	Voice International, Australia	unid
1900	11820	BSKSA, Saudi Arabia	Holy Koran
1900	15345	RTV Marocaine, Morocco	AA
1900	11625	Vatican Radio	SS
1900	15640	Kol Israel	HH
1930	9965	Voice of Armenia	
2000	17680	Voz Cristiana, Chile	SS
2000	11845	Adventist World Radio via South Africa	FF
2030	11735	Radio Tanzania, Zanzibar	AA
2030	15476	Radio Nacional Arcangel San Gabriel, Antarctica	SS
2030	13680	Radio Nacional, Venezuela, via Cuba	SS
2030	11665	Radio Nederland, via Madagascar	
2030	12080	Voice of America relay, Botswana	FF
2100	7380	Voice of Biafra Int. CLAND, via South Africa	EE/vern
2100	9480	Africa No. One, Gabon	FF
2100	12050	Egyptian Radio	AA
2130	12075	Radio Free Asia, USA via No. Marianas	unid
2130	9870	BSKSA, Saudi Arabia	AA
2130	11815	Radio Brazil Central, Brazil	PP
2130	7450	Radio Makedonias, Greece	Greek
2130	7475	Voice of Greece	Greek
2130	9410	BBC relay, Cyprus	
2130	11715	All India Radio, (Goa)	
2130	7280	Radio Belarus	
2200	6165	Rdf. Nationale Tchadienne, Chad	FF
2200	11690	Deutsche Welle Relay, Rwanda	
2200	15515	Radio Australia	
2200	7590	AFN/AFRTS, Iceland	
2230	9605	BBC Relay, Seychelles Is.	
2230	9565	Radio Tupi/Universal, Brazil	PP
2230	4873	Rdf. TV Malienne, Mali	FF
2230	11635	Radio Taiwan In.	CC
2230	5470	Radio Veritas, Liberia	
2230	9435	FEBC Radio Int., Philippines	
2300	11690	Deutsche Welle, Germany, via Canada	GG
2300	17810	Radio Japan/NHK	
2300	9675	Radio Cancao nova, Brazil	PP
2330	17675	Radio New Zealand Int.	
2330	,5030	Radio Burkina, Burkina Faso	FF
2330	17740	Voice of America relay, Philippines	

by Harold Ort, N2RLL

New, Interesting, And Useful Communications Products

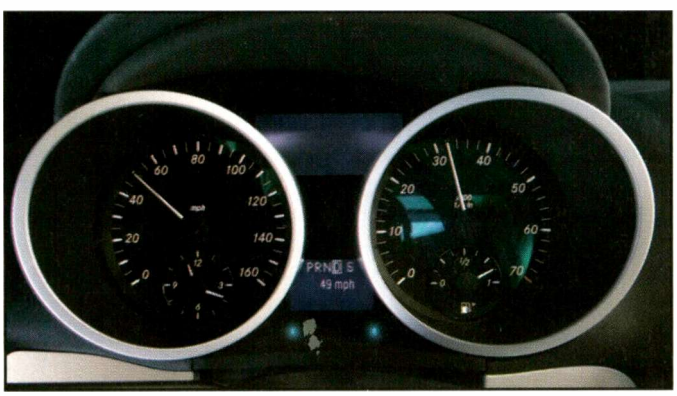
K40's New Calibre Bluetooth-Enabled Wireless Remote Radar Detection System

K40 Electronics has introduced Calibre, the world's first Bluetooth-enabled wireless remote radar and laser protection system that integrates into any vehicle to safeguard driving records and new vehicle warranties. Bluetooth is a standard developed by electronics manufacturers that allows electronic devices to connect and communicate with each other without wires, cables, or any user input. Approximately 17 vehicle manufacturers presently offer Bluetooth as a factory-installed feature and it is estimated that 22 million vehicles will come equipped with Bluetooth by 2008.

Calibre's Wireless One-Touch remote control is a handheld remote control that maximizes driving pleasure while minimizing the driver's need to interact with Calibre. When a driver changes an On/Off, City/Highway, Voice/Tone, and Volume/Mute mode setting, Calibre acknowledges the selection with a corresponding verbal confirmation. An Easy Mute feature enables drivers to quickly mute radar warnings with a single press of any One-Touch button. Calibre's Datadyne processors deliver a significant increase in sensitivity and consistency to all police radar frequencies.

According to K40, it's the only remote radar system with a patented front and rear receiver design. Individual Bluetooth-enabled receivers are hidden behind the front grill *and* rear bumper for fast reaction to and warning of radar signals. When a valid signal is received, the verbal warning mode plays through an audio quality speaker to clearly inform drivers of the exact police radar direction and band being used. With its wireless network, Calibre eliminates dangling cords and obstructed windshield vision for a factory-installed appearance. The only visible system components are blue light points mounted in the instrument panel to indicate radar threat direction.

Calibre is available in four models with suggested retail installed prices ranging from $899.95 for the Calibre SL-P Single Remote Radar to $1,699.95 for the Calibre DL Dual Remote Radar. Drivers seeking protection from police laser guns can add the optional Bluetooth-enabled Laser Defuser (LD5500 BT), which retails for $318.95. Additional product information and dealer locations can be obtained by calling K40 at 800-323-6768 or by visiting its website at www.k40.com. Be sure to tell them you read about Calibre in *Pop'Comm*!



K40's New Calibre Bluetooth-enabled wireless remote radar detection system integrates into any vehicle to safeguard driving records and new vehicle warranties.

The new MFJ 834 coax in-line RF ammeter connects between your antenna and tuner/transmitter/amplifier and measures antenna feedline current in three calibrated ranges.

New MFJ RF Current Meters

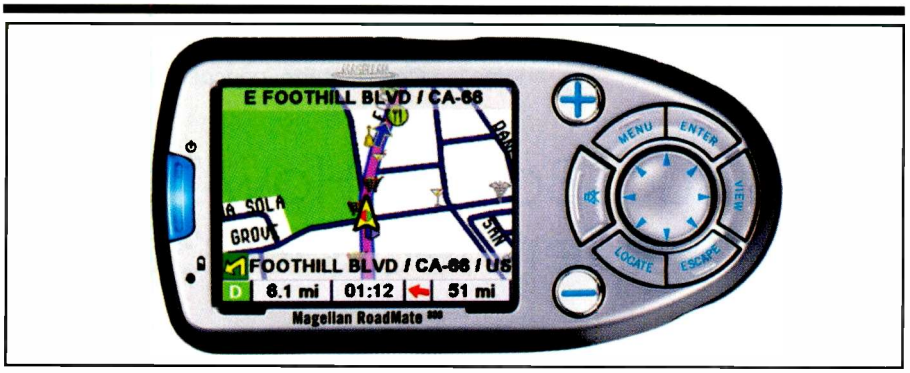
MFJ Enterprises' MFJ-834 coax in-line RF ammeter connects between your antenna and tuner/transmitter/amplifier and measures antenna feedline current in three calibrated ranges. You can use it for tuning your antenna tuner/transmitter/amplifier for maximum radiated power, to determine your antenna feedpoint impedance, to compare antennas and tuners, for troubleshooting, and for checking for changes in your system. Tuning for maximum feedline current for any given antenna always gives you maximum radiated power.

Use the MFJ-834 to determine the best antenna tuner settings and to compare various tuners. Calculate your antenna feedpoint impedance by dividing your applied power by the square of the feedpoint current. You already know that your antenna can change when you apply power—insulators break down, traps heat up, capacitors leak—and your feedpoint impedance may be drastically different from your SWR analyzer measurements. The MFJ-834 accurately reads over a 1- to 30-MHz range in three linear ranges. It has a large three-inch lighted meter and uses either 12 VDC or 110 VAC (with MFJ-1312D, $14.95). The unit has SO-239 connectors and measures 3.5 x 6 x 4.5 (HWD) inches.

The MFJ-834 is $69.95; the MFJ-834H, which is like the 834 but with 3, 10, and 30 amps high current ranges, is $79.95. For more information contact MFJ Enterprises at 662-323-5869, write to 300 Industrial Park Road, Starkville, MS 39759 or go online to www.mfjenterprises.com.

New Battery-Powered Magellan RoadMate 800 Delivers Car Navigation, Music Player, And Photo Viewer

Thales Navigation, creators of Hertz NeverLost and global provider of Magellan Consumer GPS products, announced its new



Here's the new touch-screen Magellan RoadMate 800, a portable vehicle navigation system with integrated battery power, a music player and photo viewer.

color, touch-screen Magellan RoadMate 800, a portable vehicle navigation system with integrated battery power, a music player, and photo viewer. According to the company, the Magellan RoadMate 800 is a multimedia travel partner, delivering a three-dimensional "bird's-eye" map view and preloaded maps in its 20-GB hard drive for out-of-the-box, turn-by-turn, text- and voice-prompted directions using the latest NAVTEQ data for all 50 United States, Puerto Rico, Canada, and the U.S. Virgin Islands. For an additional fee, drivers can also access maps for 27 European countries, preloaded on the large hard drive for traveling abroad.

The Magellan RoadMate 800 offers a large 3.5-inch, high-resolution daylight visible TFT (thin film transistor) color touch screen with a 3-D overhead map view or 2D view. A SmartVolume feature automatically increases the integrated speaker's volume when speed exceeds 45 mph and the map color changes automatically for better visibility at night. In addition, QuickSpell provides fast and easy address entry.

When the unit's navigation feature is not in use, drivers can listen to music and create play lists or view photos and slide shows from Secure Digital (SD) cards, MMC cards, or the hard drive. The system's USB 2.0 connectivity provides fast transfers of digital images, MP3 and WMA files to more than 4.5 GB of available internal memory, freeing space on digital cameras when the memory becomes full while traveling.

You can also save up to 20 trips with 20 destinations each. Route optimization will find the shortest route between them. Drivers can also view a destination on the map before routing, the route recalculates after missed turns, and the Locate key lets you tell roadside assistance your exact location. Drivers can enter a zip code or city to narrow a destination search and can select a destination by intersection, street address, previous destination, by touching a point on the map screen or by choosing a point of interest (POI) from the searchable database of more than six million businesses. Users can also see POI icons on the map screen and can route to one by touching the icon. In addition, a home button provides instant routing to the frequent destination of choice.

The new Magellan RoadMate 800 can be used in any vehicle without professional installation. It ships with a large suction cup windshield mount and cradle, a USB cable, AC adaptor, headphones, and a vehicle power adapter. For more information on products and accessories, visit www.magellanGPS.com.

MFJ Hang & Play End-fed Zepp Antennas

When an end-fed antenna is desirable or when a center-fed antenna is not possible or convenient, these MFJ Hang & Play end-fed Zepp antennas are at your service in a completely assembled single-band half-wave antenna designed for direct coax feed. There's no cutting, soldering, tuning, or trimming. They handle a full 1500 watts legal limit with low SWR. The antennas radiate in a wide broadside pattern and the feedline/stub can be "bent" at the bottom and pulled away at an angle. Included are a fiberglass feedpoint insulator, glazed ceramic insulator, and heavy-duty seven-strand 14-gauge hard copper wire and solderless crimped construction. The fiberglass SO-239 mount provides stress relief for the ladder line.

Five models are available: the MFJ-6115 15-meter, 23-foot horizontal, 11-foot vertical stub is $31.95; the MFJ-6117 17-meter, 28-foot horizontal, 14-foot vertical stub is $33.95; the MFJ-6120 20-meter, 33-foot horizontal, 18-foot vertical stub is $34.95; the MFJ-6130 30-meter, 48-foot horizontal, 24-foot vertical stub is $39.95; and the MFJ-6140 40-meter, 67-foot horizontal, 34-foot vertical stub is $44.95. Coaxial feedline is not included.

For more information, contact MFJ Enterprises at 662-323-5869 or visit them online at www.mfjenterprises.com. ■

by Joe Cooper, carm_popcomm@hotmail.com

Learning Microsoft Visual Basic—How To Build A CAT Program For Ten-Tec's RX-320D

As followers of this column now know, affordable high-speed PCs make it possible to take a radio signal and turn it into digital information. This digital information is then processed through a "virtual" radio created by computer software and indistinguishable in its performance from a "real radio." So rather than creating "real" radio circuits with wires, circuit boards, and traditional components, software programmers now create those electronic parts in "virtual" form by representing them as a mathematical formula.

As a result, the shop bench of the days of analog radio, with its soldering iron, tools, and test equipment, is being replaced by a PC loaded with programming software. Rather than bringing about the end of the radio monitoring hobby, the PC has actually created an exciting *new* opportunity for the radio-monitoring hobby to revitalize itself, particularly for those people who like to build their own equipment. The challenge is to learn how to write software programs that will create "virtual" radios in their computers.

Taking Up The Programming Challenge

So if you want to learn how to create a virtual radio through software programming, how do you get started. The last two columns have outlined how to begin to do just that, and last month I introduced you to two very important programming languages that can be used to create applications for running virtual radios, Microsoft Visual C++ and Visual Basic.

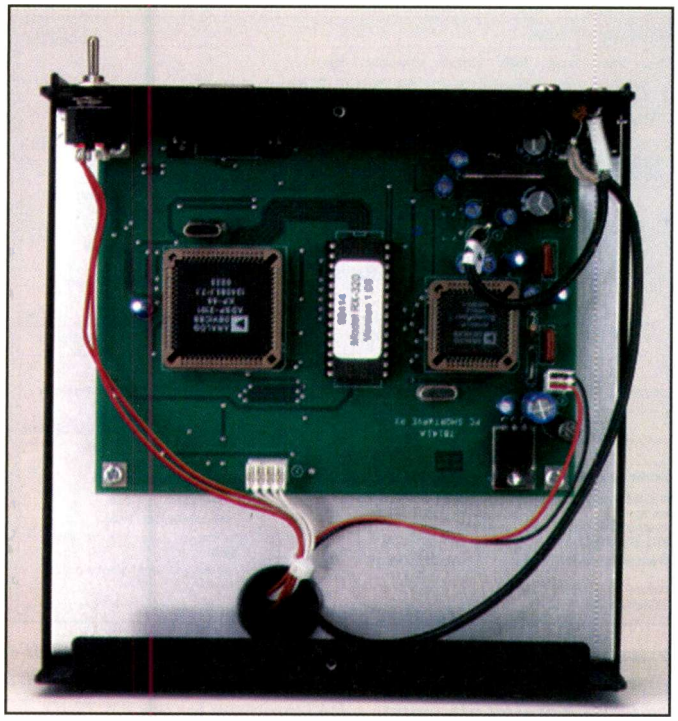
I focused on these products because Microsoft is offering them, along with online training, for free for a one-year period through the Microsoft Express program (http://msdn.microsoft.com/vstudio/express/default.aspx), designed to get more people involved in computer programming at a hobbyist level. While the programs are geared toward those who want to learn computer programming, the software itself is the "real thing," only without some of the bells and whistles found in the complete package.

So given the great learning experience Microsoft is offering at no cost—other than your own computer and time investment—this is a wonderful opportunity to master an increasingly valuable set of skills (not to mention start a new career if you are so inclined).

To help you along I am going to provide you with an introduction to the software programming environment of Microsoft's Visual Basic. There is a bit of a learning curve between a beginner's level of programming knowledge and that required to create a fully operational SD radio. This doesn't mean that the task is impossible or impractical, but it needs to be tackled step-by-step so each new skill you learn becomes the foundation for the next.

First you should begin with a simpler software development project that will provide you with proper foundation and serve as a bridge to more complex software programming. Interestingly, our first software design and development project will be aimed at one of the earliest, and most successful, Software-Defined Radios (SDRs), which is still offered to the general public: Ten-Tec's computer-controlled RX-320D

Ten-Tec's RX-320D has been around for a number of years now, but is still one of the best examples of good SDR technology on the market. Unlike more contemporary designs, all the processing takes place in the "black box," rather than in a host computer. All the functions (tuning, volume control, and so on) are done through an attached computer via the serial cable. (Photo courtesy Ten-Tec)



Inside the RX-320D are three chips; the primary one, the ADSP-2101 built by Analog Devices, is on the left. This is actually a "computer on a chip," and uses computer code stored on an EPROM (the middle chip). The chip on the right connects the main IC to the computer containing the control codes, which provides values for functions like volume control and tuning. (Photo courtesy Ten-Tec)

(http://radio.tentec.com/Amateur/Receivers/TT320). I'll focus on a project that will create a Computer-Aided Tuning (CAT) software program for the RX-320D using Visual Basic. While this project is not the same as creating true SDR software (which we will do in a future column), it's a very important beginning point for learning how to design and build your own application software using a programming language like Basic.

Intro To CAT Software

Back in the March and April 2004 issues of *Pop'Comm* I covered Ten-Tec's RX-320D "black box" HF receiver in full detail, where I first introduced SDR technology. This radio was one of the first SDRs on the market and its design is notable because all the DSP (DSP) takes place in the radio itself through a built-in computer on a chip, rather than having to be processed in an external computer. Because it has no external controls, other than an on/off power switch, you have to connect the radio to a PC via a serial cable to operate it using a CAT software program.

To design a computer software application you must first understand how the RX-320D operates, which is very different from most conventional radios you may be using. The first clue to that difference comes when you take off the cover and look inside. Rather than a conventional collection of circuit boards and multiple components, you see three integrated circuits (ICs). The circuit that does most of the work is actually a small computer, not unlike the PC you connect to the radio in order to control it. The chip is an ADSP-2101, manufactured by a semiconductor company called Analog Devices (www.analog.com), and it defines the virtual radio circuits used in DSP applications.

Table 1. Command Codes

Function	Command Code Variable
Mode	AM, USB, LSB, CW
Frequency	100 kHz to 30 MHz
BFO Offset Frequency	0–2000 Hz
Audio Filter	300 Cycles to 8000 Cycles
AGC Control	Slow/Medium/Fast
Line-in Level	0–63
Speaker Output Level	0–63

The software used to define those virtual circuits was written by the radio engineer who designed the radio itself. It's stored in a semi-permanent state, called Firmware, on a special memory chip, called an EPROM, which stands for Erasable Programmable Read Only Memory. While this is all very good for creating the "innards" of the radio, remember that there are no controls on this black box, so you'll need a second piece of software, known as either "control software" or "CAT" software, that you run on your PC.

CAT software sends (and sometimes receives) *command codes* that are used to change the setting of the virtual components in an SDR. So if you want to change the frequency, control the audio volume, or set the operating mode, you need to send a command code to the computer in the radio to operate these virtual controls. The command codes used in the operation of the RX-320D are a set of seven DSP functions that the ADSP-2101 chip is programmed to perform. See the accompanying **Table 1** for a list of these functions.

The command set also controls two requests for information that the ADSP–2101 can respond to with information that can be displayed on your computer screen. These are:

Request	Response
Signal Strength	0 –10,000
Firmware Version	VER XXX, where "X" equals a numeric value.

Command codes are actually very simple, being a combination of a letter, a number, and a carriage return. Each function has its own letter to represent it (e.g. the letter "M" for Mode) and a number to represent either a fixed function (M0 = AM mode and M1 = USB mode) or a range of numbers.

When the control software on your PC is operating and connected to the RX-320D via its serial cable, it's the command codes that are being passed to the radio. Likewise, when a request for the signal strength is made, the response comes back from the radio via the serial cable to the PC and is displayed there in the control software user interface (what you see on the computer screen when you run the program).

But how exactly does that command code get generated, then directed into serial cable, within the PC? That's where the CAT software comes in. It provides you with a simple way of generating that code and sending it off to the radio and keeps you informed about the general operating status of the radio at any given time.

Using Visual Basic, we'll examine the individual components of a software programming language. While it may sound intimidating, once you begin to see each line of code in context and within the bigger picture of the working software program as a whole, it's not as difficult to understand as it first appears. As

with any project, begin with a goal, a plan, and a design before you begin to write any code in any programming language.

Designing A CAT Software Program

To succeed in creating your own computer software, the first thing you need is a notebook for keeping a record of your project. Software programming requires that you document what you're planning and track the tasks you've performed throughout the project. Nobody has ever created a truly successful software program by simply sitting down in front of programming software and typing until it's done.

The beginning point of any software program construction project is a clear goal for the project and a mission statement. In our particular project the mission statement can be:

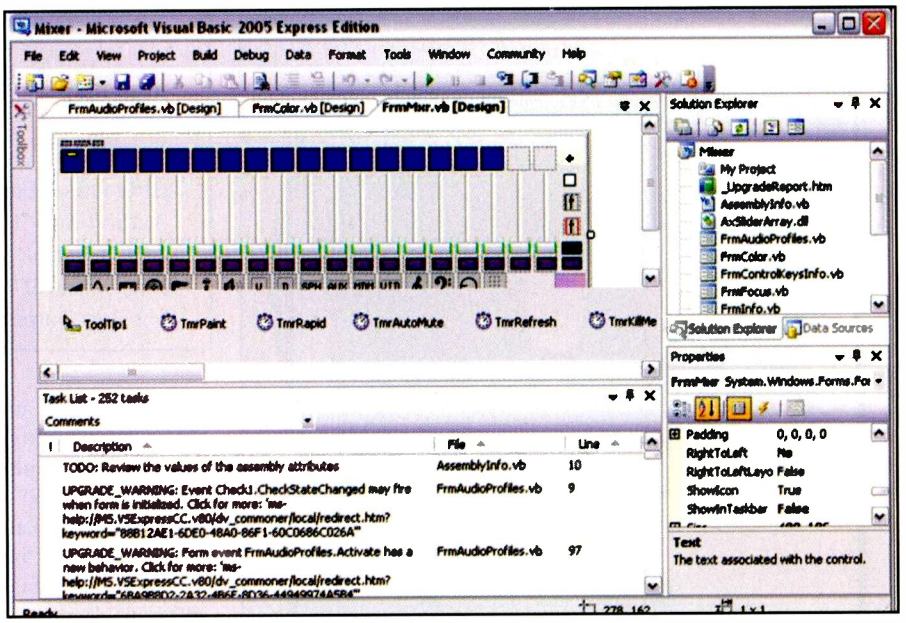
"To successfully control the seven main features provided for the operation of Ten-Tec's RX-320D and provide a simple and easy-to-understand user interface when doing so."

You can then go on to list what those seven features will be, as follows:

- Be able to tune AM, USB, LSB, CW signals
- Provide a frequency tuning range of 100 kHz to 30 MHz
- Provide a BFO offset frequency of between 0–2000 Hz
- Have a multiple step audio filter that ranges between 300 cycles to 8000 cycles
- Provide AGC Control in Slow/Medium/Fast settings
- Provide line-in level
- Provide speaker output level

You want to list everything because later on you'll need to create a checklist to ensure that everything you want to include in your software design is in place. This may seem easy in this project, but some software programs may include hundreds of features, with the development of each delegated to different software programmers. Even if it's only you working on this project, you can still lose track of where you are, so documentation is critical.

Next you need to work out the actual tasks your software will perform so you have a clear idea of the correct order for your software programming steps. You have a fair degree of latitude in exactly



Next month we'll begin to look at your new work bench: Microsoft Visual Basic Express. It's a little intimidating at first, but there are built-in training programs that come with this application to help you tackle a project like writing a CAT program for the RX-320D.

what takes place (after all, it is *your* software and *your* radio), but the key point is that you want things to take place in a fairly sensible order.

Imagine that you have a radio in front of you, and ask yourself what do you have to do to operate it and what do you want to happen as you do operate it. Obviously when you turn on a radio you don't want the audio to come blasting out at high volume. Likewise, you don't want it to start in CW mode when you prefer to listen to voice transmissions. Do you want the radio's frequencies to start at the top of the frequency range so you can tune down, or at the bottom so you can tune up? Sit down and work out the default settings you want the radio to start out in when you "turn it on" using your software.

After you have determined the features and default settings, your next task is to design the user interface; that is, what you'll actually see on the computer screen when you use the software. Very simply, how do you want the "control panel" for the radio to appear? Do you want it to look like a conventional radio, with knobs and dials and tuning bar like on a radio from the 1950s? Or do you want something totally experimental and different that it no longer looks like anything someone could call "a radio" if they looked at it?

Visual Basic provides many graphic tools so you can create many different types of buttons, click boxes, display areas and input fields. Although you can do some final "tweaking" on the screen as you create the program, make sure you work out what you want your control panel to look like on paper rather than on the computer screen. Remember, you should always have most of your work tasks written down ahead of time, and that includes your graphical designs. This way you'll have less of a tendency to get lost in the code or end up with so many bugs in that code that it becomes a frustrating process simply making it work.

Writing Computer Code

So let's say you've written a list of the main features and functions to be included in your computer program, and you've designed how the graphical control panel for the radio will look on the computer screen. Your next task, which is really the "heart and soul" of computer programming, is to document the key concepts to be incorporated into the final software application. Here you really need to sit down and work out a full description of what the software will do when it is actually run. It should read something like this:

"When I turn on the software, it will first send all of the default values needed to turn on the RX-320D, set it to a particular frequency and mode, and keep the audio volume from blasting out of the loud speaker. I will then be able to tune the radio to a particular frequency, and I will do that by..."

You cannot successfully write a software application program without having a roadmap to follow. It's impossible to sit down and begin to write software from scratch. And, frankly, anyone who tries this approach is simply "hacking code," a term used to describe the act of taking a previously written program (generally developed by someone with better programming skills) and modifying it for a new application.

Work out the key functions for which you will need to write computer code and you will simplify your code writing tasks considerably. Once you have a clear idea of what you want to do, it's relatively simple to translate your human concepts into machine concepts by translating them into a language computers can understand. Learning a computer language is not that much different from learning a human one because, in the end, computer languages are simply words and grammar used to describe and explain things taking place within a computer.

Key points to document are:

- What will the default settings be when you start your application software?
- What will happen when you click on a particular button shown on the control panel?
- What "events" do you want to take place when certain things happen, such as when a series of buttons is clicked?
- What do you want to take place within the radio when the software is used?
- How will the computer "talk" to the radio so information can be passed back and forth?

In the case of the RX-320D, I determined that there are nine things that the software needs to do in order to operate the radio properly. These are:

- Set the default values for operating the radio
- Open the serial cable connection between the computer and the radio
- Run the routine functions of the software so that all the radio functions work
- Tune the radio
- Present an overall design of the control panel as it is displayed on the computer screen
- Display proper information on the control panel (frequency, volume level, signal level, etc.)
- Process input values (frequency, volume level, mode, etc.)
- Send control codes to the radio
- Set default data values (such as values for the audio filter)

Rather than trying to write computer code as one big task, break down each of those tasks based on the list that you create, such as the one shown above. You'll find that when you break down these tasks into their individual parts they are actually very simple to program.

So, for example, using the original Basic programming for the RX-320D as an example, setting the default values would be done as follow:

```
AMMODE=ASC("0"):CWMODE=ASC("3"):USB-
MODE=ASC("1"):LSBMODE=ASC("2") ' modes defined
  DIM FILTERS(34)     ' array to hold filter list
  GOSUB 1360          ' preload filters array
  D$=CHR$(13)         ' carriage return defined
  SPKVOL=30           ' speaker volume
  MODE=AMMODE         ' detection mode
  RADIOFREQ=.93       ' tuned frequency
  FILTER=0            ' filter number from filter list
  CWBFO=0
```

All this really says is that when the radio is turned on it is set to AM mode, the audio filter is set to 10,000 kHz wide, the speaker volume is just below the halfway point and the frequency is set to 930 kHz. To place those values into the radio, you need to open up the serial port for communication between the computer and the radio. The command for this would be:

```
OPEN "com1:1200,n,8,1,rs,ds" AS #2
```

Most of these software commands are very common and easy to use, so finding the appropriate ones for your particular software application is not that difficult.

If you already own a computer-controllable radio other than the Ten-Tec RX-320D and you have access to the control codes (generally given in the user guide that came with the radio), why not sit down and begin to work out a design of your own? Even if you don't intend to learn how to become a software programmer, you'll certainly learn a lot more about your radio's operation than you knew before. You'll also begin to appreciate the engineering detail that went into your radio as you break down its functions in an organized way. Have fun trying out different designs for a user interface, and you may even come up with a unique layout that's never been tried before.

And who knows, even if you were a bit intimidated by the idea of software programming, you may find yourself gaining more confidence and motivation by doing these small steps. Maybe you'll end up actually trying some software programming by following the instructions in next month's column.

Next Month

For next month's column, make sure you've downloaded and installed the free copy of Microsoft Visual Basic available at http://msdn.microsoft.com/vstudio/express/vb/default.aspx. Take some time to go through the free training in computer programming that's also provided there so you'll be ready for the next step in this project. I'll show you how to take all the documentation and planning that was done in this month's column and turn it into a working software application program.

Don't forget that if you want to e-mail me with any questions use my e-mail address: carm_popcomm@hotmail.com. As mentioned before, I cannot answer general questions on computers, but will be more than happy to help you with any issues raised in the columns.

While the hurricane and tornado seasons are now over, it's clear that we will need to be prepared for next year's crop. In saying that I would like to suggest that you send donations to the American Red Cross (www.redcross.org/donate/donate. html) to help your fellow Americans in this time of trouble. However, there are many other good (and ethical) organizations you can contribute to, so please use them.

As always, do remember our troops overseas and continue to give them your support. Please refer to the U.S. Department of Defense's official webpage, "Defend America." It has a specific section found at www.defendamerica.mil/support_troops.html with an amazingly wide range of practical and useful ways you can directly help.

Again, if you are fortunate to have a safe and secure home, a paying job, and your loved ones around you in these times when so many don't, please remember to give thanks for your personal blessings by remembering to pass on that blessing to others through regular acts of selfless sharing. See you again next month! ■

by Bill Hoefer, flacap388@hotmail.com

Sunshine State Control Towers And Their Frequencies

Looking at Lakeland's runway 9/27 from inside the tower cab.

Happy belated New Year from the waterlogged state of Florida. As in 2005, the Florida flag remains the blue tarp! Two years ago year my house suffered no damage and we had *three* hurricanes real close to us. This past year, Wilma hit well to our south, but we still lost part of a fence and perhaps my tangerine tree. In spite of it all, my multiband ham antenna and mast came out completely unscathed. I've been blessed. Because of what occurred this past October I can quote the actor Geoffrey Holder from the old 7-Up commercials: "Life is good!"

This is being written just a month since the transition of flight services from the FAA to Lockheed Martin. To date no one, as far as I know, has answered the phone saying "Lockheed Martin Flight Service" or "Skunkworks East" but that may be coming. About the biggest change thus far (and it rarely deals with radio communications) is that at the St. Petersburg AFSS, as well as at many of the FSSs, the weather reporting has been discontinued and placed in the hands of the adjacent control towers. Whether the FSS controllers will keep their weather observers' certificates is unknown.

Most of the FAA controllers who operated the 58 FSSs have opted to remain with Lockheed Martin after retiring from the FAA, a few retired completely, others have transferred to other tower/approach/center facilities, but the majority still remain in flight service. If you'd like to learn more about the transition, check out www.faa.gov/ats/afss/gnvafss/AFSS.htm. More on how the changes shake out will follow in these pages as well.

For now, I know it's not a matter of "if" you'll be visiting the Sunshine State, but "when," so here's the latest. Don't forget to pack that handheld scanner!

The last time we talked about three of the control towers in the Tampa area. This time we'll chat about the remaining control towers: MacDill AFB (MCF), Sarasota Bradenton International Airport (SRQ), Lakeland Linder Airport (LAL), and Bartow (BOW).

Lakeland control tower.

MacDill AFB (MCF)

MacDill AFB was actually started before the Wright Brothers flight of 1903. In 1898 it was a staging area for the U.S. Army during the Spanish-American War. Ten thousand troops left for Cuba from the site.

MacDill AFB, first known as Southeast Air Base, Tampa, was dedicated April 16, 1941, less than eight months before Pearl Harbor. MacDill started as a training base for B-17 Flying Fortress bombers. Crews for B-26 bombers were also trained

there during WWII. After the end of the war, the base was initially used for B-29 Superfortress training. Strategic Air Command (SAC) continued to use the base for P-51 and B-50 training into the early 1950s and for its first strategic jet bomber, the B-47 Stratojet. (Both the B-47 and MacDill are featured prominently in the Jimmy Stewart film *Strategic Air Command*.)

Later on, aircraft assigned to the base included the F-84 Thunderjet, the F-4 Phantom II, the B-57 Canberra, the F-16 Falcon, and today the KC-135R Stratotanker. MacDill is also home to the U.S. Central Command and U.S. Special Operations Command.

The frequencies for MacDill are:

ATIS	133.825/270.1
GC	118.575/275.8
LC	123.7/294.7
TPA Apch	124.95/135.5/354.0
TPA Dept	119.65/119.9/118.8 (Rwy 22)/134.25 (Rwy 4)/290.3/362.3
6th AMW Comd Post	134.1/311.0/321.0
CP	132.775
PMSV	344.6
PTD	372.2
Radar	134.1/318.1/324.5/3374/339.1/ 359.3/379.8

Sarasota Bradenton International Airport (SRQ)

Since its founding in May of 1941, the facility has been known as the Sarasota Bradenton Airport (SRQ). During WWII (sound familiar?) the airport was leased to the U.S. Army for pilot training. The facility reverted back to civilian use in late 1947.

The airport deteriorated during the late 1940s and early 1950s. The Florida Legislature eventually infused much needed money into the airport, which allowed for the opening of a new terminal in 1959 and the expansion of runway 14/32 to 7,001 feet in the early 1970s and to 9500 feet in 2002.

Commercial flights began in the 1940s and private civilian flights in the 1950s. Though Eastern Airlines was flying through Sarasota in 1961, it was National Airlines that introduced jet service in 1965. In late 1992, the word "International" was added to the name as SRQ became a port of entry. Today airlines flying through SRQ include AirTran Airways, CanJet, Cape Air Airlines, Continental Airlines, Delta Airlines, Florida Coastal Airlines, Northwest Airlines, and US Air.

The frequencies in the area include:

CTAF	120.1
UNICOM	122.95
ATIS	134.15
GC	121.9/269.7
LC	120.1/269.7
CD	118.25
TPA Apch/Dep	119.65/124.95

Lakeland Linder Airport (LAL)

Because of a flight school run by nationally known pilot and Lakeland native George Haldeman, the city of Lakeland purchased land to its south and opened the Haldeman-Elder field in November 1927. The amount of land proved inadequate for the airport, however, and the city purchased additional land in

Glossary Of Terms And Acronyms

ARTCC (Air Route Traffic Control Center)—A facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace, principally during the en route phase of flight.

ATC (Air Traffic Control)—Means what it sounds like.

FSS (Flight Service Station)—Air traffic facilities that provide pilot briefing, en route communications and VFR search and rescue services. They also assist lost aircraft and aircraft in emergency situations and relay ATC clearances. Similar is *AFSS (Automated Flight Service Station)*.

ICAO (International Civil Aviation Organization)—Headquartered in Montreal, Canada, this agency of the UN develops the principles and techniques of international air navigation and fosters the planning and development of international air transport to ensure safe and orderly growth.

IFR (Instrument Flight Rules)—A set of rules governing the conduct of flight under instrument meteorological conditions.

ILS (Instrument Landing System) Approach Plate—Diagram published by the FAA and privately that depicts the procedure pilots need to follow to execute an ILS approach.

NAVAID (Navigational Aid)—Transmitter that helps pilots navigate from one point to another.

NOTAM (Notices To Airmen)—A notice of information that contains timely data concerning the establishment, condition, or change in any component (facility, service, or procedure of, or hazard in the National Airspace System) which is essential to personnel concerned with flight operations.

UNICOM—An aeronautical advisory station primarily for private aircraft.

VFR (Visual Flight Rule)—A set of regulations that a pilot may operate under when weather conditions meet certain minimum requirements. They are to be followed when there is sufficient visibility for aircraft to be seen and avoided.

VORTAC—The VOR system is the backbone of air navigation in the US and most other countries. It is composed of usually round buildings, about 30-feet in diameter, with a cone sticking out of the top. Many are painted in a red and white checkerboard pattern. VOR is an acronym for Very high frequency Omni Range. VORTAC is the same with TAC, standing for TACAN, a military designation for its distance information on a VOR signal.

WSI (Weather Services International)—Headquartered in Andover, Massachusetts with offices in Birmingham, England,WSI provides weather-related products and information to professionals in the energy, aviation, and media markets, as well as multiple federal and state government agencies.

NEW/CHANGED/DELETED FREQUENCIES

NEW

AK
Barrow, Wiley Post/Will Rogers Airport (BRW)
AWSS 119.925/907-633-2012
Holy Cross (HCA)
AWSS 118.325/907-476-7231
Igiugig (IGG)
AWSS 119.925/907-533-3350
Kalskag (KLG)
AWSS 119.025/907-471-2434
King Cove (KVC)
AWSS 118.325/907-497-4276
Kotzebue, Ralph Wein Memorial (OTZ)
ATIS 135.45
Manokotak (MBA)
AWSS 120.625/907-289-2018
Mountain Village (MOU)
AWSS 118.35/907-591-2511
Nelson Lagoon (OUL)
AWSS 135.65/907-833-3112
Nome (OME)
ATIS 119.925
Nuiqsut (AQT)
Anchorage ARTCC (ZAN) RCAG 119.4
Point Lay (PIZ)
AWSS 118.375/907-584-5521
Scammon Bay (SCM)
AWSS 118.425/907-558-5501
Sitka, Rocky Gutierrez (SIT)
ATIS 135.9
Toksook Bay (OOK)
AWSS 119.275/904-427-7003

AZ
Glendale, Luke AFB (EMJ)
ILS Rwy 21L (I-EMJ) 110.9

CO
Craig, Moffat (CAG)
Hayden, Yampa Valley (HDN)
Steamboat Springs, Bob Adams Field (SBS)
Denver ARTCC (ZDV) (Hayden RCAG) 120.475/235.975

FL
Keystone Heights (42J)
AWOS 124.275/352-473-8273
Live Oak (24J)
AWOS-3 118.225/386-362-1731
Merritt Island (COI)
AWOS-3 119.025/321-986-8864
Okeechobee County (OBE)
AWOS 118.675/863-467-1148
Sebring Regional (SEF)
AWOS 119.475/863-655-6424
Titusville, Arthur Dunn (X21)
AWOS-3 119.725/321-385-0383
Williston Municipal (X60)
AWOS-3 118.425/352-528-9949
Zephyrhills Municipal (ZPH)
AWOS 118.975/813-780-0031

GA
Atlanta, Hartsfield-Jackson International (ATL)
LC Rwy 09R/27L 119.3
Greensboro, Greene Country Regional (3J7)
AWOS-3 124.525/706-453-0017
Lafayette Barwick (9A5)
AWOS-3 119.775/706-639-1976

IL
Springfield, Abraham Lincoln Capital Airport (SPI)
VORTAC 112.7/ch 74

IN
North Vernon (OVO)
AWOS-3 120.625/812-346-5041

IA
Cherokee Municipal (CKP)
AWOS-3 119.225/712-225-1088
Washington Municipal (AWG)
GCO 121.725

KY
London, Corbin Airport, Magee Field (LOZ)
ILS/DME Rwy 06 (I-LOZ) 110.9

LA
Abbeville, Chris Crusta Municipal (0R3)
GCO 135.075
Oakdale, Allen Parish (ACP)
AWOS 118.275
GCO 135.057
Slidell (ASD)
GCO 113.075

ME
Rangley, Steven A Bean Municipal (8B0)
AWOS-3 118.0/207-864-5250

MD
Fort Meade/Odenton, Tipton Airport (FME)
AWOS-3 123.925
Leonardtown, Captain Walter Francis Duke Regional (2W6)
AWOS-3 119.575/301-373-6514

MN
Minneapolis/St Paul International (MSP)
ILS Rwy 17/35 110.95
Paynesville (2P3)
AWOS-3 120.35/320-243-4538
Slayton (60Y)
AWOS-3 118.35/507-836-6128
Stanton Airfield (SYN)
AWOS-3 119.35/507-664-3806

MS
Aberdeen Amory, Monroe County (M40)
AWOS 118.475/662-369-3498
Tunica (UTA)
AWOS-3 118.075/662-363-1652

MO
Sikeston Memorial Municipal (SIK)
AWOS-3 119.175

NV
Las Vegas, Henderson Executive (HND)
AWSS 120.775/702-614-4537

NH
Nashua, Boire Field (ASH)
AWSS 125.1/414.6625/603-578-0473
Plymouth Municipal (1P1)
AWOS-3 118.45/603-536-1698

NY
Hornell Municipal (4G6)
Olean, Cattaraugus County (OLE)
Wellsville Municipal, Tarantine Field (ELZ)
Cleveland ARTCC (ZOB)
(Wayland RCAG) 124.325/353.85

NC
Reidsville, Rockingham County (78N)
AWOS-3 119.725/336-573-3677
Wadesboro, Anson County (AFP)
AWOS 119.325

OR
Brookings (BOK)
AWSS 132.025/541/412/8682

PA
Connellsville (VVS)
Latrobe, Arnold Palmer Regional (LBE)
Seven Springs Borough (7SP)
Somerset County (2G9)
Cleveland ARTCC (ZOB) (Altoona RCAG) 124.4/327.1
Ebensburg (9G8)
Indiana County, Jimmy Stewart Field (IDI)
Johnstown–John Murtha, Cambria County (JST)
Cleveland ARTCC (ZOB) (Altoona RCAG) 121.2/299.2

SC
Cheraw Municipal, Lynch Bellinger (47J)
AWOS-3 118.175/843-537-3301

TX
Crocket, Houston County (DKR)
AWOS-3 118.775/936-545-8510
Galveston, Scholes International at Galveston (GLS)
GC 118.625
LC 120.575
Orange County (ORG)
AWOS-3 118.975/409-670-9591

WV
Camp Dawson (Kingwood), Dawson AAF (3G5)
CTAF 122.9
Pineville, Kee Field (I16)
AWOS-3 120.625/304-732-7311
Sutton, Braxton County (48I)
AWOS-3 118.225/304-765-7805

CHANGED

AL
Brewton Municipal (12J)
CTAF was 123.0, now 127.75
Troy (TOI)
GC was 294.7, now 263.125

AK
Fort Yukon (FYU)
Anchorage ARTCC (ZAN) RCO was 122.2, now 122.1
Unalakleet (UNK)
AWOS was 135.4, now 132.25

AR
Blytheville International (BYH)
Memphis ARTCC (ZME) RCAG was 350.3, now 316.15
Clarksville Municipal (ZH35)
Morrilton Municipal (BDQ)
Morrilton, Petit John Park (MPJ)
Russellville Regional (RUE)
Memphis ARTCC (ZME) RCAG was 348.7, now 377.15
Fort Smith Regional Airport (FSM)
Memphis ARTCC (ZME) RTR was 380.15, now 353.57
Fort Smith Regional Airport (FSM)
Mena (M39)
Mena Intermountain Municipal (MEZ)
Memphis ARTCC (ZME) RCAG was 380.3, now 318.8
Pine Bluff, Grider Field (PBF)
Memphis ARTCC (ZME) RCAG was 380.1, now 316.05

CO
Denver ARTCC (ZDV)
Hayden LOW RCAG was 134.5/327.8, now 120.475/235.975

MI
Allegan, Padgham Municipal (35D)
Hastings (9D9)
Sparta, Paul C. Miller (8D4)
Chicago ARTCC (ZAU) App/Dep was 128.5, now 128.4
Alpena County Regional (APN)
LC was 383.1, now 318.1
RTR was 351.1, now 379.3
Battle Creek, W K Kellogg (BTL)
GC was 348.6, now 256.875
LC was 239.0, now 239.025

MN
Roseau Municipal (ROX)
RCAG was 127.8, now 134.75

MS
Louisville, Winston County (LMS)
RCAG was 132.35/now 132.75
Meridian Key Field (MEI)
ATIS was 279.575, now 291.675

OH
Cleveland ARTCC (ZOB)
Moon Township PA Low RCAG was 134.475/254.275, now 120.775/298.95
Toledo, Metcalf Field (TDZ)
AWOS was 119.275, now 121.575

TN
Bolivar, William L Whitehurst Field (M08)
Selmer, Robert Sibley (SZY)
Memphis ARTCC (ZME) RCAG was 135.9/273.55, now 124.53/239.3
Jacks Creek (JKS)
Memphis ARTCC (ZME) RCAG was 317.65, now 269.9

southwest Lakeland, with the airport opening as Lakeland Municipal Airport in 1935.

Eventually (during WWII again) a new municipal field, called Drane Field after Herbert J. Drane, a former U.S. Representative, was leased by the War Department and renamed Lakeland Army Air Field in 1942. It became the home of pilot cadets for B-17s, B-24s, and P-51s.

The field was returned to Lakeland following the was, but was not used to a great extent until 1960. In 1975, however, the Experimental Aircraft Association (EAA) held the first Sun-n-Fun fly-in at Lakeland and pilots brought in 365 aircraft that year. In 2004 a record of nearly 5,000 aircraft flew in.

Frequencies to monitor for LAL are:

CTAF	124.5
UNICOM	122.95
ATIS	118.025
GC	121.4
LC	124.5/380.25
Tampa Apch/Dep	120.65/119.9

Bartow Airport (BOW)

Like the previous three airports, Bartow was used by the War Department for the training of Army Air Corps pilots during WWII. In 1945 the airport was returned to the city of Bartow for civilian use.

Frequencies to monitor are:

CTAF	121.2
UNICOM	122.95
AWOS-3	123.775
GC	121.9
LC	121.2
TPA Apch/Dep	120.65/119.9

Give A Listen

That does it for this month and our look at Sunshine frequencies. We'll see you again in May, so until then, keep that scanner humming. ■

Jackson, McKellar Sipes Regional
Memphis ARTCC (ZME) RCAG was 127.975/288.35, now 136.175/343.625
Memphis International (MEM)
ANG OPS was 138.1/341.6, now 138.95/341.75
Nashville International (BNA)
Memphis ARTCC (ZME) RCAG was 306.3, now 257.75

TX
Bellville, Grawunder Field (06R)
CTAF was 122.9, now 123.0

UT
Provo Municipal (PVO)
CTAF was 122.8, now 125.3
Toole, Bolinder Field (TVY)
Salt Lake City ARTCC (ZLC) Delle RCAG was 380.05, now 269.175

VT
Springfield, Hartness State (VSF)
ASOS was 134.125, now 121.425

WA
Mattawa, Desert Aire (M94)
CTAF was 122.9, now 122.8

WV
Huntington, Tri-State, Milton Ferguson (HTS)
RCO was 132.95, now 128.4

WI
Rice Lake Regional (RPD)
AWOS-3 was 118.0, now 120.525

DELETED

AR
Batesville, Independence County (INY)
NDB (INY) 317 kHz

IL
Chicago, Schaumburg Municipal Helistop Heliport (4H1)
Unicom 123.05

OH
Cleveland ARTCC (ZOB)
Wayland NY Low RCAG 125.875
Springfield Beckley (TDZ)
ATIS 134.975

NEW/CLOSED & ABANDONED AIRPORTS/CHANGED IDs

NEW

AL
Loxley, Baswell Airport 57AL

FL
Defuniak Springs, Breezy Knoll 0FD5
Freeport, Dugger Field 0FD3

GA
Cleveland, Deer Crossing Airport 21GE
Midville International Airport 92GE
Riceboro, Harvest Lake Seaplane Base 12GE
Tignall, Great Oaks Airport 69GE
Wrightville, The Farm Airport 01GE

KY
Bee Spring, Nolin Aero Salvage Airport 5KY9
Glasgow, Creek Side Landing Airport 4KY1
Louisville, Greener Horizons Heliport 97KY
Tarylorsville, Little Mount International Airport 7KY3

MS
Canton, Eagle Crest Estates Airport 7MS1

TN
Dandridge, Ray's Stall Airport 21TN

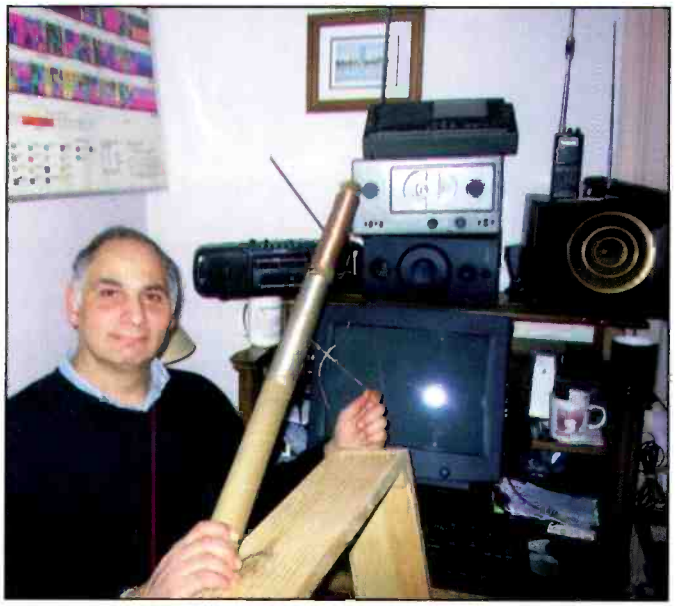
CLOSED/ABANDONED

AZ
Sonoita, Empire Ranch (5AZ6)

IA
Wall Lake Municipal (3Y0)

IL
Annawan, Thompson Airport (IL10)

Our March Winner: Frank Cangemi Of Quincy, Massachusetts!



Pop'Comm reader Frank Cangemi of Quincy, Massachusetts, in his radio shack. His current project is building a three-foot square AM/MW loop antenna.

Pop'Comm reader Frank Cangemi of Massachusetts tells us,

I recently picked up your magazine from the bookstore and found it to be very informative and readable with an excellent layout and format. I'd like to tell you how I got started in the radio hobby, and why I continue to tune in.

My father worked as a mechanic for the Boston Fire Department. All kids, and even grown men, have a fascination with fire engines. Occasionally he would bring me into work with him and let me play on the fire engines while he took care of other details. But my interest went even further. I can remember hearing the talk on the fire radios, the "beep beep beep" of the fire alarm boxes over the air, the calls from the Chief that "box 1234 was a working fire, strike the box!"

From here my interest grew into the scanning hobby. I got one of the original Bearcat crystal sets, which required me to purchase a different crystal for each frequency. Every day I tuned into the Boston Police and Fire, the medical squads, hospitals, utilities, and commuter trains. The excitement was especially high during periods of bad weather.

My older brother owned a Triumph GT6 that was equipped with a shortwave radio. Sometimes during summer nights we would park along the bay and fire up the shortwave. There was something magical about watching the full moon rise over the Atlantic during twilight, while hunting international radio waves.

After high school I attended the University of Massachusetts in Boston. I often studied on the 10th floor of the library next to a window that provided me with a direct line of sight to one of the final approach paths to Logan International Airport. I purchased a cheap VHF radio that sported the aviation band, and in no time I was my own air traffic controller, telling "Delta flight 5678 report runway in sight, contact tower, cleared for landing." One time a foreign student saw me looking through the window with the radio held close to my ear and accused me of being a spy for the CIA!

Over the years I have owned mostly simple gear. First there was my original Bearcat crystal set, then an analog Realistic AM/FM shortwave. As my income increased, I bought a RadioShack PRO-43 handheld scanner, a Sony 2010 (still my favorite for USB/LSB hams and transatlantic aircraft), and two antique tube sets: one an RCA, the other a Hallicrafters. I will be scanning the pages of *Popular Communications* this year looking for my next toy. ■

Popular Communications invites you to submit, in about 300 words, how you got started in the communications hobby. Entries should be typewritten, or otherwise easily readable. If possible, your photo should be included.

Each month, we'll select one entry and publish it here. All submissions become the property of *Popular Communications,* and none will be acknowledged or returned. Entries will be selected taking into consideration the story they relate, and if it is especially interesting, unusual or even humorous. We reserve the right to edit all submitted material for length, grammar, and style.

The person whose entry is selected will receive a one-year gift subscription (or one-year subscription extension) to *Popular Communications*. Address all entries to: "V.I.P. Spotlight," *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801 or e-mail your entry to popularcom@aol.com

Survey Report: What You've Told Us

We're Listening To You!

by Harold Ort, N2RLL, Editor

It's been a while since we reported our survey results to you and, as always, we've learned some interesting things. So let's get started right away with what you've told us in the past few months.

At Your Service

Hot topics for quite some time have been the Family Radio Service (FRS) and the General Mobile Radio Service (GMRS). When originally conceived, FRS was met with plenty of disdain by licensed GMRS users. Perhaps for good reason; the concern was about an unlicensed CB-like service making a mess of the GMRS frequencies, but it didn't happen to the extent that many feared, so all is well in GMRS land.

We asked you how concerned you were about the GMRS licensing requirement when purchasing a FRS/GMRS combo walkie-talkie. Out of the whopping 240 responses, about 85 percent of you said you were concerned, while about five percent said you weren't concerned, but about eight percent said you weren't aware of any licensing requirement!

Eighty percent of you said you had a pair of FRS walkie-talkies and use them mostly for staying in touch with family at the park, mall, playground, etc. About five percent of respondents said they use them for emergencies, and an equal number said they don't use them, but have just put them aside. Interestingly, though, about 10 percent of you reported using them as an additional hobby-type radio.

When it comes to GMRS features, it seems that higher power than FRS and greater range is important to about 80 percent of you. A small number of you (about seven percent) reported that the frequencies are less crowded and the same number said it's portability, such as with walkie-talkies or plug-and-play mobiles, that's important.

Here's an interesting statement: "I have a GMRS transceiver and have filed for a license." Now, keep in mind "having" a transceiver doesn't mean you've got to file for a license—just don't use it without one, of course! About 10 percent of you said you've got a GMRS transceiver and have filed for a license; while about 70 percent said you don't have one. Interestingly, about 60 percent of respondents reported being licensed hams, while about 15 percent are not.

GMRS is designed to be a family communications tool, and perfect if you don't intend to get that ham license (or even if you do!) and is certainly an alternative to CB. According to the survey results, most of you (nearly 60 percent) think of GMRS as just that—an alternative to CB radio, but a surprising number of you (about 22 percent) reported that it's an alternative to ham radio. A few (about six percent) said it was too expensive, and about eight percent said you think of it as an alternative to FRS.

The current five-year fee for a GMRS license is $75. About 70 percent of you said you'd use GMRS, but that fee was too expensive, while only about 12 percent of you said it wasn't. In another survey we also asked if you'd be interested in learning more about GMRS, and an overwhelming majority (nearly 86 percent) of you said yes, so in the near future, look for GMRS news and articles!

Is the cell phone king? Hardly, although most folks wouldn't be without one today. We asked, "With all the features on cell phones, I'm finding that even in emergencies, all I really need is a cell phone with a fully charged battery." About 90 percent of you said, "no" to that statement and about four percent said "yes."

MURS, a Part 95 service, requires no formal license and is designated as a private two-way short distance voice, data or image communications service for personal *or* business use by the general public. Frequencies include 151.820, 151.880, 151.940, 154.570, and 154.600 with an authorized bandwidth of 11.25 kHz on 151.820, 151.880, and 151.940 MHz. Authorized bandwidth is 12.5 kHz on 154.570 and 154.600. Radiated power cannot exceed 2 watts. Operation on these frequencies will be "on a shared basis only and will not be assigned for the exclusive use of any entity."

We asked if, as an alternative to GMRS, you'd consider using this service and about 65 percent of you said yes; very few (about three percent) said "no," and about 12 percent asked for more information on MURS, which we'll have coming your way shortly!

Your Mobile Radios

Wow—surprise time! We knew that many of *Pop'Comm*'s readers are hams, but many of those same hams—hold onto your hats—told us they are also into CB when going mobile. More than 70 percent of you reported that CB was one of your mobile radios, while nearly the same number (about 66 percent) said ham equipment is also in the vehicle. Now, remember that we always ask you to "mark all that are appropriate" with a question that asks you about your mobile equipment, so it's not that surprising that 60 percent of you also reported using one scanner while mobile; about eight percent said you use two scanners, and the same number said you use more than two scanners when mobile!

About 45 percent of you reported using a portable shortwave in the car, while only about six percent each said you use FRS or GMRS when mobile. Not everyone is radio active

when on the road, though, and for about nine percent of you it's still an at-home or at-work hobby.

So what else goes mobile? Radar detectors: about 11 percent of you regularly use on in your vehicle, while about 14 percent use GPS. A frequency counter/sniffer can also be a handy mobile device to capture those hidden or elusive frequencies, and about five percent of you use them when mobile.

About 15 percent of you also reported using a headset or speaker-microphone for your two-way equipment, and another 11 percent said you use an amplified speaker. (I'm with you on that one, using a tiny RadioShack speaker that even allows me to hear the CB or ham rig!)

Mounting The Radios

There are probably as many ways to mount a mobile radio as there are radios. Gone are the days of metal dashboards (like the one in our old '64 Pontiac!) that usually made mounting a CB or ham rig a simple matter of getting out the drill and being careful not to drill through the AM radio or heater duct (there was no air conditioning!).

Today's vehicles are certainly different; they're loaded with features, but at the expense of mounting anything, including my sunglasses case! But you can always put the radio on the seat, right? Well, while it certainly isn't the best "mounting" solution, about 45 percent of you said that's what you do! About the same number of you use the metal bracket that usually comes standard with radios; be careful drilling!

But we don't have to drill! Relatively few (about five percent) of you report using hook-and-loop fastener, and only—thankfully!—about two percent of you use a rubber strap or bungee cord/belt to hold your radios while mobile.

For my ham transceiver, I mounted an Alinco to a homebrew plastic gizmo that sits in a change tray near the shift, just below the dash. About nine percent of you do something similar. Another five percent of you use a floor or console-mounted product designed for radios, while about four percent use a console-mounted product designed for consumer use; perhaps a cup tray or something similar.

The one item we didn't include was the newer breed of cell phone AC vent mounts; you couldn't mount an older HT because of the size and weight, but we'll be looking at some of these mounts for upcoming articles in *Pop'Comm*. if it works for a cell phone, we'll see if it works for a small high-tech ham or CB walkie-talkie!

Thanks For Your Input!

That's it for this month. Our winners of the random survey card drawing are Ken Knight of Colorado Springs, Colorado, and Thomas Rodier of Nashua, New Hampshire. Congratulations, Ken and Thomas—and keep those cards and letters coming!

Again, the monthly survey cards are very important to the future of your magazine. If we see a trend in the hobby or find you want some aspect to get more coverage, we'll do our best to make it happen. Please know that sometimes change takes a while, but we are indeed listening. See you again soon with another report. ■

by Ron McCracken, KG4CVL / WPZX486

The Benefits Are Mutual

Southeast Louisiana (SELA) REACT is an unusual Team. It has specialized in developing a network of GMRS repeaters along the I-10 corridor across its state. One of those SELA repeaters became a critical element in New Orleans' only communications link with the outside world for the first week after Katrina struck. By some miracle, the SELA repeater stayed up and continued to function.

Prior wise planning and fine cooperation also paid off in spades. The SELA repeater was linked to one operated by the New Orleans Amateur Radio Club. Those linked repeaters provided the only communications between New Orleans and the state capitol in Baton Rouge for a number of days.

Two SELA REACTers manned the GMRS radio at the state Emergency Operations Center (EOC) in Baton Rouge around the clock for the first seven days. They provided the only communications with several devastated parishes in the affected area as well as with New Orleans itself.

Internet Radio Linking Project (IRLP) and Automatic Position Reporting System (APRS) capabilities enabled SELA to pass critical information concerning hurricane evacuees to REACT Teams and authorities in other states. That data was essential to officials in their planning for shelters to accommodate victims of the disaster.

When Travis County REACT (TX) learned that the SELA REACTers were exhausted, three members of that REACT Team traveled from Austin to Baton Rouge to relieve the weary SELA operators and maintain the communications links their foresight had made possible.

What a mutual aid operation this was! It demonstrates how interdependent we all are, and how effective we can be when we combine our efforts to be ready for an event like Katrina. It earned an honorable mention in a recent *QST*. Well done, all concerned!

Crest REACTer takes up his position at the Start-Finish line of a 5K Walk/Run as some of the 1,400 entrants receive instructions. REACT pre-planning with the EOC staff paid off in spades. REACT's new GMRS station in the EOC provided direct radio comms with every REACTer on duty for the event.

Not To Be Outdone...

Apollo VII REACT (IL) has been into the mutual aid business, too—but in a less spectacular way. When the Chicago FM Club in Grayslake, Illinois, decided to mount "Radio Expo 2005," Apollo VII REACT agreed to be part of the event. Apollo VII hosted a safety display that proved to be very popular.

The Team introduced a new REACT video at the event that had been developed by REACT International, Inc., as a resource for its Teams. Visitors to Apollo VII REACT's safety display were quite impressed, as was the Team.

Joint ventures like this one lay the foundation for a strong working relationship in the future; they're extremely important because everyone benefits, especially the community, which is as it should be!

What Goes Around...

Mutual aid doesn't just happen. It takes planning. It takes time. But, it pays off down the road. Fortunately, Crest REACT (CA) knew that and made the effort.

A visitor enjoys the new REACT video and examines items on safety topics. Apollo VII REACT mounted this safety display at Radio Expo 2005 to support the event hosted by Chicago FM Club. The Team was rewarded with great interest from Expo attendees and even a few prospective new members. →

Blackberry REACT gets attention at events with its comms van, first aid tent, and safety display booth. The REACT comms van has found a new home with the Menlo Park Fire District. The FD will house the van in exchange for its valuable radio comms during CERT activities, wildfires, and community events.

When Rancho Santa Margarita hosted its annual 5K Labor Day Run/Walk, Crest REACT was again asked to help. With 1,300 adults and 130 youngsters registered for a 1K route, changes were needed. The course now had to involve city streets and that necessitated police participation. The event provided an opportunity to exercise the city's EOC. Crest REACT had recently been invited to install a General Mobile Radio Service (GMRS) radio station in the EOC. Now it was invited to staff the station with a liaison operator for the event.

All Crest personnel on duty for the Walk were in direct contact with the EOC by GMRS. Police were amazed at both the quality and quantity of information they were receiving from the trained REACTers. Needless to say, the REACT station in the EOC will stay, and public safety will be enhanced as a result.

Why Not?

Blackberry REACT (CA) makes this column a clean sweep for mutual aid. The Blackberry Team has a new home for its safety communications van. Menlo Park Fire District will now shelter the van for the REACT Team at one of its stations. A full year of planning and laying groundwork went into their agreement. Blackberry REACT received valuable help with the project from the Kodiak ARES group. Menlo Fire District will benefit since the Blackberry REACT van will be the communications hub for CERT activities in emergencies. The fire department trains CERT volunteers and a Blackberry REACTer is one of the CERT trainers.

The REACT van can operate several radios on various bands for extended periods. In addition to its CERT role, the van will provide safety communications for local events and be a command post in wildfire outbreaks.

Blackberry REACT has more great plans. It hopes to secure a hotel shuttle van so it can do an even better job. It has in mind a van that will accommodate six radio operators to monitor multiple radio bands. Hoteliers in the area can likely expect a visit from Blackberry REACT in the months ahead. Once more, the importance and the benefits of mutual aid are evident.

Congratulations

All the REACT Teams and other parties involved in these instances of mutual aid can be extremely proud of their hard work. Their ability to work together is making their communities stronger and better able to fend off whatever may come their way.

You can be part of a REACT Team for your community. You can work to provide aid to better your town or city. Visit www.reactintl.org to see if there is a REACT Team nearby. If not, contact REACT HQ at 866 REACT-9-9 to request a Team Charter application. You and two friends can launch a REACT Team for your community. You can look forward to partaking in accomplishments like the ones you've just read about. Join me again next time here in *Pop'Comm*! ■

by Kirk Kleinschmidt, NTØZ, kirk@cloudnet.com

Shop Till You Drop—It's Hamfest Season!

As I write this month's column, it's 19 below zero and, not a creature is stirring—*because it's just too damned cold!* If I were warm enough I might start thinking about happy children opening gifts next Christmas morning! A Barbie doll here, a fire truck there, and a Kenwood TS-2000S for me care of Santa himself. (Now you know what a Minnesota winter can do to a guy!)

As it is, and for the task at hand, I merely need to imagine the "Christmas-like season" that lies just ahead, as winter itself draws to a close and all of the hams come out to play—at least the hams in the northern climes. It's hamfest season, of course, and it's the next best thing to Christmas, plus, there's no snow!

If you live in Silicon Valley, you know better than anyone that it's hamfest season all year round where you live. Heck, a simple trip to just about any corporate dumpster in the region can equal just about any hamfest in a lesser locale. But that's another story...

You probably can't see it from space, but Dayton, Ohio's Hara Arena and surrounding territory contain (barely) the annual Dayton HamVention, the world's largest hamfest. This year's pilgrimage takes place May 19 to 23 and boasts a flea market space with room for 2500-plus tables. Get all of the info at www.hamvention.org.

Back to hamfest season. If you're a beginner you might be wondering what all the fuss is about. What is a hamfest, anyway?

Well, if you take a trade show, a family reunion, a factory outlet mall, a huge garage sale and spring break in Daytona Beach—and throw in piles of ham radio and computer gear—you've got a ham radio flea market, also known as a hamfest. They are to be enjoyed to the fullest, and this month's column is all about how!

And if you're wondering "what's in it for me?" the answer is "plenty." At ham radio flea markets you'll find hundreds (sometimes thousands) of fellow hams, tons of bargain-priced radio and computer gear (including hard-to-find components and electronic assemblies), interesting forums and lectures, ham radio exams, and tasty grilled sausages. The exact mix of the things you're likely to find depends a lot on the kind of hamfest you're attending, its size and, to some extent, the region of the country.

Large multi-day hamfests, like the annual Dayton HamVention or the many ARRL Division Conventions, attract thousands of hobbyists. Small regional or local hamfests may draw only a hundred or so. You will have fun, however, at both extremes.

Almost every hamfest has a swapfest or flea market where individuals and commercial dealers hawk their wares. Most hamfests and flea markets—much to the chagrin of some—are piled high with computer stuff, from obsolete parts to new systems. Computer technology is forever merged with amateur radio, so worrying about the number of computer vendors at hamfests is a moot point. Why not take a look at everything?

Where And When?

Information about upcoming hamfests is available from several sources. Members of your local ham club will probably be "in the know," as hamfests tend to be annual events, publicized well in advance. Nationally, dozens of hamfests and amateur radio events are listed in *CQ* and *QST* magazines. You can browse hamfest listings electronically at www.arrl.org/hamfests.html or at the World Radio website, www.wr6wr.com/.

When it comes to locations, you're likely to find hamfests held at hotels, schools, parks, National Guard armories, fairgrounds, or civic centers. Organizers usually host events at identifiable and accessible locations (although sometimes you'll wonder at the choices!).

Straighten Up And Buy Right

Because we think of hams as friends, it's difficult to think that we could never run into a bum deal at a hamfest. After all, these people are fellow hams! Although most individuals and commercial outlets selling hamfest gear are on the level, smart shopping and a healthy dose of caution will help you avoid unwelcome surprises.

Here are a few tips for buying used radio or computer gear at hamfests:

- Make a budget. For some, going to a hamfest is like going to the candy store. If you're not careful, you'll go home with plenty of "candy" and no mortgage money. Try to plan your spending in advance.
- Negotiate. Hamfests are a lot like open-air Byzantine street markets, and haggling over the price of used gear or components is expected. Don't be ridiculous, however, and you'll do just fine!
- Arrive early and/or stay late. The best hamfest deals are usually made in the first and last hours of each event. Getting to the hamfest early will allow you to snap up some of the best merchandise. If you wait too long, your favorite stuff may be all gone. Alternately, if you play the waiting game, sellers may be quick to discount stuff that they don't want to pack up and take home. For instance, at the St. Cloud hamfest two summers ago, I was able to take home a beautiful Ten-Tec Argonaut station, complete with the QRP rig's matching amplifier, because the seller just

didn't want to take it home again. I cried poverty and the seller used the Godfather Gambit: He made me an offer I couldn't refuse! It never hurts to ask!

• Always test expensive gear. If you're buying a major item, such as a transceiver or receiver, make sure you're able to plug the thing in somewhere to see if it works. Most sellers represent their merchandise accurately, but it never hurts to power up a potential acquisition. And make sure you get the seller's name, address, and phone number, just in case.

Sell Your Own Stuff

If you're looking to upgrade your station equipment or accessories and you don't have tons of extra cash, why not reserve a seller's table (or flop down your truck's tailgate) and take advantage of "flea market fever" by selling your existing gear at a hamfest to finance all or part of your new setup? Here are a few tips to help you achieve a win-win scenario.

• Appearance. That means you, your table, and your gear! Think of your hamfest table as a storefront. Clean up your gear, display it neatly, and make index card signs for big-ticket items, listing the details and the price. Dress casually and presentably.

• Realistic pricing. This is a biggie! It's a hamfest, folks! Don't price your used (and sometimes abused) gear as though you were suddenly promoted to sales manager for Neiman Marcus! Remember the win-win scenario? Sentimental attachment doesn't promote sales. Be reasonable and be friendly—that's how to sell stuff at hamfests.

• Talk it over. Many flea market attendees are tire kickers, but with a little salesmanship, many a tire kicker has been "persuaded" to take home merchandise. People like to joke, laugh, and have fun (even hams!), so be sure to blurt something out when you catch someone peeking at the stuff on your table. This breaks the ice and sets the stage for friendly chatter...and potential sales.

• Negotiating, Part II. Nearly every flea market price is at least somewhat negotiable. People will ask you to sell your stuff for less than your asking price, they'll ask you for "volume discounts" and they'll ask you to accept trades. You should at least be comfortable in jockeying your prices a bit, and if you can take a trade, that's just fine. It's your show, but by being flexible you'll be more successful. A 10 to 15 percent reduction in price seems about right. Anything more turns haggling into railroading! And don't wait for your customers to start haggling—you can get the ball rolling by offering a deal of your own. It works!

If you want to get your mitts on the latest and greatest radios and gadgets, hamfests, especially huge hamfests like the Dayton HamVention are the place to be. This Ten-Tec Jupiter transceiver (probably a prototype) made its debut at Dayton in 2000. You won't likely find this stuff anywhere else. (Photo from http://kd4dcy.net/jupiter, maintained by Scott Johnson, KD4DCY)

• Good terms. To ease buyers' fears of getting ripped off, represent your gear honestly and offer reasonable terms. Some sellers offer a five-day money-back guarantee, especially for big-ticket items, holding onto a customer's payment to make sure he or she is happy with the deal. Why would you want an unhappy ham customer (friend), anyway?

• Tidbits. Arrive early! Many of your best sales will be to other sellers who relish the opportunity to pour over everyone's stuff before the masses get through the gates. If you set up as early as possible, you won't have to try to sell and set up at the same time, and you'll be free to search for your own goodies to buy! Be prepared for weather changes if your event is outdoors. Bring a friend or helper so you're not tied to your table for the whole show. Bring lots of change and dollar bills. Accept local checks only, or checks from buyers you know personally.

Just Do It!

Hamfests are a wonderful part of amateur radio. They will sustain you through thick and thin. They will open doors to new pursuits. And they will expose you to interesting and good-to-know friends and fellow hams. If you've never attended one, get busy! If you live near a large metropolitan area, you can find at least one nearby hamfest almost every weekend. If you're in a more remote area, you'll have to plan ahead. Whatever it takes, you owe it to yourself to see what it's all about. You'll see me there, pawing through the weird stuff under the tables.

Oh, and as long as you bring mostly ham and/or computer gear, you can probably get away with selling other stuff there, too. The big sellers at my last hamfest were the guitars I brought along "just in case." I wish I'd had a truckload of 'em! ■

by Gerry L. Dexter, gdex@genevaonline.com

Catch It Now: New Shortwave From Cameroon, And Psywar Broadcasts You Can Hear!

Yet another anti-whomever transmitter has begun using shortwave to further his or her view of peace, democracy, and a state of wonderfulness for all. Radio Free Southern Cameroon is now on the air on 12130 Sundays from 1800 to 1900 via a transmitter in Krasnodar, Russia. There's some question about the actual schedule since the broadcast has also been heard opening at 1600. As with so many of these types of broadcasts, it's even money that, though they are interesting novelties, they won't be around all that long, so check them out now and hope for the best. If you should log this broadcast, you can try sending an e-mail report to MedCom@SouthernCameroonsIG.org.

The Psywar Continues

There's been a fair amount of activity on the Middle East/Iraq psywar front of late. Some listeners in Europe are hearing Coalition Forces Information Radio, aka "Information Radio" and sometimes IDing as Radio Maluumaati, around 1700 on the "off" frequency of 18727. Some in the EST zone have noted this one on 6125 around 0000 and before. These broadcasts, which are on the air around the clock, are aimed at maritime listeners in the Gulf and seek information about suspected terrorists and suspicious goings-on. The broadcasts are organized and produced by the Navy Maritime Liaison Office, which is where the sometimes-used MARLO acronym comes from.

And the Radio Solh broadcasts to Afghanistan are now scheduled on 11675 from 0200 to 1200, and on 15265 via Rampisham and 9875 (also Rampisham) from 1500 to 1800. Radio Peace, also to Afghanistan, now uses 9365 from 0900 to 1500. This is a mere 1 kW, so it's probably not going to light up your dial!

Not Sure How They'll Hear This One!

Another new and unusual broadcast has begun. This one, based in Japan and aimed at North Korea, is specifically intended for Japanese citizens who have been kidnapped and taken to that people's paradise. The program, called "Shiokaze" ("Sea Breeze"), is said to be on the air daily from 1530 to 1600 on 5890 and is transmitted from a site at Angarsk, Russia, near Irkutsk. As usual for such exotic broadcasts, the time/frequency pairing isn't the best for most, if not all, of North America.

From China To Peru, And Beyond

A heretofore-unnoticed transmission out of China is The Voice of the Golden Bridge, broadcasting from Chengdu on 6060. Also known as the Life, Travel and City Service, it has been noted by some around 1230.

A new Peruvian is Radio Bella, in Tingo Maria on 4300,

This is the Australian Broadcasting Commission studio building in Darwin. (Photo by Marty Foss, Philippines)

which also has a mediumwave outlet on 1070. Their address is Jiron Monzan, Cuadra 1, Tingo Maria. And Radio Bethel in Arequipa has been reactivated on 5949.7, as has Radio Ilucan, Cutervo, on 5678.

Mediacorp Radio, Singapore (6150), has changed the name of that service to "938 Live" (the local station it relays is on 93.8 FM).

Solomon Islands Reactivates 9545

For a couple of months now, "GIG" reporter Charles Maxant has been hearing the Solomon Islands on their old 9545 frequency. Now we can confirm that this spot has been recently reactivated—and with a new transmitter! Apparently there are still a few kinks to be ironed out as the broadcasts suffer from over modulation and other assorted ills.

The Voice of America has increased its efforts to Africa. The breakfast time program has expanded to a full hour, now 0430 to 0530. Also the broadcasts to troubled Zimbabwe have been expanded to 90 minutes per day in English and the local Ndebele language.

WYFR, which we sometimes think believes itself to be a mini VOA or BBC based on the number of frequencies and sites it uses, has shown up on 7780! They are now scheduled in this alien territory from 1100 to 1345 and 0300 to 0745.

An item in the *Midland Daily News* (MI) talks about the KKK having a program on the local public access TV channel. In the story, program host Thomas Robb is quoted as saying that the Klan is looking to "get into shortwave broadcasts this fall" (meaning 2005). In this day and age, that's easy enough to do, since you don't need a license, transmitter or antenna to get your views out there.

Help Wanted

We believe the "Global Information Guide" consistently presents more shortwave broadcast loggings than any other monthly SW publication! (This month we processed 555loggings!)* Why not join your fellow SWLs, let us know what you're hearing, and also become eligible for our monthly shortwave book prize! Send your logs to "Global Information Guide," *Popular Communications*, 25 Newbridge Rd., Hicksville NY 11801-2953. Or e-mail them to Editor Harold Ort at popularcom@aol.com, or to your "GIG" columnist at gdex@genevaonline.com (please see the column text for basic formatting tips.) Come join the party—we look forward to hearing from you!

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

Reader Logs

Remember, your shortwave broadcast station logs are always welcome. But please be sure to double or triple space items, list them by country and include your last name and state abbreviation after each log. Also much wanted are spare QSLs you don't need returned, station schedules, brochures, pennants, station photos, and anything else you think would be of interest. And how about sending a photo of you at your listening post? C'mon! Jack up your nerve and do it!

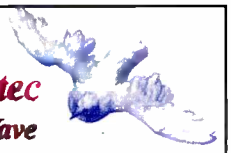
Here are this month's shortwave logs. All times are in UTC. Double capital letters are language abbreviations (SS = Spanish, RR = Russian, AA = Arabic, etc.). If no language is specified the broadcast is assumed to be in English (EE). Carrier on!

ALASKA—KNLS, 11870 to East Asia heard at 1322. Alternate to usual 9795. (DeGennaro, NY)

ALBANIA—Radio Tirana, 6150 at 0115 on snowmobiling in Albanian resorts. (Maxant, WV) 7160 at 0235. (Weronka, NC) 7455 in Albanian at 0109. (DeGennaro, NY)

Abbreviations Used In This Month's Column

*	— 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
//	— in parallel
AA	— Arabic
ABC	— Australian Broadcasting Corporation
AFN	— Armed Forces Network
AFRTS	— Armed Forces Radio TV Service
AIR	— All India Radio
Anmt(s)	— announcement(s)
Anncr	— announcer
AWR	— Adventist World Radio
BSKSA	— Broadcasting Service of Kingdom of Saudi Arabia
CC	— Chinese
Co-chan	— co-channel (same frequency)
Comml(s)	— commercial(s)
CP	— Bolivia, Bolivian
CRI	— China Radio International
DD	— Dutch
DJ	— disc jockey
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
GBC	— Ghana Broadcasting Corp
GG	— German
GMT	— Greenwich Mean Time
HH	— Hebrew, Hungarian, Hindi
HOA	— Horn of Africa
ID	— station identification
II	— Italian, Indonesian
Int	— international
IRRS	— Italian Radio Relay Service
IS	— interval signal
JJ	— Japanese
KK	— Korean
LSB	— lower sideband
LV	— La Voz, La Voix
NBC	— National Broadcasting Corporation (Papua New Guinea)
ORTB	— Office de Radiodiffusion et Television du Benin
PBS	— People's Broadcasting Station
PP	— Portuguese
PSA	— public service announcement
QQ	— Quechua
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 not owned by the broadcaster
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
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"
VOAS	— Voice of America
VOIRI	— Voice of Islamic Republic of Iran
WCNA	— West Coast of North America
ZBC	— Zimbabwe Broadcasting Corporation



Radio Santec
The Cosmic Wave
The Word, The Universal Spirit

Frequencies and Schedule

Europe	Tuesday	23.00 CET	1.323 AM
India	Sunday	01:00 GMT	7.145 kHz.*
Arabia	Sunday	19:00 GMT	7.105 kHz.*
Europe/ N.Africa	Friday	21:00 GMT	5.775 MHz.

For our Livestream Programs (see back) **tune in at the following times****:

Daily:	01:00	The Inner Path – Level of Order
	04:30	The Prophet – The Voice of Truth
	16:00	The Cosmic School of Life
	23:00	A Question of Ethics

1st&3rd Tues: 19:30 Inner Path, Level of Order
Sat & Sun: 16:00 Meeting of All God-Seekers

* Shortwave Frequencies are valid until April, 2006
** Livestream broadcasting hours are in CET (Central European Time)

For information on local radio broadcasts in your area please write to:

Radio SANTEC – The Cosmic Wave
THE WORD – THE UNIVERSAL SPIRIT

P.O. Box 5643
97006 Würzburg
Germany
Tel: 0049-931-3903.265
Fax: 0049-931-3903.233

P.O. Box 3549
Woodbridge, CT 06525
USA
Tel: 1-800-846-2691
Fax: (203)882-0728

www.radio-santec.com
e-mail: info@radio-santec.com

Radio Santec, based in Germany, broadcasts via IRRS, Italy, and Julich, Germany.

This Month's Book Winner

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

Our book winner this month is **Charles Maxant** of Hinton, West Virginia. Charles receives a copy of Joe Carr's *Receiving Antenna Handbook* from the good folks at Universal Radio, 6830 Americana Parkway, Reynoldsburg, OH 43068. You can write them at that address to request a copy of their super catalog, send an e-mail to dx@universal-radio.com, or give them a jingle at 614-866-4267.

ARGENTINA—Radio Nacional, 6060 in SS monitored at 0009. (Charlton, ON) 0900. (DeGennaro, NY) RAE, 15345 in SS at 2212. (Charlton, ON)

ANTARCTICA—Radio Nacional Arcangel San Gabriel, 15476 at 2045 with SS pops and ballads, ID at 2057 and off. (Alexander, PA)

ARMENIA—Voice of Armenia, 9965 at 1925 with opening anmts and schedule. Still announcing 9775. News at 1926 and off with contact info at 1943. (Alexander, PA) 1939—1945 closing. (D'Angelo, PA)

ASCENSION ISLAND—BBC Relay, 12095 at 2022. Also 21740 at 1724 with "Focus on Africa." (Wood, TN) United Nations Radio (via) 17810 at 1737 with items on world hunger mentions of the Women's League of Burma and several IDs. Off at 1745. (Wood, TN)

AUSTRALIA—Radio Australia, 5995 at 1538. // to 6080, 7240, 9475, 9590 and 9625. (Burrow, WA) 6020 in EE and Pidgin at 1050. Also 9580 at 1051, 9590 at 1055, 9710 at 1049 and 11880 at 0942. (DeGennaro, NY) 9580//9590 on China currency revaluation at 1300. (Linonis, PA) 9625 at 1445 and 15515 at 2230. (Maxant, WV) 11880 at 2007 with talk about rugby. (Wood, TN) 17795 at 2325 with comments on China and Taiwan. (MacKenzie, CA) 21740 at 2305. (Gay, KY) VL8A, Alice Springs, 2310 at 1214 with news headlines, ID, item on aboriginal residential schools. (Taylor, WI) Voice International, 11680 at 1845 in unid language. (Linonis, PA)

AUSTRIA—Radio Austria Int., 6155 in GG heard at 0926 and 7325 to North America at 0052. (DeGennaro, NY) 13675 via Canada at 1630. (Maxant, WV) 13775 on Nazi sympathizers in 1938. (Charlton, ON)

BELARUS—Radio Belarus, 7280 with EE ID "You are tuned to Radio Belarus" at 2130. (Maxant, WV)

BEGIUM—RTBF Int., 9970 in FF to Europe heard at 1037. (DeGennaro, NY) 17570 in FF at 1710. (Charlton, ON) 1830. (Linonis, PA)

BOLIVIA—Radio Malku, Uyuni, 4796.4 in SS at 0949. (DeGennaro, NY) Radio Municipal, Caranavi, 4845 in SS at 0959 with local notices and commls. (DeGennaro, NY) Radio Santa Cruz, Santa Cruz, 6134.8 at 0915 with songs and SS talks. (DeGennaro, NY) Radio Mosoj Chaski, Cochabamba, 3310 in QQ and some SS at 0922, possibly local news. (DeGennaro, NY) Radio Pio XII, 5952.5 Llallagua-Siglo XX, with local music and language, also in SS at 0115. Closing with River Kwai March at 0232. (Alexander, PA) Radio San Miguel, Riberalta, 4904 in SS at 1005. (DeGennaro, NY) Radio Centenario, Santa Cruz, 4865 in SS at 1044. (DeGennaro, NY)

BOTSWANA—VOA Relay, 9885 in an African language at 0445 and 12080 in FF at 1839. (Brossell, WI) 11835 with "Africa News Now" at 0413. (D'Angelo, PA) 12080 in FF at 2020 and 13715 with "Sunny Side of Sports" at 2048. (Wood, TN) 12080 in FF at 2055. (Charlton, ON)

BRAZIL—(all in PP) Radio Aparecida, Aparecida, 5045 at 0810 with anmts, ads, jingles, pops. (Alexander, PA) Radio Educadora, Braganca, 4825 with music and talks at 0921. (DeGennaro, NY) Radio Difusora do Amazonas, Manaus, 4805 with religious talk and background music at 0944. (DeGennaro, NY) Radio Bandeirantes, Sao Paulo, 9645 with two men in discussion at 2247. (DeGennaro, NY) Radio Trans Mundial, Santa Maria, 9530 with religious talk at 2200. Also 11735 at 0937. (DeGennaro, NY) Radio Gaucha, Porto Alegre, 11915 with men talking at 0034. (DeGennaro, NY) Radio Educacao Rural, Tefe, 4925 with music and commercials at 1011. (DeGennaro, NY) Radio Educadora, Guajara Mirim, 3375 with an ID at 0930. (DeGennaro, NY) Radio Nacional, Macapa, 4915 at 0330 with ID sequence, commls, romantic ballad. (Taylor, WI) 0440 with music. (DeGennaro, NY) 0451. (Wood, TN) Radio Record, Sao Paulo, 6150 weak under University Network at 0820, //9504.8. (Alexander, PA) 0920. (DeGennaro, NY) Radio Cancao Nova, Cachoeira Paulista, 4825 with music and talk, ID at 0900. Also on 9675 with religious talk at 2256. (DeGennaro, NY) Radio Rural, Santarem, 4765 with music and time check at 0853. (DeGennaro, NY) Radio Gaucha, Porto Alegre, 6020 with religious message at 0839. (DeGennaro, NY) Radio Nacional Amazonia, Brasilia, 6180 at 0945 with talk, brief music, ID. //11780. (Alexander, PA) 6180 at 0852 and 11780 at 1052. (DeGennaro, NY) 11780 with South American folk music at 0015—almost no talk. (Barton, AZ) Radio Marumby, Florinapolis, 9665 with music and commls at 0925. (DeGennaro, NY) Radio Cultura, Sao Paulo, 6170 with Brazilian ballads at 0830. //9615. (Alexander, PA) 9615 with music at 2239, ID 2245. (DeGennaro, NY) Radio Rio Mar, Manaus, 9685 with local news and anmts at 1043. (DeGennaro, NY) Radio Anhanguera, Goiania, 4915 with music and anmts at 0909. Also 11830 with national news at 2125. (DeGennaro, NY) 11830 at 2249 with conversation, commercial, ID, news. (Taylor, WI) Radio Brazil Central, Goiania, 4985 with local news and anmts at 0914. Also 11815 at 2130 with news and interviews. (DeGennaro, NY) 11815 at 2235 with long talk, ID. (Taylor, WI) 0420 with man hosting vocal, ID, brief comml. (D'Angelo, PA) Radio Difusora Roraima, Boa Vista, 4875 with music and talk at 0952. (DeGennaro, NY) Radio Clube do Para, 4885 at 0337 with vocals, ID. (Taylor, WI) EE dance party at 0440. (Wood, TN) 0903 with music, anmts, commls. (DeGennaro, NY) Radio Difusora do Amazona, Manaus, 4805 with local news and anmts at 0954. (DeGennaro, NY) Radio Educacao Rural,

Beijing Time	UTC	Local Standard Time	Target Areas	AM/KHz
		USA		
03:00–04:00	19:00–20:00	14:00–15:00	Baltimore	1190AM
06:00–07:00	22:00–23:00	18:00–19:00	Boston	950AM
07:00–08:00	23:00–00:00	18:00–19:00(Mon.–Fri.)	Chicago	1280AM
09:00–10:00	01:00–02:00	18:00–19:00	Northern Nevada	570AM
11:00–12:00	03:00–04:00	20:00–21:00	Los Angeles	590AM
16:00–17:00	08:00–09:00	06:00–07:00	San Diego	1000AM
20:00–22:00	12:00–14:00	07:00–09:00	Philiadelphia	1540AM
		Canada		
00:00–01:00	16:00–17:00	12:00–13:00	Toronto	530AM
07:00–08:00	23:00–24:00	19:00–20:00	Toronto	1540AM
07:00–08:00	23:00–24:00	19:00–20:00	Toronto	100.7FM
07:00–08:00	23:00–24:00	18:00–19:00	Ottawa	97.9FM
07:00–09:00	23:00–01:00	18:00–20:00	Winnipeg Manitoba	810AM
10:00–11:00	02:00–03:00	20:00–21:00	Vancouver	1320AM

China Radio International's current schedule.

Campo Grande, 4754 with two anncrs talking at 0911. (DeGennaro, NY) Radio Senado, Brasilia, 5990 with anmts and commls at 0934. (DeGennaro, NY) Radio Clube Paranaense, Curitiba, 6040 with news and public notices at 0853. (DeGennaro, NY) Radio Tupi, Curitiba, 6060 with religious message at 0857. Also 9565 at 2215 on Brazil's social problems. (DeGennaro, NY)

BULGARIA—Radio Bulgaria, 7400 in BB at 0103. Also 7500 in FF at 2151 and 11600 in RR to Europe at 1139. (DeGennaro, NY) 9400 at 0510 with EE ID and into PP. Also 15700 in presumed Bulgarian at 1311. (Brossell, WI) 9500//11500 in FF at 1724. (Burrow, WA) 7500 in FF at 2145 and 9700 in BB at 0114. (MacKenzie, CA) 0130 in FF. (Weronka, NC) 15700 in BB at 1540. (Wood, TN)

BURKINA FASO—Radio Burkina, 5030 at 2300 in FF. Off at 0000. University Network not on the air. (Alexander, PA) 0217 with man and woman anncrs in FF, into local language at 0230. No University Network. (Taylor, WI) 7230 in FF heard at 0859. (DeGennaro, NY)

CANADA—Radio Canada Int., 9390 via Sweden in FF at 2218. (Jeffery, NY) 9880 via China in EE at 0052. (MacKenzie, CA) 12035 via Japan at 2247. (Foss, Philippines) 11965 in FF at 1925, 15325 in FF at 1923 and 17765 with comedy program at 2041. (Charlton, ON) 17820 with discussion at 1409. (Wood, TN) CBC Northern Quebec Service, 9625 at 0449 about living in the "bush." (Burrow, WA) CKZN, St. John's, 6160 at 0820. (Maxant, WV) CFRX, 6070 with news items at 2110. (Maxant, WV)

CHAD—Radidiffusion National Tchadienne, 6165 at 2147 with highlife vocals, male FF anncr. Wiped out by AWR sign on at 2200. (D'Angelo, PA)

CHILE—Voz Cristiana, 5960 in SS at 0930, 6110 in PP at 0945 and 6070 in SS at 0941. (DeGennaro, NY) 17680 in SS at 1418. (Charlton, ON) 2036 in SS. (Charlton, ON) 2105. (Barton, AZ) 2329 in SS at 2328. (MacKenzie, CA)

CHINA—China Radio Int., 9570 via Albania in unid language at 0137, //6020. Also 9710 in SS at 0108, 9745 in SS at 0004 and 9865 in Haka at 0054 to 0057 close. (MacKenzie, CA) 9580 at 0114, 13630 via Mali at 2227 and 13740 via Cuba at 1507. (Charlton, ON) 9640-Kashi in SS at 2105, 9440-Kunming in CC at 1122, 11700-Kunming in II at 1048 and 11980-Kunming in EE at 1333. (DeGennaro, NY) 9690 via Spain in CC at 0200 and 13685 via Mali in AA at 1843. (Brossell, WI) 13630 via Mali at 2037. (Wood, TN) CPBS/China National Radio, 6090-Geermu, music and anmts in CC at 1124. 5 + 1 time pips at 1200, news. (D'Angelo, PA) 7345-Beijing in CC at 1112,

save the gambia
DEMOCRACY PROJECT

----- Message from "Brodowsky, Walter" <Walter.Brodowsky@t-systems.com> on Wed, 26 Oct 2005 13 32 27 +0200 -----

To: rdangelo3@aol.com
Subject: AW: Reception Report: Save the Gambia Project via Julich, Germany

Dear Sir,

Thank you very much for your kind reception report which we confirm and which is attached to this email. You did listen to a transmission of Radio Miami International (RMI) which was broadcasted towards Gambia by using a 100 kW transmitter from Short-wave Radio Station Juelich. Your reception report is highly appreciated and we forwarded it to our Customer, too. We would like to thank you for your efforts in this matter.

Your future reception reports also would be highly appreciated. Please feel free to send them to us and we will forward them to our Customers, too.

With kindest regards

Yours sincerely

Walter Brodowsky, Account Manager for short-wave broadcast, T-Systems International, Media&Broadcast

Rich D'Angelo got this e-mail QSL from Save the Gambia Project, aired via Julich, Germany.

7375-Beijing in CC at 1116, 9500-Shijiazhuang in CC at 1020, 9810-Xi'an at 1114 and 11630-Lingshi in unid language at 1155. (DeGennaro, NY) 9620 in CC at 0530 and 15380 in CC at 0035. (MacKenzie, CA) Xinjiang PBS, Urumqi, 7340 in unid language at 0004. (Foss, Philippines)

CLANDESTINE—Voice of Mesopotamia, 11530 via Moldova in Kurdish at 1132. (DeGennaro, NY) Voice of Biafra Int. via South Africa, 7380 at 2120 with Nigerian vocals, EE anmts, ID, anti-Nigerian government talk and into the Igbo language. (D'Angelo, PA) Radio Nile, 12060 via Madagascar, 0359 opening with local music, EE ID and sked, talk about Sudan, some vern talks. Fair but with slightly muffled audio. Weaker on //15320. (Alexander, PA) 0404 with news headlines, music segments, and news in detail. ID 0407 "You are listening to the news on Radio Nile." Language change at 0430. (D'Angelo, PA) Radio Free Europe, 9520 via Hungary in RR at 0220. (Brossell, WI) Radio Free Asia, 11540 via Tajikistan in unid Asian language at 1250. 11590 via Armenia in unid Asian language at 1218 and 12075 via Northern Marianas in unid Asian language at 2131. (Brossell, WI) Voice of the Tigray Revolution, 5500 at 0356 sign on with flute IS, vern talk at 0400. Stronger on parallel 6350. (Alexander, PA)

COLOMBIA—La Voz de su Concencia, Puerto Lleras, 6010 at 1048 with music, religious message. (DeGennaro, NY) La Voz del Guaviare, San Jose Guaviare, 6035 in SS at 0945. (DeGennaro, NY) Radio Lider, Bogota, 6139.8 in SS at 0950. (DeGennaro, NY)

CROATIA—Voice of Croatia, 7285 via Germany in Croatian at 0046 and 9830 in Croatian at 1104. (DeGennaro, NY) 9925 (*via Germany—gld*) in EE at 2227 with conversation, headlines, ID and into unid language. (Burrow, WA)

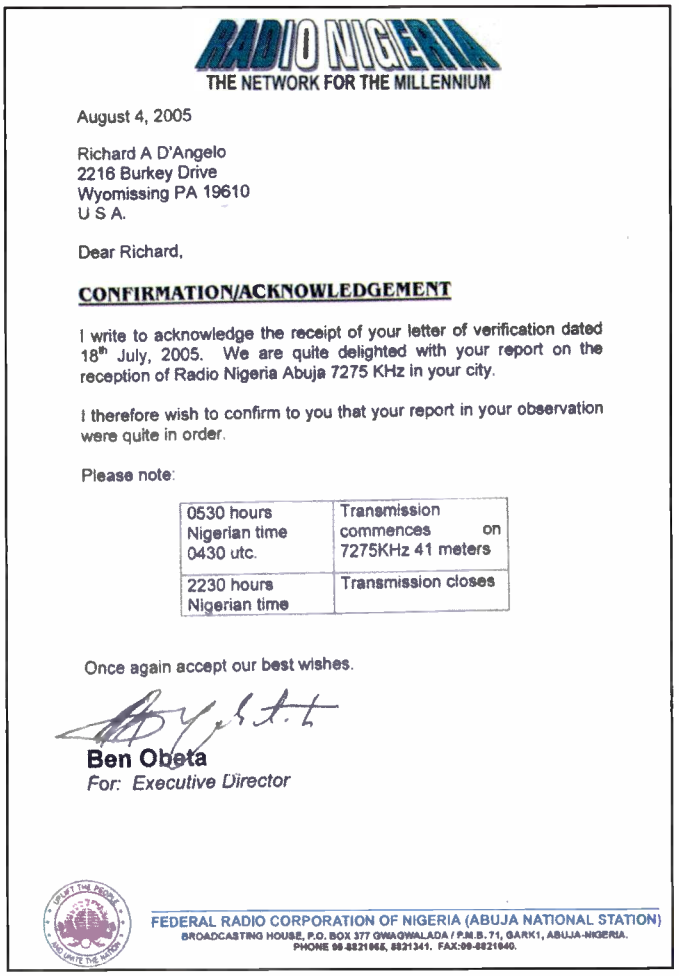
CUBA—Radio Rebelde, 5020 at 0924 with domestic news, time checks, and events. (DeGennaro, NY) 5025 at 2324. (Gay, KY) Radio Havana Cuba, 9550 with news in EE at 0532. (Wood, TN)

CYPRUS—BBC Relay, 9410 with sports news heard at 2158. (Wood, TN)

CZECHOSLAVAKIA—Radio Prague, 7345//9415 with schedule, ID, news heard at 2229. (Burrow, WA) 7345 in EE at 0100 and 17485 in EE at 1601. (Charlton, ON) 9880 in GG heard at 1059 and 11640 in EE at 1143. (DeGennaro, NY) 11665 in SS to 0028 close. (Clapshaw, WA)

DJIBOUTI—RTD Djibouti, 4780 at 0300 sign on with local instl. music, vern. talk at 0301, Koran at 0302. Weak under Ute QRM. (Alexander, PA)

ECUADOR—Radio Quito, 4919 in SS at 1009. (DeGennaro, NY) La Voz del Napo, Tena, 3279 in QQ/SS at 0910. (DeGennaro, NY) 0440 in SS. (Brossell, WI) La Voz del Upano, Macas, 5040 with SS preaching at 1030, multiple IDs around 1038. (D'Angelo, PA) 5999.4 in SS at 1055 but blanked out by RHC sign on at 1057. (DeGennaro, NY) HCJB, 6125 in QQ at 0911. (DeGennaro, NY) 11700 in SS at



RADIO NIGERIA
THE NETWORK FOR THE MILLENNIUM

August 4, 2005

Richard A D'Angelo
2216 Burkey Drive
Wyomissing PA 19610
U S A.

Dear Richard,

CONFIRMATION/ACKNOWLEDGEMENT

I write to acknowledge the receipt of your letter of verification dated 18th July, 2005. We are quite delighted with your report on the reception of Radio Nigeria Abuja 7275 KHz in your city.

I therefore wish to confirm to you that your report in your observation were quite in order.

Please note:

0530 hours Nigerian time 0430 utc.	Transmission commences on 7275KHz 41 meters
2230 hours Nigerian time	Transmission closes

Once again accept our best wishes.

Ben Obeta
For: Executive Director

FEDERAL RADIO CORPORATION OF NIGERIA (ABUJA NATIONAL STATION)
BROADCASTING HOUSE, P.O. BOX 377 GWAGWALADA / P.M.B. 71, GARKI, ABUJA-NIGERIA.
PHONE 09-8821965, 8821341. FAX:09-8821640.

Radio Nigeria supplied this e-mail QSL to Rich D'Angelo for its new station in Abuja on 7275.

2320 and 12005 in EE at 1148. (Charlton, ON) 11920 in PP at 0055. (Barton, AZ)

EGYPT—Radio Cairo, 7260 ending mailbag program at 0305. (Burrow, WA) 7270 in SS at 0045, 9645 in AA at 2100, 9990 in FF at 2031 and 12050 in AA at 2115. (DeGennaro, NY) 9990 at 2045. (Weronka, NC) 2158 in AA and 11885 in AA at 0005. (Charlton, ON) 9990 at 2215. (Maxant, WV) 11790 in AA at 2256 and 11885 in AA at 0020. (Clapshaw, WA)

ENGLAND—BBC, 5975 in EE at 0011, 11675 at 2100, 15400 at 2041 and 21740 at 1840. (Chandler, ON) 11885 via French Guiana to Central America at 1102. (DeGennaro, NY) 15400 to Africa at 1830. (Linonis, PA) Sudan Radio Service, 11665 at 1500 sign on with IDs, contact info, including Nairobi address, news. Later into AA and close at 1700. (Alexander, PA)

EQUATORIAL GUINEA—Radio Nacional, Bata, 5005 at 2240 with vernacular talk, Afro-pops and off with their lengthy national anthem. (Alexander, PA)

ETHIOPIA—Radio Fana, 6210 at 0257 opening with IS, talk in

In Times Past...

And now for a bit of fun. We'll give you a blast from the past here each month; perhaps a logging or station tidbit from the *Pop'Comm* shortwave history book. Here's one for the memory books...

MAURITIUS—Mauritius Broadcasting and News Service, Forest Side, 15092, poor to fair in EE/FF at 0325 tune to 0415 close. Modulation seemed poor. Using only 1.5 kW. (Dexter-IA)

Pirate Radio Maildrops

To help you reach some of the pirate stations we report on each month, whether you wish to contact them for QSLs, general information, or just to send a report on their programming, here's the latest contact information.

Belfast, Box 1, Belfast, NY 14711
Blue Ridge Summit, Box 109, Blue Ridge Summit, PA 17214
Elkhorn, P.O. Box 69, Elkhorn, NE 68022
Huntsville, Box 11522, Huntsville, AL 35814
Lone Pine, Box 929, Lone Pine, CA 93545
Lula, Box 24, Lula, GA 30544
Merlin, Box 293, Merlin, ON, N0P 1WO, Canada
Providence, Box 28413, Providence, RI 02908
Wellsville, Box 422, Wellsville, NY 14895

local language, HOA music at 0300. Weaker on //6940. (Alexander, PA) 0315 in Amharic and HOA vocals. ID and news at 0300. (D'Angelo, PA)

FINLAND—YLE/Radio Finland Int., 11920 at 1607 to WCNA. (DeGennaro, NY)

FRANCE—Radio France Int., 3965 in FF to North Africa at 0428, 4890 via Gabon to Central Africa at 0443, 11600 via Xi'an, China, in FF to SEA at 1136 and 11845 in FF to North Africa at 1057. (DeGennaro, NY) 4890 via Gabon in FF at 0512. (Brossell, WI) 11615 in FF at 1915, 11705 in FF at 2040, 15330 in FF at 1726 and 17505 in EE at 1603. (Chandler, ON) 11995 via Gabon in FF at 2000. (Barton, AZ) 17515 with FF/EE lessons at 1438. (Wood, TN)

GABON—Africa Number One, 9580 in FF with sports talk at 2224. (DeGennaro, NY) 2300 close down. (Gay, KY)

GERMANY—Deutsche Welle, 7400 via Irkutsk, Russia, in GG to Asia at 1009 and 9545 in GG at 1115. (DeGennaro, NY) 9720 at 2233. (Foss, Philippines) 9900 via Irkutsk in GG at 1247. (Brossell, WI) 11865 with news at 2104 and 11690 via Canada in GG at 2305. (Charlton, ON)

Deutschlandrundfunk, 6005 in GG at 0836. (DeGennaro, NY)

GREECE—Voice of Greece, 7475 in Greek at 2148 and 9420 in Greek at 2250. (DeGennaro, NY) 9420 in Greek with swing and big band music at 0539. (Wood, TN) 15630 in Greek at 1842. (Chandler, ON) RS Makedonias, 7450 in Greek to Europe heard at 2145. (DeGennaro, NY)

GUATEMALA—Radio Cultural Coatan, San Sebastian, 4780 heard at 1033 with numerous IDs f/by pgm of local music. (D'Angelo, PA) Music and SS ID at 1040. (DeGennaro, NY) Radio Buenas Nuevas, San Sebastian, 4799.8 with religious message in SS at 0037. (DeGennaro, NY) Music and religious talk in SS at 1215. (Barton, AZ) 1237 with music and talk, ID at 1301. (Taylor, WI) Radio Verdad, Chiquimula, 4052.5 at 0335 with religious vocals, and religious talk at 0350. (D'Angelo, PA) 0436 with religious talks and music. (Wood, TN)

GUYANA—Voice of Guyana, 3291 with BBC program at 0322, local ID and TC at 0342 and into reading local obits. BBC news noted at 0410 re-tune. (D'Angelo, PA) 0421 with mentions of BBC and comml for "Elephant" brand of curry. (Wood, TN) 0435 with BBC pgms. (Maxant, WV) 0918 with Hindi music and mention of a local holiday. (DeGennaro, NY)

HAWAII—KWHR, 11555 with sermon at 1303. (Brossell, WI)

HONDURAS—Radio Misiones Int., Tegucigalpa, 0332 with SS talks, vocal groups, lively Latin vocals, another religious talk at 0345. (D'Angelo, PA) 0420. (DeGennaro, NY) 0431 with easy listening music. (Wood, TN) La Voz Evangelica, Tegucigalpa, 4819.2 in SS at 1046. (DeGennaro, NY) Radio Luz y Vida, San Luis, 3249 with religious talks in SS at 0024. (DeGennaro, NY)

HUNGARY—Radio Budapest, 6025 with multi-lingual IDs at 0329. (Burrow, WA) 9795 at 0244. (Brossell, WI)

ICELAND—AFN/AFRTS 7590u-Grindavik, with PBS news at 2205. (DeGennaro, NY)

INDIA—All India Radio, 4860-Delhi with news at 1230, 9445-Bangalore in EE at 2136 and 11620-Aligarh in Hindi at 1235. (Brossell, WI) 9445 at 2159. (Wood, TN) 9445//11620 in EE at 2115. 10330-Bangalore in Hindi at 0230. (Maxant, WV) 9950-Delhi in Hindi at 2036, 11620-Aligarh in Hindi at 1921 and 11715-Panaji (Goa) in EE at 2137. (DeGennaro, NY) 13605-Bangalore with EE news at 0035. (Clapshaw, WA)

IRAN—VOIRI, 6120 with "Voice of Justice" segment opening at 0128, EE IDs and NA at 0130. (Alexander, PA) 9635//11650 in EE at 1552. (Burrow, WA) 9870 in unid language at 1601. (Burrow, WA) 15085 in FF to Europe at 1856. (DeGennaro, NY)

INDONESIA—Voice of Indonesia, 9525 at 0815 with interview of expectant mothers. (Maxant, WV) Ending AA at 1700 and into SS. (Clapshaw, WA) Radio Republik Indonesia, 4925-Jambi (Sumatra) with singers and drums at 1055. (Foss, Philippines)

ISRAEL—Kol Israel, 7520 in HH at 2158 with news at 2200. Also 7545 in HH at 2155 and 9345 in EE to NA at 0429. (DeGennaro, NY) 7545 in HH at 0150. (MacKenzie, CA) 9345 in HH at 0110. (Clapshaw, WA) 11590 in HH at 1901. (Chandler, ON) 15640 in FF at 1900. (Linonis, PA) 17535 in unid language at 1428. (Wood, TN)

ITALY—RAI Int., 9845 at 1932 with IS, ID and into news. (Burrow, WA) 11970 in RR at 1614 and 15250 in II to Africa at 1710. (DeGennaro, NY) 17760 in II at 1550. (Chandler, ON)

JAPAN—Radio Japan/NHK, 7200 with "Asia Watch" at 1430. Also 21670 with pop vocals at 2045. (Barton, AZ) 6145 via Canada at 0014, 11895 via French Guiana in JJ at 2204 and 15220 via Ascension in JJ at 2203. (Chandler, ON) 9530 via French Guiana in SS at 1023, switched to PP at 1030. Also 9560 in Korean at 2206, 9660 via UK with GG to Europe at 1100. (DeGennaro, NY) 9660 via UK at 0330 with ID possibly in PP. (Linonis, PA) 11740 via Singapore with man-woman in JJ at 1248. (Brossell, WI) 13555 via Gabon in JJ at 1816. (Jeffery, NY) 17605 in JJ at 2335, //7180. Also 17810 in Indonesian at 2318. (MacKenzie, CA) 17825 with US songs at 2120. (Maxant, WV) 21670 closing at 2200. (Gay, KY) Radio Nikkei, 9595 in JJ at 0130. (MacKenzie, CA)

JORDAN—Radio Jordan, 9830 in AA at 1905. (Brossell, WI) 11690 with Western classical music at 1512. (Burrow, WA) 1555 with ID and news on the hour. (DeGennaro, NY) 1724 with romantic songs hosted by man, "more romantic music on 96.3 FM, Radio Jordan." Off suddenly at 1729 in mid-song. (D'Angelo, PA)

KUWAIT—Radio Kuwait, 9855 in AA at 2048 and 11990 in AA at 1617. (DeGennaro, NY)

LAOS—Lao National Radio, 6130 at 1156 with local instrumentals to brief talk at 1159 and presumed ID. Seven gongs to top of the hour, then a fanfare and man with news. The spoken word was much weaker than the music. (D'Angelo, PA)

LIBERIA—ELWA, 4760 with music at 2240. (Gay, KY) Radio Veritas, 5470 at 2305 with EE religious messages and prayer for peace in Liberia, Lord's Prayer at 2307 and light music to 2309 close. (Alexander, PA) Star Radio, 9525 via Ascension, 0700 with news about

Rich D'Angelo also got a reply from Pirate Radio Boston, which is occasionally active on the popular 6925 frequency.

Liberia, IDs and program on Liberian politics. (Alexander, PA) 11965 via Ascension in EE at 2107. (Chandler, ON)

LIBYA—Radio Jamahiriya, 7230 at 0130 with "You are listening to Radio Libya International" and into local dialect. (Maxant, WV) 11715 at 1910 in AA with EE "Voice of Africa" segment. (Linonis, PA) 15220 at 1710. (Clapshaw, WA) 21675 from 1300 to 1400 in EE with local pops, census in Liberia, and news heard at 1330 and political commentary. Strong. //21695 was slightly weaker. (Alexander, PA)

LITHUANIA—Radio Vilnius, 11690 in LL monitored at 0004. (Chandler, ON)

MALI—RTV Malienne, 4782.4 at 2256 with highlife vocals, man anncr in FF. (D'Angelo, PA)

MAURITANIA—Radio Mauritanie, 4845 in AA at 0130. (DeGennaro, NY) 0130 with long talk in AA. (Barton, AZ)

MEXICO—Radio Educacion, 6185 in SS at 0214. (Brossell, WI) 0855 with 1950s era jazz. (DeGennaro, NY) Radio Transcontinental de Mexico, 4810 at 0342 with EE ID at 0358 "XERTA—shortwave station from Mexico City" f/by many talk segments (D'Angelo, PA) 1155 with talks in SS. (Brossell, WI) 1215 heard in SS but hard to copy under QRM. (Barton, AZ)

MOLDOVA—Voice of Russia relay, 7125 via Moldova in RR at 0504 and 7180 in EE to ECNA at 0458. (DeGennaro, NY) 9665 with their world service at 0200. (Brossell, WI) Family Radio relay, 7360 with religious talk heard at 2141. (Wood, TN)

MOROCCO—RT Marocaine, 15345 in AA monitored at 1535. (Chandler, ON) 1714. (Linonis, PA) 1811 in AA with Koran. (Jeffery, NY) 1900 in AA. (Linonis, PA; Brossell, WI) Radio Medi-Un, 9575 in AA at 2222. (DeGennaro, NY) 0505. (Brossell, WI) 0527. (Wood, TN) VOA Relay, 15235 at 1939. (Chandler, ON) 15240 at 1730 in EE. (Wood, TN) 1803. (Jeffery, NY) 1820 in AA. (MacKenzie, CA)

NETHERLANDS—Radio Nederland, 7120 via Madagascar, in DD to Africa at 2110, 9795 via Singapore in II to Asia at 1118 and 9895 to East Africa at 2040 and 9940 via Madagascar in II to Asia at 2309. (DeGennaro, NY) 9845 at 0016, 11655 via Madagascar at 2031 (Chandler, ON) 9895 via Madagascar in SS at 0045. Also 11655 via Madagascar at 1935, //17810. (MacKenzie, CA) Closing at 2100. (Barton, AZ) 12065 via Uzbekistan in unid Asian language at 1310. (Brossell, WI)

NETHERLANDS ANTILLES—Radio Nederland Bonaire Relay, 6165 at 0048. (MacKenzie, CA) 17810 at 2203. (Chandler, ON)

NEW ZEALAND—Radio New Zealand Int.6095 at 1527 with "Dateline Pacific," island music, and "Pacific Correspondent." (Burrow, WA) 9885 at 0805 on missionaries on Bougainville Island. (Maxant, WV) 1034. (DeGennaro, NY) 17675 with weather at 2334. (MacKenzie, CA)

NIGERIA—Voice of Nigeria, 7255 in unid language heard at 0905. (DeGennaro, NY)

NORTH KOREA—Voice of Korea, 3560 in FF at 1122. (Foss, Philippines) 9335//11710 at 1551 with mailbag show, f/by "revolutionary swing music." (Burrow, WA) 11535 in AA at 1923, //11910. Also 15180 in SS at 0016 and 15245 in CC at 0022. (MacKenzie, CA) KCBS at 11535 in KK at 2305. (MacKenzie, CA) Pyongyang Broadcasting Station, 6250 with local music at 0925. //6398.8. (Alexander, PA)

NORTHERN MARIANAS—VOA relay, 11805 in CC at 1235. (Brossell, WI) Far East Broadcasting/KFBS, 11580 in CC at 1215. (Brossell, WI)

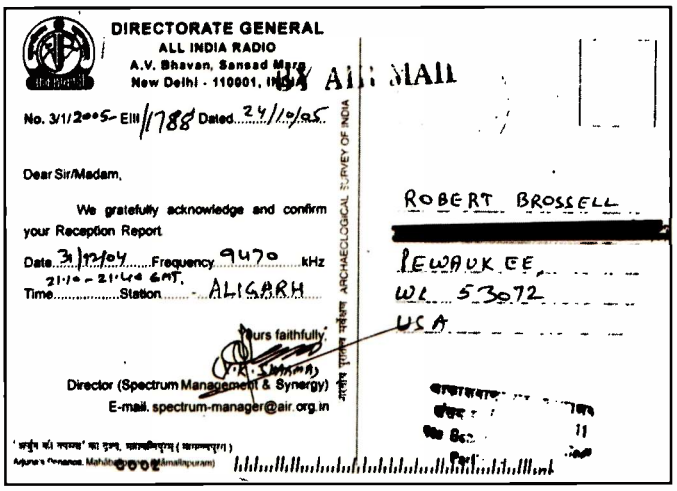
OMAN—Radio Sultanate of Oman, 9515 in AA at 0507. (Brossell, WI) 15140 in EE on unrest in Timor at 1415. (Maxant, WV)

PAKISTAN—Radio Pakistan, 11570 head at 1557 with IS, possible ID and time pips at 1600 and into news. Another ID at 1605. (Burrow, WA)

PALAU—KHBN/The Voice of Hope, 9965 with talks in CC heard at 1242. (Brossell, WI)

PAPUA NEW GUINEA—NBC, Port Moresby, 4890 with pops monitored at 1150, news on the hour. (Barton, AZ) 1209 with pops. (Brossell, WI)

PARAGUAY—Radio Nacional, 9737 with talks in SS at 0240. (Brossell, WI)


DIRECTORATE GENERAL
ALL INDIA RADIO
A.V. Bhavan, Sansad Marg
New Delhi - 110001, India

AIR MAIL

No. 3/1/2005-EIII/1788 Dated 24/10/05

Dear Sir/Madam,

We gratefully acknowledge and confirm your Reception Report

Date 31/12/04 Frequency 9470 kHz
Time 2110 - 2142 GMT Station ALIGARH

Yours faithfully,

Director (Spectrum Management & Synergy)
E-mail. spectrum-manager@air.org.in

ROBERT BROSSELL
[redacted]
LEWAUKEE
WI 53072
USA

It took nearly nine months for Robert Brossell to dig this QSL for Aligarh out of All India Radio!

PERU—Radio Bethel, Arequipa (t), 5949.8 at 0620 with SS talks. Weak but in the clear after Okeechobee-5950 goes off. Wiped out by Bible Voice via Germany-5945 at 0630 sign on. (Alexander, PA) Radio Huanta 2000, Huanta, 4746 with SS pgms at 0937. (DeGennaro, NY) Radio Cultural Amauta, Huanta, 4955 in QQ at 1015. (DeGennaro, NY) Radio Santa Monica, Cusco, 4965 with news and local anmts in SS at 0959. (DeGennaro, NY) Radio Union, Lima, 6114.8 at 0705 with SS anmts, many canned IDs. (Alexander, PA) 0909 in SS. (DeGennaro, NY) Radio La Hora, Cusco, 4855.6 with woman in QQ at 1004. (DeGennaro, NY) Radio Maranon, Jaen, 4835.5 at 1044 with two men talking in SS, music, anmts. (DeGennaro, NY)

PHILIPPINES—Radio Pilipinas, 11720//15190 in Tagalog at 1734 with talk and mentions of Philippines. (Burrow, WA) FEBC Radio, 7320 via Russia with slow-speed news in EE at 1500. (Burrow, WA) 9435 at 2226 with ID as "FEBC Radio, Manila" and into EE program being translated into unid language. (Jeffery, NY) 15350 in Tagalog at 0030. (MacKenzie, CA) VOA Relay, 9680 in CC at 1209 and 9760 with news at 1234. (Brossell, WI) 15150 with news at 2304. (Jeffery, NY) 17740 at 2325. (MacKenzie, CA)

PIRATES—Voice of Captain Ron, 6925u at 1445 with rock show. Also at 2137 to 2354 close. Anncd as a live Saturday night program. Gave captainron@hotmail.com for reports. (Zeller, OH) WMPR, 6924.9 at 1607 rock and IDs with frequency. No address, as usual. Also 6925 at 2038 with several IDs. Usual Micro Power Radio slogan but no "dance party" slogan. No address given. (Zeller, OH) 6955.2 at 2214. (Gay, KY) The Crystal Ship, 3319.9 at 2317 with classic rock program and "The Radio Voice of the Red States Republic." "We Want the Airwaves" rock number at close. Belfast address. (Zeller, OH) 6875 at 2232. Reports to tcsshortwave@hayoo.com. (Hassig, IL) WRQK Relay, 6925u carrying "Wolfman Jack" pgm on WRQK-1090 in Los Angeles done in the style of the old border stations. Rock oldies, howling wolf sound effects and occasional XERU and XPRX IDs as if pretending to be a Mexican station. Also an ad for XERF, Del Rio, Texas. Off at 2116. No ID noted for the pirate relaying this. (Zeller, OH) Take It Easy Radio, 6925u with ancient rock oldies, plugs for *Pop'Comm*, ACE and Free Radio Network. "Take it Easy" by the Eagles at 0303 close. Also noted at 0307. (Zeller, OH) Noted on several occasions variously at 2230, 0056, 0100 and 0600. (Hassig, IL) WHGW, 6925.1u at 2129 with "War of the Worlds" rebroadcast. Reports via whgw6925@myway.com. (Hassig, IL) Captain Morgan, 6923.7 at 2300 with poor signal and unstable carrier with various clips, "Monster Mash," etc. (Hassig, IL) 6924.9 at 2120 with rock, mentions of other pirates, brief talk about pirate radio. No address anncd. (Zeller, OH) 6925 at 2105 with "You're in the pirate zone with Captain Morgan." Various rock songs. Gave an address for reports but unable to copy. (Wood, TN) Alfa Lima Int. (Euro), 15069.5 at 1545 with techno-pop, IDs to past 1600. (Alexander, PA) Mystery Radio (Euro), 6220.5v at 0150 with continuous pops with occasional canned IDs. (Alexander,

PA) 2326 with clear ID at 2342. (Zeller, OH) Undercover Radio, 6925 at 2149 with Dr. Benway about a guy who becomes a ghost after a trip to the South Pacific. Usual undercoverradio@mail.com and Merlin drop announced. Also noted 2149 to 2223 close. (Zeller, OH) 2201. (Guy, KY) 2305 with various rock, said they were broadcasting from mobile unit with 500 watts. E-mail given as undercoverradio@mail.net. Also at 0406 ending best with a scream. (Hassig, IL) Radio Black Arrow (Euro) 15075.1 at 1305 saying they were testing with 20 watts. Address in Netherlands. (Alexander, PA) Radio Free Whatever, 6925u at 0600 with political music, reggae, rock. Sounded like a couple of frat boys fooling around. Also noted at 0640 with heavy metal, electronic dance and mentioned "coming to you from the right coast." (Hassig, IL) Partial India Radio, 6925 at 2316 with program #9, said they were broadcasting to Mt. Kisco, NY, and had "Charlie Loudenboomer" of Pirate Radio Boston. (Hassig, IL) WDVL, 6925 at 0020 with horror story about DXers getting electrocuted, said it was the "Voice of the Prince of Darkness" and dvlsw@netscape.net. (Hassig, IL)

PORTUGAL—RDP Int., 9815 in PP at 1110. (DeGennaro, NY) 11630 at 0012, 15560 at 1848 and 17680 at 1939, all in PP. (Charlton, ON) 13640 in FF with ID at 1130. (Brossell, WI) 21655 in PP at 1723. (Wood, TN)

ROMANIA—Radio Romania Int. 9780 with Romanian folk songs at 0540. (Brossell, WI) 11830 to Western Europe with news at 1318. (DeGennaro, NY)

RUSSIA—Voice of Russia, 7350 via a Vatican in EE at 0044. (DeGennaro, NY) 9840 with news items at 0513. (MacKenzie, CA) 12055-Chita in unid Asian language at 1248. (Brossell, WI) 15235 in possible Hungarian at 1900. (Linonis, PA)

RWANDA—Voice of Germany Relay, 9655 in GG heard at 0120. (MacKenzie, CA) 9700 with news at 0500, 11965 in an African dialect at 1837. (Brossell, WI) 11690 with "Africa This Week" at 2150. (Wood, TN) 2139. (DeGennaro, NY) 11965 in GG at 1858. (Charlton, ON)

SAO TOME—VOA Relay, 4960 at 2005 with" Music time in Africa." (Wood, TN) 11975 at 2014 with news items. (Charlton, ON; Wood, TN)

SAUDI ARABIA—BSKSA, 9555 in AA heard at 2142. (Brossell, WI) 9870 in AA to Europe at 2045. (DeGennaro, NY) 2150. (Clapshaw, WA) 11820 with Holy Koran service in AA heard at 1900. (Linonis, PA)

SEYCHELLES—BBC Relay, 9605 in EE to West Africa turned at 2235. (DeGennaro, NY) 9750 with "The World Today" at 0238. (D'Angelo, PA)

SINGAPORE—Mediacorp Radio, 6150 at 1459 with commls, IDs. (Burrow, WA) (*now IDs as "938 Live"—gld*) Radio Singapore Int., 6185 in CC at 1249. (Brossell, WI) BBC Relay, 3915 at 2107 with "From Our Own Correspondents." (Foss, Philippines) 9740 at 1238. (Brossell, WI)

SLOVAKIA—Radio Slovakia Int, 7230 at 0107 with feature on All Saint's Day, some EE/Slovak language lessons, several IDs. (Wood, TN) 11600 in Slovak to Western Europe heard at 1544. (DeGennaro, NY)

SOLOMON IS.—5020 with music and talk heard at 1055. (DeGennaro, NY)

SOUTH AFRICA—Channel Africa, 3345 with news at 0436. (Brossell, WI) 7390 with FF to Central Africa at 0437. (DeGennaro, NY) 15285//15420 at 1715. (Clapshaw, WA) 17770 with US pops at 1505. (Chandler, ON) BBC relay, 15420 at 1821. (Jeffery, NY) Radio Okapi 11690 with 0400 sign on with many "Okapi" jingles and sign on in FF. (Alexander, PA; D'Angelo, PA)

SOUTH KOREA—KBS World Radio, 5975//9870 at 1601. (Burrow, WA) 9560 at 0240. (Maxant, WV) 0245. (Weronka, NC)

SPAIN—Radio Exterior de Espana, 6020 Costa Rica in SS at 0225. (Charlton, ON) 7275 in SS at 2137. Also 9630 at 2110, 9680 in EE to Europe at 2056, 9725 via Costa Rica at 1120 and 11610 in SS at 2145. (DeGennaro, NY) 9535 in SS at 0142, //6055. (MacKenzie, CA) 9675 with classical music and opera at 0507. (Wood, TN) 21610 in AA to North Africa at 1721. (Wood, TN)

SURINAME—Radio Apinte, 4990 heard at 0500 with soul and Motown selections. (Wood, TN) 0919 in DD. (DeGennaro, NY)

SWAZILAND—Trans World Radio, 3200 at 0310 in local Ndebele language, ID at 0329 during closedown. Also 4775 at 0354-0357 close and start of German service at 0359. (D'Angelo, PA) 9500 at 1727 with IS, IDs, talk. QRM from Bulgaria. (Burrow, WA)

SWEDEN—Radio Sweden, 11550 in Swedish at 1507. (DeGennaro, NY)

TAIWAN—Radio Taiwan Int., 5950 via Okeechobee at 0302 with report on flu vaccine //15215-Huwei. (Burrow, WA) 9365 via France in FF at 2134. (Brossell, WI) 11635 in CC at 2234. (MacKenzie, CA) 15600 via Okeechobee, on hot springs in Taipei at 2209. (Charlton, ON) CBS, 11640 in CC at 1252. (Brossell, WI) Voice of Han, 9745-Chingshui in CC at 0814., (Foss, Philippines) Trans World Broadcasting Ministry, 11940 at 1338 with CC music hosted by woman in CC, then a man with more talk. Off with brief anmt and instl music to carrier cut at 1355. (D'Angelo, PA)

TAJIKISTAN—Voice of Russia via Tajikistan, 11500 in Hindi at 1248. (Brossell, WI)

TANZANIA—Radio Tanzania (Zanzibar), 11735 in AA at 2040. (Charlton, ON)

THAILAND—Radio Thailand, 9570 at 0027 with news to 0030 close. (Clapshaw, WA) 9680 at 2037 with domestic news, ID and into Thai at 2045. (Burrow, WA) 9885 with ballads and anmts in EE at 1239. (Brossell, WI) VOA Relay, 15150 in CC at 0010. (MacKenzie, CA) BBC Relay, 15280 at 0025. (MacKenzie, CA)

TUNISIA—RT Tunisienne, 7190 in AA at 2120 and 12005 in AA at 1620. (DeGennaro, NY) 9720 in AA at 0225. (Brossell, WI)

TURKEY—Voice of Turkey, 6140//7270 with EE news features at 0319. Also 9785 in EE at 1856. Off at 1922. (Burrow, WA) 7155 in FF at 2117 and 7300 in TT at 0450. (DeGennaro, NY) 7270 at 0250. (Maxant, WV) 15350 in TT at 1534. (Charlton, ON)

UKRAINE—Radio Ukraine Int. 5975 at 0305 with feature on a polluted river. //5910 (Maxant, WV)

UNITED ARAB EMIRATES—Adventist World Radio via Dhabbaya, 15225 opening at 1530. (Burrow, WA)

UZBEKISTAN—Radio Tashkent, 9715 with ethnic songs at 0124. (Charlton, ON)

VATICAN—Vatican Radio, 7250 with EE features heard at 0605 to 0630 sign off. (Wood, TN) 2131 in SS. Also 7360 in FF at 0441. (DeGennaro, NY) 7305 in EE at 0300. (Maxant, WV) 7335 in unid language at 0129 and into another sub continental language at 0140. (Taylor, WI) 9660 at 0503 with Bible verses and drums between each. (Brossell, WI) 11625 at 1840 in EE. (Linonis, PA) 1915 with Rosary in SS. (Charlton, ON)

VENEZUELA—Radio Amazonas, Puerto Ayacucho, 4939.7 with LA music, several IDs and SS anmts from 1005 tune. (Alexander, PA) Radio Nacional, 13680 via Cuba in SS at 2025. (DeGennaro, NY)

VIETNAM—Voice of Vietnam, 6175 via Canada with EE items at 0118. 7210 in presumed VV at 2356. (Foss, Philippines; Charlton, ON) 9730-Son Toy in EE with ID, news at 1800. (Burrow, WA)

YEMEN—Republic of Yemen Radio, 9780 with Koran in AA at 0242. (Brossell, WI)

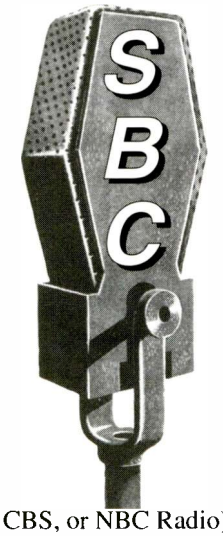
ZIMBABWE—Radio Zimbabwe, 6612 at 0344 in local language with laughter, group vocals, and choral anthem at 0356, EE ID at 0359 and into opening of EE segment. (D'Angelo, PA)

And, once again, order is restored!

A roaring round of rah-rahs to the following who supplied logs this month, namely: Joe Wood, Greenback, TN; Marty Foss, Guinayangan, Philippines; Rick Barton, Phoenix, AZ; Stewart MacKenzie, Huntington Beach, CA; Ciro DeGennaro, Feura Bush, NY: William Hassig, Mt. Prospect, IL; Chris Gay, Lexington, KY; Robert Chandler, Windsor, ON; George Zeller, Cleveland, OH; Mark Taylor, Madison, WI; Charles Maxant, Hinton, WV; Jack Linonis, Hermitage, PA; Dave Jeffery, Niagara Falls, NY; Michael Clapshaw, Port Angeles, WA; Robert Brossell, Pewaukee, WI; David Weronka, Benson, NC; Bruce Burrow, Snoqualmie, WA; Rich D'Angelo, Wyomissing, PA and Brian Alexander, Mechanicsburg, PA. Thanks to each one of you! And, until next month, good listening! ■

by Shannon Huniwell, melodyfm@dreamscape.com

The Sunday Morning Block Program Adventure, And More



Several months ago, a *Pop'Comm* reader asked me if anyone had ever made historical mention of "the admittedly boring and obligatory public affairs shows and paid block programming that most small radio stations ran during the early Sunday morning hours."

This fare was a province of ancient FCC regulations that required broadcast licensees to air non-entertainment content that contributed to the robust public debate of important issues and/or presented cultural diversity that might not ordinarily be incorporated into the station's regular format. Typically, the public affairs, or PA, stuff was a low-budget product of the station's news network (like Mutual, ABC, CBS, or NBC Radio) consisting of a discussion or panel interview that was sent down the network line at double speed so it would fit between other network offerings aired in "real time." The station would then record it at, say, 15 inches per second and play it back at 7.5 inches per second.

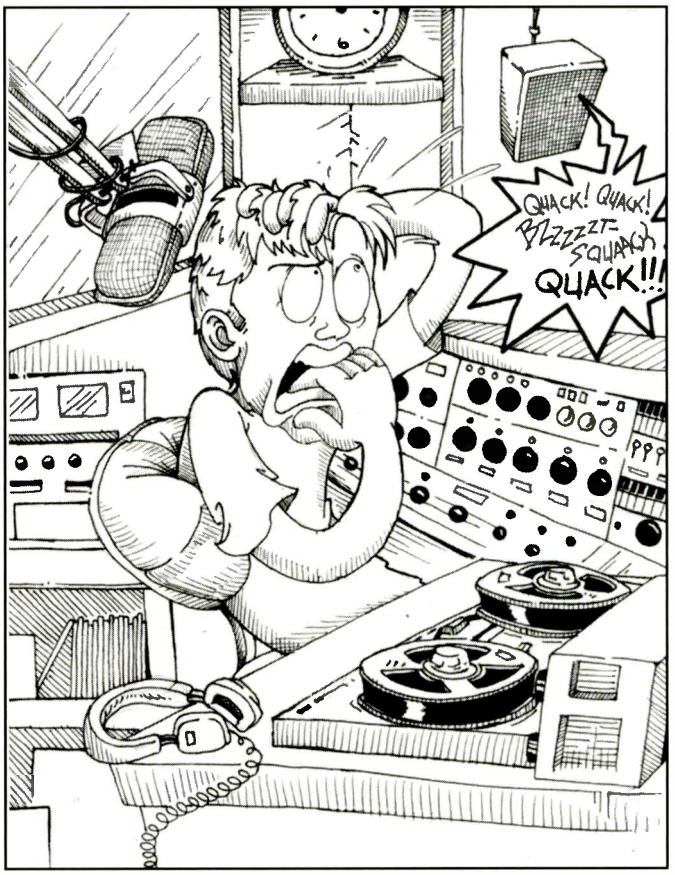
Some of the shows came from groups offering free tapes (which stations could keep and later erase for use recording local commercials) containing subjects ranging from religion to flying saucer investigation. There were also shows produced locally, their weekly creation often assigned to some low man on the station's totem pole.

Painting with a broad brush, we can safely report that neither the public affairs program producers nor station management truly expected their offerings to mesmerize anyone, as it was readily understood that "nobody" listened to this PA programming. That's because it was pretty dry and presented in the very heart of "non-primetime." No matter, more than a few shrewd hometown broadcasters figured out a way to get local people to *pay* the station for the "privilege of taking to the airwaves."

Some small operators found the Sunday morning timeslot sales so lucrative that they got the canned PA out of the way by 5 a.m. and sold, to various local folks wanting to deliver some profound content, blocks of airtime scheduled right through mid-afternoon. And, in the world of young people who'd do almost anything to be employed part time by a real radio station, getting hired to oversee such a programming lineup cornucopia was about as good as it gets. For your ticket back to this portion of radio's good old days, here are the true confessions of a fellow who began his broadcast career early one Sunday morning.

"Yes Sir, Mr. Station Owner, Sir!"

"Don't let anyone into the station until they press a wad of cold green cash against the glass on the front door!" screamed the general manager. He then concluded the loud lecture to his newly hired, teenaged weekend announcer by bellowing, "I don't care how kindly or religious they look, nobody gets into the building without forking over the exact amount of dough for their timeslot!"



This drawing depicts the inadvertent "duck" sound effects during a public effects program. It's a true story! Only the names have been changed..."

The admonition was boot camp for the fledgling DJ's inaugural stint on the 2 to 10 a.m. Sunday shift at a Midwestern AM outlet, circa late winter 1973. And half of his time was to be devoted to running canned PA shows, as well as babysitting the block programmers and collecting their money. Among the GM's greatest concerns was his chilling fear of getting stiffed by at least one of the several locals who bought small chunks of Sabbath Day airtime on the 1000-watt facility.

So Far, So Good?

Though some jitters might have been detected by the handful of pre-dawn listeners dialed into the Top-40 station, the on-air guy's first four hours went without incident. Well, there was the turntable momentarily started at the wrong speed, and the mispronunciation of some Vietnamese names during a five-minute reap 'n' read newscast, but no one out there complained.

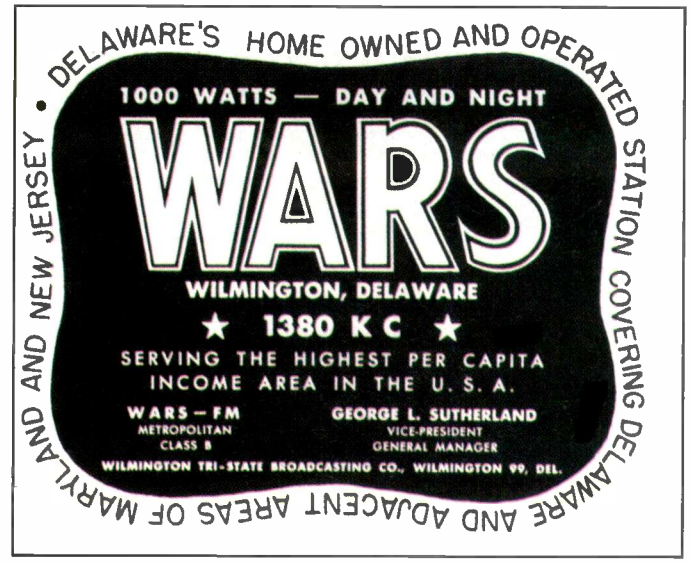
Real challenges, however, cropped up soon after the station slammed into block programming. Like a chain reaction highway collision, a highly compressed tape cart of T-Rex's "Bang A Gong, Get It On," rear-ended a half-hour ABC News public affairs program that the station news director had rather sloppily recorded off the network a few days earlier. Most of the show's opening theme was missing from the tape. Recurring wow and flutter were especially noticeable whenever theme or bumper music was played.

After one such wiggly sounder, ABC moved to a segment featuring Israeli Prime Minister, Golda Meier. Not long into the serious interview, Mrs. Meier's voice simply cut out. Before our novice announcer could make amends for dead air, though, another person emerged loud and clear over the control room speaker. It was the prerecorded vocal styling of the station newsman, who apparently had hit the wrong switches while trying to impress a female visitor.

"No, I don't want to hear myself on tape. I talk squeaky like a teensy weensy mouse," she transparently protested in Betty Boop sound-alike.

"Don't worry, my sweet young thing," the news guy's voice boomed with phony evil laughter, "this won't hurt a bit."

Instead of their microphones harmlessly heading to the news booth's second Revox reel-to-reel machine, the inane exchange had piped directly into the recorder that was supposed to stay linked to the ABC feed. Subsequently, this boo-boo caused—at the speed of light—the entire sophomoric session to make its way to the RCA BTA-1R1 transmitter, quickly leap off a two-tower directional array, and onto hundreds of square Midwestern miles.



Prior to morphing into WAMS, the Wilmington, Delaware, AM outlet at 1380 kHz went by the name of WARS, as this 1948 publicity graphic indicates. Understandably, new owners—who bought the station around the time of the Korean Conflict—changed the calls to reflect a more upbeat image, attractive to a public that was then tired of war.

Oh, No! My Radio Career Will Probably End Before It Starts!

"Okay, this is Mr. Bob, your ultra talented *knee-youzz-man*," the careless journalist amateurishly intoned trying to imitate the quintessential broadcaster, Gary Owens. At about three octaves lower than normal, he euphemistically explained the inner workings of a radio newsroom for his feminine guest, and then proceeded to rattle off several lines from some forgettable wire copy strewn in a paper pile amid dirty coffee mugs and an ailing bulk eraser bound with sticky strands of partially melted electrical tape.

The young lady's giggles were audible. "Oh you sound so rich and deep! I'm impressed," she swooned. He chimed in with some cheesy sexual innuendo. Next, the guy began making the system echo. "Oh, that's so cool!" How do you know how to do that?" the girl asked. "Oh, listen, I'm echoing, too," she inflected with exaggerated delight. "*Tee-hee, tee-hee.*"

Quite inexplicably, the news guy then erupted into duck noises. "Quack, quack, quack," he went, over and over again, each time in a successively higher pitch that echoed so much that the Collins control board meter pegged a protest. Predictably, those fowl sounds really made the young woman crack up. But, her laughter reached a fantastic crescendo when her host switched from mallard imitations to disgusting renditions of bodily functions. "Yucky!" she guffawed, "That sounds soooo real!"

Picture our novice DJ in the first stages of a nervous breakdown, wondering what to do, as he stood dumbfounded in front of the console. Except for possibly segueing into Edgar Winter's "Frankenstein," a raucous Top-40 instrumental he'd hastily cued up to cover the inadvertent content, the kid was too stunned to think of any seamless solution. Just as fast as the interruption began, however, it concluded with about 15 seconds worth of the newsman's faux flatulence grand finale, after which, the ABC interviewer conspicuously reappeared and thanked Prime Minister Meier for her insight.

Who's That Knocking At My Door?

Someone phoned the request line begging to hear the smelly sound effects again. The caller admitted he was drunk and depressed, but claimed the funny noises had made him chuckle for the first time in weeks. "Thanks for brightening my day, ol' buddy. That bit was better than a seven pack of Seagram's Six—or a six of Seagram's 7 or something like that," the guy slurred, before launching into a sad personal history.

Our cub DJ hung on for nearly 10 minutes mostly out of pity and because of a sudden realization that the call—no matter how insignificant in the scheme of things—represented his first true listener contact. That magic moment was suddenly cut short by an urgent banging from the lobby. "You've sure had an interesting life," our announcer offered the drunk while apologetically throwing the handset on the cradle and gathering his wits. A glance at the clock and a check of the program log indicated that the "Davis Gospel Hour" people were probably making the racket.

"Don't let anybody in until they give me the money," he whispered to himself as a reminder. He'd repeated the mantra five times when he caught his first glimpse of the Davis family pounding rhythmically on the glass door. There were eight of them all seemingly jockeying for the chance to be first to enter the warm building. A pair of elementary school-age kids were doing much of the pushing and shoving. Their dirty, ripped, hand-me-down ski jackets defined pathetic. Most of the other folks there were comparably attired in shabby threads. But one older gentleman, standing dead last in the assembly, contrasted the rest. He was dressed like a Baptist preacher bound for a

weeklong revival meeting. It was he who soon moved to the front, pressing two $15 checks (each from different banks) and nine dog-eared dollar bills to the door, after the DJ made a request to see the air-time fee.

"Mister, can you put a note with this one here for the boss man not to cash it till Thursday?" the old man requested as the Davis clan practically burst through the finally opened doorway. "I get my pension money on Wednesday and promise to cover this here check as soon as my pension allotment comes in. And, if you could spot me a buck, I'd be more than grateful."

The general manager had mentioned nothing about such payment plans, but it was too late for any refinancing arguments. While the adults filled the lobby, first shedding their coats on the room's saggy sofa, then scribbling program notes, and pawing through an old carton of gospel records, those kids shot back to the studio. Our novice radio pro had just added a dollar from his wallet to cover the old man's plea, and then sealed the Davis's dough in a business envelope.

As he knelt down to slide it under the GM's office door, all heads in the lobby turned towards the big John B. Lansing monitor speaker mounted high over a secretary's desk. "DY-NO-MITE! I sound like J.J. on *Good Times* on TV!" one of the youngsters laughed through the JBL in a way that said he was really pleased with himself. Some earlier Sunday, he'd apparently observed just enough board operation basics to know how to turn on the microphone. Competing with the boy, the ABC PA tape continued on at a normal volume. It was something about Vice President Spiro Agnew. Turning towards the studio windows, the adults could see the kids fighting for a spin in the on-air studio swivel chair.

"Uh, uh, no way," challenged his brother, "You ain't sitting here. Besides, fool, you don't sound like no Jimmie Walker TV star, but you *do* sound like Donny Osmond. No, you actually sound more like Marie Osmond. Ha, ha, ha. Fool!"

Swiveling around in the studio chair caused additional problems for the "DY-NO-MITE" kid. He'd commandeered that squeaky chair plus the announcer's new headphones and managed to get wound up in its cord. "Hey you #@!&*!," he swore at his brother, "Stop spinning me around. You're strangling me in this @#!%& earphone wire!" he wheezed.

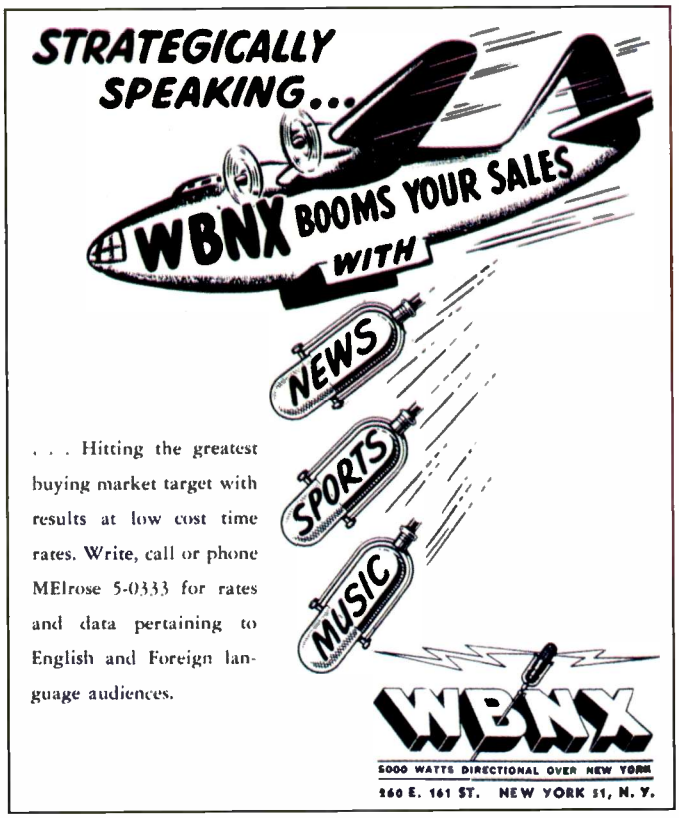
"Ha, ha, ha. Fool!" laughed his older sibling under the "ABC News" theme music.

Meanwhile, amid dead air, senior members of the Davis clan had moseyed on into the studio. Using both of her canes, one of the clan clonked the youngsters upside the head. "Mind your language!" she scolded. "This here's s'posed to be a gospel radio show, not no smoky pool hall with fightin' and cussing." Then the old lady pointed a cane toward an album leaning against other records in a musty carton. Still seriously wielding the stick, she directed that the recording be placed on turntable #1. A tape cart labeled "Organ Music" was shoved into the Collins cart player. After extending a cane to the big Collins green, translucent play button, the sizeable grandmother opened the program.

"Yes friends, this here is the 'Davis Gospel Hour,' 30 minutes of the best gospel music this side of Greater St. Louis. We're comin' to you courtesy of fine sponsors like Playboy's Barber Shop where you get a good haircut anytime you stop by. Tell 'em you heard about it on the 'Davis Gospel Hour, ' and Playboy's will give you a 55-cent discount on a regular shampoo, cut, and shave. And by request for Duke down at Playboys, even though the shop is closed now and Duke prob'ly ain't even awake after last night...here's something from the Mighty Church Boys featuring Reverend Ralph Doyle. It's called 'You Gotta Win Against Sin.'"

When he heard the music, our novice weekend announcer breathed a sigh of relief, at least a little confident that the situation was under control. He took the clipboard used to hold the operating logs, walked slowly into the transmitter room adjacent to the studio and tried inconspicuously to keep an eye on the block programmers. A large window separated the two rooms. Everything was a-okay with the meter readings, even after re-checking a third time.

Nonchalantly, he turned towards the studio. Grandma Davis had let the Mighty Church Boys album track into the next cut. Eyes closed and lip-syncing, she waved a cane in unison with the music. Some others of the group were pawing through the record box in search of a favorite. One guy was answering a steady stream of calls on the request line. He also had some deal going where he took orders for stuff like record albums and



Look how WBNX 1380 used a war theme to show it could "bomb" metropolitan New York listeners with a trio of program types, thus "exploding" sales for its advertisers. Like the WARS connotation, this use of a military reference seemed appropriate in the victorious afterglow of World War II. Note the fine print under the WBNX logo: it reads, "5000 watts directional over New York," and indicates the strategic placement of the station's signal.

books that grandma intermittently plugged on the air. The kids had their faces pressed up against the long studio glass, taking turns slobbering lines of saliva from one end to the other.

"I guess it's all part of the Sunday Morning radio business," shrugged our new radio hire. And, he checked the log to see who'd be knocking at the door next.

Bang, Wham, Bang Goes The Relay

Back on the east coast, my dad good naturedly knocks the old 1380-kHz WAMS Wilmington, Delaware, as having been cursed with one of the most complicated directional patterned facilities in AM radio history. And, he notes that, even after all its trouble staying out of others' coverage areas, the once-legendary rocker went dark in the early 1990s, a victim of FM competition, rising real estate values, and a crummy signal.

Pop'Comm's August 2005 issue (page 37) mentioned WAMS' five-tower antenna array being designed to safely shoehorn its 5000 watts up to the very edges of the existing coverage boundaries of a pair of oddball timeshare stations in New York City and suburban New Jersey—both also assigned to the 1380 spot. Because the Big Apple outlet, WBNX had a transmitter aimed at metropolitan New York, and the Jersey outfit, WAWZ, transmitted from well inside of the Garden State, WAMS had to take each into consideration and then switch its pattern in accordance with whichever 1380 neighbor happened to be on the air at the time! One truly needed a scorecard to keep up with whatever station was slated to be on, depending on the day of the week!

For example, *Pop'Comm* contributor Dave Schmidt reported that Sunday's complex WBNX/WAWZ timeshare schedule called for WAMS engineers to switch the Wilmington station's patterns at least a dozen times in order to keep WAMS from technically interfering with the archaic duo!

Did I Do That?

Bill Welch, K3ZAA, recalls being thrilled to get hired by WAMS as an entry-level transmitter engineer. Welch reflects on one highlight of the 1965 experience:

I was fresh out of high school and the proud holder of a First Class Radio Telephone license. WAMS's five-tower setup was interesting to work with and I had an interesting event happen with it. Late one day I was out mowing the grass around the property. Well, truth be told, the transmitter engineer job wasn't all that glorious high tech stuff. Some grunt work did come with the territory.

The time came to shift the pattern—again—for night operation so I went back to the transmitter building to get ready. The DJ did a momentary pause and I quickly set to work changing the power, changing the antenna phasing and retuning the transmitter. When all was set, I turned the transmitter back on. But lo and behold, something was amiss. The meters weren't where they were supposed to be, so I quickly retuned things to get the system happy and not have the transmitter shut down because of a mismatch. But something was still really wrong, although I didn't find out until much later.

Meanwhile, I went back to my lawn work. After cutting several rows of grass, I happened to be mowing down near tower #5. As I pulled up to the doghouse at the base of the tower, which contained some pretty hefty switching gear—inductors and other sundry electronics for the antenna matching system—I could hear buzzing and "kerchunking" noises loud enough to compete with the lawn tractor's engine. I shut down the mower, got off, and went over to the doghouse to see what was going on.

There, amid a shower of sparks, one of the big porcelain Gates-brand insulators was rattling away trying to hold its relay, which was half stuck and banging like mad to engage in another position. So I went over the nearby woods and found a big stick. Reaching into the doghouse with the limb, I gave the relay a nudge. The Gates system snapped into position and stopped chattering around. I figured all was well, added to my list of things to tell to the chief engineer, and went back to my mowing. Finally, as the sun was fully setting below the horizon, I finished the lawn chores, pulled the rider into the garage attached to the transmitter building and went back into the transmitter room.

Well now things were really hopping! The phone was ringing off the hook. Audio on the station monitor was cutting in and out. The meters on the equipment were bouncing all over the place. These were all true signs that the poor old WAMS transmitter was most unhappy. It was cycling on and off every several seconds. Quickly, I went to work tuning up the various antenna parameters so that—eventually—the antenna array and the transmitter liked each other again. This correction did nothing to stop the phone from its seemingly continuous ring. I finally answered it, but I won't go into what was said!

The moral of this story is that when something doesn't look right, it usually isn't. I'd switched to night mode and couldn't tune up because the antenna relay in tower #5 was stuck. The meters showed the problem but I just worked around it—I thought. When I had applied my tree branch helper to the relay, I overloaded the system and all Heck broke lose. Oh well, you live and learn. That's what being a new radio recruit is all about!

Thanks for your letter, Bill. And yes, you're right!

Till Next We Meet

That's it for this installment of radio history. We'll see everyone here again next month. And so ends another broadcast day at *Pop'Comm*! ■

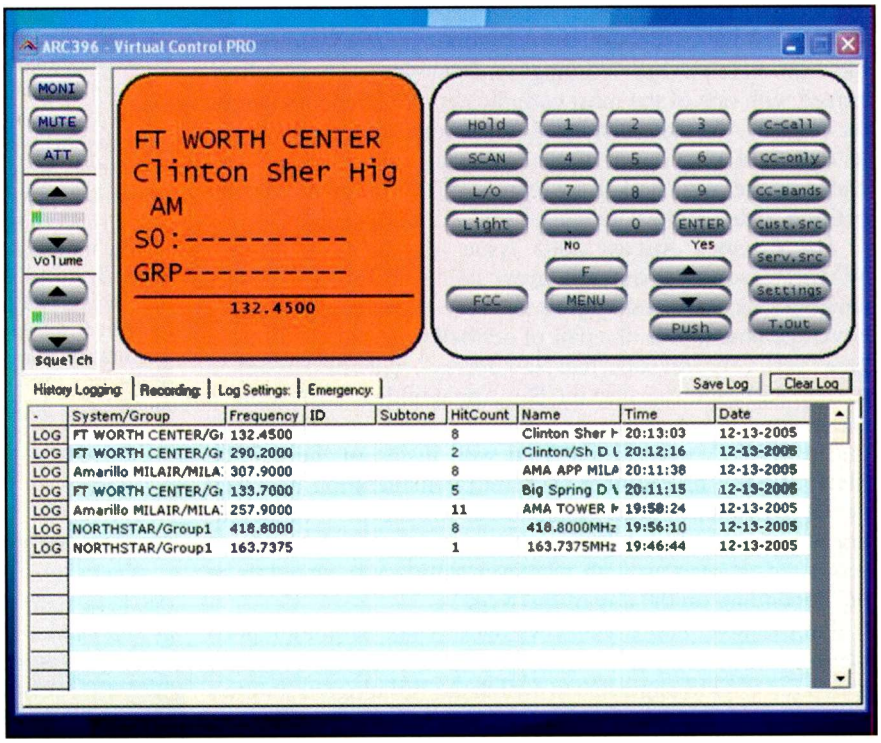
by Steve Douglass, webbfeat@gmail.com

BuTel's ARC396—The Way To Go, Plus Must-Read Books!

Last month I mentioned that I acquired my first PC (I'm a Macintosh user) for the sole purpose of running scanner control software for my new Uniden BC396. To my great surprise, the world did not end and the universe did not implode as my friends predicted, well aware that I once said, "The day I use an IBM is the sure sign the Apocalypse is near."

But over the last few weeks, with a lot of help from my friends, I have slowly been getting the hang of PC, and although it's been frustrating at times and the Windows XP interface is not as intuitive as Mac's OS-X, all in all, learning to use a PC has pretty painless. Unfortunately, I have had to learn to deal with something I never had to with my Mac: spyware and insipid computer viruses.

As far as the scanner itself goes, although the software that comes with the Uniden 396 is free and full functioning, ARC396 offered by the Netherland's BuTel Software is definitely the way to go. The following are some of ARC396's features/capabilities as outlined on BuTel's website (www.butel.nl):



Screen shot of the ARC306 software in virtual mode. Note the automatic logging and hit count in the columns.

- With ARC396 and the Radioreference.com Webservice you can access the Radioreference database and download trunk ID and system data from more than 3,500 trunk systems!
- QuickKey Overview: "Drag and Drop" your systems or groups in QuickKeys.
- Store latitude, longitude and FCC callsign per systems
- Systems can be linked to maps based on latitude, longitude and FCC callsign
- Copy/paste groups between systems, building new systems was never this easy!
- Import data from CSV/UASD files
- Instant firmware updates notification! Warns you when Uniden releases new firmware for you scanner.
- Read data directly from the RadioReference Database, "browse" for local trunk systems and let ARC396 do the programming!
- "intelli upload": Replaces systems that are stored in your scanner without having to reset your scanner first! ARC396 will never reset your scanner!
- ARC396PRO also includes full PC Virtual Control with "no loss" recording.
- FCC lookup utility.
- Windows XP/2000, minimum 800x600 video, 512 RAM.

As you can see it is some pretty serious communications software. I particularly like the logging feature and the easy data download features from the Radioreference.com Webservice.

A fellow radiohead, Frank Murphy, bought the BuTel software for the Uniden 330T, which is identical to the ARC396, but without digital reception capabilities, and loaded it into his laptop computer. Combined with a mobile antenna, either scanner becomes a very potent monitoring tool.

A 396T Road Trip

Recently I took my Uniden 396T on a long trip across the state. When traveling alone, a scanner radio can be a great companion and keeps you alert to changing weather conditions, emergencies, and radar traps. I also like listening to what is going on in the air above my head, including civil and military aviation.

The ARC396 software made short work of programming (public safety, airports and military base frequencies for each of the counties and cities that I would passed through or near), even with programming hundreds of channels. If I'd tried to do that via the Uniden 396T's keypad, I'd still be entering frequencies today!

Although my trip meant I would pass through dozens of communities and near numerous airports and military bases, it only took me a couple of hours to program the scanner (including research) for every service I wished to monitor in my travels. The Uniden's more than ample several thousand-channel frequency capacity was also a huge advantage since I had more

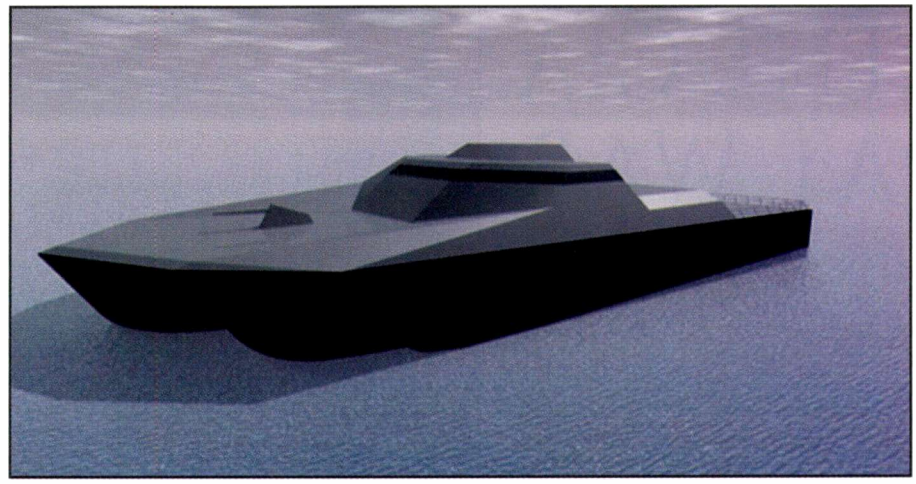
than enough room to enter every conceivable frequency I could find in my database.

Thanks also to the Close Call feature, which works like a near field receiver capturing the communications of nearby transmissions, I heard more on that trip then I ever had before, including on previous trips along the same route. Not only did I monitor the local police and county Mounties in every little burg, but I also heard the communications of trains and truckers, families on the road communicating via FRS, and even the wireless microphones used by highway patrol cars that had speeders pulled over.

I even monitored the pilots of two B-1 bombers, just north of Dyess Air Force Base in Abilene, Texas, on a practice bombing run. They were flying on the deck at high speed trying to get to their intended target under the nose of two F-15s that were hunting for them. Suddenly the Close Call feature in the scanner indicated that it had locked on a nearby signal. I pushed the button to monitor the transmission and, to my surprise, it was the two F-15s on 303.000 MHz chatting about trying to find the bombers. Knowing they must have been nearby for the Close Call to lock up on them, I pulled over on a hilltop and scanned the skies for them. Off to the north, about a quarter of a mile away, I spotted two F-15s flying just a hundred feet off the deck, directly over the highway. Too cool! From monitoring their conversations, it seemed they never did find the B-1s.

I highly recommend the BuTel ARC396 software for many reasons, chief among them being that it makes the new line of Uniden's scanners much more easy to program. Some fault the software saying they wish it included a spectrum analyzer like that in ScanCat, but software-based "analyzers" are not true real-time analyzers and are more of a graph plotting activity on a certain spread of frequencies over time. They are useful, but not great at uncovering secret or unknown frequencies in an immediate manner. They're more valuable in showing the activity occurring in the select part of the radio spectrum over a few minutes, hours, or days.

The Close Call function works much better at ferreting out nearby signals than any software-based spectrum analyzer. Only a dedicated (and expensive) spectrum analyzer like those in high-dollar communications test equipment or megabucks receivers offer you a true real-time look at what's going on in the frequency range you're immediately interested in. In my opinion, although the range on Close Call is limited, I think it's much more useful than the software-based spectrum scopes.



Artist rendering of the Stiletto, the prototype of a fast, stealthy Navy cruiser that's undergoing sea trials right now, maybe at a port near you. (Courtesy M Ship Company)

News You Can Use—Glitches Hinder Joint Tactical Radio System Deployment

In light of the revelations that U.S. troops in are using inexpensive (and non-secure) FRS and GMRS radios acquired in the states or sent to them by relatives, the Pentagon has proceeded to kick in to high-gear the deployment of the network-centric Joint Tactical Radio System (JTRS). However, new glitches in the software have hampered efforts to produce a single standard, software-based radio system intended for use by every armed service and that allows all users to communicate in secure modes. Although these recurring problems with JTRS are not expected to doom the Pentagon's goals of network centricity, they may cause the entire system to be re-evaluated.

The JTRS system is also threatened by possible financial cuts in the program (requested by Congress but opposed by the White House), which could scale down the scope of the entire project, seriously threatening the administration's plan of "for every soldier a radio."

New Stealth Ship Deployed For Testing

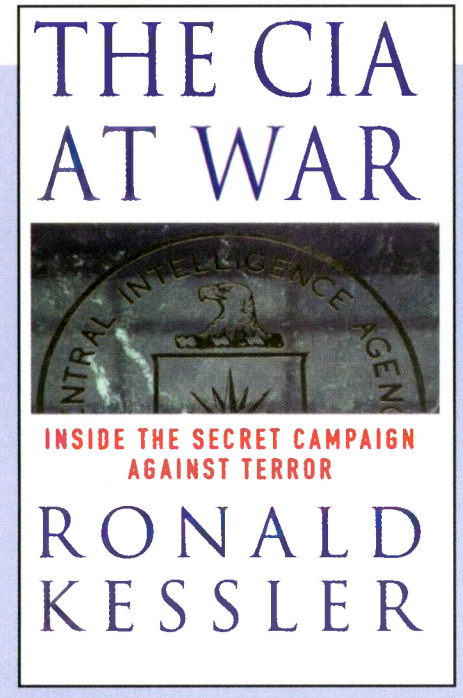
In December, the U.S. Navy accepted delivery of a new class of stealth ship, called the Stiletto, that combines an innovative hull design with advanced composites to achieve high speeds and a smooth ride, even over choppy waters. The Stiletto is being hailed as a prototype high-tech, stealthy, fast-platform that could be used by Navy and Marine special forces. Sea trials, which are already underway, are possibly taking place off the California coast at night, much like Lockheed's Sea Shadow stealth concept ship that was kept under wraps inside a floating dock during daylight hours but underwent secret testing at night.

Although the Navy has published drawings of Stiletto, no publicly available photographs exist yet.

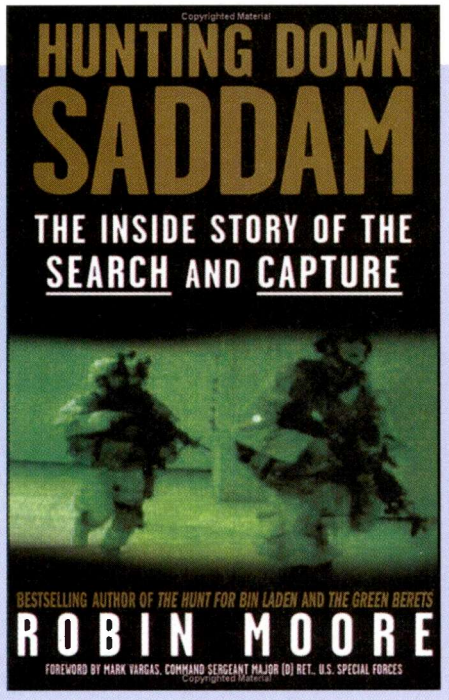
Sporting a unique "M"-shaped hull that allows the craft to move through waves and not hop over them (like speedboats) the Stiletto is rumored to be based in or around the naval shipyards near San Diego. Boaters have reported seeing an unusual floating barge (possibly enclosing Stiletto) near San Nicholas Island, the Navy yards at Alameda, and up as far as Seattle, Washington.

One unique feature of the Stiletto is a 1-GB LAN (local area network) connected to a supercomputer at Lawrence Livermore National Laboratory in California, which will process information from sources such as UAVs (unmanned aerial vehicles) and undersea side-scanning sonar submersibles, which detect mines and submarines.

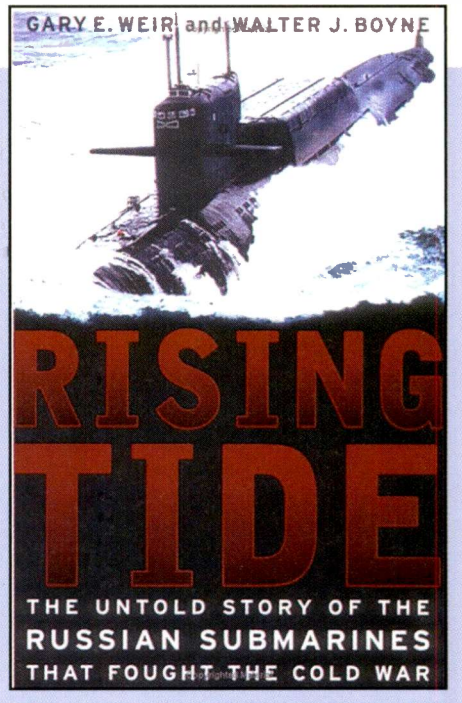
Designed by the M Ship Co., LLC, of San Diego and built by the Nichols Brothers Boatbuilders of Freeland, Washington, the Stiletto is said to be 80 feet long, with a 40-foot beam and displacing 7.1 tons. It is hoped that the Stiletto will lead to a new class of shal-



Utility monitors will enjoy the section on signal interception techniques in the book The CIA At War.



The book Hunting Down Saddam: The Inside Story of the Search and Capture *by Robin Moore is a must read!*



Once you start reading Rising Tide: The Untold Story of the Russian Submarines *you'll have a hard time putting it down.*

low water fast patrol-boats for use by the Navy and Coast Guard. Commercial applications are also envisioned.

Books You Might Like

Every once in a while I read something other than the comics page in the newspaper (or *Pop'Comm*) and review it here for you. Here are a couple books you might want to consider picking up.

The first is *The CIA at War: Inside the Secret War Against Terror*, by Ronald Kessler. Kessler is the author of many books including *Inside the CIA: Revealing the Secrets of the World's Most Powerful Spy Agency*; *The FBI: Inside the World's Most Powerful Law Enforcement Agency*; and *The Bureau: the Secret History of the FBI*. This latest and comprehensive look inside the secret CIA covers the pre-911 period to the current war in Iraq.

Utility monitors will enjoy the section on signal interception techniques, describing how the CIA could intercept the private phone calls of terrorists and the technology behind those interceptions. Although anti-Bush politicos will just hate the pro-Bush stance taken by the author, it's an informative book that provides a very interesting look at the CIA in these most dangerous times. You can read more about it at http://search.barnesandnoble.com.

Another recommendation is *Hunting Down Saddam: The Inside Story of the Search and Capture*, by Robin Moore. Military buffs will like this story documenting the hunt for Saddam and the events that led up to his being pulled from his spider hole. Moore, who als wrote *The Green Berets* (1965) and *The French Connection* (1970) and was a tail gunner in a B-17 during WWII, spent many weeks in Iraq researching the stories behind the Butcher of Baghdad's capture. Also included are many exclusive photos of Special Forces troops in Iraq and an inside look at the "Orange Picker's House" where Saddam was found. You can read more about it at www.militarybookman.com/detail.cfm?item_num=27049.

I also want to give a nod to *Rising Tide: The Untold Story Of The Russian Navy* by Gary E. Weir and Walter J. Boyne, Once you start reading *Rising Tide* you'll have a hard time putting it down. The authors weave a fascinating history of the now-defunct Soviet Union and the current Russian submarine force. To quote the book's cover notes: "Of all the secrets the Soviet Union kept, none were more closely guarded than those involving their submarines." Weir and Boyne lay those secrets bare. If you liked *Blind Man's Bluff*, you'll love *Rising Tide*. For more information, point your browser to www.brothersjudd.com/index.cfm/fuseaction/reviews.detail/book_id/1380/Rising%20Tide.htm.

If you have a favorite book or publication that you think might interest utility monitors, by all means drop me note. Use the e-mail address above.

Reader Logs

With winter still holding us in its grip, now is a great time to fire up the receivers and spend some quality time monitoring the utility airwaves. Don't forget to send your utility loggings to me at *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801 or via e-mail to me at webbfeat@Gmail.com. We also want your monitoring shack photos and stories. This column is what you make of it, and if you want to see more stories about *your* favorite aspect of utility monitoring, it's up to you to do something about it!

0000: (Frequency MHz): STATION, Anytown, USA, summary of traffic heard in MODE at 0000Z. (monitor/sometimes location)

3167.0: LIMA, HOTEL, A6G, C2Z in USN Link coordination net at 1039. (MC)

3167.0: 4EC, Q5X, 6AE USN vessels in Link-11 coordination net at 2146. (MC)

3167.4: 6TI, 9PW, 4KH USN ships in comms in JAX OPAREA at 0145. (MC)

4021.0: AAA4KY/C, NCS for a MARS net. USB at 0100Z. (CG)

4173.0: Cuban ENIGMA M8 w/5 letter groups using TANDUWRIGM for 0123456789, machine-sent CW at 1120Z. (SJ)

4213.5: NOJ, USCG, Kodiak, AK w/CW+SITOR marker heard at 1215Z. (SJ)

4214.0: IDR2, Italian Navy, Rome R., Italy w/marker IDR8 /IGJ42 /IGJ43 /IDR2 /IDR3 /IGJ41, ITA2, 75 baud, 850 Hz at 0230Z. (SJ)

4214.5: CBV, Chilean Navy, Valparaiso R., Playa Ancha, Chile w/CW marker at 2345Z. (SJ)

4216.0: TAH, Istanbul R., Turkey w/CW+SITOR marker, 0303Z. (SJ)

4219.0: TAH, Istanbul R., Turkey w/CW+SITOR marker, 0257Z. (SJ)

4247.0: MGJ, Royal Navy, Faslane, Scotland, GB w/ITA2 marker on an unlisted freq.: 02B 02K 03F 04B 04H 06G 08A 12B 12E 16A MGJ, 100 baud, 850 Hz at 0000Z. (SJ)

4372.0: 0XX and 3TX in comms in VACAPES OPAREA heard at 2114. (MC)

5103.7: MGJ, Royal Navy, Faslane, Scotland, GB w/ITA2 marker on an unlisted freq.: 02B 02K 03F 04B 04H 06G 08A 12B 12E 16A MGJ, 100 baud at 850 Hz, 2350Z. (SJ)

5211.0: WGY912 (FEMA, Mount Weather, VA) standing by for checkins at 2317. (MC)

5320.0: USCGC SHEARWATER with radio check at 1229. (MC)

5320.0: USCGC TYBEE position report to Sector Atlantic City at 2326. (MC)

5320.0: ESD MOBILE 1 radio check with Sector Hampton Roads at 1358. (MC)

5423.5: INDIA WHISKEY, PAPA, and CHARLIE in air defense exercise. CAP stations MIAMI and BOSTON intercepting tracks at 2206. (MC)

5450.0: MVU, Royal AF, West Drayton, England, female w/wx obs, USB at 0350Z. (SJ)

5505.0: Shannon Aeradio, Ireland male w/wx obs, USB heard at 0320Z. (SJ)

5708.0: SENTRY 22 (E-3 AWACS) ALE initiated p/p to RAYMOND 24 at 2354. (MC)

5711.0: CAPE RADIO radio check with TRACKSTAR on secondary at 1656. (MC)

5732.0: OMAHA 321 (CBP UH-60) wkg HAMMER to report they are off from Columbus, GA en route Columbia, SC at 2231. (MC)

5732.0: FOXTROT 04 (HU-25, CGAS Corpus Christi) departing Atlanta en route New Orleans IAP requests guard from CAMSLANT at 0012. (MC)

5732.0: OMAHA 747 (CBP UH-60) connected via SERVICE CENTER to HAMMER reporting they are supporting FEMA assessment in NC during Hurricane Ophelia at 2116. (MC)

6317.5: NOJ, USCG, Kodiak, AK w/CW+SITOR marker heard at 0040Z. (SJ)

6379.0: 4XZ, Israeli Navy, Haifa, Israel w/CW marker "VVV DE 4XZ 4XZ — —" at 2335Z. (SJ)

6384.5: CKN, Canadian Forces, Esquimalt, BC, Canada w/marker "NAWS DE CKN ZKR F1 2740 4170 6254 8303 12380 16558 22182 AR," ITA2 at 75 baud, 850 Hz, 0050Z. (SJ)

6491.5: LOR, Argentine Navy, Puerto Belgrano, Argentina w/wx in SS, ITA2, 75 baud at 170 Hz, into 5-letter groups at 0048Z. (SJ)

6754.0: CHR, Trenton Military, Canadian Forces, ON w/Aviation Weather Report, USB at 1348Z. (SJ)

6694.0: HALIFAX MILITARY wkg CANFORCE 2416 (CC-130) at 1248. (MC)

6694.0: HALIFAX NRF radio check with HALIFAX MILITARY at 1150. (MC)

6706.0: TRENTON MILITARY clg KING 31 with no answer at 2303. (MC)

6761.0: LIFTR 02 wkg BOLT 91 (KC-135R, 6 AMW) heard at 1640. (MC)

6881.0: NNN0XOP, National Communication System SHARES emergency response net w/frequency info and activation notices re impending Hurricane Wilma, PACTOR at 1255-1315Z. Freqs given: Southeast: Day 7632.0 Day Alt: 5063.0 Night: 4837.7 Night Alt: 3172.1; South Central: Day: 7308.1 Day Alt: 6996.1 Night: 4450.0 Night Alt: 3347.1; National: Day: 14396.5 Day Alt: 13800.0 Night: 6910.1 Night Alt: 4618.0. (SJ)

6900.0: UNID YL/EE with 5-fig grps, each twice. USB heard at 2037Z. (CG)

6977.0: CIW681, Trenton, Ontario, NCS for a CFARS net in USB at 2225Z. (CG)

7305.0: JMH4, Tokyo Meteo, Tokyo, Japan w/GOES 9 IR satellite image, FAX at 1310Z. (SJ)

7313.5: AFA2AJ Virginia, AFA2SO Kentucky, AFA2MH Georgia, AFA2VA Virginia in USAF MARS 2S1 Net at 1241. (MC)

7527.0: CG 1701 (HC-130, CGAS Barbers Point) departing Mobile en route San Antonio requests guard from CAMSPAC at 0142. (MC)

7643.5: NOVEMBER CHARLIE & NOVEMBER in USN Air Defense Net at 2218. (MC)

7644.2: RFVI, French Forces, Le Port, Reunion Island w/clear traffic at 2125Z, navigational warning in EE about buoy adrift off coast of Mozambique, then CONTROLE DE VOIE marker, ARQ-E3, 100 baud at 400 Hz. (SJ)

7657.0: 93A landing at U1 secures guard with PANTHER heard at 2121. (MC)

7816.7: Probable Egyptian Embassy in Washington, D.C. w/coded 5 N/L groups in rows of 10 groups, using numbers 0–9 and letters ABCDEF, some groups N only, headed "From: Washington," "To: 71" w/time and date, "Number of Groups: 262" and "Urgent," again w/same header except "Number of Groups: 350," repeated same 350 groups w/identical header, dual-tone "siren" at 2203 and off briefly, then back to repeat same 262 and 350 groups. This the day of Egyptian elections, SITOR-A from 2108 to 2300Z fade. (SJ)

7975.0: Cuban ENIGMA V2a, YL w/"Atencion," SS 5 number groups in AM at 1559Z. (SJ)

7998.0: Unid. males in simplex QSO in Arabic, USB at 0018Z. (SJ)

8010.0: Cuban ENIGMA V2c numbers station, open carrier w/good signal, then YL in SS w/"Atencion 8975" once, off a few min later and QSY to 8097.0, AM at 1749-1754Z off. (SJ)

8097.0: Cuban ENIGMA V2c, AM at 1806Z, YL w/5 number groups in SS just minutes after same heard on 8010.0. Same next day starting 1859Z w/"Atencion 89572 54102 77172" repeated several times, into 5 number groups 1902Z. (SJ)

8137.0: Unid. land station "Bellamy" in QSO w/info on impending Hurricane Wilma, USB at 2305Z. (SJ)

8243.0: Vessel *CORDOBA* in duplex QSO, SS phone patch via XFS, Tampico R., Mexico on 8767.0, USB at 2325Z. (SJ)

8301.6: STINGRAY 14 (HU-25) ops and position report to Sector San Juan at 2230. (MC)

8301.6: Sector San Juan wkg RESCUE 2113 (HU-25) during rescue of Moroccan warship at 2302. (MC)

8379.0: 3FXI3, *HERO*, 99,469 ton Panama-registered crude oil tanker w/AMVER/SP sailing plan at 1358Z incl. very detailed route leg list, bearing 155 from Corpus Christi to Jose Pilot St., Venezuela. Same vessel monitored 4 days earlier on 12479.0 at 1627Z going in the opposite direction, toward TX. V7ET2, *CROWLEY SUN*, 9,200 ton Marshall Islands-registered Ro-Ro cargo ship w/AMVER/PR at 1630Z. CBLR, *LAUREL*, 26,528 ton Chile-registered bulk carrier w/AMVER/PR at 1638Z, 100 mi S of destination New Orleans. V7ET7, *MAR CARIBE*, 9,410 ton Marshall Islands-registered Ro-Ro cargo ship w/AMVER/FR at 1800Z for arrival at Port Everglades, FL. WBVZ, *S/R WILMINGTON*, 48,779 ton U.S.-registered oil products tanker w/test message to WLO, Mobile R., AL at 1902Z. 3FCV3, *PROTEO*, 99,392 ton Panama-registered crude oil tanker w/AMVER/SP at 2305Z, departing Lake Charles, LA en route to Puerto La Cruz, Venezuela. S6FP, *EAGLE SUBARU*, 95,675 ton Singapore-registered crude oil tanker w/telex at 2315Z. All stations SITOR-A. (SJ)

8379.5: Unid. vessel w/SELCAL XXVC (1106) for NOJ, USCG, Kodiak, AK at 1959Z, no contact, SITOR-A. (SJ)

8381.0: 9VHG, *EAGLE BALTIMORE*, 99,405 ton Singapore-reg-

istered crude oil tanker w/AMVER/PR at 1632Z. WBJF, S.S *ENERGY ENTERPRISE*, 33,373 ton U.S.-registered self-discharging bulk carrier w/AMVER/PR at 1716Z, 350 mi E of SC, en route due N to DE. V7IH3, *HELLESPONT TROOPER*, 147,916 ton Marshall Islands-registered oil tanker w/AMVER/PR at 1722Z from 120 mi S of New Orleans, bearing 358. Same vessel heard here 4 hours later with AMVER/FR final report for arrival near Corpus Christi, TX. 3FXI3, *HERO*, 99,469 ton Panama-registered crude oil tanker w/AMVER/PR at 1723Z. WYQ7951, *DODGE ISLAND*, 4,400 ton US-registered hopper dredger two days after Hurricane Wilma w/partial AMVER at 1730Z for next-day arrival W coast of FL. V7CO9, *OVERSEAS SHIRLEY*, 112,056 ton Marshall Islands-registered crude oil tanker w/AMVER/PR at 1810Z, 500 mi SE of Brownsville, TX, en route to Dos Bocas, Mexico. C6FX9, *DOLE COSTA RICA*, 11,800 ton Bahamas-registered container ship w/AMVER/SP sailing plan and 8-leg route info at 1818Z to WLO, Mobile R., AL on 8421.0, departed Gulfport, MS en route to Puerto Barrios, Guatemala, arrival in 2 days. S6NK4, *EAGLE TRENTON*, 107,123 ton Singapore-registered crude oil tanker w/AMVER/PR at 1830Z, 150 mi S of Miami. Unid. vessel w/SELCAL KPCV (3560) for CUL, Lisbon R., Portugal at 0010Z, no contact. All stations SITOR-A. (SJ)

8381.5: Unid. vessel w/SELCAL XMFV (1480) for VRX, Hong Kong R., China, SITOR-A at 1632Z. No contact. (SJ)

8384.0: Unid. vessel w/SELCAL XFCV (1860) for CBV, Chilean Navy, Valparaiso R., Playa Ancha, Chile, listed on 8424.0 but not heard, SITOR-A at 1625Z. (SJ)

8386.0: Unid. vessel w/SELCAL XVSC (1096) for NMC, USCG, San Francisco, CA, at 2237Z.BOTT, M/V *Ling Yun He*, 25,723 ton China-registered COSCO container ship 350 mi W of L.A. to NMC at 0001Z w/request for approval of diversion away from Firing Operations Range, en route to Long Beach. All stations SITOR-A. (SJ)

8388.0: DZAQ, *NOBLE ACE*, 13,689 ton Philippines-registered vehicle carrier w/AMVER/PR at 1725Z, 600 mi off US E coast, en route on bearing 272 to Cape Henlopen, DE. S6PA, *STAR DAVANGER*, 43,793 ton Singapore-registered general cargo ship w/AMVER/PR at 1747Z, 400 mi E of NC, sailing at 73 degrees. PDAN, *ZAANDAM*, 6,150 ton Netherlands-registered passenger cruise ship w/AMVER/PR at 2143Z, 100 mi S of Haiti, destination Willemstad, Netherlands Antilles. C6UL7, *NORDIC FREEDOM*, 83,724 ton Bahamas-registered tanker in unsuccessful attempt to initiate QSO w/NMN, USCG, Portsmouth R., Chesapeake, VA on 8428.0 using obsolete commands at 2154Z. Unid. vessel w/SELCAL XVSY (1097) for NMN at 0018Z. All stations SITOR-A. (SJ)

8392.0: XCPI, *NUEVO PEMEX III*, 44,575 ton Mexico-registered crude oil tanker w/telex in SS re burners and cargo at 1412Z. XCPW, B.T. *NUEVO PEMEX IV*, 45,705 ton Mexico-registered oil products tanker w/telex in SS on crew at 2234Z.XCGV, B.T. *GUADALUPE VICTORIA II*, 43,350 ton Mexico-registered PEMEX oil products tanker w/telex at 0000Z. Unid. PEMEX vessel w/month's end crew roster & pay info in SS to as yet unid. land sta. monitored at 0025Z, SITOR-A. (SJ)

8416.5: NMF, USCG, Boston, MA w/Maritime Safety Information BC //12579.0, SITOR-B at 1630-1708Z. (SJ)

8417.5: XSV, Tianjin R., China w/CW+SITOR marker at 1152-1217 and 2151-2254Z. (SJ)

8418.0: IAR, Rome R., Italy w/CW+SITOR marker at 0008Z. (SJ)

8419.0: WLO, Mobile R., AL in QSO w/unid. vessel on 8379.0, detailed list of weather products available and areas covered, contact numbers and email address at 1922Z, also w/phone patch rate list at 1949Z, SITOR-A. (SJ)

8419.5: NOJ, USCG, Kodiak, AK w/CW+SITOR marker heard at 0015Z. (SJ)

8421.0: WLO, Mobile R., AL w/wx forecast in response to command from unid. vessel on 8381.0 at 1320Z. WLO in QSO at 2323Z w/unid. vessel on 8381.0 w/auto-response to request for command list and info on telex handling and routing codes, SITOR-A. (SJ)

8421.5: LZW, Varna R., Bulgaria w/CW marker at 2200Z. (SJ)

8422.0: NRV, USCG, Apra Harbor, Guam w/CW+SITOR marker at 1422Z. (SJ)

8423.5: WLO, Mobile R., AL w/wx forecast for tropics, ID as CQ CQ DE WLO WLO, details on "Special Limited Offer" for e-mail accounts, asking for voice contact on ITU channels 405, 824, 1212, 1641 and 2237, announcing new SSB voice coverage for E Pacific via station KLB in Seattle, WA on ITU channels 417, 805, 1209 and 1624, monitored in SITOR-B at 1300Z. (SJ)

8424.0: SVO, Olympia R., Athens, Greece w/CW marker "DE SVO" at 2218Z. (SJ)

8425.5: XSG, Shanghai R., China w/CW+SITOR marker at 1153-1204 and 2209-2255Z. (SJ)

8426.0: NMC, USCG, San Francisco R., CA w/CW+SITOR marker at 2227Z. (SJ)

8428.0: NMN, USCG, Chesapeake, VA w/freq. list in response to FREQ+ command from unid. vessel on 8388.0 heard at 1840Z, SITOR-A. (SJ)

8429.5: NMN, USCG, Portsmouth R., Chesapeake, VA w/CW+SITOR marker on unlisted freq. at 2150Z. (SJ)

8431.0: TAH, Istanbul R., Turkey w/CW+SITOR marker at 2152Z. XSQ, Guangzhou R., China w/same at 2236Z. (SJ)

8432.0: Unid. coast station in QSO w/PEMEX vessel in SS on 8392.0 at 1414Z, SITOR-A. (SJ)

8433.0: XSG, Shanghai R., China w/CW+SITOR marker at 1157 and 2230Z. (SJ)

8434.0: TAH, Istanbul R., Turkey w/CW+SITOR marker heard at 2233Z. (SJ)

8435.0: XSQ, Guangzhou R., Guangdong, China w/CW+SITOR marker at 1207 and 2228-2244Z. (SJ)

8514.0: Unid. male w/wx forecast read slowly in SS, USB heard at 2120Z. (SJ)

8788.0: WLO, Mobile R., AL w/wx forecast, female computer-generated voice, USB at 2158Z. (SJ)

8864.0: Gander R., Newfoundland, CA working Alitalia 731 w/flight info, USB at 1425Z. (SJ)

8912.0: RESCUE 1712 with ops normal report to CAMSLANT at 1604. (MC)

8971.0: TRIDENT 25 (P-3C) wkg GOLDENHAWK at 1922. (MC)

8957.0: Shannon Aeradio, Ireland, male w/live wx obs, USB at 2235Z. (SJ)

8980.0: CG 2129 (HU-25) p/p via CAMSLANT to District 7 Miami Ops regarding downed aircraft SAR they are working near Bimini at 1412. (MC)

8983.0: CG 2127 (HU-25) departing Mobile en route Corpus Christi requests guard from CAMSLANT at 1909. (MC)

8992.0: LL 60 (P-3C, VP-30) p/p via Offutt HF-GCS to VP-30 Duty Office at 2124. (MC)

8992.0: BOYS CLUB p/p via Puerto Rico HF-GCS to CREATION. Terminates their services at 0038. (MC)

9001.6: USCGC GALLATIN (WHEC 721) radio checks with GAL 2 at 1929. (MC)

9007.0: CANFORCE 4471 wkg TRENTON MILITARY for WX heard at Trenton and Ottawa followed by p/p to Trenton Wing Ops at 2232. (MC)

9025.0: CG 1503 (HC-130, CGAS Elizabeth City) ALE initiated call to E-City Air at 0007. (MC)

9041.0: 5YE, Nairobi Meteo, Nairobi, Kenya w/marker, "CQ CQ CQ DE 5YE 5YE 5YE" plus long RYRY strings, ITA2, 75 baud, 850 Hz, reverse mode at 2125Z. (SJ)

10126.0: Cuban ENIGMA M8a, female w/"Atencion" callup and into 5 number groups in SS, suppressed carrier AM/DSB w/noticeable hum at 1400Z. (SJ)

10242.0: CG 1711 (HC-130, CGAS Clearwater) p/p via SERVICE CENTER to Elizabeth City Air regarding status of CG 2005 heard at 2334. (MC)

10446.0: Cuban ENIGMA M8 w/machine-sent CW cut 5 number groups at 1720Z, good signal. (SJ)

10648.0: ADOBE 51 p/p via Puerto Rico HF-GCS to Travis AFB CP & Meteo at 2321. (MC)

10993.6: CG 1705 (HC-130, CGAS Clearwater) wkg SHARK ## at 2054. (MC)

11205.0: SHARK 43 (C-130) checkin with SMASHER at 1247. (MC)

11232.0: DRAGNET VICTOR (E-3 AWACS) p/p via TRENTON MILITARY to BLACK WIDOW OPS at Luke AFB monitored at 2312. (MC)

11232.0: KING 31 (HC-130) p/p via TRENTON MILITARY to ANGEL OPS at 2349. (MC)

11232.0: CHALICE GOLF (E-3 AWACS) p/p via TRENTON MILITARY to BEST DEAL at 1948. (MC)

11232.0: KING 25 (HC-130) p/p via TRENTON MILITARY to Moody AFB Meteo at 1947. (MC)

12479.0: Unid. sta. at the Marine Institute of Memorial University in St. John's, Newfoundland, CA w/training exercise msgs at 1345Z, same also heard previously on 12482.0. Unid. vessel w/SELCAL XVSV (1090) for WLO, Mobile R., AL, 1442Z. S6CG, *EAGLE CORONA*, 95,634 ton Singapore-registered crude oil tanker w/AMVER/PR position rpt. at 1515Z, 575 mi E of Savannah, sailing SSE to Puerto Jose Pilot St., Venezuela. 3EOK8, *PACIFIC HOPE*, 38,855 ton Panama-registered bulk carrier w/AMVER/PR at 1604Z, 100 mi E of NC Outer Banks, sailing N. V7ET2, *CROWLEY SUN*, 9,200 ton Marshall Islands-registered Ro-Ro cargo ship w/AMVER/PR at 1616Z, sailing SSW between Yucatan and Cuba, en route to Puerto Santo Tomas, Guatemala. Same vessel heard here 5 days later w/AMVER/FR arrival rpt. at 1550Z, back in berth Port Everglades, FL. S6LO, *EAGLE BIRMINGHAM*, 99,343 ton Singapore-registered crude oil tanker w/AMVER/PR at 1625Z from 120 mi E of Halifax, NS sailing SW toward Ambrose Pilot St near NYC. 3FXI3, *HERO*, 99,469 ton Panama-registered crude oil tanker w/AMVER/PR at 1627Z, sailing NNW between Yucatan & Cuba, en route to Aransas, TX.3FVG3, *ICARO*, 99,438 ton Panama-registered crude oil tanker w/AMVER/PR at 1734Z, 100 mi E of Brownsville, TX, en route to Guaranao Pilot St, Venezuela.. CBAL, *ALERCE*, 21,304 ton Chile-registered bulk carrier w/AMVER/PR at 1816Z, 275 mi S of Havana. 9V6486, *TAPIOLA*, 30,464 ton Singapore-registered vehicle carrier w/AMVER/PR at 1824Z, 150 mi E of Honduran coast, sailing N to Miami.H3UM, *SOLENT STAR*, 9,709 ton Panama-registered refrigerated cargo ship w/AMVER/PR at 1902Z, sailing N between Cuba and Haiti. DYLO, M.V. *SIR WALTER*, 18,315 ton Philippines-registered bulk carrier w/SITOR-B test msgs to SVO, Olympia R., Greece and WLO, Mobile R., AL, no response. All other stations SITOR-A. (SJ)

12482.0: 9ANB, M/V *PETKA*, 75,460 ton Croatia-registered bulk carrier w/AMVER/PR at 1558Z, 250 mi SE of Halifax, NS sailing S to Porto Trombetas, Brazil for arrival in 10 days. C6QZ5, *DOLE COLOMBIA*, 30,106 ton Bahamas-registered container ship w/AMVER/SP sailing plan at 1635Z, departed Port Everglades, FL en route to Santa Marta, Colombia to arrive 2 days later, w/detailed 6-segment route leg data.Usual route is to E coast of Central America to load bananas and other fresh fruit for delivery to Wilmington, DE for the E coast US market, possibly diverted temporarily due to recent hurricane damage in C America region. V7ET2, *CROWLEY SUN*, Marshall Islands-registered 9,200 ton Ro-Ro cargo ship w/AMVER/PR, 100 mi W of Havana, en route to Port Everglades, FL at 1725Z. All stations SITOR-A. (SJ)

12490.0: 3EAP2, *FANTASY STAR*, unlisted Panama-registered vessel w/AMVER/DR diversion rpt at 1653Z, 300 mi W of Havana, sailing N to Mobile, AL. Same vessel here w/AMVER/PR next day at 1507Z, 300 mi SE of New Orleans, bearing 350. D9FF, *OCEAN EVER*, 46,856 ton Korea-registered bulk carrier w/AMVER/PR at 1640Z, 1,250 mi off E coast of the US, en route to Gibraltar, to arrive in 8 days. 3EAW6, *EMINENT ACE*, Panama-registered car carrier w/AMVER/PR at 1650Z, 50 mi N of Haiti, sailing toward Bahamas; same vessel next day at 1654Z, 200 mi E of Fort Lauderdale. 3FNG6, *RUBIN POWER*, 72,326 ton Panama-registered bulk carrier w/AMVER/PR at 1710Z, 50 mi SE of Miami, sailing around FL to New Orleans; same vessel next day at 1817Z, rounded the Keys and 200 mi W of FL Gulf coast. V7CP4, *OVERSEAS JOSEFA CAMEJO*, 112,200 ton Marshall Islands-registered crude oil tanker w/AMVER/PR at 1718Z, 200 mi SE of Halifax, NS, en route to Portland, ME. H8JD, *ROSELLA*, 29,870 ton Panama-registered bulk carrier w/AMVER/PR at 1728Z, 40 mi SE of Key West, destination Houston. S6OW, M.V. *K. SILVER*, 43,774 ton Singapore-registered bulk carrier w/AMVER/PR to NMN, USCG CAMSLANT, Portsmouth R., Chesapeake, VA at 1749Z, 400 mi WSW of Tampa, FL. H9LJ, *CABO PILAR*, 69,648 ton Panama registered oil products carrier w/AMVER/PR at 1900Z, 100 mi W of Nicaragua en route to Acajutla, El Salvador. 3FBX5, *RERE MOANA*, 30,949 ton Panama-registered chemical/oil products tanker w/AMVER/PR at 1937Z, 1,000 mi E of NC coast, sailing S to Port Lisas, Trinidad. All stations SITOR-A. (SJ)

12492.5: XCLA, *NUEVO PEMEX II* w/SS telex at 1522Z requesting supplies. This is not the registry listed callsign for this vessel. XCPI, *NUEVO PEMEX III*, 44,575 ton Mexico-registered crude oil tanker w/crew info in SS at 1634Z. XCJC, *JOSE COLOMO*, 20,640 ton Mexico-registered PEMEX LPG tanker w/telexes in SS at 1646Z. Presumed PEMEX vessel w/SS telex about RESIDUOUS PELIGROSOS EN LAS TERMINALES MARITIMAS at 1706Z; same w/telex about maintenance requests at 2140Z. XCST, *SEBASTIAN LERDO DE TEJADA*, 56,746 ton Mexico-registered PEMEX oil products tanker w/telex in SS at 2026Z. XCPW, *NUEVO PEMEX IV*, 45,705 ton Mexico-registered oil products tanker w/several telexes in SS at 2323Z requesting equipment and supplies incl. paint and industrial gas sensors. All stations SITOR-A. (SJ)

12528.0: HC4403, M/V *GALAPAGOS EXPLORER II*, 2,420 ton Ecuador-registered passenger cruise ship w/cabin, crew and passenger info in SS and EE for next day departure, SITOR-A at 2240Z. (SJ)

12581.5: WLO, Mobile R., AL w/wx advisory about Hurricane Wilma at 2145Z. Another day w/auto-response to NEWS19+ command from unid. vessel on 12479.0, response was Asian news headlines and sports, including URLs for news agencies, SITOR-A at 2158Z. (SJ)

12583.5: CBV, Chilean Navy, Valparaiso R., Playa Ancha, Chile w/CW+SITOR marker at 2330Z. (SJ)

12584.5: WLO, Mobile R., AL w/notices to mariners on Hurricane Gamma, frequencies, modes of contact, e-mail account offer, address, phone numbers, etc., SITOR-B at 1759Z. (SJ)

12589.0: NMO, USCG, Honolulu R., HI w/CW+SITOR marker at 1705Z. (SJ)

12589.5: UIW, Kaliningrad R., Russia w/CW+SITOR marker "DE UIW KLD" at 1509Z. (SJ)

12592.5: NMN, USCG, Portsmouth R., Chesapeake, VA responding to TST+ and FREQ+ commands from unid. vessel on 12490.0, SITOR-A at 1811Z. (SJ)

12594.0: NMN, USCG, Portsmouth R., Chesapeake, VA w/CW+SITOR marker at 2010Z. (SJ)

12606.0: UIW, Kaliningrad R., Russia in QSO w/unid. vessel on 12503.5, ID in Cyrillic, SITOR-A at 1504Z, also w/CW+SITOR marker DE UIW KLD at 1545Z, into traffic list in SITOR-B at 1601Z. (SJ)

13110.0: WLO, Mobile R., LA w/wx in computer-generated female voice, USB at 1815Z. (SJ)

13257.0: CANFORCE 2301 (CC-130) p/p via TRENTON MILITARY at 1932. (MC)

13907.0: CG 1718 (HC-130) departing New Orleans en route CGAS Houston requests guard from CAMSLANT at 2145. (MC)

13907.0: CG 1718 (HC-130, CGAS Clearwater) position report to CAMSLANT at 1446. (MC)

13927.1: REACH 0457 p/p via AFA3HS Kansas to HILDA regarding mechanical problem requiring divert to Kelly Field monitored at 1938. (MC)

13927.1: PEACH 12 (E-8 JSTARS) morale p/p via AFA4DD at 2140. (MC)

13927.1: KING 64 (HC-130) p/p via AFA1MH to KING OPS followed by p/p to Meteo for WX at Patrick AFB at 0234. (MC)

13927.1: TURBO 11 (KC-135, 22 ARW) p/p via AFA1RE Maine to SHOCKER CONTROL at McConnell AFB at 2349. (MC)

13927.1: EVAC 5249 (C-141C) p/p via AFA3HS Kansas to Air Evac Squadron, Andrews AFB reporting inbound patients for Walter Reed Hospital at 2136. (MC)

14396.5: AAR7AL (SHARES Central RCS Net Control) and NNN0VUV (SHARES SW RCS) taking check-in from AFA2KM, Florida

during Hurricane Ophelia at 0034. (MC)

14467.3: DDH8, Hamburg Meteo, Germany w/wx incl. 5 number groups, ITA2 at 50 baud, 425 Hz at 1935Z. (SJ)

14485.7: RFLIG, French Forces, Cayenne, French Guiana w/marker, LE BRICK GEANT and RYRY, SGSG strings, TO PARIS, ARQ-E3, 192 baud at 375 Hz, 1847Z. (SJ)

14487.0: ENIGMA E3, Lincolnshire Poacher, UK MI-6 w/5 number groups x2 in EE by female, USB at 1825Z. (SJ)

15867.0: JULIET 14 p/p via SERVICE CENTER to Elizabeth City Air during Hurricane Ophelia at 1558. (MC)

15867.0: CAMSLANT passes JULIET 15 position of cruise ship at 2112. (MC)

16685.5: V7IM4, MV *BAUTA*, 41,756 ton Marshall Islands-registered bulk carrier w/telex at 1830Z, SITOR-A. (SJ)

16696.5: A8AX4, *CCNI POTRERILLOS*, 44,600 ton Liberia-registered general cargo ship w/AMVER/PR at 1416Z, 800 mi NE of San Juan, PR, sailing on course 059. V7DH4, *OVERSEAS PORTLAND*, 62,385 ton Marshall Islands-registered crude oil tanker w/AMVER/PR at 1808Z, 100 mi SE of W tip of Cuba and sailing NW. 3FNG6, *RUBIN POWER*, 72,326 ton Panama-registered bulk carrier w/AMVER/PR at 1610Z, 120 mi SE of Bermuda, en route to New Orleans. HOPJ, *YOUNARA GLORY*, 320,050 ton Panama-registered crude oil tanker w/AMVER/SP sailing plan at 1900Z w/detailed route to St. Eustatius, Netherlands Antilles. All stations SITOR-A. (SJ)

16699.0: XCPI, B.T. *NUEVO PEMEX III*, 44,575 ton Mexico-registered crude oil tanker w/telex in SS at 2101Z, SITOR-A. (SJ)

16747.0: Unid. Philippine vessel w/news, religious msg, sports news & currency quotes in EE at 1628-1637, ended with RESEND BY HARBOUR LIGHT CDO and brief Tagalog msg. Same w/EDITED/RESENT BY: PUSANG GALA OF SAPANG PALAY at 1845Z.Same station several days later with English news at 1915Z, signoff w/DOLPHIN SHIP MANAGEMENT MV SUMIDA. All transmissions SITOR-B. (SJ)

16816.5: NMC, USCG, San Francisco R., Point Reyes, CA w/CW+SITOR marker at 2230Z. (SJ)

22297.5: V7EZ5, *SANKO DYNASTY*, 99,998 ton Marshall Islands-registered crude oil tanker w/AMVER/PR at 1719Z, 220 mi SW of Jamaica, sailing on course 144. Unid. vessel w/SELCAL XVSY (1097) for NMN, USCG, Portsmouth R., VA, on 22389.5, no contact made, SITOR-A at 2154Z. (SJ)

22383.5: WLO, Mobile R., AL w/CW+SITOR marker at 1620Z. (SJ)

22389.5: NMN, USCG, Portsmouth, VA w/CW+SITOR marker 1550-2005Z, also NMO, USCG, Honolulu R. underneath with same at 1720-1950Z. (SJ)

22804.0: WLO, Mobile R., AL w/wx forecast in female computer-generated voice, USB at 1635Z. (SJ)

This month's contributors are Steven Jones, Mark Cleary, and Chris Gay. ■

ment is after here in the United States by using these illegal wiretaps are bad people. I'll concede that there's plenty of truth to that, but we've faced bad guys before and conducted ourselves as we'd expect other fledgling democracies to do. After all, we do want those "new" democracies to be as aboveboard as ours, right? Why not simply get the appropriate federal warrants and proceed on the high road? If the answer to that is, "Well, because we're at war with these guys and that's just too time consuming," or as Gonzalez said because the President is Commander In Chief and as such has the unchecked power "to engage in this kind of signals intelligence," we're heading in a pretty scary direction.

Having served 20 continuous years in the U.S. Army, as a former troop I know that the term "Commander in Chief" is really reserved for military use in referring to the Number 1 person in charge of the military services, *not* as a general catch-all term meaning, "He or she can perform verbal hocus-pocus and interpret most anything the way he or she wants to." Nope, doesn't—or at least shouldn't—work that way.

Chances are this whole thing will peter out, wash away like dirty dishwater, and people will forget. That's how most of these situations have resolved during recent years. Remember, *that's* what they count on happening. But before you dismiss the surveillance as much ado about nothing and think you couldn't be targeted (although perhaps you already have been) because you're not "the enemy," think of how many times radio hobbyists have gotten a bum rap from overzealous law enforcement officials, simply because we stand out as "different" with all those antennas and radios and how we're "listening to 'private' conversations."

There are indeed some serious issues for us as radio enthusiasts to think about. For example, what aspects of our hobby are you participating in that could be construed as "aiding" terrorists or "the enemy?" Perhaps you're posting frequencies on your website or answering a newcomer's frequency question in a chat room or online list. Perhaps you subscribe to a radio magazine or two.

Do any of your amateur radios transmit out of band, particularly on public safety frequencies? What's your explanation if you're stopped for a minor traffic infraction and the officer checks out that transceiver? Have you written to, via the postal system or e-mail, or called a radio station or amateur in a foreign country on our Nation's pooh-pooh list? Were you in recent contact with your attorney by phone or e-mail discussing a personal legal dilemma that might have been intercepted? Have you recently parked near a rail yard, military base, or even a shopping mall lot with a couple of antennas on your car and a radio in your vehicle?

When Uncle Sam inadvertently-by-accident-maybe-on-purpose stumbles on your phone call to a friend across town telling him of a little-known military frequency you've found, are you still going to subscribe to the "it's okay to wiretap Americans without a warrant/court order" approach to law and order?

Where do the open-ended powers of the Presidency stop when it comes to "surveillance?" Do they include opening your private mail or reading your private e-mails or instant messages? What checks and balances (remember, this is a democracy) are in place to ensure *your* rights are protected?

In the same context as warrantless wiretaps on American citizens, let's hope someone doesn't decide it's okay to have warrantless searches of our *homes and property*. Or is that okay with you? I think many folks aren't terribly concerned because wiretaps and surveillance are invisible to us—you can't see it being done. But, on the other hand, I don't think you want to come home from work and find your radios trashed and other personal property rifled through because you fit a certain profile. I know I don't.

Before you know it, that little "tap" on your rights is looming large as a louder knock at the door because someone in the Justice Department or White House decided that defending the Constitution, protecting American interests, and generally saving humanity from itself also means confiscating your frequency list, hard drive, scanner, and radio magazines. If you don't think it could happen just reread S.J. 23 "The Authorization" and interpret it however *you* see fit, pretending for a moment *you're* the President and chasing the bad guys. And remember, this country has its share of *homegrown* loonies who, by anyone's definition, are also terrorists. What profile do *you* fit?

Whatever you do, while you're being extra careful not to pop up on Uncle Sam's radar screen, please make sure you don't talk on your phone or Google "Afghanistan," "Koran," or "bomb" because you could be in *real* deep doo-doo with the Attorney General.

These past few weeks I've done my share of research, on the phone with government agencies, legal gurus and lawmakers, and at the library and bookstore. My dearest wish is that Alberto doesn't make this American spend his remaining years on the planet in a cell in some "undisclosed foreign country" with Bill Price and that #($*)@(#$ harmonica of his playing that "Ee i ee i o" song. ■

enabled the company to access a population of approximately 29 million in its primary target market.

Seminaries Illegally Running FM Stations In Pakistan

Seminaries are illegally running more than 90 FM radio stations to broadcast their teachings in various districts of the North West Frontier Province, according to Pakistan's *Daily Times* newspaper. These channels often disrupt police wireless transmissions because they operate at frequencies reserved for security agencies. The newspaper said that certain individuals in Swabi had also installed FM radio transmitters in hujras (religious gathering areas).

Radio Free Afghanistan Most Popular International Broadcaster In Afghanistan

More than three quarters of Afghan radio listeners are tuning in to Radio Free Afghanistan, according to the results of a new survey commissioned for RFE/RL by the Broadcasting Board of Governors. The survey showed a nationwide weekly listening rate of 75.3 percent to RFE/RL's Radio Free Afghanistan broadcasts in Dari and Pashto—the highest listening rate from among all international radio/television broadcasters operating in Afghanistan, including the BBC.

RFE/RL's Radio Free Afghanistan and the Voice of America's (VOA) Dari and Pashto Services broadcast on a 24-hour single stream in Afghanistan, which VOA supplements with television broadcasts. Radio Free Afghanistan provides local news, while VOA supplies news about events around the world. The U.S. Congress appropriated funding to create Radio Free Afghanistan in December 2001 as part of an effort to build a peaceful and democratic Afghanistan following the U.S.-led strike against the Taliban. InterMedia Survey Institute supervised the survey for the BBG from August 31 to September 15, 2005, interviewing 2,038 Afghanis 15 and older in 31 of Afghanistan's 34 provinces.

Radio Netherlands Wins International Media Prize For Documentary

Radio Netherlands has been awarded a major international media prize by the Asia-Pacific Broadcasting Union for the documentary *Adrift in Sri Lanka* by Marijke van der Meer. The program was judged Best Radio Entry in the External Broadcast category in competition with other external broadcasters, such as the BBC World Service, the Voice of America, and Deutsche Welle. The theme for external broadcast submissions was "Covering Natural Disasters." ■

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by Bill Price, N3AVY

Three Hams, But No Red Beans And Rice!

I had been out of the Coast Guard for less than 10 years when I met someone who was a member of the Coast Guard Auxiliary, a civilian group dedicated to boating safety and wearing uniforms. I was (and still am) all for boating safety, particularly through communications, but I never did warm up to wearing uniforms.

So this friend introduced me to John Morgan, a retired sea captain with unlimited tonnage master's papers. In a nutshell, this meant he was qualified to be the captain or "master" of any peacetime vessel afloat. He was about twice my age, which didn't mean a thing to us, because we became instant friends. He, too, was in the Coast Guard Auxiliary, and I allowed myself to be drafted into that organization because he was just such a great guy to be around. This was about the same time I was getting my Novice ham license—I had been away from the radio shack on a ship for just too long and I missed working CW with all those great merchant ships in the North Atlantic and points south.

John confessed that he had always wanted to get a ham license and wondered if I could find a class we could take together. I signed us up, along with another member of the local CG Auxiliary flotilla and we began taking code and theory classes one or two nights a week. My code speed was at 35 wpm then, so I worked on theory while John and our other friend worked on their five-wpm requirement.

It was the dead of winter. John told us he had a little vacation home on the Chesapeake Bay in Maryland and thought the three of us should go away for a weekend retreat of studying radio and eating. It didn't take much coaxing to get me signed up for *that* trip.

When we arrived Friday night, we sat around, told sea stories, studied some theory, listened to some Morse code, and called it a night.

The next morning, bacon, eggs, and toast were easy to wrangle up, and we ate much more than our wives would have allowed had they been along. Then John confided that he loved red beans and rice, a Cajun dish that I had only heard of, and that he had brought the ingredients to make. I foolishly believed that he knew how to cook, and I think he also believed the same of me. Our other friend just nodded and said, "that sounds good."

After breakfast cleanup, John produced a two-pound bag of rice and about four large cans of kidney beans, which were indeed "red." He said, "Here you go, William" (he always called me William), "the crock pot is over there. Do you want to start these cooking so we can have them for supper?"

I admitted that I did not know how to cook anything other than eggs, and didn't have a clue about cooking rice, and didn't know what went in to red beans and rice, because I'd never had any. John was completely undaunted by my cowardice, tossed me the ingredients, and told me that crock pots cook pretty much automatically. He said I should just put the ingredients in to cook while we study and that they'd be done by suppertime.

I cook today pretty much the same way as I cooked when I was six or seven years old. I haven't got a clue how food happens, beyond the frying or scrambling of eggs, and maybe making toast. Somehow I thought the flavor that we hoped for would just appear by virtue of a long time in a crock pot, so I dumped the four large cans of "red" beans into the pot, with their bean-juice, and then dumped a pound of rice on top of that, assuming that the bean juice would be sufficient liquid for the rice to absorb. I had heard about these new "crock pots" and how any idiot cold make great meals by just putting stuff into them early in the day and waiting until later to enjoy the feast. At least I qualified as "any idiot," which was the only thing we did right with this meal.

"After breakfast cleanup, John produced a two-pound bag of rice and about four large cans of kidney beans, which were indeed 'red.' He said, 'Here you go, William'..."

Not only were the results horrible, crunchy, inedible, and flavorless, they were also burnt because even a crock pot needs some moisture, and the rice had absorbed all that during the first minute it was in the bean juice. Hard, crunchy rice, blackened (see, it really was a Creole dish!) along with hard, crunchy beans, also blackened, with not so much as a lick of flavor. John and I stared at it for a while, thought about adding some water to save the unblackened portion, each tasted a little of it to see if maybe we were just being too finicky, and eventually decided that we'd be better off at a nearby crab shack or Burger King. I forget what and where we eventually ate, but it was not red beans and rice. We should have known Joe Maurus back then (you met him in the December "Loose"—I'll bet HE knows a good recipe for that stuff!

When we arrived back home, as John told it, his wife just alternated between laughing at the whole thing and asking him if he really thought that a few ounces of bean juice would be enough moisture to cook a pound of rice.

When we got together at our next ham radio prep class, we joked about the women not knowing how to string an antenna or copy an SOS or understand the amateur band plan, but we were put in our places by a General class licensee sitting next to us who knew all those things, and *could* cook red beans and rice and, by the way, *was* a woman. We tipped our caps to her and vowed to eat at restaurants in the future, whenever "roughing it" on an all-male weekend. She thought that was an excellent idea.

Somewhere in my jewelry box, I have my lieutenant's bars from the Auxiliary and a copy of that first license (WN3SKM) and I can't look at either without tasting burnt beans and rice. Yet it's a fond memory I'll cherish along with so many others from my early radio days.

Norm is coming to visit in the next few months and promises to bring me a rig now that I've renewed my license, so those of you who pound brass might actually hear me on the air for the first time in a long time. I'll probably have to get a few QSL cards printed for the occasion. Maybe I'll put a picture of a crock pot on them. ■

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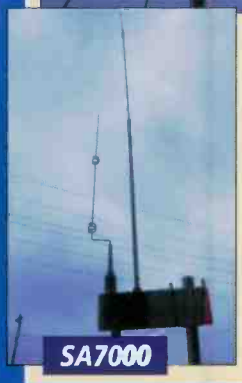
Antennas for the Great Outdoors

DA3000: a 16 element receive wideband discone antenna with useable frequency coverage from 25MHz to 2GHz. Using different length elements to ensure true wideband characteristics, the DA3000 also includes one 'loaded' element to enhance low frequency performance. Engineered and manufactured to AOR's exacting standards, the DA3000 comes with 50 feet of quality RG58/U coaxial cable terminated in a BNC plug for the radio connection and a low-loss TNC plug in the antenna base. Pole clamps are also standard.



Designed for areas where space is a problem or when an "unobtrusive" installation is essential, **SA7000** is a super wideband coverage receive antenna with useable frequency coverage of 30 KHz to 2 GHz. The SA7000 is a passive arrangement with two whip elements: a long element for short wave up to 30 MHz and a second shorter loaded whip antenna for frequencies up to 2 GHz. The loading coils are tuned around 150 & 800 MHz to enhance VHF & UHF performance.

Antennas for Indoor Enjoyment

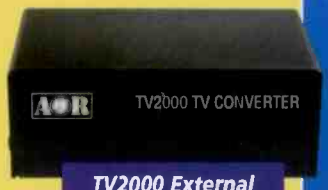
AOR has made performance even better with the new **LA380** indoor antenna as successor to the popular LA350. The LA380 features full frequency coverage (40KHz – 500MHz) using a single receiving element. Designed to provide reception when away from the main monitoring location or when large external antennas are not practical, the LA380 is a compact active (1 foot diameter) loop antenna which features an internal high-gain amplifier (20dB for 40KHz-250MHz) and excellent overall strong signal handling (high IP3 +10dBm). The loop design allows directional control and nulling noise or interference. Perfect for listening in remote locations or in antenna-restricted areas.

Accessories for Added Monitoring Capability

Now you can monitor APCO 25 signals using an AR8600MKII. The **P25-8600 APCO25 Decoder** can be installed in the AR8600MKII receiver to automatically decode the APCO25 signal. The decoded audio is then output from the receiver's speaker. *(Installation is required.)*

The **TVA-1 External NTSC TV Converter** is compact, lightweight and easy to install. Designed to be used with the AOR AR5000A series of communications receivers, its simple operation uses the 10.7 MHz IF input from your receiver. Audio and video outputs allow monitoring a variety of sources such as broadcast TV, public safety agencies, aircraft, Amateur Radio FSTV, news media video and more.

The **TV5000A NTSC TV Internal Converter** adds the ability to receive broadcast television signals (NTSC) and allow monitoring video feeds from a variety of sources including broadcast TV channels, public safety agencies, aircraft, Amateur Radio FSTV, news media video and more when used with AOR AR5000A series of communications receivers.



The **TV2000 External NTSC Video Decoder** is designed to be used with the AOR SR2000. Compact and lightweight, no external power supply is required (power is supplied from the SR2000). The video output is available from the rear panel of the TV2000 and audio is provided from the SR2000 through the external speaker jack.

AOR®
Authority on Radio Communications

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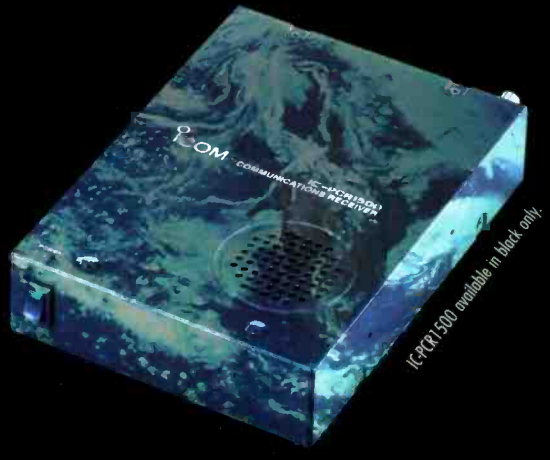
Specifications are subject to change without notice or obligation

For more great accessories, visit the website at www.aorusa.com.

0.01 to 3299.999 MHz* Coverage • Record and Save Audio in WAV Format • USB Cable Connection

WHO SAYS THE WORLD IS ROUND?



NEW IC-PCR1500

PC Controlled Wideband Receiver

COMING SOON

ICOM

*Cellular frequencies blocked. This device has not been approved by the FCC. It may not be sold or leased, or offered for sale or lease, until FCC approval has been obtained.